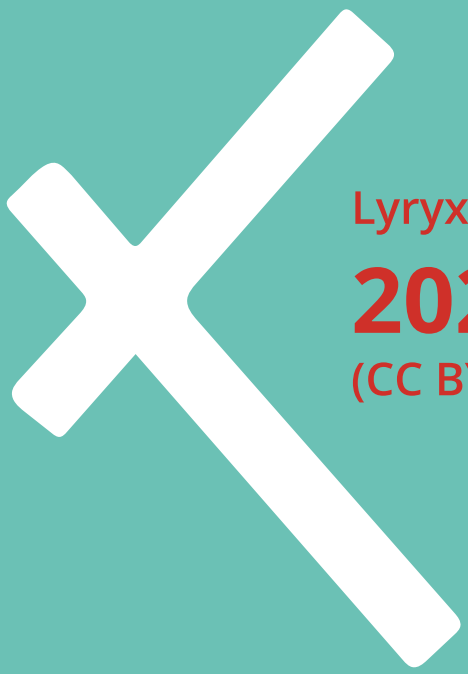
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Intermediate Financial Accounting

Volume 1

G. Arnold & S. Kyle



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Intermediate Financial Accounting

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Intermediate Financial Accounting

Version 2021 — Revision A

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Citation

Use the information below to create a citation:

> Author: G. Arnold, S. Kyle
>
> Publisher: Lyryx Learning Inc.
>
> Book title: Intermediate Financial Accounting, Volume 1
>
> Book version: 2021A
>
> Publication date: December 15, 2020
>
> Location: Calgary, Alberta, Canada
>
> Book URL: https://lyryx.com/intermediate-financial-accounting-volume-1/

For questions or comments please contact editorial@lyryx.com

Intermediate Financial Accounting

an Open Text by Glenn Arnold & Suzanne Kyle

Base Text Revision History

Current Revision: Version 2021 — Revision A

2021 A	• Front matter has been updated including cover, Lyryx with Open Texts, copyright, and revision pages. Attribution page has been added.
2020 A	• Base year for examples and calculations has been updated from 2015 to 2020, and other dates have been updated to match. • Minor content fixes throughout.
2019 A	• Text updated throughout to reflect new IFRS rules in 2019. • Links to videos have been added throughout the chapters.
2018 A	• Several chapters rewritten to include new IFRS rules effective January 1, 2018.

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Chapter 1

Review of Intro Financial Accounting

Chapter 1 Learning Objectives

LO 1: Complete Review Lab 1.1 to review adjusting entries.

LO 2: Complete Review Lab 1.2 to review merchandising transactions.

LO 3: Complete Review Lab 1.3 to review inventory costing methods.

LO 4: Complete Review Lab 1.4 to review bank reconciliations.

LO 5: Complete Review Lab 1.5 to review receivables transactions.

LO 6: Complete Review Lab 1.6 to review transactions related to long-lived assets.

LO 7: Complete Review Lab 1.7 to review current and long-term liabilities.

LO 8: Complete Review Lab 1.8 to review the statement of cash flows.

Introduction

To be successful in Intermediate Financial Accounting, it is imperative for a student to have a strong foundational knowledge of all Introductory Financial Accounting concepts. The purpose of Lesson 1 is to help a student identify any weaknesses in their Intro Accounting knowledge. Lesson 1 consists of a series of labs intended to help a student identify any knowledge gaps. If a weakness comes to light, the student is encouraged to go back to that concept in Intro Accounting and review in detail. It is the student's responsibility to ensure they come into Intermediate Financial Accounting with the appropriate pre-requisite knowledge.

Each section will provide a link to the open *Introduction to Financial Accounting* textbook by Dauderis and Annand. You may also access the textbook by visiting *Introduction to Financial Accounting 1* on LibreTexts. If you used this textbook in your Introductory Financial Accounting course then you may already have a copy of the textbook.

1.1 Adjusting and Closing Entries

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to adjusting and closing entries. If you require a 'refresher' on adjusting and/or closing entries, refer to Chapter 3: Financial Accounting and Adjusting Entries in *Introduction to Financial Accounting*.

1.2 Merchandising Transactions

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to merchandising transactions. If you require a 'refresher' on merchandising transactions, refer to Chapter 5: Accounting for the Sale of Goods in *Introduction to Financial Accounting*.

1.3 Inventory Costing Methods

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to inventory costing methods. If you require a 'refresher' on inventory costing methods, refer to Chapter 6: Assigning Costs to Merchandise in *Introduction to Financial Accounting*.

1.4 Bank Reconciliations

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to bank reconciliations. If you require a 'refresher' on bank reconciliations, refer to Chapter 7: Cash and Receivables in *Introduction to Financial Accounting*.

1.5 Receivables Transactions

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to receivables transactions. If you require a 'refresher' on receivables transactions, refer to Chapter 7: Cash and Receivables in *Introduction to Financial Accounting*.

1.6 Long-Lived Assets

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to long-lived assets. If you require a 'refresher' on long-lived assets, refer to Chapter 8: Long-lived Assets in *Introduction to Financial Accounting*.

1.7 Current and Long-Term Liabilities

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to current and long-term liabilities. If you require a 'refresher' on current and long-term liabilities, refer to Chapter 9: Debt Financing - Current and Long-term Liabilities in *Introduction to Financial Accounting*.

1.8 Statement of Cash Flows

In this section, you will complete the review labs to evaluate your pre-requisite knowledge related to the statement of cash flows. If you require a 'refresher' on the statement of cash flows, refer to Chapter 11: The Statement of Cash Flows in *Introduction to Financial Accounting*.

Chapter 2

Why Accounting?

It Was No Joke

Perhaps the timing was intentional. On April 2, 2009, the Financial Accounting Standards Board (FASB) in the United States voted to amend the accounting rules for financial instruments. In particular, the changes in the rules allowed banks and their auditors to apply “significant judgment” in the valuation of certain illiquid mortgage assets.

The issue arose directly as a result of the 2008 financial crisis. After the housing bubble of the early- to mid-2000s burst, resulting in the failure of several prominent financial institutions, many of the remaining banks were left with mortgage-backed securities that could not be sold. Existing accounting rules for financial instruments required those instruments be valued at the fair value, sometimes referred to as *mark-to-market accounting*. Unfortunately, many of these assets no longer had a market, and accountants were forced to report these assets at their "distressed" values.

The banking industry did not like this accounting treatment. Many industry lobbyists complained that a security that was backed by identifiable cash flows still had a value, even if it were currently unmarketable. They were concerned that reporting these distressed values in the financial statements would lower reported profits and further damage the already-weakened confidence in the banking sector. The banking industry lobbied lawmakers aggressively to put pressure on the FASB to change the rules. In the end, they succeeded, and the FASB made changes that allowed for alternative valuation techniques. The application of these techniques would result in higher profits than would have been reported under the old rules.

Although the banking industry was somewhat satisfied with this result, critics noted that the new rules gave the banks more latitude to report results that were less transparent and possibly less representative of economic reality. There is much at stake when financial results are reported, and accountants face pressures from parties both inside and outside the business to manipulate those results to achieve certain goals. Accountants need a solid foundation of rules and principles to rely on in making the judgments necessary when preparing financial statements. However, accounting standard setting can, at times, be a political process, and the practicing accountant needs to be aware that the profession’s thoughtful principles may not always provide all the solutions.

(Source: Orol, 2009)

Chapter 2 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Identify the purpose of financial reporting.

LO 2: Describe the problem of information asymmetry, and discuss how this problem can affect the production of financial information.

LO 3: Describe how accounting standards are set in Canada and identify the key entities that are responsible for setting standards.

LO 4: Discuss the purpose of the conceptual framework, and identify the key components of the framework.

LO 5: Describe the qualitative characteristics of accounting information.

LO 6: Identify the elements of financial statements.

LO 7: Discuss the criteria required for recognizing an element in financial statements.

LO 8: Identify different measurement bases that could be used, and discuss the strengths and weaknesses of each base.

LO 9: Identify the alternative models of capital maintenance that could be applied.

LO 10: Discuss the relative strengths and weaknesses of rules-based and principles-based accounting systems.

LO 11: Discuss the possible motivations for management bias of financial information.

LO 12: Discuss the need for ethical behaviour by accountants, and identify the key elements of the codes of conduct of the accounting profession.

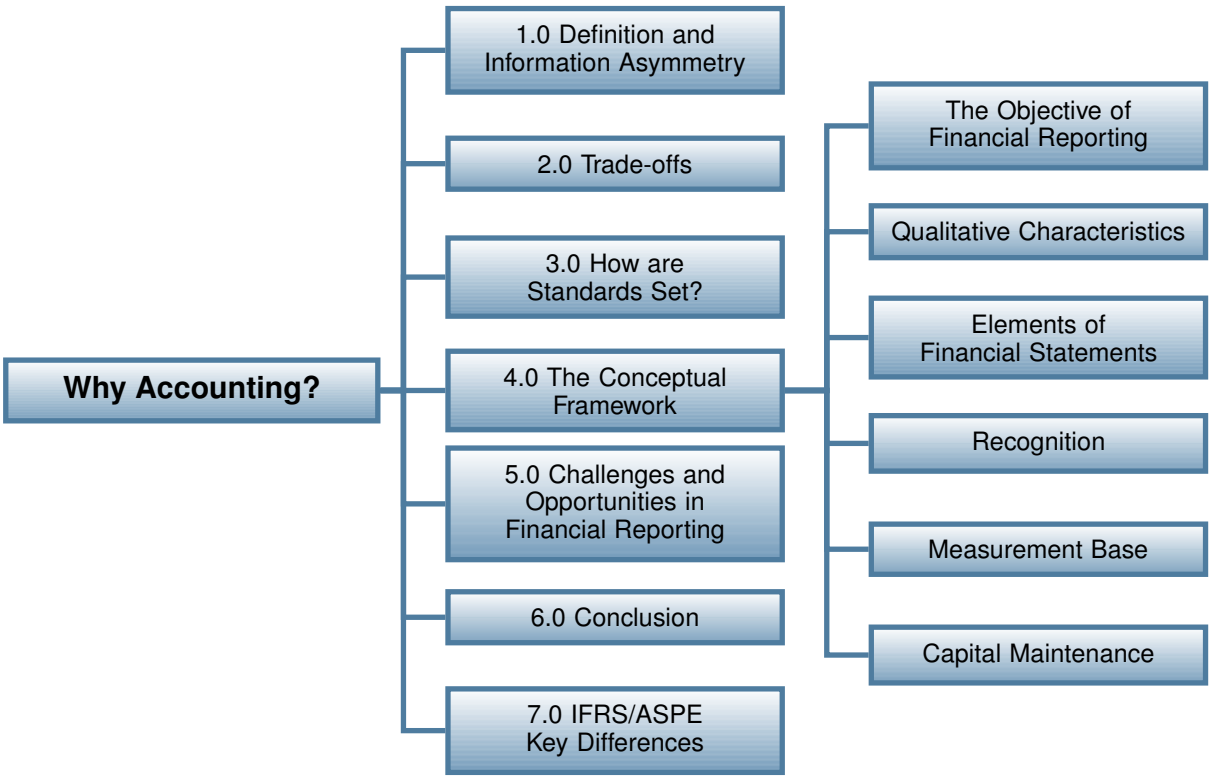
LO 13: Explain the effects on the accounting profession of changes in information technology.

Introduction

The profession and practice of accounting has seen tremendous changes since the turn of the new millennium. A series of accounting scandals in the early 2000s, followed by the tremendous upheaval in capital markets and the world economy that resulted from the 2008 meltdown of the financial services industry, has led many to question the purpose and value of accounting information. In this chapter, we will examine the nature and purpose of accounting information and the key challenges faced by those who create accounting standards. We

will also examine the accounting profession's response to those challenges, including the conceptual framework that currently shapes the development of accounting standards. We will also discuss the role of ethical behaviour in the accounting profession and the issues faced by practicing accountants.

Chapter Organization



2.1 Definition and Information Asymmetry

The International Accounting Standards Board (IASB) has stated that the purpose of financial reporting is "to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, providing or settling loans and other forms of credit, or exercising rights to vote on, or otherwise influence, management's actions that affect the use of the entity's economic resources." (International Accounting Standards Board, 2019). The key elements of this definition are that information must be useful and that it must assist in the decision-making function. Although this primary definition identifies investors, lenders, and creditors as the

user groups, the IASB does acknowledge that other users may also find financial statements useful. The IASB also acknowledges two key characteristics of the financial-reporting environment. First, most users, such as shareholders or lenders, do not have the ability to access information directly from the reporting entity. Thus, those users must rely on general-purpose financial statements as well as other sources to obtain the information. Second, management of the company has access to more information than the external users, as they can access internal, nonpublic sources from the company's records. These two conditions result in *information asymmetry*, which is a key concept in understanding the purpose and development of accounting standards.

Information asymmetry simply means that one individual has more information than another individual. This concept is very easy to understand and is obviously true in all kinds of interactions that occur in your life on a daily basis. When you enter the room to write an exam, you know how much sleep you had the night before and what you ate for breakfast, but your professor does not. This type of information advantage is not very useful to you, however, as your professor is interested only in what you write on your exam paper, not the conditions that led up to those responses. In other cases, however, it is possible that you could gain an information advantage that could be useful to your performance on the exam. In the broader perspective of financial accounting, we are concerned the implications and problems that may be caused by information asymmetry. To explore this concept further, we need to consider two different forms of information asymmetry: *adverse selection* and *moral hazard*.

Adverse selection occurs because employees and managers of a company have more knowledge of the company's operations than the general public and, more specifically, investors. Because these individuals know more about the company and its potential future profitability, they may be tempted to take advantage of this knowledge. For example, if a manager of a company knew that a contract had just been signed with a new customer that was going to significantly increase revenues in the following year, the manager may be tempted to purchase shares of the company on the open market before the contract is announced to the public. By doing so, the manager may benefit when the news of the contract is released and the price of the share rises. In this case, the manager has unfairly used his or her information advantage to gain a personal benefit, which can be considered adverse to the interests of other investors. Because investors are aware of this potential problem, they may lose confidence in the securities market. This could result in investors generally paying less for shares than may be warranted by the fundamental factors of the business. The investors would do this because they wouldn't completely trust the information they were receiving. If this lack of confidence became serious or widespread, it is possible that securities markets wouldn't function at all.

The field of financial accounting clearly has a role in trying to solve the adverse selection problem. By making sufficient, high-quality information available to investors in a timely manner, accountants can reduce the adverse effects of this form of information asymmetry. However, it is impossible to eliminate the problem completely, as insiders of a company will always receive the information first. The accounting profession must thus work toward cost-effective and reasonable (but imperfect) solutions to convey useful information to investors.

Moral hazard is a different type of problem caused by an information imbalance. Except for very small businesses, most companies operate under the principle of separation of ownership and management. Shareholders can be numerous and geographically diverse; it is impossible for them to be directly involved in the running of the business. To solve this problem, shareholders hire managers to act as **stewards** of their investment. One feature of corporate law is the presumption that managers will always work toward the best interests of the company. Shareholders assume this to be true, but they do not have a very effective method of directly observing manager behaviour. Managers know this; thus, there may be an incentive – or at least an opportunity – not to work as hard or as effectively as the shareholders would like. If the company's performance suffers because of poor manager effort, the manager can always blame outside factors or other economic conditions. In extreme cases, the manager may even be tempted to manipulate financial reports to cover up poor performance.

To give shareholders the ability to monitor manager performance, financial accounting must seek ways to provide financial performance measures. Many analytical techniques use financial accounting as a basis for the calculations. However, shareholders must have confidence not only in the accuracy of the information but also in the usefulness of the information for evaluation of management stewardship. Again, there is no perfect solution here, as the complexities and qualitative features of management activity can never be perfectly captured by numbers alone. Still, financial accounting information can help investors assess the quality of the managers they hire, which can potentially reduce the moral hazard problem.

2.2 Trade-Offs

As suggested in the previous section, accounting can play a role in reducing both adverse selection and moral hazard. However, because these two problems relate to two different user needs (i.e., the need to predict future investment performance and the need to evaluate management stewardship), it is unlikely that accounting information will always be perfectly and simultaneously useful in alleviating these problems. For example, information about the current values of assets may help an investor better predict the future economic prospects of the company, particularly in the short term. However, current values may not reveal much about management stewardship, as managers have very little control over market conditions. Similarly, the depreciated historical cost of property, plant, and equipment assets can reveal something about management's decision-making processes regarding the purchase and use of these assets, but historical costs provide very little value in estimating future returns. Accounting standard setters recognize that any specific disclosure may not meet all users' needs, and as such, **trade-offs** are necessary in setting standards. Sometimes trade-offs between different user purposes are required, and sometimes the trade-off is simply a matter of evaluating the cost of producing the information compared with the benefit received. Because of these trade-offs, accounting information must be viewed as an imperfect solution to the problem of information asymmetry. Still, those who set accounting standards attempt to create the framework for the production of information that will be useful to all readers, in particular to

the primary user groups of investors, lenders, and creditors.

2.3 How Are Standards Set?

In Canada, the Accounting Standards Board (AcSB) sets accounting standards. The AcSB is an independent body whose members are appointed by the Accounting Standards Oversight Council (AcSOC). The AcSOC was established in 2000 by the Canadian Institute of Chartered Accountants (CICA) to oversee the standard setting process. Currently the AcSB receives funding, staff, and other resources from the Chartered Professional Accountants of Canada (CPA Canada).

Two distinct sets of accounting standards for profit-oriented enterprises exist in Canada: International Financial Reporting Standards (IFRS) for those entities that have public accountability and Accounting Standards for Private Enterprises (ASPE) for those entities that do not have public accountability.

The *CPA Canada Handbook* defines a publicly accountable enterprise as follows:

> An entity, other than a not-for-profit organization, that:
>
> I. has issued, or is in the process of issuing, debt or equity instruments that are, or will be, outstanding and traded in a public market (a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets); or
>
> II. holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses. (CPA Canada, 2016)

Entities included in the second category can include banks, credit unions, investment dealers, insurance companies, and other businesses that hold assets for clients. For most of the illustrative examples in this text, we will assume that publicly traded companies use IFRS and that private companies use ASPE. Note that companies that do not have public accountability may still elect to use IFRS if they like. They may choose to do this if they intend to become publicly traded in the future or have some other reporting relationship with a public company.

ASPE are formulated solely by the AcSB and are designed specifically for the needs of Canadian private companies. IFRS, on the other hand, are created by the IASB and are adopted by the AcSB. The AcSB is actively involved with the IASB in the development of IFRS, and most IFRS are adopted directly into the *CPA Canada Handbook – Accounting*. In some rare circumstances, however, the AcSB may determine that a particular IFRS does not adequately meet the reporting needs of Canadian businesses and may thus choose to "carve out" this particular section before including the standard in the *CPA Canada Handbook*.

The IASB was formed for the purpose of harmonizing international accounting standards. This concept makes sense, as the past few decades have seen increased international trade, improvement of technologies, and other factors that have made capital more mobile. Investors who want to make choices between companies in different countries need to have some confidence that they will be able to compare reported financial results. The IASB has attempted to provide this assurance, and the use of IFRS around the world continues to grow, with partial or full convergence now in more than 140 countries.

For Canadian accountants, it is important to note that the United States still has not converged its standards with IFRS. Canada has a significant amount of cross-border trade with the United States, and many Canadian companies are also listed on American stock exchanges. In the United States, accounting standards are set by the Financial Accounting Standards Board (FASB), although the actual legal authority for standard setting rests with the Securities and Exchange Commission (SEC). The FASB has indicated in the past that it wishes to work with IASB to find a way to converge its standards with the international model. However, the FASB's standards are quite detailed and prescriptive, which makes convergence difficult. As well, a number of political factors have prevented convergence from occurring. As this point, it is difficult to predict when or if the FASB will converge its standards with the IASB.

2.4 The Conceptual Framework

According the *CPA Canada Handbook*, "the purpose of the Conceptual Framework is to:

a) assist the International Accounting Standards Board to develop IFRS Standards that are based on consistent concepts;

b) assist preparers to develop consistent accounting policies when no Standard applies to a particular transaction or other event, or when a Standard allows a choice of accounting policy; and

c) assist all parties to understand and interpret the Standards." (CPA Canada, 2019).

A solid, coherent framework of principles is important not only to standard setters who need to develop new principles in response to changes in the business environment but also to practicing accountants who may encounter unusual or unique types of business transactions on a daily basis.

The IASB and the FASB had been working on a joint conceptual framework for several years, but this project was replaced by an IASB-only project, which was completed in 2018. This framework is currently used in Canada for publicly accountable enterprises. The conceptual

framework used for private enterprises is very similar in content, although the structure, terminology, and emphasis differ slightly. We will focus on the IASB framework, which is located in Part 1 of the *CPA Canada Handbook*.

2.4.1 The Objective of Financial Reporting

The conceptual framework opens with a statement of the purpose of financial reporting, which was discussed previously in this chapter. Recall that the key components of this definition are that financial information must be useful for making decisions, primarily about investment or lending of resources to a business entity, or evaluation of management stewardship. The conceptual framework then proceeds to discuss the qualitative characteristics of useful accounting information.

2.4.2 Qualitative Characteristics of Useful Information

The conceptual framework identifies fundamental and enhancing qualitative characteristics of useful information.

The **fundamental characteristics** are

- relevance and
- faithful representation.

The **enhancing characteristics** are

- comparability,
- verifiability,
- timeliness, and
- understandability.

Fundamental Characteristics

Relevance means that information is "capable of making a difference in the decisions made by users" (CPA Canada, 2019, QC2.6). The definition is further refined to state that information is

capable of influencing decisions if it has predictive value, confirmatory value, or both. *Predictive value* means that the information can be used to assist in the process of making predictions about future events, such as potential investment returns, credit defaults, and other decisions that financial-statement users need to make. Note that although the information may assist in these decisions, the information is not in itself a prediction or forecast. Rather, the information is the raw material used by the decision maker to make the prediction. *Confirmatory value* means that the information provides some feedback about previous decisions that were made. Quite often, the same information may be useful for prediction and feedback purposes, but in different time periods. An income statement may help an investor decide to invest in a company this year, and next year's income statement, when released, will provide feedback as to whether the investment decision was correct. The framework also mentions the concept of *materiality*. A piece of information is considered material if its omission would affect a user's decision. Materiality is a concept used frequently by both internal accountants and auditors in determining the need to make adjustments for errors identified. Clearly, an item that is not deemed to be material is not relevant, as it would not affect a user's decision.

Faithful representation means that the financial information presented represents the true economic substance or state of the item being reported. This does not mean, however, that the representation must be 100 percent accurate, as perfection is rarely attainable. The *CPA Handbook* indicates that for information to faithfully represent an economic phenomenon, it must be *complete, neutral, and free from error*.

Information is complete if there is sufficient disclosure for the reader to understand the underlying phenomenon or event. This means that many financial disclosures will require additional explanations that go beyond a mere reporting of the quantitative values. Completeness is the motivation behind many of the note disclosures contained in financial statements. Because financial-statement users are trying to make predictions about future events, more detail is often needed than simply the balance sheet or income-statement amount. For example, if an investor wanted to understand a manufacturing company's requirements for future replacement of property, plant, and equipment assets, detailed information about the remaining useful lives of the assets and related depreciation periods and methods would be needed. Similarly, if a creditor wanted to assess the possible future effect on cash flows of a lease agreement, detailed information about the term of the lease, the required payments, and possible renewal options would be needed.

The neutrality concept suggests that the information is not biased and does not favour one particular outcome or prediction over another. This can often be difficult to assess, as many judgments are required in some accounting measures. There are many motivations for managers and preparers of financial statements to bias or influence the reporting of certain results. These motivations will be discussed later in this chapter. The professional accountant's role is to ensure that these biases are understood and controlled so that the reported financial results are not misleading to readers. Neutrality can also be supported by the use of prudent judgment. "Prudence is the exercise of caution when making judgments under conditions of uncertainty" (CPA Canada, 2019, QC2.16). Prudence has historically been described as a cautious attitude that does not allow for the overstatement of assets or income, or an

understatement of liabilities or expenses. However, the definition in the Conceptual Framework equally suggests that assets or income should not be understated and that liabilities or expenses should not be overstated. The Framework makes this explicit statement to suggest that asymmetry in standards is not necessary. However, there are examples of specific standards in IFRS that do have unbalanced requirements (i.e. have a requirement for more persuasive evidence when recognizing an income compared to an expense). These types of unbalanced standards are considered acceptable if they result in more relevant and faithfully representative information. The application of prudence obviously takes a high degree of skill and professional judgment. Prudence is not considered a qualitative characteristic on its own, but is rather, sound advice to the practicing accountant.

As noted previously, information that is free from errors is not a guarantee of certainty or 100 percent accuracy. Rather, this criterion suggests that the economic phenomenon is accurately described and the process at arriving at the reported amount has properly applied. There is still the possibility that a reported amount could be incorrect. For example, at the end of the fiscal year, many companies will make an allowance for doubtful accounts to reflect the possibility that some accounts receivable will not be collected. At the balance sheet date, there is no way to be 100 percent certain that the reported allowance is correct. Only the passage of time will reveal the truth about this estimate. However, we can still say that the allowance is free from error if we can determine that a logical and consistent process has been applied to determine the amount and that this process is adequately described in the financial statements. This way, readers are able to make their own assessments of the risks involved in collecting these future cash flows.

It should be noted that the presence of both of the fundamental characteristics is required for information to be useful. An error-free representation of an irrelevant phenomenon is not much use to financial-statement readers. Similarly, if a relevant measure cannot be described with any degree of accuracy, then users will not find this information very useful for predicting future cash flows.

Enhancing Characteristics

The conceptual framework describes four additional qualitative characteristics that should enhance the usefulness of information that is already determined to be relevant and faithfully represented. These characteristics are comparability, verifiability, timeliness, and understandability.

Comparability is the quality that allows readers to compare either results from one entity with another entity or results from the same entity from one year with another year. This quality is important because readers such as investors are interested in making decisions whether to purchase one company's shares over another's or to simply divest a share already held. One key component of the comparability quality is consistency. Consistency refers to the use of the same method to account for the same items, either within the same entity from one period to the next or across different entities for the same accounting period. Consistency in application of accounting principles can lead to comparability, *but comparability is a broader*

concept than consistency. Also, comparability must not be confused with uniformity. Items that are fundamentally different in nature should be accounted for differently.

The **verifiability** quality suggests that two or more independent and knowledgeable observers could come to the same conclusion about the reported amount of a particular financial-statement item. This does not mean that the observers have to be in complete agreement with each other. In the case of an estimated amount on the financial statements, such as an allowance for doubtful accounts, it is possible that two auditors may agree that the amount should fall within a certain range, but each may have different opinion of which end of the range is more probable. If they agree on the range, however, we can still say the amount is verifiable. Verification may be performed by either directly observing the item, such as examining a purchase invoice issued by a vendor, or indirectly verifying the inputs and calculations of a model to determine the output, such as reviewing the assumptions and recalculating the amount of an allowance for doubtful accounts by using data from an aged trial balance of accounts receivable.

Timeliness is one of the simplest but most important concepts in accounting. Generally, information needs to be current to be useful. Investors and other users need to know the economic condition of the business at the present moment, not at some previous period. However, past information can still be useful for tracking trends and may be especially useful for evaluating management stewardship.

Understandability is the one characteristic that the accounting profession has often been accused of disregarding. It is generally assumed that readers of financial statements should have a reasonable understanding of business issues and basic accounting terminology. However, many business transactions are inherently complex, and the accountant faces a challenge in crafting the disclosures in such a way that they completely and concisely describe the economic nature of the item while still being comprehensible. Financial disclosures should be reviewed by non-specialist, knowledgeable readers to ensure the accountant has achieved the quality of understandability.

As mentioned previously, accountants are often faced with trade-offs in preparing financial disclosures. This is especially true when considering the application of the various qualitative characteristics. Sometimes, the need for timeliness may result less-than-optimal verifiability, as verification of some items may require the passage of time. As a result, the accountant is forced to make estimations in order to ensure the information is available within a reasonable time. As well, all information has a cost, and companies will carefully consider the cost of producing the information compared with the benefits that can be obtained from the information, such as improving relevance or faithful representation. These challenges point to the conclusion that accounting is an imperfect measurement system that requires judgment in both the preparation and interpretation of the information.

2.4.3 Elements of Financial Statements

The *CPA Canada Handbook* includes a section describing a number of essential financial-statement elements. This section is not intended to be an exhaustive list of each item that could appear on the financial statements. Rather, it describes broad categories of financial-statement elements and defines them using key concepts that identify the essential elements of each category. These broadly based definitions will require the accountant to use judgment in the determination of the nature and the specific treatment and disclosure of business transactions. However, the accountant's judgment can also help ensure that financial statements properly reflect the underlying economic nature of the transaction, not just the legal form that may have been designed to circumvent more specific rules.

An Underlying Assumption

Before commencing a detailed examination of elements of financial statements, it is important to understand the key assumption underlying the reporting process. It is normally assumed that companies are operating as a *going concern*. This means that the company is expected to continue operating into the foreseeable future and that there will be no need to liquidate significant portions of the business or otherwise materially scale back operations. This assumption is important, because a company that is not a going concern would likely need to apply a different method of accounting in order not to be misleading. If a company needed to liquidate equipment at a substantial discount due to bankruptcy or other financial distress, it would not be appropriate to carry those assets at depreciated cost. In situations of financial distress, the accountant needs to carefully consider the going-concern assumption in determining the correct accounting treatment.

Assets

An asset is the first financial-statement element that needs to be considered. In the simplest sense, an asset is something that a business owns. The *CPA Canada Handbook* defines an asset as "a present economic resource controlled by the entity as a result of past events" (CPA Canada, 2019, 4.3). The definition further states that an economic resource is a right that can produce economic benefits. The key point in this definition is that economic benefits are expected to be received at some point in the future as a result of holding the resource. The most obvious benefit is the future inflow of cash. This can be seen very clearly with an item such as inventory held by a retail store, as the store expects to sell the items in a short period of time to generate cash. However, an asset could also be a piece of equipment installed in a factory that reduces the consumption of electricity by production processes. Although this equipment will not directly generate a future cash inflow, it does reduce a future cash outflow. This is also considered an economic benefit. The use of the term "right" in the definition also suggests other types of relationships, such as the right to use a patented process or the right to receive a favourable amount under a derivative contract. Rights are often established by a legal contract or enacted legislation, but there are other ways that rights can be considered assets, even without legal form. It is also important to note that the right must be capable

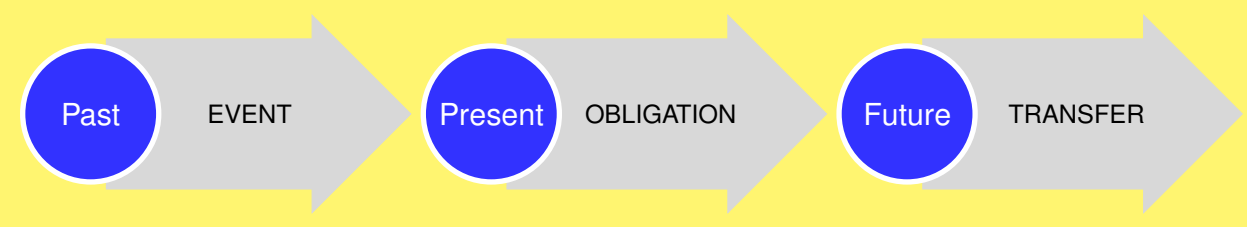
of producing benefits beyond those available to other parties. An artistic work that is legally available in the public domain cannot be considered an asset to an entity, since other parties can also equally access the work.

Many assets have a tangible, or physical, form. However, some assets, such as accounts receivable or a patent, have no physical form. In the case of an account receivable from a customer, the future benefit results from the legal right the company holds to enforce payment. For a patent, the future benefit results from the company's ability to sell its product while maintaining some protection from competitors. Cash in a bank account does not have physical form, but it can be used as a medium of exchange.

It should also be noted that, although we can generally think of assets as something we own, the actual legal title to the resource does not necessarily need to belong to the company for it to be considered an asset. A contract, such as a long-term lease that conveys benefits to the leasing party over a significant portion of the asset's useful life may be considered an asset in certain circumstances.

Liabilities

A liability is defined as "a present obligation of the entity to transfer an economic resource as a result of past events." (CPA Canada, 2019, 4.26). This definition can be visualized through a time-continuum graphic:



When we prepare a balance sheet, it represents the present moment, so the obligation gets reported as a liability. This obligation is often a legal obligation, as in the case when goods are purchased on account, resulting in an accounts payable entry, or when money is borrowed from a bank, resulting in a loan payable. As well, this legal obligation can exist even in the absence of a formal contract. A company still has to report wages payable for any work performed by an employee but not yet paid, even if that work was performed under the terms of an informal, casual labour agreement.

Liabilities can also result from common business practice or custom, even if there is no legally enforceable amount. If a retailer of mobile telephones agrees to replace one broken screen per customer, then the expected cost of these replacements should be reported as a liability, even if the damage resulted from the customer's neglect and there is no legal obligation to pay. This type of liability is referred to as a constructive obligation. As well, companies may record

liabilities based on equitable principles. If a company significantly reduces its workforce, it may feel a moral obligation to provide career transition counselling to its laid-off employees, even though there is no legal obligation to do so. In general, an obligation is considered a duty or responsibility that an entity has no practical ability to avoid.

The settlement of the liability usually involves the future transfer of cash, but it can also be settled by transferring other assets. As well, liabilities are sometimes settled through the provision of services in the future. A health club that requires its members to pay for one year's fees in advance has an obligation to make the facilities available to its members for that time. Less common ways to settle liabilities include replacing the liability with a new liability and converting the liability into equity of the business. It should be noted that the determination of the value of the liability to be recorded sometimes requires significant judgment. An example of this would be the obligation under a pension plan to make future payments to retirees. We will discuss this estimation problem in more detail in later chapters dealing with liabilities.

Equity

Equity is the owners' residual interest in the business, representing the remaining amount of assets available after all liabilities have been settled. Although equity can be thought of as a balancing figure, it is usually subdivided into various categories when presented on the balance sheet. Many of these classifications are related to legal requirements regarding the ownership interest. The usual categories of equity include share capital, which can include common and preferred shares, retained earnings, and accumulated other comprehensive income (IFRS only). However, other types of equity can arise on certain types of transactions, such as contributed surplus, appropriated retained earnings, and other reserves that may be allowed under local law. The purpose of all these subcategories of equity is to give readers enough information to understand how and when the owners may be able to receive a distribution of their interests. For example, restrictions on retained earnings or levels of preferences on shares issued may constrain the future payment of dividends to common shareholders. A potential investor would want to know this before investing in the company.

It should also be noted that the company's reported equity does not represent its value, either in a real sense or in the market. The prices that shares trade at in the stock market represent the cumulative decisions of investors, based on all information that is available. Although financial statements form part of this total pool of information, there are so many other factors used by investors to value a company that it is unlikely that the market value of a company would equal the reported amount of equity on the balance sheet.

Income

Income is defined as "increases in assets, or decreases in liabilities, that result in increases in equity, other than those relating to contributions from holders of equity claims." (CPA Canada, 2019, 4.68). Notice that the definition is based on presence of changes in assets or liabilities, rather than on the concept of something being earned. This represents the *balance sheet approach* used in the conceptual framework, which considers any measure

of performance, such as profit, to simply be a representation of the change in balance sheet amounts. This perspective is quite different from some historical views adopted previously in various jurisdictions, which viewed the primary purpose of accounting to be the measurement of profit (an income-statement approach).

Income can include both *revenues* and *gains*. Revenues arise in the course of the normal activities of the business; gains arise from either the disposal of noncurrent assets (realized gains) or the revaluation of noncurrent assets (unrealized gains). Unrealized gains on certain types of assets are usually included in *other comprehensive income*, a concept that will be discussed in later chapters.

Expenses

Expenses are defined as "decreases in assets, or increases in liabilities, that result in decreases in equity, other than those relating to distributions to holders of equity claims." (CPA Canada, 2019, 4.69). Note that this definition is really just the inverse of the definition of income. Similarly, expenses can include those that are incurred in the regular operation of the business and those that result from *losses*. Again, losses can be either realized or unrealized, and the definition is the same it was for gains.

2.4.4 Recognition

Items are recognized in financial statements when they meet the definition of a financial statement element. (CPA Canada, 2019, 5.6). However, the Conceptual Framework acknowledges that there may be circumstances when an item that meets the definition of an element is still not recognized, because doing so would not provide useful information. In referencing usefulness, the Framework is acknowledging the fundamental qualitative characteristics of relevance and faithful representation. If it is uncertain whether an asset or liability exists, or if the probability of an inflow or outflow of economic benefits is low, it is possible that recognition is not warranted, since the relevance of the information is questionable. Similarly, if the measurement uncertainty present in estimated amounts were too great, the element would not be faithfully represented, and accordingly, should not be recognized. It is also possible that if the costs of recognition outweigh the benefits to users of the financial statements, the item will not be recognized.

Recognition means the item is included directly in one of the financial statements and not simply disclosed in the notes. However, if an item does not meet the criteria for recognition, it may still be necessary to disclose details in the notes to the financial statements. A pending lawsuit judgment at the reporting date may not meet the criterion of measurement certainty, but the possible future impact of the event could still be of interest to readers.

2.4.5 Measurement Base

The Conceptual Framework also notes that once recognition is affirmed, the appropriate **measurement base** needs to be considered. The following measurement bases are identified in the conceptual framework:

- Historical cost
- Current value, which includes
  - Fair value
  - Value in use/fulfilment value, and
- Current cost

Historical cost is perhaps the most well-entrenched concept in accounting. This simply means that items are recorded at the actual amount of cash paid or received at the time of the original transaction. This concept has persisted in accounting thought for so long because of its relative reliability and verifiability. However, the concept is often criticized because historical cost information tends to lose relevance as time passes. This can be particularly true for long-lived assets, such as real estate.

The **current value** concept results in elements being reported at amounts that reflect current conditions at the measurement date. This measurement base tries to achieve greater relevance by using current information, but it may not always be possible to represent this information faithfully when active markets for the item do not exist. It may be very difficult to find the current cost of a unique or specialized asset that was purpose built for a company.

Fair value is the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date (CPA Canada, 2019, 6.12). This amount can be easily determined when active markets exist. However, if there is no active market for the item in question, the fair value may still be estimated using a discounted cash flow technique. Obviously, the more assumptions required in deriving the fair value, the more measurement uncertainty will exist.

Value in use is also a discounted cash flow technique. It differs from fair value in that it uses entity specific assumptions, rather than market assumptions. In other words, the entity projects future cash flows based on the specific way it uses the asset in question, rather than cash flows based on market assumptions about the use of the asset. In many cases, fair value and value in use may result in the same valuation, but this is not necessarily true in all cases.

Current cost is the cost to acquire an equivalent asset at the measurement date. This cost will include any transaction costs to acquire the asset, and will take into consideration the age

and condition of the asset, along with other factors. Current cost represents an entry value, while fair value and value in use represent exit values.

All of the measurement bases identified have both strengths and weaknesses in terms of their overall decision usefulness for readers. Thus, there are always trade-offs and compromises evident when accounting standards are set. It is not surprising, then, to see that current accounting standards are a hybrid, or conglomeration, of these different bases. Historical cost is still the most common base used, but many accounting standards for specific items will allow or require other bases as well.

It should be noted that the *Conceptual Framework's* discussion of measurement bases should be read in conjunction with *IFRS 13 – Fair Value Measurement*. While the *Conceptual Framework* provides a broad overview of possible measurement bases, IFRS 13 provides more specific guidance on how to determine fair value. Fair value is a concept that is applied to a number of different accounting transactions under IFRS. IFRS 13 suggests that valuation techniques should maximize the use of observable inputs and minimize the use of unobservable inputs. The standard further applies a hierarchy to those inputs to assist the accountant in assessing the quality of the data used for valuation. Level 1 of the hierarchy represents unadjusted, quoted prices in active markets for identical assets or liabilities. Level 2 inputs are those that are directly or indirectly observable but do not meet the definition of Level 1. This could include quoted prices from inactive markets or quoted prices for similar (but not identical) assets. Level 3 inputs are those that are unobservable. In this case, valuation techniques that require the use of assumptions and calculations of future cash flows may be required. IFRS 13 recommends that Level 1 inputs should always be used where possible. Unfortunately, Level 1 inputs are often unavailable for many assets. The application of fair-value accounting as described in IFRS 13 will be discussed in more detail in subsequent chapters.

2.4.6 Capital Maintenance

The last section of the conceptual framework deals with the concept of *capital maintenance*. This is a broader economic concept that attempts to define the level of capital or operating capability that investors would want to maintain in a business. This is important for investors because they ultimately want to earn a return on their invested capital in order to achieve growth in their overall wealth. However, measuring this growth will depend on how capital is defined.

The conceptual framework identifies two broad approaches to this question. The measurement of the owners' wealth can be defined in terms of **financial capital** or in terms of **physical capital**.

Financial capital maintenance is measured simply by the changes in equity reported on the company's balance sheet. These changes can be measured either in terms of money invested or in terms of purchasing power. The *monetary interpretation* is consistent with the approach

used in historical cost accounting, where wealth is measured in nominal units (dollars, euros, etc.). This is a simple and reasonable approach in the short term, but over longer periods, monetary values are less relevant due to inflation. A dollar in 1950 could purchase much more than it could in 2020, so comparisons of capital over longer periods become meaningless. One way to get around this problem is to apply a *constant purchasing power* model to capital maintenance. This attempts to apply a broad-based index, such as the Consumer Price Index, to equity in order to adjust for the effects of inflation. This should make financial results more comparable over time. However, it is very difficult to conclude that a broad-based index is representative of the actual level of inflation experienced by the company, as the company would be selling and purchasing goods that are different from those included in the index.

The concept of *physical capital maintenance* attempts to get around this problem by measuring productive capacity. If a company can maintain the same level of outputs year after year, then it can be said that capital is maintained, even if the nominal monetary amounts change. This approach essentially represents the rationale behind the current cost-measurement base. The difficulty in using this approach is that current cost information about each specific asset in the business would be prohibitively expensive to obtain. If, instead, the company tried to apply a general index of prices for its specific industry, it is unlikely that this index would accurately match the specific asset composition of the company.

The conceptual framework concludes that the framework will not prescribe or require a specific model because there are so many trade-offs required in determining the appropriate capital maintenance model. Rather, the framework suggests that needs of financial-statement users should be considered in determining the appropriate model.

2.5 Challenges and Opportunities in Financial Reporting

As noted in the introduction to this chapter, confidence in financial markets and the accounting profession were shaken in the early 2000s. A series of accounting scandals, perhaps most notably Enron Corporation's, resulted in questioning the role of the information providers and the need for further regulation. One response, indeed, to these problems was the introduction of further regulation. In the United States, the Sarbanes-Oxley Act (SOX) was introduced in 2002 to restore the confidence in financial markets that had been so badly shaken after the accounting scandals. This legislation tightened up auditor independence rules, introduced new levels of oversight, created additional penalties for company executives engaged in fraudulent reporting, and improved other disclosure requirements. There have been improvements observed in disclosure practices since the introduction of SOX, but these improvements have come with a cost. Some estimates have put the cost of SOX compliance at $6 billion per year. This is significant, but in assessing this cost, it is also important to consider the benefits. The major benefit that results from legislation like SOX is the potential reduction of market failures. When scandals such as the one at Enron occur, the loss is borne not only by shareholders but also by employees, other companies, and the general public, who will feel the effect of

any recession or economic slowing that results from reduced confidence in the markets. But although the nature of the benefit is clear, the quantification of it is not. It is very difficult to measure the reduction of market failures that has occurred due to legislation, because if the legislation worked, there would be nothing to measure.

It would be unrealistic to suggest that regulation could completely eliminate any problem as complex as information asymmetry. Although SOX did appear to be effective in improving financial practices and disclosures, it did not prevent the 2008 financial crisis and subsequent market meltdown. This is likely because the causes of this crisis were not primarily matters of accounting and reporting – rather, they were related to the regulation and practices of the investment-banking industry. So the argument can be made that further regulations are required. But the regulator faces the challenge to determine the appropriate amount of regulation. Too little regulation can allow fraudulent practices to continue, but too much can stifle business initiative and growth.

One response by the accounting profession to the need for the further regulation has been the development of IFRS. These standards were introduced at the time that financial crises were shaking the financial world in the early 2000s. IFRS are viewed as being more **principles based** relative to other standards, such as the United States' Generally Accepted Accounting Principles (GAAP), which has historically been more **rules based**. Principles-based standards present a series of basic concepts that can be used by professional accountants to make decisions about the appropriate accounting treatment of individual transactions. These concepts are often intentionally broad and often do not provide specific, detailed guidance to the accountant. Rules-based standards, on the other hand, are more prescriptive and detailed. These standards attempt to create a rule for any situation that may be encountered by the accountant. Accordingly, the body of knowledge is much larger, with much more specific detail regarding accounting treatments.

Principles-based standards are usually considered to have the advantage of being more flexible, as they allow for more interpretation and judgment by the accountant. This can be particularly useful when unusual or unique business transactions are presented to the accountant. However, this flexibility is one of the weaknesses of this approach. Some fear that giving too much freedom to the accountant to interpret the accounting standards may result in financial statements that are less comparable to those of other entities or that could be subject to increased earnings management or other manipulations.

Because rules-based systems have far greater detailed guidance, some have argued that this is better for the accountant, as the accountant can defend the treatment of a particular transaction by simply pointing to compliance with the rule. As well, it is thought that rules-based systems can also lead to greater comparability, as much of the format and content of disclosure are tightly prescribed. Unfortunately, overly detailed rules can still allow for a different type of misrepresentation called *financial engineering*. When an accounting treatment relies on specific and detailed rules, creative managers can simply invent a new type of transaction that works around the existing rules. They will argue that the rule does not specifically prohibit them from doing what they are doing, but the engineered transaction may, in fact, be violating

the spirit of the rule. Interpretations that focus more on the form of the transaction than on the substance can lead to inappropriate and ultimately misleading accounting. As a practical matter, all systems of accounting regulation contain both broadly based principles and detailed rules. The challenge for accounting standard setters is to find the right balance of rules and principles.

It should be apparent that many of the problems faced by the accounting profession stem from the questionable application of ethical principles. As noted before, the broad purpose of accounting information is to reduce information asymmetry. Information asymmetry can never be eliminated, but if accountants can communicate sufficient, useful information, then the asymmetry can be mitigated. Although it is a normal business practice to try to take advantage of an information imbalance, if this is done in a misleading or deceitful way that unfairly disadvantages certain parties, confidence in capital markets will be damaged. The accountant, in trying to provide as much information as possible to clients, will face pressure from those vested interests that stand to gain from the information imbalance. The accountant may be asked to withhold or distort the information to achieve certain results. Often, these pressures are subtle and not presented as a clear-cut violation of accounting standards. Business transactions can be complex, and the application of accounting standards to those transactions can involve significant judgment, estimation, and uncertainty. The answer to an accounting question may not be clear, and certain interested parties may view this state as an opportunity to try to influence the accountant.

The management of a company often has a particular interest in trying to influence financial reports. Managers are given the task by the shareholders of managing the business in the most efficient and profitable way possible. Managers face great pressures in the task and will at times look at the financial reporting as one tool to be used to deal with these pressures. Managers may be motivated to influence or bias the reported financial results for a number of reasons, including the following:

- *The presence of performance-based compensation*: Managers may be rewarded in bonuses or stock options that are directly or indirectly influenced by financial results. The manager clearly has an incentive to make the results look positive.
- *Evaluation of management stewardship*: Even if the manager is not directly compensated based on results, the manager's value to the company will still be evaluated relative to the business's performance.
- *Meeting market expectations*: Financial markets expect results and can be very punitive when expected results are not achieved. In order to meet the market's expectations with respect to performance, the manager may feel pressure to "work the numbers."
- *Conditions of contracts*: Some contracts, such as a loan agreement with a bank, may stipulate that certain financial ratios be maintained. If the ratios are not maintained, then some punitive consequence will likely be applied, such as a penalty or additional interest charges. As the financial ratio is based on reported results, the manager has an incentive to ensure the results keep the company onside.

- *Political pressures*: Sometimes a company may face pressures that are not directly related to the interests of the investors or lenders. A large, profitable company that enjoys a certain level of oligopolistic power may face additional public scrutiny if profits are too high. Public-interest groups may feel that the company is taking advantage of its position of power, and they may demand political action, such as increased taxes or other sanctions against the company. In order to avoid this type of political heat, the managers may have an incentive to deliberately reduce or smooth income.

In these examples, it should be apparent that the accountant could play a key role in the achievement of management's objectives. The accountant must therefore always be aware of these motivations and apply sound judgment and ethical principles. But the application of ethics is not simply a matter of consulting an ethics handbook. An ethical sense is a personal characteristic that is inherent in each individual. It is very difficult to teach, as our personal ethics are formed long before we choose to become professional accountants. **Ethical awareness and practice**, however, is something for which the accounting profession has developed a significant framework.

All professional bodies contain **codes of conduct** for their members. In these codes, basic principles of ethical behaviour and discussions of how to deal with ethical conflicts are included. Some of the common principles that are included in these codes include the following:

- *Integrity*: The accountant should always act in an honest fashion and not be associated with any information that is false or misleading.
- *Objectivity*: The accountant should always be unbiased when applying judgment.
- *Professional competence*: The accountant should always maintain a level of professional knowledge that is current and sufficient for performing professional duties and should not engage in any work that is outside the scope of that accountant's knowledge.
- *Confidentiality*: The accountant must not share privileged client information with other parties and must not use that information for his or her own personal gain.
- *Professional behaviour*: The accountant should not engage in any activity that discredits the profession.

Dealing with ethical conflicts and external pressures from stakeholders can be difficult at times, and accountants are often advised to seek advice from other professionals or their own professional association when the need arises. Accountants play a key role in the operation of capital markets and are essential to the financing of a business. The external stakeholders of the business expect ethical and professional conduct from the accountants, and it is important the profession continues to earn and maintain this trust.

Another area which provides both challenges and opportunities to professional accountants is the increasing use of information technology to perform accounting and reporting functions. Technology has allowed for the automation of routine bookkeeping tasks, as well as the development more advanced functions such as data mining and strategic analysis. The increased use of cloud computing and mobile devices has provided platforms for instant access to information, which could enhance the qualitative characteristic of timeliness. Sophisticated big data applications could improve the relevance of accounting information by targeting the specific needs of the user. Technologies such as eXtensible Business Reporting Language (XBRL) have been designed to improve the comparability of information by providing a standardized platform for financial statement delivery. Computer assisted audit tools and techniques allow auditors to more precisely identify key areas of audit risk and to analyze larger sample sizes, which could lead to improvements in the reliability of information and the efficiency of the process. The emergence of blockchain technology may provide the biggest challenge and opportunity to the auditing profession. This type of decentralized, public ledger has the potential to allow for instant access and verification of transactions. Smart contract technology could use blockchain to automate and control many accounting and business processes. As blockchain has the potential to create unalterable, transparent accounting records, auditors will need to rethink the traditional, annual financial statement audit. Continuous auditing and verification of the structure of smart contracts may become the new role for audit professionals.

Recently, the growth of data analytics has begun to change the job of the accountant, and will likely continue to promote a profound alteration of the accounting and finance fields. The automation of routine and tedious tasks is only the beginning of the transformation of the role of financial professionals. Data analytics can be used to add value to an organization through descriptive, diagnostic, predictive, or prescriptive functions. The accountant of the future will need to be able to understand how to use both structured and unstructured data to solve business problems. Although accountants may not be experts in data analysis, they can provide valuable input and interpretation of the information created by data scientists. The accountant will need to work collaboratively with data scientists to ensure that the right questions are being asked, and the results are being deciphered in a meaningful way. Taking the results of data analysis and communicating them through data visualization techniques will provide value to the users of financial information.

Although technology provides professional accountants with opportunities to improve the value of the information provided, it also poses challenges. XBRL has experienced problems with data-tagging errors, which has reduced its effectiveness. Cloud computing and mobile devices have increased concerns about data security and economic disruption. Data mining strategies have led to ethical questions about the privacy of personal information. Real-time reporting of financial results faces concerns about data reliability, and more significantly, the alteration of manager behaviour (i.e., earnings management). Professional accountants need to be aware of these challenges as they adapt to rapidly changing technologies that have the potential to both benefit and damage the reputation of the profession.

2.6 Conclusion

The accounting profession has seen tremendous transformation over the last forty years, brought about by changes in technology, the sophistication of capital markets, the business environment, and business practices. The profession has responded well to many of these changes, but it needs to continue to seek ways to maintain and improve its own relevance. At no time in history has so much information been so easily available to so many people. But how can people be assured that the information is both true and relevant? The accounting profession – if it is forward looking and responsive – has the ability to provide this assurance to information users, which will enhance the perceived value of accountants. There are many challenges to be faced by the profession, and some of these challenges will require solid research and reasoning and delicate political and negotiation skills. Because accounting is not a natural science, there are no "right" or "wrong" answers, but as long as the profession can come up with the "best" answers, it will continue to demonstrate its value.

2.7 IFRS/ASPE Key Differences

Part II of the *CPA Canada Handbook* does not specifically refer to a conceptual framework. However, Section 1000–Financial Statement Concepts contains many of the same principles as identified in the IASB *Conceptual Framework*. Some of the key differences are identified below:

IFRS	ASPE
Two fundamental, qualitative characteristics are relevance and faithful representation. Comparability and understandability are considered enhancing qualitative characteristics.	Four principal qualitative characteristics are relevance, reliability, comparability, and understandability.
Timeliness is considered an enhancing qualitative characteristic.	Timeliness is included as a sub-element of relevance.
Verifiability is considered an enhancing qualitative characteristic.	Verifiability is a sub-element of reliability.
Faithful representation includes completeness, neutrality, and freedom from error.	Reliability includes representational faithfulness, verifiability, neutrality, and conservatism. Prudence is a concept that supports neutrality.
Gains are included in the element "income," and losses are included in the element "expenses."	Gains and losses are identified as separate elements of financial statements.
Three types of capital maintenance concepts are identified, but no prescribed or preferred approach is indicated.	Only a monetary measure of capital maintenance should be used, with no adjustment for changes in purchasing power.

Chapter Summary

LO 1: Identify the purpose of financial reporting.

The purpose of financial reporting is to provide information that is useful for making decisions about providing resources to the business. The primary user groups are identified as present and potential investors, lenders, and other creditors, although other users will also find financial information useful for their purposes.

LO 2: Describe the problem of information asymmetry, and discuss how this problem can affect the production of financial information.

Information asymmetry simply means there is an imbalance of information between two parties in a business transaction. This imbalance can create problems in two forms: adverse selection and moral hazard. Adverse selection means that one party may try to gain a benefit over the other party by exploiting the information advantage. An example of this behaviour is insider trading. If insider trading is perceived by the market as being a pervasive problem, investors may lose confidence in the market, and security prices will drop. The accounting profession can alleviate this problem by increasing the amount of relevant and reliable information disclosed to the market, thus reducing the information advantage of insiders. Moral hazard occurs when managers shirk their duties because they know their efforts cannot be directly observed. In order to cover up shirking, managers may bias the presentation of financial results. The accounting profession can help alleviate this problem by ensuring financial-reporting standards create disclosures that are useful in evaluating management performance and are not easily manipulated by management.

LO 3: Describe how accounting standards are set in Canada, and identify the key entities that are responsible for setting standards.

Currently, accounting standards are set by the Accounting Standards Board (AcSB). This board applies two sets of standards: International Financial Reporting Standards (IFRS) and Accounting Standards for Private Enterprise (ASPE). IFRS are required for all publicly accountable entities, while private entities have the choice to use ASPE or IFRS. IFRS are developed by the International Accounting Standards Board (IASB) and then adopted by the AcSB. However, the AcSB can remove or alter certain sections of IFRS if it is believed that the accounting treatment does not reflect Canadian practice.

LO 4: Discuss the purpose of the conceptual framework, and identify the key components of the framework.

The conceptual framework provides a solid, theoretical foundation for standard setters when they have to develop new standards to respond to changes in the business environment. It also gives practicing accountants a basis and reference point to use when encountering new or unique business transactions. The key components of the framework describe the purpose of financial reporting, identify the qualitative characteristics of good accounting information and the elements of financial statements, and discuss the criteria for recognizing an item in financial statements, different possible measurement bases, and the framework's approach to capital maintenance.

LO 5: Describe the qualitative characteristics of accounting information.

The fundamental characteristics of accounting information are relevance (which is composed of both predictive and confirmatory characteristics) and faithful representation (which is composed of freedom from error, neutrality, and completeness). Relevance will also be affected by the concepts of materiality and the nature of the item. Enhancing qualitative characteristics are understandability, comparability, verifiability, and timeliness. Trying to meet the requirements of all the characteristics can sometimes result in trade-offs, and this must always be evaluated in the context of costs compared with potential benefits.

LO 6: Identify the elements of financial statements.

The elements of financial statements are assets, liabilities, equity, income, and expenses. The definition of each element contains references to the relationships between events and their time of occurrence, and each definition broadly describes the nature of the element. An underlying assumption in the preparation of financial statements is that the entity will continue as a going concern.

LO 7: Discuss the criteria required for recognizing an element in financial statements.

An element will be recognized in financial statements when it meets the definition of that element and can be measured reliably, and when it is probable that the future economic benefits attached to the element will flow to or from the entity.

LO 8: Identify different measurement bases that could be used, and discuss the strengths and weaknesses of each base.

The conceptual framework identifies four possible measurement bases: historical cost, current cost, realizable value, and present value. Historical cost forms the basis of much of current accounting practice, but other bases are used in circumstances where it is deemed appropriate. Each measurement base has certain advantages and disadvantages, and the choice of measurement base will often result in a trade-off in decision usefulness.

LO 9: Identify the alternative models of capital maintenance that could be applied.

The conceptual framework identifies three possible capital-maintenance models: monetary interpretation, constant purchasing power, and physical capital maintenance. Each model has certain advantages and disadvantages. Current accounting practice is built around the concept of monetary capital maintenance, but the conceptual framework does not identify one model as being preferred over the others.

LO 10: Discuss the relative strengths and weaknesses of rules-based and principles-based accounting systems.

Rules-based systems are seen as providing more detailed guidance to accountants, which could help accountants defend their work if challenged. As well, rules-based systems are thought to provide better comparability, as more consistent presentations will result. However, rules-based systems can also result in financial engineering, where transactions are designed specifically to circumvent the rules. Principles-based systems are seen as more flexible and more adaptive to new or unique circumstances. As well, principles-based systems can result in presentations that better reflect local or industry practices. Principles-based systems are criticized for being too flexible and allowing for too much judgment by the accountant. This could create the potential for management influence on the accountant's work.

LO 11: Discuss the possible motivations for management bias of financial information.

Management may be tempted to bias or otherwise influence the presentation of financial information because of compensation contracts that are based on financial results. As well, the manager will be concerned about meeting investor or analyst targets, meeting the conditions of loan covenants or other external agreements, achieving certain political or strategic objectives,

and demonstrating sound stewardship over the company's assets. All of these motivations provide a temptation to the manager to influence the results reported in the financial statements.

LO 12: Discuss the need for ethical behaviour by accountants, and identify the key elements of the codes of conduct of the accounting profession.

As accountants control the preparation and presentation of financial information, they play a key role in determining the integrity of the information. Accountants will face pressures from management and other parties who may have an interest in the content and form of financial disclosures. Thus, accountants, need to practice their craft with an ethical mindset, but they must also have training in how to deal with ethical issues. All accounting bodies have codes of professional conduct that provide guidance to suggest that accountants always act with integrity, objectivity, and competence. As well, these codes usually specify that accountants should always maintain confidentiality and act in a professional manner. Accountants will often have to apply significant good judgment when dealing with ethical conflicts.

LO 13: Identify the effects on the accounting profession of changes in information technology.

Information technology has the potential to improve the relevance, reliability, timeliness, and comparability of information presented. It can allow accountants and auditors to provide more useful information and to more accurately identify risks. However, accountants also need to be aware that these technologies need to be managed carefully to minimize problems that could negatively affect the quality of information provided.

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Exercises

EXERCISE 2–1

Describe the problem of information asymmetry and discuss the impact this problem has on the work of accountants.

EXERCISE 2–2

Discuss the reasons why Canada applies two different sets of accounting standards to profit-oriented companies. What are the benefits of having two sets of standards? What are the problems of maintaining two sets of standards?

EXERCISE 2–3

What is the conceptual framework? Why does the accounting profession need this framework?

EXERCISE 2–4

Describe the two fundamental qualitative characteristics of good accounting information. What problems do accountants face in trying to maximize these characteristics when producing accounting information?

EXERCISE 2–5

Describe the four enhancing qualitative characteristics and identify conflicts where possible trade-offs may occur in trying to maximize these characteristics.

EXERCISE 2–6

Identify which of the five financial statement elements applies to each item described below:

a. A cash dividend is declared and paid to the shareholders.

b. Cash is used to purchase a machine that will be used in the production process over the next five years.

c. Products are sold to customers on 30-days' credit

d. Income taxes are calculated based on a company's profit. The taxes will be paid next year.

e. A customer makes a deposit on a special order that will not be manufactured until next year.

f. A bill for electricity used in the current month is received but not payable until the following month.

g. A shareholder invests money in a business in exchange for issued shares.

h. A shareholder invests money in a business by making a loan with commercial terms to the business.

i. An insurance settlement is received for a fully depreciated asset that was destroyed in a fire.

j. An allowance for doubtful accounts is established based on estimates of future uncollectible accounts.

EXERCISE 2–7

Consider the following independent situations. For each of the situations described, discuss how the recognition criteria should be applied and suggest the appropriate accounting treatment.

a. A publisher sells magazines on a two-year subscription. Customers are required to pay the full amount at the commencement of the subscription.

b. A company is being sued by a customer group for losses sustained due to a faulty product design. The company's lawyers feel the suit will likely succeed, but they cannot estimate the potential amount of damages that will be awarded.

c. A company has completed a large infrastructure construction project as part of an economic development partnership with a foreign government. The invoice for the work has been issued, but due to a recent change in government, there is some doubt about whether payment will actually be received.

d. A social media company has recorded an asset described as "Goodwill" and an offsetting amount in its equity section. The amount was determined by comparing the current trading value of the company's shares to the recorded value of the company's shares on the balance sheet.

e. A resource company is obligated by municipal regulations to clean up the site of an active drilling operation in 10 years' time when the resource has been fully extracted. The company is in its first year of operations and has no previous experience in cleaning up drilling sites.

EXERCISE 2–8

Describe the four different measurement bases and discuss the relative strengths and weaknesses of each base.

EXERCISE 2–9

What are some of the difficulties in trying to determine the best concept of capital maintenance to apply to the development of accounting standards?

EXERCISE 2–10

Discuss the relative merits and weaknesses of principles-based and rules-based accounting systems.

EXERCISE 2–11

What are some of the motivations that managers may have for attempting to influence or bias reported financial results? What should the accountant do to deal with these possible attempts to affect the perceptions of the company's results?

EXERCISE 2–12

You have just been appointed financial controller at Dril-Tex Inc., a manufacturer of specialized equipment used by various manufacturers of consumer products on their own production lines. Your immediate supervisor, the vice-president finance, has indicated that he will be retiring in six months and that you could be in line for his position if you do a good job managing the preparation of the year-end financial statements. He has provided you with the following comments for your consideration during the preparation of these statements:

a. The company is currently being sued for breach-of-contract by one of our largest customers. This case has been ongoing for two years and will likely reach a conclusion next year. Our lawyers have now estimated that it is likely we will lose, and that the award will probably be in the range of $250,000 to $300,000. We have disclosed this previously in our notes, but have not accrued anything. Use the same treatment this year, as the case is not yet completed.

b. We have changed our inventory costing method this year from weighted-average to

FIFO. This has resulted in an increase in net income of $115,000. The new method should be identified in the accounting policy note.

c. There are $50,000 worth of customer prepayments included in the Accounts Receivable sub-ledger. The customers have paid these amounts to guarantee their priority in our production cycle, but no work has yet been done on their special orders. We will just net these prepayments against the Accounts Receivable balance and report a single amount on the balance sheet.

d. This year we hired a director of research and development. He has not yet produced any viable products or processes, but he was a top performer at his previous company. We have capitalized the cost of his salary and benefits, as we are confident he will soon be producing a breakthrough product for us.

e. Our bank has put us on warning that our current ratio and debt-to-equity ratio are close to violation of the covenant conditions in our loan agreement. Violations will likely result in an increase in the interest rate the bank charges us. Keep this in mind as you prepare the year-end adjustments.

Comment on the accounting treatments proposed by the vice-president finance, supporting your discussion with any relevant components from the conceptual framework. Discuss the impact of item (e) on your work in preparing the year-end financial statements.

Chapter 3

Financial Reports: Statement of Income, Comprehensive Income and Changes in Equity

Material Weaknesses Found in Financial Reporting Oversight

In 2014, Penn West Petroleum Ltd., a Calgary-based oil company, was tasked with restating more than two years of financial statements in response to an internal investigation that uncovered material weaknesses in its internal controls over financial reporting. The impact of the restatement was a reduction in cash flow by $145 million and an increase in its operating costs by $367 million–no small sums, to be sure!

The investigation was undertaken after the discovery of misclassifications in its accounting records regarding its capital spending, operating costs, and royalty payments. The investigation found that operating expenses were recorded to property, plant, and equipment, and significant amounts of operational expenses were reclassified to royalties' assets. The company claimed that these errors originated with some former employees who were no longer with the company. When news of the scandal reached investors' ears, fears escalated, resulting in large numbers of shares being sold off in the stock market. In the aftermath, investors launched $400 million in class-action lawsuits in Canada and the U.S., alleging that the company and some of its former top executives were negligent in not ensuring that adequate internal controls regarding financial reporting were in place.

It is unknown whether the misclassifications were due to management bias, intended to deceive, or if they were due to human error and poor judgment. Either way, the financials prior to restatement were making the company look better than it was.

Penn West implemented new internal controls to ensure that this never happens again. A key component of the change relates to its journal entries, to ensure any transactions that are to be capitalized (versus being expensed) are done so only after passing a strict oversight process.

(Source: Jones, 2014)

Chapter 3 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe the statement of income, the statement of comprehensive income, and the statement of changes in equity and their roles in accounting and business.

LO 2: Identify the factors that influence what is reported in the statement of income, statement of comprehensive income, and the statement of changes in equity.

LO 2.1: Explain the factors that influence the choice of accounting year-end.

LO 2.2: Explain how changes in accounting estimates, changes due to correction of accounting errors, and changes in accounting policy affect the income and equity statements.

LO 3: Identify the core financial statements and explain how they interconnect together.

LO 3.1: Explain the differences between IFRS and ASPE regarding the income and equity statements.

LO 4: Describe the various formats used for the statement of income and the statement of comprehensive income, and identify the various reporting requirements for companies following IFRS and ASPE.

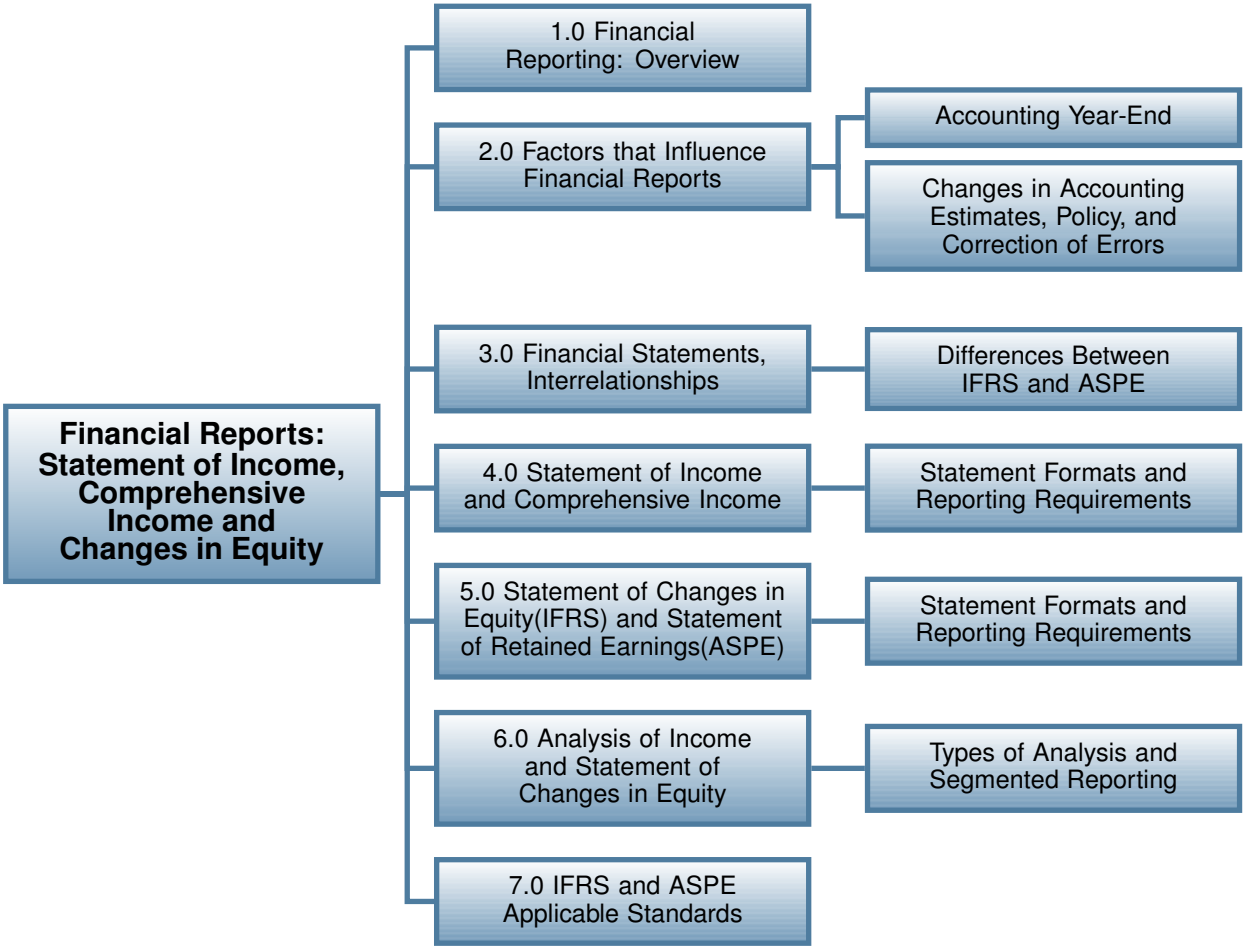
LO 5: Describe the various formats used to report the changes in equity for IFRS and ASPE companies, and identify the reporting requirements.

LO 6: Identify and describe the techniques used to analyze income and equity statements.

Introduction

Financial reports are the final product of a company's accounting processes. These reports, combined with thoughtful analysis, are intended to "tell the story" about the company's operations, its financial performance for the reporting period, and its current financial state (resources and obligations) including its cash position for that period. Is it good news or bad news for management, investors, and creditors who are the company's stakeholders? Did the company meet its financial goals and objectives for the fiscal year? The answers depend not only on the outcome of the actual operations reported in the financial statements, but also on their accuracy and reliability, as the opening story about Penn West explained. As discussed in Chapter 2, financial statements consist of a set of core reports that identify the company's resources (assets), claims to those resources (liabilities and investor's equity), and information about the changes in these resources and claims (performance). A key activity after the financial statements are prepared is to accurately analyze and evaluate the company's performance and determine if it met its objectives for the reporting period. This chapter will discuss financial statements that report net income, comprehensive income, and changes in equity and their ability to tell the story about the company's performance for the reporting period.

Chapter Organization



3.1 Financial Reporting: Overview

The accounting system is a data repository that tracks all the economic events that have occurred during an accounting cycle (period) and reports them in some meaningful way to the company stakeholders. For example, the statement of income is a report required by both IFRS and ASPE that measures the return on capital (assets) – it is the "how well did we do" statement. This statement shows how the company performed during its operations for a specific period of time (typically annually, monthly, or quarterly). Key elements of the income statement include various revenue, expenses, gains, and losses for continuing and discontinued operations. Combined, these numbers represent the company's net income or loss (profit or loss) for the reporting period. Comprehensive income (an IFRS-only requirement) begins with net income and reports certain gains and losses not reported in net income such as those arising from fair value re-measurements for certain investments. The statement of changes in

equity identifies details about the changes in equity due to transactions affecting shareholders as owners and investors of the company.

The IFRS and ASPE accounting standards describe which financial data is to be specifically identified and reported, out of the many thousands of transactions making up the accounting records. To comply with these standards, separate reporting of certain information either within the body of the financial statements or within the notes to the financial statements is required. That said, there is some flexibility regarding the information to be reported. For example, the terminology and the style used to present the data within the financial statements are often left to management's discretion.

This chapter will discuss preparation of these core financial statements, identify the mandatory reporting requirements, and look at how these statements can be analyzed to assist in decision making by management, investors, and other stakeholders.

3.2 Factors that Influence Financial Reports

3.2.1 Accounting Year-end

Choosing the fiscal year-end date is a strategic activity that requires careful consideration because the decision made can result in operational and tax advantages. The year-end will likely be influenced most by the company's business cycle. For example, a retailer will likely choose a year-end at the end of its busiest season, when inventory is at its lowest levels. This makes the physical count easier and less costly, because there will be more staff available and fewer adjustments to make before the books are closed. Planning a fiscal year-end based on advantageous tax consequences can be tricky, but essentially it means choosing a year-end that results in some temporary differences between certain transactions accounted for in one fiscal year but not taxed until a subsequent fiscal year. Alternatively, businesses that are not incorporated (e.g., proprietorships and partnerships) may choose the calendar year-end to coincide with Canada Revenue Agency, for simplicity from a tax perspective. Whatever fiscal year-end is chosen, accounting standards require that the financial statements be accrual based. This relates back to the accounting principles of **revenue recognition**, in terms of when to record revenue, and the **matching principle**, to ensure that all expenses related to that revenue recorded are included. The statements are also the results of operations for a specified period of time (the **periodicity principle**), called the **reporting period**. This raises the issues of what, when, and how much detail to record for any transactions that occur near, at, or subsequent to the reporting period year-end date.

Financial statements are often done on an interim basis each year. Interim reports can be monthly, quarterly, or some other reporting period. For example, public companies in Canada are required to produce quarterly financial statements. The accounting cycle has

not yet been completed, so the temporary revenue, expense, gains, and loss accounts are not closed, and several end-of-period adjusting entries are recorded in order to ensure that the accounting records are as complete as possible for the interim period being reported. The annual published financial statements usually cover a fiscal or calendar year (on rare occasions, an operating cycle, if longer than one year). After the release of the year-end financial statement, the temporary accounts are closed to retained earnings, and an updated post-closing trial balance for all the (permanent) balance sheet accounts is completed to commence the new fiscal year.

There is also a period of time after the year-end date when certain events or transactions detected in the new fiscal year may need to either be recorded and reported in the financial statements or disclosed in the notes to the financial statements. For this reason, the accounting records from the previous fiscal year are kept open to accrue any significant entries and adjustments found in the new year that pertain to the fiscal year just ended. This time period may be anywhere from a few days to several weeks or months, depending on the size of the company. The end of this time marks the point at which the temporary accounts for the old fiscal year are closed and the financial statements are completed and officially published.

The following are examples of these types of transactions.

- Inventory – the physical inventory count that takes place as soon after the year-end date as possible. The total amount from the physical count is compared to the ending balance in the inventory subledgers, and an adjusting entry recorded for the difference. Since the accounting standards state that inventory is to be valuated each reporting date at the **lower of cost and net realizable value (LCNRV)**, a write-down of inventory due to **shrinkage** may be required.
- Invoices Received after Year-end – this relates to goods and services received from suppliers before the year-end date, but not yet recorded. For example, companies purchasing **goods** from a supplier close to the year-end date usually receive the goods with a packing slip that details the types and quantities of goods received as well as the total cost. Once the goods are received and verified, the entry to record the goods and recognize the accounts payable will occur with the packing slip and the company's own purchase order being the **source documents** for the accounting entry. Recording entries relating to purchasing **services**, on the other hand, can be tricky since there is no packing slip involved when purchasing services. If the supplier providing the services does not leave an invoice with the purchaser as soon as the services have been completed, it will be sent at some later date, usually sometime during the following month of the new fiscal year. Keeping the books open for a time after the year-end date allows the company extra time to catch and record any significant transactions that are discovered during the next fiscal year that might otherwise be missed.

Any significant **subsequent event** that occurs *after* the fiscal year-end should be disclosed in the notes to the financial statements for the year just ended. An example might be where early

in 2021 vandals damage some buildings and equipment. If the repair or replacement costs are material, these costs, though correctly paid and recorded in 2021, should be disclosed in the financial statements of 2020 if not yet published. This will ensure that the company stakeholders have access to all the relevant information.

3.2.2 Changes in Accounting Estimates, Changes in Accounting Policy, and Correction of Errors

Financial statements can be impacted by changes in accounting policies, changes in estimates, and correction of errors. These were first introduced in the introductory accounting course and will also be discussed in detail in the next intermediate accounting course. However, it is worth including a review at this time because they can significantly affect the financial statements.

Changes in Accounting Estimates

Accounting is full of estimates that are based on the best information available at the time. As new information becomes available, estimates may need to be changed. Examples of changing estimates would be changing the useful life, residual value, or the depreciation method used to match use of the assets with revenues earned. Other estimates involve uncollectible receivables, revenue recognition for long-term contracts, asset impairment losses, and pension expense assumptions. Changes in accounting estimates are applied **prospectively**, meaning they are applied to the current fiscal year if the accounting records have not yet been closed and for all future years going forward.

Changes in Accounting Policy

The accounting treatment for a change in accounting policy is **retrospective adjustment with restatement**. Retrospective application means that the company deals with the error or omission as though it had always been corrected.

Examples of changes in accounting policies are:

- changes in valuation methods for inventory such as changing from FIFO to weighted average cost
- changes in classification, presentation, and measurement of financial assets and liabilities under categories specified in the accounting standards such as investments classified as fair value reported through net income (FVNI), amortized cost (AC), or fair value reported through OCI (FVOCI) (IFRS only). Details of these are discussed in the chapter on intercorporate investments, later in this text.

- changes in the basis of measurement of non-current assets such as historical cost and revaluation basis
- changes in the basis used for accruals in the preparation of financial statements

Management must consistently review its accounting policies to ensure they comply with the latest pronouncements by IFRS or ASPE and to ensure the most relevant and reliable financial information for the stakeholders. Accounting policies must also be applied consistently to promote comparability between financial statements for different accounting periods. For this reason, a change in accounting policy is only allowed under two conditions:

1. due to changes in a primary source of GAAP
2. applied voluntarily by management to enhance the relevance and reliability of information contained in the financial statements for IFRS. ASPE has some exceptions to this "relevance and reliability" rule to provide flexibility for changes from one existing accounting standard to another.

As a rule, changes in accounting policies must be applied **retrospectively with restatement** to the financial statements. Retrospective application means that the company implements the change in accounting policy as though it had always been applied. Consequently, the company will adjust all comparative amounts presented in the financial statements affected by the change in accounting policy for each prior period reported. Retrospective application reduces the risk of changing policies to manage earnings aggressively because the restatement is made to all prior years as well as to the current year. If this were not the case, the change made to a single year could materially affect the statement of income for the current fiscal year. A cumulative amount for the restatement is estimated and adjusted to the opening retained earnings balance of the current year, net of taxes, in the statement of changes in equity (IFRS) or the statement of retained earnings (ASPE). This will be discussed and illustrated later in this chapter.

Retrospective application of a change in accounting policy may be exempted in the following circumstances.

- A transitional provision of the changed standard allows the prospective application of a new accounting policy. Specific transitional guidance of IFRS or ASPE must be followed in such circumstances.
- The application of a new accounting policy regarding events, transactions, and circumstances that are substantially different from those that occurred in the past.
- The effect of the retrospective application of a change in accounting policy is immaterial.

- The retrospective application of a change in accounting policy is impracticable. This may be the case where a company has not collected sufficient data to enable an objective assessment of the effect of a change in accounting estimates and it would be unfeasible or impractical to reconstruct the data. Where impracticability impairs a company's ability to apply a change in accounting policy retrospectively from the earliest prior period presented, the new accounting policy must be applied prospectively from the beginning of the earliest period feasible, which may be the current period.

The following are the required disclosures in the notes to the financial statements when a change in accounting policy is implemented:

- Title of IFRS or ASPE standard
- Nature of change in accounting policy
- Reasons for change in accounting policy
- Amount of adjustments in current and prior periods presented
- Where retrospective application is impracticable, the conditions that caused the impracticality (CPA Canada, 2011).

Changes Due to Accounting Errors or Omissions

The accounting treatment for an error or omission is a **retrospective adjustment with restatement**. For example, an accounting error in inventory originating in the current fiscal year is detected within the current fiscal year while the accounting records are still open. The inventory error correction is recorded as soon as possible to the applicable accounts. However, if the accounting records are already closed when the inventory error is discovered, the error is treated retrospectively. This means that the cumulative amount due to the inventory error would be calculated and recorded, *net of taxes*, to the current year's opening retained earnings balance. If the financial statements are comparative and include previous year's data, this data is also **restated** to include the error correction. This will be discussed and illustrated later in this chapter.

3.3 Financial Statements and Their Interrelationships

The core financial statements connect to complete an overall picture of the company's operations and its current financial state. It is important to understand how these reports connect; therefore, a review of some simplified financial statements for Wellbourn Services Ltd., a large,

privately-held company is presented below (assume Wellbourn applies IFRS; for simplicity, comparative year data and reporting disclosures are not shown).

Wellbourn Services Ltd.
Statement of Income
for the year ended December 31, 2020

Revenues:		
Sales	$ 250,000	
Services revenue	53,000	
Total revenue		$ 303,000
Operating expenses:		
Cost of good sold	100,000	
Rent expense	23,000	
Salaries expense	65,000	
Total operating expense		188,000
Income from continuing operations before tax		115,000
Income tax		34,500
Net income		$ 80,500
Earnings per share		$ 24

Wellbourn Services Ltd.
Statement of Comprehensive Income
for the year ended December 31, 2020

Net income	$80,500	to R/E
Other comprehensive income:		
Items that may be reclassified subsequently to net income or loss:		
Unrealized gains from FVOCI investments (net of tax of $1,500)	3,500	to AOCI
Total comprehensive income	$84,000	

Wellbourn Services Ltd.
Statement of Changes in Equity
for the year ended December 31, 2020

	Common Shares	Contributed Surplus	Retained Earnings	Accumulated Other Comprehensive Income	Total
Balance, January 1	$200,000	$25,000	$75,000	$45,000	$345,000
Total comprehensive income:					
Net income			80,500		80,500
Other Comprehensive Income				3,500	3,500
Total comprehensive income			80,500	3,500	84,000
Issuance of common shares	10,000				10,000
Dividends declared			(50,000)		(50,000)
Balance, December 31	$210,000	$25,000	$105,500	$48,500	$389,000

Wellbourn Services Ltd.
Statement of Financial Position
December 31, 2020

Assets		Liabilities	
Current assets		Current liabilities	
Cash	$135,500	Accounts payable	$ 77,500
Accounts receivable (net)	225,000	Accrued liabilities	225,000
Inventory	130,000	Total current liabilities	302,500
Total current assets	490,500	Bonds payable	160,000
Investments	100,000	Total liabilities	462,500
Property, plant, and equipment (net)	246,000	Equity	
Intangible assets	15,000	Common shares	210,000
Total assets	$851,500	Contributed surplus	25,000
		Retained earnings	105,500
		AOCI	48,500
		Total equity	389,000
		Liabilities and equity	$851,500

Wellbourn Services Ltd.
Statement of Cash Flows
for the year ended December 31, 2020

Cash flows from operating activities		
Cash received from clients	$ 50,000	
Cash paid for supplies	(25,000)	
Cash paid to employees	(51,200)	
Net cash used by operating activities		(26,200)
Cash flows from investing activities		
Purchase of equipment	(25,000)	
Net cash used by investing activities		(25,000)
Cash flows from financing activities		
Dividends paid	(50,000)	
Issued bonds	160,000	
Net cash received by financing activities		110,000
Net increase in cash		58,800
Cash balance, January 1		76,700
Cash balance, December 31		$135,500

As can be seen from the flow of the numbers above, the net income from the statement of income becomes the opening amount for the statement of comprehensive income (a statement required for all IFRS reporting companies).

Comprehensive income starts with net income/loss and includes certain gains or losses called **other comprehensive income** (OCI) that are *not already reported in net income*. The most notable examples for purposes of this course are:

- unrealized gains or losses for investments classified as fair value through OCI (FVOCI),

resulting from changes in their fair value *while the investment is being held* (Chapter 8)

- gains/losses resulting from the application of the revaluation method for property, plant and equipment, and intangibles (Chapter 9)

In the next intermediate accounting course, another OCI item is the remeasurement gains and losses regarding defined benefit pension plans.

To summarize:

IFRS companies must report:

- Other comprehensive income (OCI) = certain gains or losses not already included in net income, net of tax, with tax amount disclosed
- Total comprehensive income = net income/loss +/- other comprehensive income (OCI)

Returning to the Wellbourn financial statements, looking at the statement of comprehensive income, net income closes to retained earnings, while any other comprehensive income (OCI) gain or loss closes to **accumulated other comprehensive income** (AOCI) in the statement of changes in equity. The AOCI account is similar to a retained earnings account, except that AOCI only accumulates items from OCI.

To summarize:

- Retained earnings accumulate net income/loss over time. (ASPE and IFRS)
- AOCI accumulates other comprehensive income (OCI)/losses over time. (IFRS only)

It should also be noted that IFRS companies can choose to keep the statement of income separate from the statement of comprehensive income, or they can combine the two statements into one report called the **statement of income and comprehensive income**, which will be discussed in more detail in the next section.

Looking at the Wellbourn statement of changes in equity, note that the total column balances to the equity section of the statement of financial position/balance sheet (SFP/BS). The final link between all the financial statements is regarding the **statement of cash flows** (SCF), where the ending cash balance must be equal to the cash balance reported in the SFP/BS. This completes the loop of interconnecting accounts and amounts.

3.3.1 Financial Statement Differences Between IFRS and ASPE

The core financial statements shown above illustrate the types of statements required for IFRS companies. They are the following:

- a statement of income
- a statement of comprehensive income
- a worksheet-style statement of changes in equity with all the equity accounts included
- a statement of financial position
- a statement of cash flows
- notes to the financial statements

IFRS requires the comparative previous year amounts be reported as well as disclosure of the earnings per share. ASPE does not require these disclosures. IFRS requires the statement of comprehensive income (or a combined statement of income and comprehensive income), whereas ASPE only requires a statement of income because comprehensive income does not exist. The statement of changes in equity required by IFRS shown in the Wellbourn example above now becomes a more simplified statement of retained earnings for ASPE, where only the details for retained earnings are reported (though any changes in shareholder equity accounts must be disclosed in the notes to the financial statements). The remaining equity accounts such as common shares and contributed surplus are reported as ending balances directly in the balance sheet for ASPE (called the statement of financial position for IFRS companies).

3.4 Statement of Income and Comprehensive Income

As previously stated, net income is a measure of return on capital and, hence, of performance. This means that investors and creditors can often estimate the company's future earnings and profitability based on an evaluation of its past performance as reported in net income. Comparing a company's current performance with its past performance creates trends that can have a predictive, though not guaranteed, value about future earnings performance. Additionally, comparing a company's performance with industry standards helps to assess the risks of not achieving goals compared to competitor companies in the same industry sector.

As previously mentioned, all the core financial statements are based on accrual accounting. Accrual accounting, in turn, is based on a series of standards-based processes and estimates.

Some of these estimates have more measurement uncertainty than others, and some estimates are inherently more conservative than others. This in turn affects the quality of earnings reported in an income statement.

Quality of earnings – the amount of earnings attributable to sustainable ongoing core business activities rather than to "artificial profits" arising from:

- differences in earnings due to applying the various accounting policy choices such as FIFO or weighted average cost for inventory valuation or straight-line, declining-balance, or units-of-production depreciation methods
- the use of estimates such as those for estimating bad debt or warranty provisions
- the presence of significant amounts of non-operating gains and losses compared to income from continuing operations
- the inclusion of unreliable items such as inappropriate contingent gains
- management bias and reported amounts not objectively determined
- differences due to IFRS or ASPE application of standards
- information that is not concise or clearly presented and is poorly understood, resulting in potential misstatement

Lower quality earnings will include significant amounts of the items listed. If the quality of earnings is low, more risk is associated with the financial statements, and investors and creditors will place less reliance on them.

Single-step and Multiple-step Statement of Income

Single-step, multiple-step, or any condensed formats used in a statement of income are not specified GAAP requirements. Companies can choose whichever format best suits their reporting needs. Smaller privately held companies tend to use the simpler single-step format, while publicly traded companies tend to use the multiple-step format. When condensed formats are used, they are supplemented by extensive disclosures in the notes to the financial statements and cross-referenced to the respective line items in the statement of income.

The Wellbourn Services Ltd. statement of income, shown earlier, is an example of a typical **single-step** income statement. For this type of statement, revenue and expenses are each reported in the two sections for continuing operations. Discontinued operations are separately reported below the continuing operations. The separate disclosure and format for the discontinued operations section is a reporting requirement and is discussed and illustrated below. The condensed or single-step formats make the statement simple to complete and keeps

sensitive information out of the hands of competitive companies, but provides little in the way of analytical detail.

The **multiple-step** income statement format provides much more detail. Below is an example of a multiple-step statement of income for Toulon Ltd., an IFRS company, for the year ended December 31, 2020.

Multiple-step format - typical sections and subtotals:

Heading

Toulon Ltd.
Consolidated Statement of Income and Comprehensive Income
for the year ended December 31, 2020

Minimum Line Item Disclosures:

Heading

In $000's except per share amounts	2020	2019	Comparative years (IFRS)
Sales	$6,260	$5,008	Revenue – separated into major categories (IFRS & ASPE)
Cost of goods sold	2,500	1,750	Inventory charged to expense (IFRS & ASPE)
Gross profit	3,760	3,258	
Operating expenses			
Salaries and benefits expense	650	520	Employee benefits expense including salaries and wages, payroll taxes, health care costs, and post-retirement benefits (IFRS)
Depreciation expense	35	20	Depreciation and amortization (IFRS & ASPE)
Travel and entertainment expense	150	120	The remaining expenses by nature (IFRS)
Advertising expense	55	45	
Freight-out expenses	10	8	
Supplies and postage expense	5	4	
Telephone and internet expense	15	12	
Legal and professional expenses	8	6	
Insurance expense	6	5	
	934	740	
Income from operations	2,826	2,518	
Other revenue and expense			This section is for non-operating items. Finance costs such as interest income & expense, foreign exchange, gain/loss from sale or impairment of assets and interest (IFRS & ASPE)
Dividend revenue	3	3	
Interest income from investments	2	2	
Gain from sale of trade investments	4	0	
Interest expense	(2)	(3)	
	7	2	
Income from continuing operations before income tax	2,833	2,520	
Income tax expense	850	680	Income tax expense on continuing operations (IFRS & ASPE)
Income from continuing operations	1,983	1,840	Same as Income before discontinued operations (ASPE)
Discontinued operations			
Loss from operation of discontinued division (net of tax of $45,000)	(105)	0	Discontinued operations, net-of-tax with tax amounts disclosed (IFRS & ASPE)
Loss from disposal of division (net of tax of $18,000)	(42)	0	
	(147)	0	
Net income (note 1)	1,836	1,840	Net income (profit or loss)
Other comprehensive income:			
Items that may be reclassified subsequently to net income or loss:			
Unrealized gain from FVOCI investments (net of tax of $6,000 for 2020 and $3,000 for 2019 respectively)	14	9	Other comprehensive income by nature (IFRS)
Total comprehensive income	1,850	1,849	Total comprehensive income separated into attributable to parent and non-controlling interests (IFRS)
Non-controlling interests (minority interests)	(11)	(12)	
Attributable to the equity holders of Toulon	$1,839	$1,837	

Gross profit section with subtotal

Operating expenses with subtotal

Non-operating section with subtotal

Income tax expense

Subtotal from continuing operations

Discontinued operations

Net income (profit or loss)

Comprehensive income (IFRS)

Earnings per share
Basic and diluted EPS (IFRS)

Earnings per share, attributable to the equity holders of Toulon:			Basic EPS from continuing and discontinued operations (IFRS)
Basic earnings per share			
Continuing operations	$16.32	$13.25	
Discontinued operations	(1.23)	0	
Diluted earnings per share			
Continuing operations	12.86	13.75	Diluted EPS from continuing and discontinued operations (IFRS)
Discontinued operations	(1.03)	0	

Note 1:

Net income	1,836	1,840	Net income (profit or loss) separated into attributable to the parent and non-controlling interests (IFRS & ASPE)
Non-controlling interests (minority interests)	(10)	(11)	
Attributable to the equity holders of Toulon	$ 1,826	$ 1,829	

Other revenue and expenses section is to report non-operating transactions not due to typical daily business activities. For example, if a company sells retail goods, any interest expense incurred is a finance cost, and is not due to being in the retail business.

Toulon reported four non-operating items:

- Dividend revenue would be for dividends received from an investment in shares of another company
- Interest income from investments would likely be from an investment in bonds of another company
- Gain from the sale of trading investments would be for the profit made when the investment was sold. In this case, the investment is classified as fair value through net income (FVNI), which means any changes in the investment's fair value at each reporting date, or profit upon sale, are reported as a gain/loss in net income
- Interest expense would be any interest paid on amounts owed to various creditors. This is considered to be a financing expense and not an operating expense, unless the company is a finance company.

Other examples of non-operating items are listed below:

- write-down of inventory
- impairment losses and reversals of impairment losses on PPE, intangible assets, and goodwill
- foreign currency exchange gains or losses
- gain or loss from asset disposal or from long-lived assets reclassified as held for sale
- interest expense by current liabilities, long-term liabilities, and capital lease obligations

- unusual items (not typical and infrequent)

The multiple-step format with its section subtotals makes performance analysis and ratio calculations such as gross profit margins easier to complete and makes it easier to assess the company's future earnings potential. The multiple-step format also enables investors and creditors to evaluate company performance results from continuing and ongoing operations having a high predictive value compared to non-operating or unusual items having little predictive value.

Operating Expenses

Expenses from operations must be reported by their nature and, optionally, by function (IFRS). **Expenses by nature** relate to the type of expense or the source of expense such as salaries, insurance, advertising, travel and entertainment, supplies expense, depreciation and amortization, and utilities expense, to name a few. The statement for Toulon Ltd. is an example of reporting expenses by nature. Reporting expenses by nature is mandatory for IFRS companies; therefore, if the statement of income reports expenses by function, expenses by nature would also have to be reported either as a breakdown within each function in the statement of income itself or in the notes to the financial statements.

Expenses by function relate to how various expenses are incurred within the various departments and activities of a company. Expenses by function include activities such as the following:

- sales and marketing
- production
- office and administration
- research and development

Common costs such as utilities, supplies, insurance, and property tax expenses would have to be allocated between the various functions using a reasonable basis such as square footage or each department's proportional share of overall expenses. This allocation process can be cumbersome and will require more time, effort, and professional judgement.

The sum of all the revenues, expenses, gains, and losses to this point represents the **income or loss from continuing operations**. This is a key component used in performance analysis and will be discussed later in this chapter.

Income Tax Allocations

Intra-period tax allocation is the process of allocating income tax expense to various categories within the statement of income, comprehensive income, and retained earnings.

For example, income taxes are to be allocated to the following four categories:

1. Income from continuing operations before taxes
2. Discontinued operations, net of tax
3. Each item reported as other comprehensive income, net of tax
4. Each item regarding retrospective restatement for changes in accounting policy or correction of prior period errors reported in retained earnings, net of tax, which is also discussed later in this chapter

The purpose of these allocations is to make the information within the statements more informative and complete. For example, Toulon's statement of income for the year ending December 31, 2020, allocates 30% income tax as follows:

- Income from continuing operations of $850,000 ($2,833,000 $\times$ 30%)
- Loss from discontinued operations of $45,000 ($150,000 $\times$ 30%)
- Loss from disposal of discontinued operations of $18,000 ($60,000 $\times$ 30%)
- Comprehensive income gain from FVOCI investments of $6,000 ($20,000 $\times$ 30%)

All companies are required to report each of the categories above net of their tax effects. This makes analyses of operating results within the company itself and of its competitors more comparable and meaningful.

Note: if there is a net loss, the income tax reported on the income statement will be "income tax recovery" and shown as a negative (bracketed) amount.

Discontinued operations

Sometimes companies will sell or shut down certain business components or operations because the operating segment or component is no longer profitable, or they may wish to focus their resources on other business components. To be separately reportable as a discontinued operation in the statement of income, the business component being discontinued must have its own clearly distinguishable operations and cash flows, referred to as a **cash-generating unit (CGU)** for IFRS companies. Examples are a major business line or geographical area. If the discontinued operation has not yet been sold, *there must be a formal plan in place to dispose of the component within one year and to report it as a discontinued operation*.

The items reported in this section of the statement of income are to be separated into two reporting lines:

- Gains or losses in operations *prior to disposal* of the CGU, net of tax, with tax amount disclosed
- Gains or losses in operations *on disposal* of the CGU, net of tax, with the tax amounts disclosed

 A video is available on the Lyryx site. Click here to watch the video.

Net Income and Comprehensive Income

Note that the statement for Toulon Ltd. combines net income and total comprehensive income. Two statements would be prepared for IFRS companies that prefer to separate net income from comprehensive income. The **statement of income**, ends at net income (highlighted in yellow). A second statement, called the **statement of comprehensive income**, would start with net income and include any other comprehensive income (OCI) items. The Wellbourn financial statement (shown in section 3.3 of this chapter) is an example of separating net income and total comprehensive income into two statements.

Another item that is important to disclose in the financial statements is the **non-controlling interest** (NCI) reported for net income and total comprehensive income. This is the portion of equity ownership in an associate (subsidiary) that is not attributable to the parent company (Toulon, in our example) that has a **controlling interest** (greater than 50% but less than 100% ownership) in the acquired company's net assets. Toulon must consolidate the associate's financial data with its own and report as a single entity to comply with IFRS standards. Consider that if a company purchases 80% of the net assets of another company, the remaining 20% must therefore be owned by outside investors. This 20% amount must be reported as the non-controlling interest to ensure that investors and creditors of the company holding 80% (parent) are adequately informed about the true value of the net assets owned by the parent company versus outside investors.

For ASPE companies using a multiple-step format, the statement of income would look virtually the same as the example for Toulon above and would include all the line items up to the net income amount (highlighted in yellow). As previously stated, comprehensive income is an IFRS concept only; it is not applicable to ASPE.

 A video is available on the Lyryx site. Click here to watch the video.

Earnings per Share

Basic earnings per share represent the amount of income attributable to each outstanding common share, as shown in the calculation below:

$$\text{Basic earnings per share (EPS)} = \frac{\text{Net income} - \text{preferred dividends}}{\text{Weighted average number of common shares outstanding}}$$

The earnings per share amounts are not required for ASPE companies. This is because ownership of privately owned companies is often held by only a few investors, compared to publicly-traded IFRS companies where shares are held by many investors.

For IFRS companies, basic earnings per share excludes OCI and any non-controlling interests. EPS is to be reported on the face of the statement of income as follows:

- Basic and diluted EPS from continuing operations
- Basic and diluted EPS from discontinued operations, if any

The term *basic earnings per share* refers to IFRS companies with a simple capital structure consisting of common shares and perhaps non-convertible preferred shares or non-convertible bonds. Reporting diluted earnings per share is required when companies hold financial instruments such as options or warrants, convertible bonds, or convertible preferred shares, where the holders of these instruments can convert them into common shares at a future date. The impact of these types of financial instruments is the potential future dilution of common shares and the effect this could have on earnings per share to the common shareholders. Details about diluted earnings per share will be covered in the next intermediate accounting course.

 A video is available on the Lyryx site. Click here to watch the video.

 A video is available on the Lyryx site. Click here to watch the video.

3.5 Statement of Changes in Equity (IFRS) and Statement of Retained Earnings (ASPE)

Recall that net income or loss is closed to retained earnings. For ASPE companies, there is no comprehensive income (OCI) and therefore no AOCI account in equity. With this simpler reporting requirement, ASPE companies report retained earnings in the balance sheet and

detail any changes in retained earnings that took place during the reporting period in the statement of retained earnings. An example of a statement of retained earnings is that of Arctic Services Ltd., for the year ended December 31, 2020.

Arctic Services Ltd.
Statement of Retained Earnings
For the Year Ended December 31, 2020

Balance, January 1, as reported		$ 250,000
Cumulative effect on prior years of retrospective application of changing inventory costing method from FIFO to moving weighted average (net of taxes for $5,400)		12,600
Correction for an overstatement of net income from a prior period due to an ending inventory error (net of $3,000 tax recovery)		(7,000)
Balance, January 1, as adjusted		255,600
Net income		80,500
		336,100
Cash dividends declared	$(75,000)	
Stock dividends declared	(60,000)	(135,000)
Balance, December 31		$ 201,100

As discussed at the beginning of this chapter, any error corrections from prior periods or allowable changes in accounting policies will result in a reporting requirement to restate the opening retained earnings balance for the current period. Each error and change in accounting policy item is separately reported, net of tax, with the tax amount disclosed. The retained earnings opening balance is restated and a detailed description is included in the notes to the financial statements. The journal entry for the two restatement items for Arctic Services would be:

General Journal

Date	Account/Explanation	PR	Debit	Credit
	Inventory		18,000	
	Income tax payable			5,400
	Retained earnings			12,600

General Journal

Date	Account/Explanation	PR	Debit	Credit
	Retained earnings		7,000	
	Income tax payable		3,000	
	Inventory			10,000

The statement of retained earnings also includes any current period net income or loss followed by any cash or stock **dividends declared** by the board of directors. This detail provides important information to investors and creditors regarding the proportion of net income that is distributed to the shareholders through a dividend compared to the net income retained for future business purposes such as investment or expansion.

ASPE companies may choose to combine the statement of income and the statement of retained earnings. In this case, the statement of retained earnings is incorporated at the bottom of the statement of income, starting with net income as shown in a simple example below:

Net income	$$$
Retained earnings, January 1	$$$
Dividends declared	$$$
Retained earnings, December 31	$$$

For IFRS companies, net income is closed out to retained earnings, and other comprehensive income (OCI), if any, is closed out to accumulated other comprehensive income (AOCI). An example of how that works is illustrated in the Wellbourn financial statements included in section 3.3 of this chapter. Both retained earnings and AOCI are reported in the equity section of the statement of financial position (SFP) and the statement of changes in equity (IFRS).

For IFRS companies, each account from the equity section of the SFP is to be reported in the statement of changes in equity. The following is an example of the statement of changes in equity for an IFRS company, Velton Ltd., for the year ended December 31, 2020. Note how this statement is worksheet style, which discloses each retrospective adjustment net of tax, followed by a restatement of the equity account opening balances. Each equity account opening balance is then reconciled to its respective closing balance by reporting the changes that occurred during the year, such as the issuance/retirement of shares, net income, and dividends. *The statement also must report total comprehensive income*. Any non-controlling interest would also be reported (as a separate column), the same as was required and illustrated for Toulon Ltd.'s statement of income presented earlier.

Velton Ltd.
Statement of Changes in Equity
for the year ended December 31, 2020

	Preferred Shares	Common Shares	Contributed Surplus	Retained Earnings	Accumulated Other Comprehensive Income	Total
Balance, January 1	$100,000	$500,000	$15,000	$450,000	$ 22,000	$1,087,000
Cumulative effect on prior years of retrospective application of changing inventory costing method from FIFO to moving weighted average (net of taxes for $15,000)				35,000		35,000
Correction for an overstatement of net income from a prior period due to an ending inventory error (net of $6,000 tax recovery)				(20,000)		(20,000)
Balance, January 1, as restated	100,000	500,000	15,000	465,000	22,000	1,102,000
Total comprehensive income:						
Net income				125,000		125,000
Other Comprehensive Income – unrealized gain — FVOCI investments**					3,500	3,500
Total comprehensive income				125,000	3,500	128,500
Issuance of common shares		100,000				100,000
Dividends declared				(50,000)		(50,000)
Balance, December 31	$100,000	$600,000	$15,000	$540,000	$ 25,500	$1,280,500

** net of related tax of $800. May be reclassified subsequently to net income or loss

The equity portion of the SFP is shown below.

Velton Ltd.
Statement of Changes in Financial Position
Shareholders' Equity Section
December 31, 2020

Shareholder's equity	
Paid-in capital:	
Preferred shares, non-cumulative, 2,000 authorized;	
1,000 issued and outstanding	$ 100,000
Common shares, unlimited authorized;	
20,000 issued and outstanding	600,000
Contributed surplus	15,000
	715,000
Retained earnings	540,000
Accumulated other comprehensive income	25,500
Total shareholders' equity	$1,280,500

If the company sustained net losses over several years and retained earnings were insufficient to absorb these losses, retained earnings would have a debit balance and would be reported on the SFP as a **deficit**.

 A video is available on the Lyryx site. Click here to watch the video.

3.6 Analysis of Statement of Income and Statement of Changes in Equity

Financial statement analysis is an evaluative process of determining the past, current, and projected performance of a company. Financial statements report financial data; however, this information must be evaluated to be more useful to investors, shareholders, managers, and other stakeholders. Several techniques are commonly used for financial statement analysis. They were originally presented in the introductory accounting course. A summary review of these techniques follows.

Horizontal analysis compares two or more years of financial data in both dollar amounts and percentage form. An income statement and SFP/BS with comparative data from prior years are examples of where horizontal analysis is incorporated into the financial statements to enhance evaluation. Trends can emerge that are considered as either favourable or unfavourable in terms of company performance.

Vertical or common-size analysis occurs when each category of accounts on the income statement or SFP/BS is shown as a percentage of a total. For example, vertical analysis is used to evaluate the statement of income such as the percentage that gross profit is to

sales or the percentages that operating expenses are to sales. Similarly, vertical analysis of the SFP/BS may be used to evaluate what percentage equity is to total assets. This ratio tells investors what proportion of the net assets is being retained by the company's investors compared to the company's creditors.

Ratio analysis calculates statistical relationships between data. Ratio analysis is used to evaluate various aspects of a company's financial performance such as its efficiency, liquidity, profitability, and solvency. Gross profit ratio (gross profit divided by net sales and/or revenue) and earnings per share (EPS) are examples of key ratios used to evaluate income and changes in equity. One of the most widely used ratios by investors to assess company performance is the price-earnings (P/E) ratio (market price per share divided by EPS). The P/E ratio is the most widely quoted measure that investors use as an indicator of future growth and of risk related to a company's earnings when establishing the market price of the shares. The trend of the various ratios over time is assessed to see if performance is improving or deteriorating. Ratios are also assessed across different companies in the same industry sector to see how they compare. Ratios are a key component to financial statement analysis.

Segmented Reporting

The statement of income can be segmented, or disaggregated, to enhance performance analysis. The statement can be segmented in various ways such as by geography or by type of product or service. As a point of interest, other segmented financial statements include the SFP/BS and the statement of cash flow covered in the next chapter.

For ASPE, there is currently no guidance regarding segmented reporting. For IFRS companies, a segment must meet several characteristics and quantitative thresholds to be a reportable segment for purposes of the published financial statements. Segmented reporting can set apart business components that have a strong financial performance from those that are weak or are negative "losing" performers. Management can use this information to make decisions about which components to keep and which components to discontinue as part of their overall business strategy. Keep in mind that not all business components that experience chronic losses should be automatically discontinued. There are strategic reasons for keeping a "losing" component. For example, retaining a borderline, or losing, segment that produces parts may guarantee access to these critical parts when needed for production of a much larger product to continue uninterrupted. If the parts manufacturing component is discontinued and disposed, this guaranteed access will no longer exist and production in the larger sense can quickly grind to a halt, affecting company sales and profits. Segmented reporting can also assist in forecasting future sales, profits, and cash flows, since different components within a company can have different gross margins, profitability, and risk.

There can be issues with segmented reporting. For example, accounting processes such as allocation of common costs and elimination of inter-segment sales can be challenging. A thorough knowledge of the business and the industry in which the company operates is essential when utilizing segmented reports; otherwise, investors may find segmentation meaningless or, at worst, draw incorrect conclusions about the performance of the business components.

There can be reluctance to publish segmented information because of the risk that competitors, suppliers, government agencies, and unions can use this information to their advantage and to the detriment of the company.

3.7 IFRS and ASPE Applicable Standards

CPA Canada Handbook, Part 1 (IFRS) – IAS 1, Presentation of Financial Statements, IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors, IFRS 5, non-current assets held for sale and discontinued operations

CPA Canada Handbook, Part 2, (ASPE) – Sections 1400 general standards of financial statement presentation, Section 1506, Accounting changes, Section 1520, Income Statement, and Section 3475, Disposal of long-lived assets and discontinued operations

Chapter Summary

LO 1: Describe statement of income, the statement of comprehensive income, and the statement of changes in equity, and their role in accounting and business.

The statement of income reports on company performance over the reporting period in terms of net income. The statement of comprehensive income is a concept only used by IFRS companies that reports on other gains and losses not already reported in net income. The statement of changes in equity (IFRS) reports on what changes took place in each of the equity accounts for the reporting period. For ASPE, this statement is a much simpler statement of retained earnings. Together, these statements enable the company stakeholders such as management, investors, and creditors to assess the financial health of the company and its ability to generate profits and repay debt. Each accounting standard (IFRS and ASPE) has minimum reporting requirements, which were discussed in this chapter.

LO 2: Identify the factors that influence what is reported in the statement of income, the statement of comprehensive income, and the statement of changes in equity.

The accounting standards require that all statements are reported on an accrual basis over a specific period of time (periodicity assumption) so that anything relevant to decision making is included (full disclosure principle). To ensure this, various adjusting entries are recorded to

make certain that the accounting records are up to date, and an accounting fiscal year-end date is carefully chosen. Accrual entries include any revenues earned but not yet recorded, whether paid or not (revenue recognition principle), and any expenses where goods and services have been received but not yet recorded, whether paid or not (matching principle). Other adjusting entries include prepayment items (prepaid expenses and unearned revenues), the estimate for bad debt expense, depreciation and amortization of depreciable assets, unrealized gains and losses of certain assets, and any impairment or write-down entries, if required. Also considered are subsequent events that occur after the year-end date and whether to include them in the financial statements or in the notes to the financial statements. Changes in accounting estimates (prospective treatment with restatement), correcting accounting errors (retrospective treatment with restatement), and changes in accounting policy (retrospective treatment) can all affect the financial statements.

LO 3: Identify the core financial statements and explain how they interconnect together.

The core financial statements interconnect to complete an overall picture of a company's performance over the reporting period (income statement) as well as its current financial state (SFP/BS). Starting with performance, the net income from the statement of income becomes the first amount reported on the statement of comprehensive income. Added to that is other comprehensive income (OCI), which reports any gains or losses not already reported in net income (IFRS only). Net income and OCI each flow to the statement of changes in equity, which reports on all the items that have affected the equity accounts during the reporting period. Together, these three financial statements are used to assess the company performance for the reporting period. The statement of cash flows reconciles cash and cash equivalent opening balances at the beginning of the reporting period to the closing balances at the end of the period. These changes are broken down into sources of cash inflows and outflows. Cash inflows could be from customers, issuing debt, or issuing share capital, while cash outflows could be from payments to suppliers, to employees, the purchase of assets, the payment of debt, any retirement of share capital, or the payment of dividends. These activities are separated and reported into the operating, investing, and financing section. The net amount of change represents the total change between the opening cash and cash equivalent balance to the closing cash and cash equivalent balance. The SFP/BS completes the set of core financial statements. It provides a snapshot at the end of the reporting period, such as month-end or year-end, and identifies the company resources (assets) and the claims to these resources (liabilities). The remaining net assets belong to the various classes of shareholders. The ending cash and cash equivalent balance of the statement of cash flow must reconcile to the cash and cash equivalent balances in the SFP/BS, and the statement of changes in equity totals must reconcile to the SFP/BS equity section, so that all the statements fit together into a single reconciled network of financial information.

There are differences between IFRS and ASPE reporting standards. For APSE, the statement

of income is quite similar but without the requirement for comparative years' data and earnings per share reporting. Comprehensive income is not a concept used by ASPE so there is no requirement for a statement of comprehensive income. ASPE companies report any changes in retained earnings through the statement of retained earnings, which is a much simpler statement that reports only the changes in the retained earnings account compared to the statement of changes in equity (IFRS), which reports the changes for all equity accounts.

LO 4: Describe the various formats used for the statement of income and the statement of comprehensive income, and identify the various reporting requirements for companies following IFRS and ASPE.

The purpose of the statement of income is to identify the revenues and expenses that comprise a company's net income. A comprehensive income statement, required by IFRS, identifies any gains and losses not already included in the statement of income. Together, these statements enable management, creditors, and investors to assess a company's financial performance for the reporting period. Comparing current with past performance, stakeholders can use these statements to predict future earnings and profitability. Since accounting is accrual-based, uncertainty exists in terms of the accuracy and reliability of the data used in the estimates. Net income (earnings) that can be attributable to sustainable ongoing core business activities are higher quality earnings than artificial numbers generated from applying accounting processes, determining various estimates, or gains and losses from non-operating business activities. The lower the quality of earnings, the less reliance will be placed on them by investors and creditors.

The statement of income can be a simple single-step or a more complex multiple-step format. Either one has its advantages and disadvantages. No matter which format is used, certain mandatory reporting requirements for both IFRS and ASPE exist, such as separate reporting for continuing operations and discontinued operations. To be reported as a discontinued operation, the business component must meet the definition of a cash-generating unit and a formal plan to dispose of the business component must exist. Companies can choose to report operating expenses by nature (type of expense) or by function (which department incurred the expense). However, if expenses by function is used, additional reporting of certain line items by nature is still required for both IFRS and ASPE companies such as inventory expensed, depreciation, amortization, finance costs, inventory write-downs, and income taxes to name a few. IFRS companies can choose to keep the statement of income separate from the statement of comprehensive income or combine them into a single statement: the statement of income and comprehensive income. For IFRS companies, the earnings per share are reporting requirements.

LO 5: Describe the various formats used to report the changes in equity for IFRS and ASPE companies, and identify the reporting requirements.

For ASPE companies the various sources of change occurring during the reporting period for retained earnings is reported, while for IFRS companies changes to each of the equity accounts is identified, usually in a worksheet style with each account assigned to a column. One important aspect to either statement is the retrospective reporting for changes in accounting policies or corrections of errors from prior periods. The opening balance for retained earnings is restated by the amount of the change or error, net of tax, with the tax amount disclosed. Other line items for these statements include net income or loss and dividends declared. For IFRS companies reporting will also include any changes to the share capital accounts and accumulated other comprehensive income (resulting from OCI items recorded in the reporting period).

LO 6: Identify and describe the types of analysis techniques that can be used for income and equity statements.

Analysis of the financial statements is critical to decision making and to properly assess the overall financial health of a company. Analysis transforms the data into meaningful information for management, investors, creditors, and other company stakeholders. By evaluating the financial data, trends can be identified which can be used to predict the company's future performance. Some techniques used on financial statements include horizontal analysis that compares data from multiple years, vertical analysis that expresses certain subtotals (gross profit) as a percentage of a total amount (sales), and ratio analysis that highlights important relationships between data.

References

CPA Canada. (2011). *CPA Canada handbook*, Part I, IAS 8.

Jones, J. (2014, September 19). Restated Penn West results reveal cut to cash flow. *The Globe and Mail*. Retrieved from https://secure.globeadvisor.com/servlet/ArticleNews/story/gam/20140919/RBCDPENNWESTFINAL

Exercises

EXERCISE 3–1

The following information pertains to Inglewood Ltd. for the 2020 fiscal year ending December 31:

Gain on sale of FVNI investments (before tax):	$ 1,500
Loss from operation of discontinued division (net of tax)	2,500
Loss from disposal of discontinued division (net of tax)	3,500
Income from operations (before tax)	125,000
Unrealized holding gain of FVOCI investments (net of tax)	12,000

The company tax rate is 27%. The unrealized holding gain is from FVOCI investments where the gain has been recorded to other comprehensive income (OCI).

Required:

a. Calculate income from continuing operations, net income, other comprehensive income, and total comprehensive income.

b. How would your answers change in part (a) if the company followed ASPE?

EXERCISE 3–2

Wozzie Wiggits Ltd. produces and sells gaming software. In 2020, Wozzie's net income exceeded analysts' expectations in the stock markets by 8%, suggesting an 8% increase from operations. Included in net income was a significant gain on sale of some unused assets. The company also changed their inventory pricing policy from FIFO which is currently being used in their industry sector to weighted average cost, causing a significant drop in cost of goods sold. This policy change was fully disclosed in the notes to the financial statements.

Required: Based solely on the information above, do you think that Wozzie's earnings are of high quality? Would you be willing to invest in this company based on the quality of earnings noted in the question?

EXERCISE 3–3

Eastern Cycles Ltd. is a franchise that sells bicycles and cycling equipment to the public. It currently operates several corporate-owned retail stores in Ottawa that are not considered a separate major line of business. It also has several franchised stores in Alberta. The franchisees buy all of their products from Eastern Cycles and pay 5% of their monthly sales revenues to Eastern Cycles in return for corporate sponsored advertising, training, and support. Eastern Cycles continues to monitor each franchise to ensure quality customer service. In 2020, Eastern Cycles sold its corporate owned stores in Ottawa to a franchisee.

Required: Would the sale of the franchise meet the classification of a discontinued operation under IFRS or ASPE?

EXERCISE 3–4

For the year ended December 31, 2020, Bunsheim Ltd. reported the following: sales revenue $680,000; cost of sales $425,750; operating expenses $75,000; and unrealized gain on Available-for-sale investments $25,000 (net of related tax of $5,000). The company had balances as at January 1, 2020, as follows: common shares $480,000; accumulated other comprehensive income $177,000; and retained earnings $50,000. The company did not issue any common shares during 2020. On December 15, 2020, the board of directors declared a $45,000 dividend to its common shareholders payable on January 31, 2021. The company accounts for its investments in accordance with IFRS 9 meaning that any unrealized gains/losses on FVOCI investments are to be reported as other comprehensive income (OCI). On January 4, 2021, the company discovered that there was an understatement in travel expenses from 2019 of $80,000. The books for 2019 are closed.

Required

a. Prepare a statement of changes in equity including required disclosures. The enacted tax rate is 27% and has not changed for several years.

b. Prepare the same statement as in part (a) assuming that Bunsheim Ltd. follows ASPE.

EXERCISE 3–5

For the year ended December 31, 2020, Patsy Inc. had income from continuing operations of $1,500,000. During 2020, it disposed of its Calgary division at a loss before taxes of $125,000. Before the disposal, the division operated at a before-tax loss of $150,000 in 2019 and $175,000 in 2020. Patsy also had an unrealized gain in its Availablefor-sale investments (FVOCI) of $27,500 (net of tax). It accounts for its investments in accordance with IFRS 9. Patsy had 50,000 outstanding common shares for the entire 2020 fiscal year and its income tax rate is 30%.

Required:

a. Prepare a partial statement of comprehensive income with proper disclosures for Patsy Inc. beginning with income from continuing operations. Patsy follows IFRS.

b. How would the statement in part (a) differ if Patsy followed ASPE?

EXERCISE 3–6

Below are the changes in account balances, except for retained earnings, for Desert Dorm Ltd., for the 2020 fiscal year:

	Account increase (decrease)
Accounts payable	$ (23,400)
Accounts receivable (net)	15,800
Bonds payable	46,500
Cash	41,670
Common shares	87,000
Contributed surplus	18,600
Inventory	218,400
Investments – FVNI	(46,500)
Intangible assets – patents	14,000
Unearned revenue	45,200
Retained earnings	??

Required: Calculate the net income for 2020, assuming there were no entries in the retained earnings account except for net income and a dividend declaration of $44,000, which was paid in 2020. (Hint: using the accounting equation $A = L + E$ to help solve this question)

EXERCISE 3–7

In 2020, Imogen Co. reported net income of $575,000, and declared and paid preferred share dividends of $75,000. During 2020, the company had a weighted average of 66,000 common shares outstanding.

Required: Calculate the company's basic earnings per share.

EXERCISE 3–8

A list of selected accounts for Opi Co. is shown below. All accounts have normal balances. The income tax rate is 30%.

Opi Co. For the year ended December 31, 2020	
Accounts payable	$ 63,700
Accounts receivable	136,500
Accumulated depreciation – building	25,480
Accumulated depreciation – equipment	36,400
Administrative expenses	128,700
Allowance for doubtful accounts	6,500
Bond payable	130,000
Buildings	127,400
Cash	284,180
Common shares	390,000
Cost of goods sold	1,020,500
Dividends	58,500
Equipment	182,000
Error correction for understated cost of goods sold from 2019	13,500
Freight-out	26,000
Gain on disposal of discontinued operations – South Division	27,560
Gain on sale of land	39,000
Inventory	161,200
Land	91,000
Miscellaneous operating expenses	1,560
Notes payable	91,000
Notes receivable	143,000
Rent revenue	23,400
Retained earnings	338,000
Salaries and wages payable	23,500
Sales discounts	18,850
Sales returns and allowances	22,750
Sales revenue	1,820,000
Selling expenses	561,600

Required:

a. Prepare a single-step income statement with expenses by function and a separate statement of retained earnings assuming that Opi is a private company that follows ASPE.

b. Prepare a combined single-step income statement and retained earnings by function assuming ASPE.

EXERCISE 3–9

Below are adjusted accounts and balances for Ace Retailing Ltd. for the year ended December 31, 2020:

Cost of goods sold	750,000
Dividends declared (common shares)	245,000
Dividends declared (preferred shares)	82,000
Gain on disposal of discontinued J division	115,000
Gain on sale of FVNI investments	45,000
Interest income	15,000
Loss on impairment of goodwill	12,000
Loss due to warehouse fire	175,000
Loss from operation of discontinued J division	285,000
Loss on disposal of unused equipment from F division	82,000
Retained earnings, January 1, 2020	458,000
Sales revenue	1,500,000
Selling and administrative expenses	245,000
Unrealized gain on FVOCI investments (OCI)	18,600

Additional information:

1. Ace decided to discontinue the J division operations. A formal plan to dispose of J division has been completed. There are no plans to dispose of F division at this time.
2. During 2020, 400,000 common shares were outstanding with no shares activity for 2020.
3. Ace's tax rate is 27%.
4. Ace follows IFRS and accounts for its investments in accordance with IFRS 9 meaning that any unrealized gains/losses for FVNI are reported through net income and FVOCI are reported in OCI.

Required:

a. Prepare a multiple-step statement of income for the year ended December 31, 2020, in good form reporting expenses by function.

b. Prepare a *combined* statement of income and comprehensive income in good form reporting expenses by function.

c. How would the answer in part (b) differ if a statement of comprehensive income were to be prepared without combining it with the statement of income?

d. Prepare a single-step statement of income in good form reporting expenses by function.

e. Explain what types of items are to be reported in other revenue and expenses as part of continuing operations, and provide examples for a retail business.

EXERCISE 3–10

Vivando Ltd. follows IFRS and reported income from continuing operations before income tax of $1,820,000 in 2020. The year-end is December 31, 2020, and the company had 225,000 outstanding common shares throughout the 2020 fiscal year. Additional transactions not considered in the $1,820,000 are listed below:

In 2020, Vivando sold equipment of $75,000. The equipment had originally cost $92,000 and had accumulated depreciation to date of $33,400. The gain or loss is considered ordinary.

The company discontinued operations of one of its subsidiaries, disposing of it during the current year at a total loss of $180,600 before tax. Assume that this transaction meets the criteria for discontinued operations. The loss on operation of the discontinued subsidiary was $68,000 before tax. The loss from disposal of the subsidiary was $112,600 before tax.

The sum of $180,200 was received because of a lawsuit for a breached 2016 contract. Before the decision, legal counsel was uncertain about the outcome of the suit and had not established a receivable.

In 2020, the company reviewed its accounts receivable and determined that $125,600 of accounts receivable that had been carried for years appeared unlikely to be collected. No allowance for doubtful accounts was previously set up.

An internal audit discovered that amortization of intangible assets was understated by $22,800 (net of tax) in a prior period. The amount was charged against retained earnings.

Required: Analyze the above information and prepare an income statement for the year 2020, starting with income from continuing operations before income tax (Hint: refer to the Toulon Ltd. example in Section 4 of this chapter). Calculate earnings per share as it should be shown on the face of the income statement. Assume a total effective tax rate of 25% on all items, unless otherwise indicated.

EXERCISE 3–11

The following account balances were included in the adjusted trial balance of Spyder Inc. at September 30, 2020. All accounts have normal balances:

Accumulated depreciation, office furniture	25,000
Accumulated depreciation, sales equipment	80,000
Accumulated Other Comprehensive Income	162,000
Allowance for doubtful accounts	2,500
Cost of goods sold	1,500,478
Common shares	454,000
Depreciation expense, office furniture	10,150
Depreciation expense, sales equipment	6,972
Depreciation expense, understatement due to error – 2019	24,780
Dividend revenue	53,200
Dividends declared on common shares	12,600
Entertainment expense	20,748
Freight-out	40,502
Gain on sale of land	78,400
Interest expense	25,200
Loss on disposal of discontinued operations – Aphfflek Division	49,000
Miscellaneous operating expenses (administrative)	6,601
Retained earnings	215,600
Salaries and wages expense – office staff	78,764
Sales commissions expense	136,640
Sales discounts	21,000
Sales returns and allowances	87,220
Sales revenue	2,699,900
Supplies expenses (administrative)	4,830
Telephone and Internet expense (administrative)	3,948
Telephone and Internet expense (sales)	12,642

Additional information:

The company follows IFRS and its income tax rate is 30%. On September 30, 2020, the number of common shares outstanding was 124,000 and no changes to common shares during the fiscal year. The depreciation error was due to a missed month-end accrual entry at August 31, 2019.

Required:

a. Prepare a multiple-step income statement in good form with all required disclosures by function and by nature for the year ending September 30, 2020.

b. Prepare a statement of changes in equity in good form with all required disclosures for the year ended September 30, 2020.

c. Prepare a single-step income statement in good form with all required disclosures by nature for the year ending September 30, 2020, assuming this time that the dividends declared account listed in the trial balance are for preferred shares instead of common shares.

d. Assuming that Spyder also recorded unrealized gains for FVOCI investments through OCI of $25,000, prepare a statement of comprehensive income for the company.

Chapter 4

Financial Reports – Statement of Financial Position and Statement of Cash Flows

Amazon's Cash Flow Position

In 2014, Amazon reported its quarterly earnings for their year-to-date earnings release. Since the trend has been for their profits to slide downward in the recent past, initial speculation was that this was causing investor discontent resulting in decreasing stock prices. But was it?

Even though profits were on a downward trend, the earnings releases showed that the operating section of the statement of cash flow (SCF) was reporting some healthy net cash balances that were much higher than net income. This is often caused by net income including large amounts of non-cash depreciation expense.

Moreover, when looking at free cash flow, it could be seen that Amazon had been making huge amounts of investment purchases, causing a sharp drop in the free cash flow levels compared to the operating section of the SCF. However, even with these gigantic investment purchases, free cash flow continued to soar well above its net income counterpart by more than $1 billion. What this tells investors is that there are timing differences between what is reported as net income on an accrual basis and reported as cash flows on strictly a cash basis.

The key to such cash flows success lies in the cash conversion cycle (CCC). This is a metric that measures how many days it takes for a company to pay it suppliers for its resale inventory purchases compared to how many days it takes to convert this inventory back into cash when it is sold and the customer pays their account. For example, if it takes 45 days to pay the supplier for resale inventory and only 40 days to sell and receive the cash from the customer, this creates a negative CCC of 5 days of access to additional cash flows. In industry, Costco and Walmart have been doing well at maintaining single-digit CCC's but Amazon tops the chart at an impressive negative 30.6 days in 2013. Apple also managed to achieve a negative CCC in 2013, making these two companies cash-generating giants in an often-risky high-tech world.

Amazon is using this internal access to additional cash to achieve significant levels of growth; from originally an online merchant of books to a wide variety of products and services, and, most recently, to video streaming. Simply put, Amazon can expand without borrowing from the bank, or from issuing more stock. This has landed Amazon's founder and CEO, Jeff Bezoz, an enviable spot in Harvard Business Review's list of best performing CEOs in the world.

So, which part of the CCC metric is Amazon leveraging the most? While it could be good inventory management, it is not. It is the length of time Amazon takes to pay its suppliers. In 2013, the company took a massive 95.8 days to pay its suppliers, a fact that suppliers may not be willing to accept forever.

Though it might have been too early to tell, some of the more recent earnings release figures for Amazon are starting to show the possibility that the CCC metric may be starting to increase. This shift might be a cause for concern for the investors. Moreover, this could be the real reason why Amazon's stock price was faltering in 2014 rather than because of the decreasing profits initially considered by many to be the culprit.

(Source: Fox, 2014)

Chapter 4 Learning Objectives

After completing this chapter, should be able to:

LO 1: Describe the statement of financial position/balance sheet (SFP/BS) and the statement of cash flows (SCF), and explain their role in accounting and business.

LO 2: Explain the purpose of the SFP/BS.

- LO 2.1: Identify the various disclosure requirements for the SFP/BS and prepare a SFP/BS in good form.
- LO 2.2: Identify and describe the factors can affect the SFP/BS, such as changes in accounting estimates, changes in accounting policies, errors and omissions, contingencies and guarantees, and subsequent events.

LO 3: Explain the purpose of the statement of cash flows (SCF) and prepare a SCF in good form.

- LO 3.1: Explain and describe an acceptable format for the SCF.
- LO 3.2: Describe and prepare a SCF in good form with accounts analysis as required, and interpret the results.

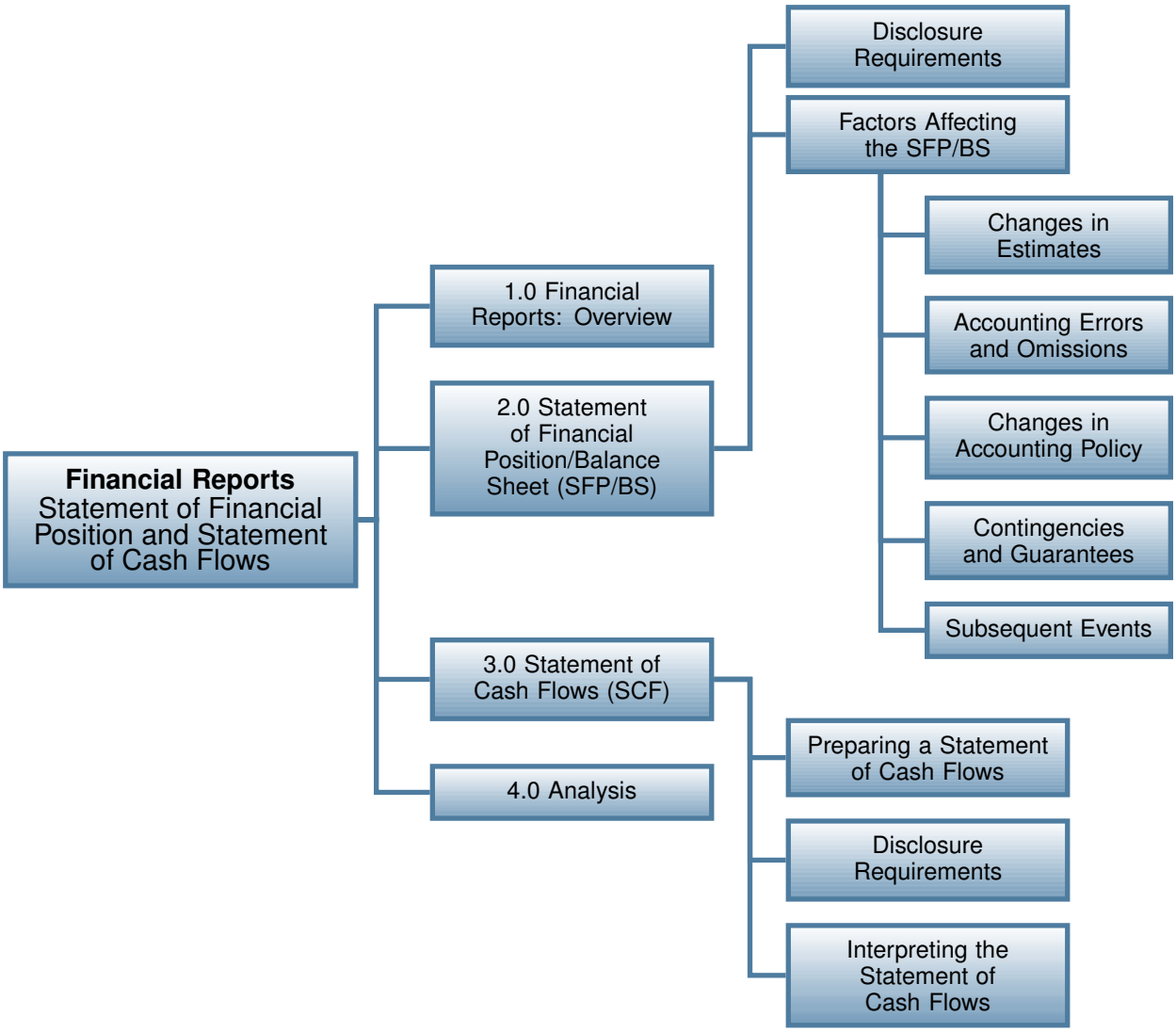
LO 4: Identify and describe the types of analysis techniques that can be used for the SFP/BS and the SCF.

Introduction

In Chapter 3 we discussed three of the core financial statements. This chapter will now discuss the remaining two, which are the SFP/BS, and the SCF. Both of these statements are critical tools used to assess a company's financial position and its current cash resources, as explained in the opening story about Amazon. Cash is one of the most critical assets to success as will be discussed in a subsequent chapter on cash and receivables. How an investor knows when to invest *in* a company and how a creditor knows when to extend credit *to* a company is the topic of this chapter.

NOTE: IFRS refers to the balance sheet as the statement of financial position (SFP) and ASPE continues to use the term balance sheet (BS). To simplify the terminology, this chapter will refer to this statement as the SFP/BS, unless specific reference to either one is necessary.

Chapter Organization



4.1 Financial Reports: Overview

As discussed previously, investors and creditors assess a company's overall financial health by using published financial statements. Recall that the previous chapter about financial reporting illustrated how the core financial statements link into a cohesive network of financial information. The illustration in that chapter showed how the ending cash balance from the statement of cash flows (SCF) is also the ending cash balance in the SFP/BS. This is the final link that completes the connection of the core financial statements.

For example, in the SFP/BS for Wellbourn Services Ltd. at December 31 (which we saw also

in the previous chapter) note how the cash ending balance links the two statements.

Wellbourn Services Ltd.
Statement of Financial Position
December 31, 2020

Assets		Liabilities	
Current assets		Current liabilities	
Cash	$135,500	Accounts payable	$ 77,500
Accounts receivable (net)	225,000	Accrued liabilities	225,000
Inventory	130,000	Total current liabilities	302,500
Total current assets	490,500	Bonds payable	160,000
Investments	100,000	Total liabilities	462,500
Property, plant, and equipment (net)	246,000	Equity	
Intangible assets	15,000	Common shares	210,000
Total assets	$851,500	Contributed surplus	25,000
		Retained earnings	105,500
		AOCI	48,500
		Total equity	389,000
		Liabilities and equity	$851,500

Wellbourn Services Ltd.
Statement of Cash Flows
for the year ended December 31, 2020

Cash flows from operating activities		
Cash received from clients	$ 50,000	
Cash paid for supplies	(25,000)	
Cash paid to employees	(51,200)	
Net cash used by operating activities		(26,200)
Cash flows from investing activities		
Purchase of equipment	(25,000)	
Net cash used by investing activities		(25,000)
Cash flows from financing activities		
Dividends paid	(50,000)	
Issued bonds	160,000	
Net cash received by financing activities		110,000
Net increase in cash		58,800
Cash balance, January 1		76,700
Cash balance, December 31		$135,500

The SFP/BS provides information about a company's resources (assets) at a specific point in time and whether these resources are financed mainly by debt (current and long-term liabilities) or equity (shareholders' equity). In other words, the SFP/BS provides the information needed to assess a company's liquidity and solvency. Combined, these represent a company's **financial flexibility**.

Recall the basic accounting equation:

$$\textbf{Assets} = \textbf{Liabilities} + \textbf{Equity}$$

The key issues to consider regarding the SFP/BS are the valuation and management of resources (assets) and the recognition and timing of debt obligations (liabilities). Reporting the results within the SFP/BS creates a critical reporting tool to assess a company's overall financial health.

The statement of cash flows, discussed later in this chapter, identifies how the company utilized its cash inflows and outflows over the reporting period. Since the SCF separates cash flows into those resulting from operating activities versus investing and financing activities, investors and creditors can quickly see where the main sources of cash originate. If cash sources are originating more from investing activities than from operations, this means that the company is likely selling off some of its assets to cover its obligations. This may be appropriate if these assets are idle and no longer contributing towards generating profit, but otherwise, selling off useful assets could trigger a downward spiral, with profits plummeting as a result. If cash sources are originating mainly from financing activities, the company is likely sourcing its cash from debt or from issuing shares. Higher debt requires more cash to make the principal and interest payments, and more shares means that existing investors' ownership is becoming diluted. Either scenario will be cause for concern for both investors and creditors. Even if most of the cash sources are mainly from operating activities, a large difference between net income and the total cash from operating activities is a warning sign that investors and creditors should be digging deeper.

The bottom line after reviewing the two statements is: if debt is high and cash balances are low, the greater the risk of failure.

The SFP/BS will now be discussed in detail.

4.2 Statement of Financial Position/Balance Sheet

The purpose of the SFP/BS is to report the assets of a company and the composition of the claims against those assets by creditors and investors at a specific point in time. Assets and liabilities come from several sources and are usually separated into current and non-current (IFRS) or long-term (ASPE) categories.

4.2.1 Disclosure Requirements

IFRS (IAS 1) and ASPE (section 1521) identify the disclosure requirements for SFP/BS, which are quite similar. Listed below are summary points for some of the more commonly required

disclosures for both standards:

- The application of the standards is required, with additional disclosures when necessary, so that the SFP/BS will be **relevant** and **faithfully representative**. Relevance means that the information in the SFP/BS can make a difference in decision-making. Faithfully representative means that the statement is complete, neutral, and free from errors.
- Any material uncertainties about a company's ability to continue as a **going concern** are to be disclosed.
- Company name, name of the financial statement, and date must be provided.
- The SFP/BS is to report assets and liabilities separately in many cases. The schedule below lists many of the more common assets and liabilities that are to be separately reported.

  In addition, any material **classes of similar items** are to be separately disclosed in either the statement or in the notes to the financial statements (e.g., items of property, plant, and equipment, types of inventories, or classes of equity share capital).
- When preparing the SFP/BS, assets are not to be netted with liabilities. This does not apply to contra accounts.
- Assets and liabilities are to be separated into current and non-current (long-term). Some companies further report assets in order of their liquidity.
- The measurement basis used for each line item in the statement is to be disclosed. Examples would be whether the company applied fair value, fair value less costs to sell, cost, amortized cost, net realizable value, or lower of cost and net realizable value (LCNRV) when preparing the statement.
- Due dates and interest rates for any financial instruments payable such as loans, notes, mortgages, and bonds payable, as well as details about any security required for the loan are to be disclosed.
- Cross-reference note disclosures to the related line items in the statement.

Below are the basic classifications for some of the more common reporting line items and accounts. The focus is mainly IFRS for simplicity, though ASPE is substantially similar. The required supplemental disclosures below focus on the measurement basis of the various assets, the due dates, interest rates, and security conditions for non-current liabilities; and the structure for each class of share capital in shareholders' equity when preparing a SFP/BS. These will be discussed in more detail in the chapters that follow in the next intermediate accounting course.

SFP/BS – Classifications and Reporting Requirements

Classification	Report Line Items	Includes	Measurement Basis and Other Required Disclosures at Each Reporting Date
Current assets – assets realized within one year from the reporting date or the operating cycle, whichever is longer	Cash and cash equivalents (unrestricted)	Currency, coin, bank accounts, petty cash, treasury bills maturing within three months at acquisition	Fair value, stated in local currency. Restricted cash and compensating balances are reported separately as a current or long-term asset, as appropriate.
	Investments – trading	Equity investments such as shares purchased to sell within a short time	Usually fair value
	Accounts receivable	Trade receivables net of allowance for doubtful account (AFDA)	Net realizable value as a fair value measure
	Related party receivables	Amounts owing by related parties	Carrying amount or exchange amount
	Notes receivable	Notes receivable within one year	Net realizable value
	Inventories	Raw materials, work-in-process, finished goods held for sale, or goods held for resale	Lower of cost and net realizable value (LCNRV) using FIFO, weighted average cost or specific identification
	Supplies on hand	Supplies that are expected to be consumed within one year	Usually invoice cost
	Prepaid expenses	Cash paid items where the expense is to be incurred within one year of the reporting date	Usually invoice cost
	Assets held for sale	Land, buildings, and equipment no longer used to generate income	If criteria met (ASPE), lower of carrying less costs to sell
	Income taxes receivable	Income taxes receivable based on current taxable loss	Based on tax rate
	Deferred income tax assets	Current portion of deferred income taxes avoided/saved arising from differences between accounting income/loss and taxable income/loss	ASPE only Under IFRS, all deferred tax is non-current

Classification	Report Line Items	Includes	Measurement Basis and Other Required Disclosures at Each Reporting Date
Non-current / long-term assets	Investments – non-strategic	Debt and equity investments such as held to maturity to collect principal and interest (AC), fair value through OCI to collect principal and interest and to sell (FVOCI), and FVNI for all else	AC – cost, amortized cost FVOCI – fair value through OCI (IFRS only) FVNI – fair value through net income - debt or equity investments not classified as FVOCI (IFRS), or equity investments in active markets (ASPE)
	Investments – strategic	Associate/Significant Influence equity investments in shares	IFRS – equity method ASPE – equity method, cost method, or FVNI
	Joint-ventures and subsidiaries	Equity investments of greater than 50% of the investee company's outstanding shares	Partial or full consolidation
	Investment property	Land or building held as an investment	Usually fair value
	Biological assets	Dairy cattle, pigs, sheep, farmed fish, trees for timber, trees or vines for fruit	IFRS – fair value less costs to sell ASPE – N/A
	Property, plant, and equipment	Tangible assets used to generate income such as land, buildings, machinery, equipment, furniture	Land – cost All else – amortized cost IFRS also allows fair value (revaluation); accumulated depreciation disclosed separately
	Intangible assets	Copyrights, customer lists, franchises, patents, trademarks, trade names	Finite life and indefinite life – initially cost, and subsequently cost less accumulated amortization (finite life only) net of accumulated impairment losses (both) Accumulated amortization disclosed separately

Classification	Report Line Items	Includes	Measurement Basis and Other Required Disclosures at Each Reporting Date
	Goodwill	Purchased goodwill	Goodwill – excess of purchase price over fair values of net identifiable assets and tested annually for impairment
	Deferred income tax assets	Non-current portion of deferred income taxes avoided/saved arising from differences between accounting income/loss and taxable income/loss	IFRS and ASPE
Current liabilities – obligations due within one year from the reporting date or the operating cycle, whichever is longer	Bank indebtedness or bank overdraft	Amounts owing to the bank that cannot be offset by a same-bank positive balance, amount, and is payable on demand	Fair value or contract amount stated in local currency
	Accounts payable	Trade payables, such as suppliers' invoices owing for goods and services received	Invoice cost, net of realized discounts
	Notes and loans payable	Notes and loans due within one year	Also includes principal portion of long-term debt obligation due within one year of the reporting date
	Accrued liabilities	Adjusting entries for various types of expenses incurred but not paid such as salaries, benefits, interest, property taxes, non-trade payables	Invoice or contract cost
	Unearned revenue	Cash received in advance for goods and services not yet provided to customer	Consideration amount received
	Income taxes payable	Income taxes payable based on current taxable income	Based on taxable income at the current tax rate
	Deferred income tax liabilities	Current portion of deferred income taxes expected to be owed and arising from differences between accounting income/loss and taxable income/loss	ASPE only

Classification	Report Line Items	Includes	Measurement Basis and Other Required Disclosures at Each Reporting Date
Non-current/long-term liabilities	Long-term debt payable	Long-term mortgages, bonds, notes, loans, capital leases net of current portions, long-term construction obligations	Each item is reported separately Measurement basis varies – amortized cost, fair value, discounted present value, estimated construction obligation, and so on Reporting requirements include the amortization period, due date, interest rate and security conditions
	Employee pension benefits payable	Employer pension obligations for the shortfall between the defined benefit obligation (DBO) and the plan assets both of which are held and reported through a separate trust	The net defined benefit liability/asset is determined by deducting the fair value of the plan assets from the present value of the defined benefit obligation
	Deferred income tax liabilities	Non-current portion of deferred income taxes expected to be owed arising from differences between accounting income/loss and taxable income/loss	IFRS and ASPE
Equity – a company's net assets, which is equal to total assets minus total liabilities Represents the ownership interest	Share capital	Preferred shares and common shares of various classes are each separately reported	The exchanged value (transaction price less any transaction costs) of issued shares The dividend amount, characteristics of each share class, as well as the number of shares authorized, issued, and outstanding for each class of share

Classification	Report Line Items	Includes	Measurement Basis and Other Required Disclosures at Each Reporting Date
	Contributed surplus	Gains from certain shares transactions, donated assets by a shareholder, redemption or conversion of shares	
	Retained earnings/(deficit)	Undistributed accumulated net income If a negative number, label as a “deficit”	
	Accumulated other comprehensive income (AOCI)	Accumulated gains or losses reported in other comprehensive income (OCI) each reporting period that are closed to AOCI at the end of that reporting period	IFRS only
Non-controlling interest/minority interest	Minority interest	An equity claim for the portion of a subsidiary corporation’s net assets that are not owned by the parent corporation (third-party investors)	

Note that in addition to the measurement basis identified for each asset category in the chart above, many assets’ valuations can be subsequently adjusted, depending on the circumstances. Below are examples of some of the common valuation adjustments made to various asset accounts that will be discussed in later chapters.

Cash and cash equivalents	Foreign exchange adjustments for foreign currencies
Investments – trading	Adjust to fair values, therefore no subsequent adjustment for impairment
Accounts receivable and AFDA	AFDA adjustments at each reporting date are the basis for reporting accounts receivable at NRV
Related party receivables	Adjust for impairment
Notes receivable	Adjust for impairment
Inventory	Adjust for cost of goods sold, shrinkage, obsolescence, damage; reported at lower of cost and net realizable value (LCNRV)
Supplies/office supplies	Adjust for usage, shrinkage, obsolescence, damage
Assets held for sale	Adjust to fair values, therefore no subsequent adjustment for impairment
Investments	Adjust to either fair value or for impairment, depending on classification of investment (refer to classification schedule above for details)
Biological assets	Adjust to fair values, therefore no subsequent adjustment for impairment
Property, plant, and equipment	Adjust for impairment
Intangible assets	Adjust for impairment

Disclosures such as those listed in the classification schedule above may be presented in parentheses beside the line item within the body of the SFP/BS, if the disclosure is not lengthy. Otherwise, the disclosure is to be included in the notes to the financial statements and cross-referenced to the corresponding line item in the SFP/BS.

Using parentheses tends to be more common for ASPE companies with simpler disclosure requirements. IFRS companies and larger ASPE companies extensively use the cross-referencing method because of the more complex and lengthy notes disclosures required.

Below is an example of a Statement if Financial Position. Recall that a *classified* SFP/BS reports groupings of similar line items together as either current or non-current (long-term) assets and liabilities.

ABC Company Ltd.
Statement of Financial Position
December 31, 2020

Assets			
Current assets			
Cash			$ 250,000
Investments (fair value)			
Accounts receivable		$180,000	
Allowance for doubtful accounts		(2,000)	178,000
Note receivable (NRV)			15,000
Inventory (at lower of FIFO cost and NRV)			500,000
Prepaid expenses			15,000
Total current assets			958,000
Long term investments (fair value			25,000
Property, plant and equipment			
Land		75,000	
Building	$ 325,000		
Accumulated depreciation	(120,000)	205,000	
Equipment	100,000		
Accumulated depreciation	(66,000)	34,000	314,000
Intangible assets (net of accumulated amortization for $25,000)			55,000
Goodwill			35,000
Total assets			$1,387,000
Liabilities and Shareholders' Equity			
Current liabilities			
Accounts payable		$ 75,000	
Accrued interest payable		15,000	
Accrued other liabilities		5,000	
Income taxes payable		44,000	
Unearned revenue		125,000	
Total current liabilities			$ 264,000
Long-term bonds payable (20-year 5% bonds, due June 20, 2029)			200,000
Total liabilities			464,000
Shareholders' equity			
Paid in capital			
Preferred, ($2, cumulative, participating – authorized, 30,000 shares; issued and outstanding, 15,000 shares)	$ 150,000		
Common (authorized, 400,000 shares; issued and outstanding 250,000 shares)	750,000		
Contributed surplus	15,000	915,000	
Retained earnings		8,000	923,000
Total liabilities and shareholders' equity			$1,387,000

Note that the measurement basis disclosures are in parenthesis for any assets where a measurement other than cost is possible. Also note the interest rate and due date parenthetical disclosure for the long-term liability. In the equity section, the class, authorized, and

outstanding shares are disclosed.

Taking a closer look at this statement, ASPE Company reports $1,387,000 in total assets and $464,000 in corresponding obligations against those assets owing to suppliers and other creditors.

On the topic of debt reporting, the current portion of long-term debt is a reported as a current liability. The current portion of the long-term debt is the amount of **principal** that will be paid within one year of the SFP/BS date.

For example, on December 31, 2019, ASPE Company signed a three-year, 2%, note. Payments of $137,733 are payable each December 31. If the market rate was 2.75%, the present value of the note would be $391,473 at the time of signing on December 31, 2019. Below is the payments schedule of the note using the effective interest method.

	Payment Amount	Interest @ 2.75%	Principal	Balance
December 31, 2019				$391,473
December 31, 2020	$137,733	$10,766	$126,967	264,506
December 31, 2021	137,733	7,274	130,459	134,047
December 31, 2022	137,733	3,686	134,047 (rounded)	0

If the SFP/BS date is December 31, 2020, the current portion of the long-term debt to report as a current liability would be $130,459 from the note payable payments schedule above. Note that this amount comes from the year following the 2020 reporting year to correspond with the principal amount owing within one year of the current reporting date (December 31, 2020). The total amount owing as at December 31, 2020 is $264,506; therefore, the long-term portion of $134,047 would be the amount owing net of the current portion of $130,459. Below is how it would be reported in the SFP/BS at December 31, 2020:

Current Liabilities	
Current portion of long-term note payable	$130,459
Long-term Liabilities	
Note payable, 2%, three-year, due date Dec 31, 2022	$134,047
(balance owing Dec 31, 2020, of $264,506 − $130,459)	

If the current portion of the long-term debt is not reported as a current liability, there will be a material reporting misstatement that would affect the assessment of the company's liquidity and solvency.

Total equity of $923,000 represents the remaining assets financed by the company shareholders. Ranking first are the preferred shareholders capital investors of $150,000. They are

usually reported before the common shares because they are senior to common shares in terms of both dividend payouts and claims to resources if a company liquidates. However, this is not a reporting requirement. The **contributed surplus** of $15,000 is additional paid-in capital from shareholders. Examples of transactions that recognize contributed surplus include:

- stock options such as an employee stock option plan, or other share-based compensation plan and issuance of convertible debentures
- for certain share re-purchase transactions where the purchase proceeds are lower than the assigned value of the shares
- donated assets by shareholders
- defaulted shares subscriptions
- certain related party transactions (ASPE)

If there are more line items than simply common shares, a **paid-in capital** subtotal is also required for IFRS companies. Paid-in capital is the total amount "paid in" by shareholders and therefore not resulting from ongoing operations. It is comprised of all classes of share capital plus contributed surplus, if any. Finally, the retained earnings line item is the total net income accumulated by the company since its inception that has not been distributed in dividends to the shareholders.

Below are other reporting requirements:

- The statement can be prepared on a consolidated basis. This means that there are subsidiaries included where the reporting company is the parent company. Subsidiaries are investments in the shares of another company where the shares purchased are greater than 50%. In this case, there will be a line item called "non-controlling interest" that must be included for the portion of the subsidiary owned by other third-party investors.
- The presentation currency is stated as Canadian dollars and the level of rounding can be to the nearest thousand dollars or million dollars, depending on the size of the company.
- The financial data is to include the previous year (an IFRS disclosure requirement).
- An **accumulated other comprehensive income/loss (AOCI)** is an equity account used only by IFRS companies to accumulate items reported in OCI in the statement of comprehensive income. AOCI. Recall from the previous chapter that an example of an OCI transaction would be the unrealized gains or losses from fair value adjustments while holding certain FVOCI investments. FVOCI investments and AOCI will be covered in detail later in this course. For now, note the position of the AOCI account in the equity section.

A video is available on the Lyryx site. Click here to watch the video.

4.2.2 Factors Affecting the Statement of Financial Position/Balance Sheet (SFP/BS)

Accounting Estimates, Changes in Accounting Policy, and Correction of Errors

These were discussed in the previous chapter, but a summary of the pertinent information in this chapter is warranted because of their impact on the SFP/BS.

Financial statements can be affected by changes in accounting estimates, changes due to accounting errors or omissions, and changes in accounting policies. These were first introduced in the introductory accounting course and will also be discussed in detail in the next intermediate accounting course. However, it is worth including a review at this time because of the potentially significant effect on the financial statements.

Changes in Accounting Estimates

Accounting is full of estimates that are based on the best information available at the time. As new information becomes available, estimates may need to be changed. Examples of changing estimates would be the useful life, residual value, or the depreciation pattern used to match the use of assets with revenues earned. Other changes in estimates involve uncollectible receivables, asset impairment losses, and pension assumptions that could affect the accrued pension asset/liability account in the SFP/BS. Changes in accounting estimates are applied **prospectively**, meaning they are applied to the current fiscal year if the accounting records have not yet been closed and for all future years going forward.

Changes Due to Accounting Errors or Omissions

The accounting treatment for an error or omission is a **retrospective adjustment with restatement**. Retrospective adjustment means that the company reports treat the error or omission as though it had always been corrected. If an accounting error in inventory originating in the current fiscal year is detected before the current year's books are closed, the inventory error correction is easily recorded to the current fiscal year accounts. If the accounting records are already closed when the inventory error is discovered, the error is adjusted to the inventory account and to retained earnings, *net of taxes*. This results in a restatement of inventory and retained earnings in the current year. If the financial statements are comparative and include

previous year's data, this data is also **restated** to include the error correction from the previous year.

Changes in Accounting Policy

The accounting treatment for a change in accounting policy is **retrospective adjustment with restatement**.

Examples of changes in accounting policies are:

- Changes in valuation methods for inventory such as changing from FIFO to weighted average cost.
- Changes in financial assets and liabilities such as FVNI, FVOCI and AC investments or certain lease obligations. Details of these are discussed in the chapter on intercorporate investments, later in this text.
- Changes in the basis of measurement of non-current assets such as historical cost and revaluation.
- Changes in the basis used for accruals in the preparation of financial statements.

Accounting policies must be applied consistently to promote comparability between financial statements for different accounting periods. A change in accounting policy is only allowed under the following two conditions:

- due to changes in a primary source of GAAP
- may be applied voluntarily by management to enhance the relevance and reliability of information contained in the financial statements for IFRS. [ASPE has some exceptions to this "relevance and reliability" rule to provide flexibility for changes from one existing accounting standard to another.]

Changes in accounting policies are applied **retrospectively** in the financial statements. As with accounting errors, retrospective application means that the company implements the change in accounting policy as though it had always been applied. Consequently, the company will adjust all comparative amounts presented in the financial statements affected by the change in accounting policy for each prior period presented. Retrospective application reduces the risk of changing policies to manage earnings aggressively because the restatement is made to all prior years as well as the current year. If this were not the case, the change made to a single year could materially affect the statement of income for the current fiscal year. A cumulative

amount for the restatement is estimated and adjusted to the affected asset or liability in the SFP/BS and to the opening retained earnings balance of the current year, net of taxes, in the statement of changes in equity (IFRS) or the statement of retained earnings (ASPE).

Contingencies, Provisions and Guarantees

In accounting, a **contingency (ASPE) or provision (IFRS)** exists when a material future event, or circumstance, could occur but cannot be predicted with certainty. IFRS (IAS 37.10) has the following definitions regarding the various types of contingencies in accounting (IFRS, 2015).

Key definitions [IAS 37.10]

Provision: a liability of uncertain timing or amount.

Liability:

- present obligation resulting from past events
- settlement is expected to result in an outflow of resources (payment)

Contingent liability:

- a possible obligation depending on whether some uncertain future event occurs, or
- a present obligation but payment is not probable, or the amount cannot be measured reliably

Contingent asset:

- a possible asset that arises from past events, and
- whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.

IAS 37 explains that a **contingent liability** is to be disclosed in the financial statement notes. Figure 4.1 is a decision tree that identifies the various decision points when determining if a potential obligation should be recognized and recorded, because it meets the definition of a liability; added only to the notes, because it meets the definition of a contingent liability; or omitted altogether because it fails to meet any of the relevant criteria (Friedrich, Friedrich, & Spector, 2009).

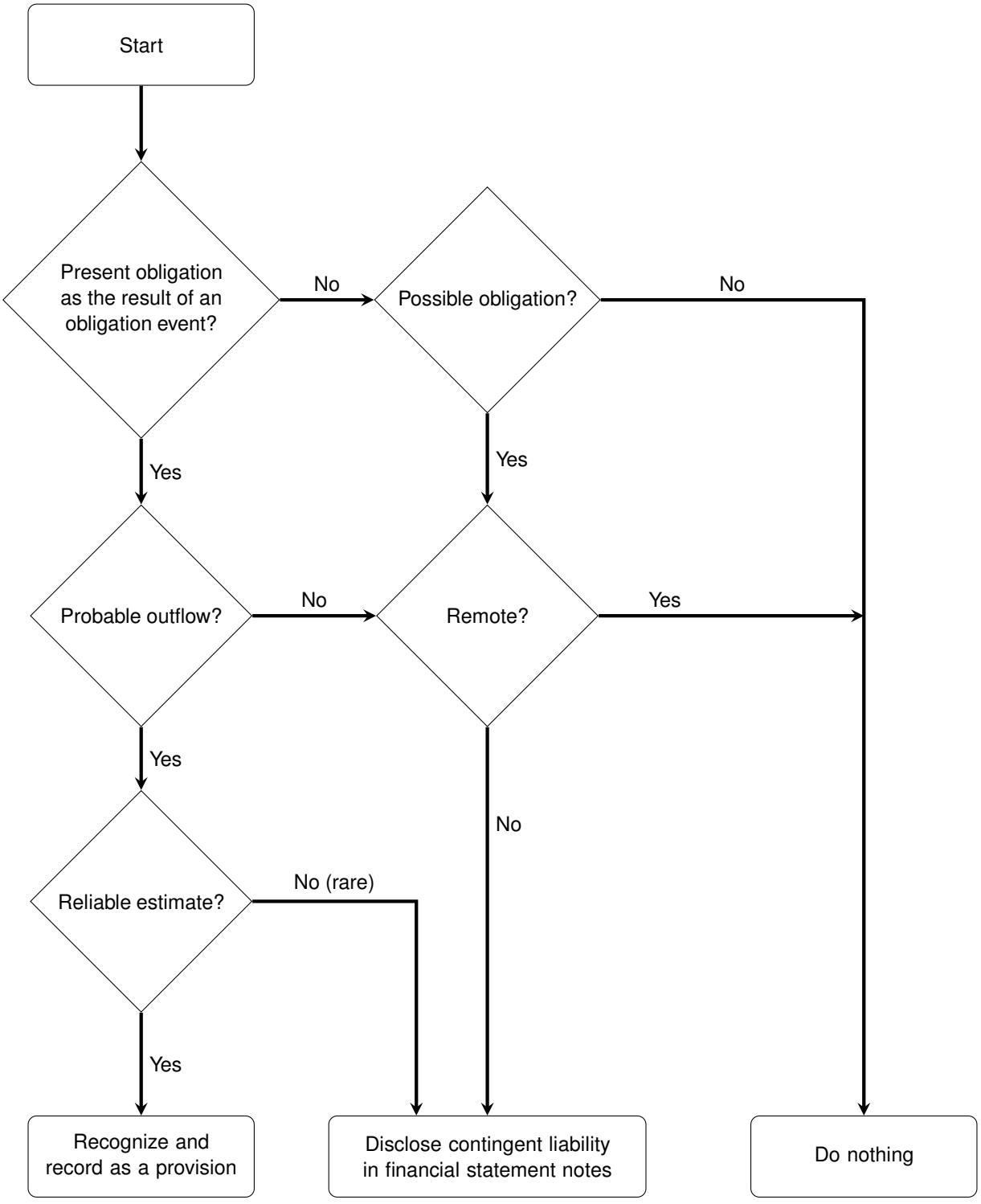


Figure 4.1: Decision tree to determine if a potential obligation should be recognized and recorded (Friedrich, Friedrich, & Spector, 2009)

IAS 37 also states that a contingent asset is not to be recorded until it is actually realized but

can be included in the notes if it is probable that an inflow of economic benefits will occur (IFRS, 2012). If a note disclosure is made, management must take care not to mislead the reader regarding its potential realization; if the potential asset is not probable, it must not be disclosed.

ASPE is similar, but the provision is usually interpreted as “more likely than not” whereas a contingent liability is one that is “likely.”

Contingencies will be discussed further in the chapter on liabilities in the next intermediate accounting course.

A guarantee is a type of contingent liability because it is a promise to take responsibility for another company’s financial obligation if that company is unable to do so. An example might be a parent company that guarantees part or all of a bond issuance to investors by its subsidiary company. Guarantees are not recognized and recorded because they are not probable, so they are to be disclosed in the notes. This will enable investors and creditors to assess the potential impact of the guarantee and the risk associated with it.

Subsequent Events

There is a period of time after the year-end date when economic events apparent in the new year may need to be either reported in the financial statements for the year just ended or disclosed in the notes prior to their release.

If this subsequent event is significant and relates to business operations prior to the reporting date, it is to be included in the financial statements prior to release. These would include adjusting entries such as inventory write-downs due to shrinkage, recording additional accounts payable for late arriving invoices from suppliers or correction of errors or omissions found when reconciling the general ledger accounts as part of the year-end process.

If a subsequent event is significant but relates to operations occurring after the reporting period, it is to be included in the notes. An example might be where early in the new fiscal year, there is a flood causing serious damage to buildings and equipment, if the repair or replacement costs are significant and perhaps uninsured, these costs, though correctly paid and recorded in the new year, are to be disclosed in the notes to the financial statements for the year-end just ended. This will ensure that the company stakeholders will be aware of all the information about risks that could detrimentally affect company operations.

4.3 Statement of Cash Flows (SCF)

The last core final financial statement to discuss is the statement of cash flows. The purpose of this statement is to provide a means to assess the enterprise's capacity to generate cash and to enable stakeholders to compare cash flows of different entities (CPA Canada, 2016). This statement is an integral part of the financial statements for two reasons. First, this statement helps readers to understand where these cash flows in (out) originated during the current year, to assess a company's liquidity, solvency, and financial flexibility. Second, these historic cash flows in (out) can be used to predict future company performance.

The statement of cash flows can be prepared using two methods: the direct method and the indirect method. Both methods organize cash flows into three activities: operating, investing, and financing activities. The **direct method** reports cash flows from operating activities into categories such as cash from customers, cash to suppliers, and cash to employees. The **indirect method** reports cash flows from operating activities starting with net income/loss adjusted for any non-cash items, followed by the changes in each of the working capital accounts (i.e., current assets and current liabilities accounts). The total cash flows from the operating activities are the same for both methods. The investing and financing activities are prepared the same way under both methods.

This course will explain how to prepare the statement of cash flows using the **indirect method**. The direct method will be discussed in a subsequent intermediate accounting course.

Below is a statement of cash flows that illustrates the overall format and its connections with the income statement and SFP/BS.

XYZ Company Ltd.
Statement of Cash Flows
for the year ended December 31, 2020

		Linkage to other financial statements:
Cash flows from operating activities		
Net income (loss)	$$$ or ($$$)	line items from the income statement
Non-cash items (adjusted from net income)		
Depreciation, depletion and amortization expenses	+ $$$	
Losses (gains) from sale of non-current tangible assets	$$$ or ($$$)	
Deferred income tax expense	+ $$$	
Impairment losses from inventory or receivables	+ $$$	
Investment income from investment in associate	($$$)	
Investment income from investment in associates (equity method)[1]	($$$)	
Unrealized investment losses (gains) (due to +/- changes in their fair value)[1]	($$$)	
Unrealized foreign exchange losses (gains)	$$$ or ($$$)	
Cash in (out) from operating working capital		
Decrease (increase) in trading investments	$$$ or ($$$)	changes in current assets and current liabilities from the balance sheet
Decrease (increase) in accounts receivable	$$$ or ($$$)	
Decrease (increase) in notes receivable	$$$ or ($$$)	
Decrease (increase) in inventory	$$$ or ($$$)	
Decrease (increase) in prepaid expenses	$$$ or ($$$)	
Decrease (increase) in accounts payable	$$$ or ($$$)	
Decrease (increase) in interest payable	$$$ or ($$$)	
Decrease (increase) in other liabilities	$$$ or ($$$)	
Decrease (increase) in income taxes payable	$$$ or ($$$)	
Decrease (increase) in unearned revenue	$$$ or ($$$)	
Net cash from operating activities		
Cash flows from investing activities		
Sales proceeds or (purchase) of non-current investments	$$$ or ($$$)	changes in non-current assets accounts
Sales proceeds or (purchase) of property, plant, and equipment	$$$ or ($$$)	
Sales proceeds or (purchase) of intangible assets	$$$ or ($$$)	
Net cash from investing activities	$$$ or ($$$)	
Cash flows from financing activities		
Additions to or (repayment) of long-term debt	$$$ or ($$$)	changes in non-current liabilities and equity accounts (share capital and dividends)
Proceeds from shares issuance	$$$ or ($$$)	
Dividends paid	($$$)	
Net cash from financing activities	$$$ or ($$$)	
Net increase (decrease) in cash and cash equivalents	$$$ or ($$$)	← sum of the 3 sections above
Cash and cash equivalents, January 1	$$$	reconciles the net change with opening and closing cash and cash equivalent balances from the balance sheet
Cash and cash equivalents, December 31	$$$	

[1] Discussed in Chapter 8, Intercorporate Investments

Note that interest and dividends paid can also be reported in the operating activities section.

For the indirect method, the sum of the non-cash adjustments and changes to current assets and liabilities represents the total cash flow in (out) from operating activities. Any **non-cash transactions** relating to the investing or financing activities are excluded from the SCF but are disclosed in the notes. An example would be an exchange of property, plant, or equipment for common shares or a long-term note payable. The final section of the statement reconciles the net change from the three sections with the opening and closing cash and cash equivalents balances.

4.3.1 Preparing a Statement of Cash Flows

Presented below is the SFP/BS and income statement for Watson Ltd.

Watson Ltd.
Balance Sheet
As at December 31, 2020

	2020	2019
Assets		
Current assets		
Cash	$ 307,500	$ 250,000
Investments (trading, at fair value through net income)	12,000	10,000
Accounts receivable (net)	249,510	165,000
Notes receivable	18,450	22,000
Inventory (at lower of FIFO cost and NRV)	708,970	650,000
Prepaid insurance expenses	18,450	15,000
Total current assets	1,314,880	1,112,000
Long term investments (at amortized cost)	30,750	0
Property, plant, and equipment		
Land	92,250	92,250
Building (net)	232,000	325,000
	324,250	417,250
Intangible assets (net)	110,700	125,000
Total assets	$1,780,580	$1,654,250
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable	$ 221,000	$ 78,000
Accrued interest payable	24,600	33,000
Income taxes payable	54,120	60,000
Unearned revenue	25,000	225,000
Current portion of long-term notes payable	60,000	45,000
Total current liabilities	384,720	441,000
Long-term notes payable (due June 30, 2025)	246,000	280,000
Total liabilities	630,720	721,000
Shareholders' equity		
Paid in capital		
Preferred, ($2, cumulative, participating – authorized issued and outstanding, 15,000 shares)	184,500	184,500
Common (authorized, 400,000 shares; issued and outstanding (2020: 250,000 shares); (2019: 200,000 shares)	862,500	680,300
Contributed surplus	18,450	18,450
	1,065,450	883,250
Retained earnings	84,410	50,000
	1,149,860	933,250
Total liabilities and shareholders' equity	$1,780,580	$1,654,250

Watson Ltd.
Income Statement
For the Year Ended December 31, 2020

Sales	$3,500,000
Cost of goods sold	2,100,000
Gross profit	1,400,000
Operating expenses	
Salaries and benefits expense	800,000
Depreciation expense	43,000
Travel and entertainment expense	134,000
Advertising expense	35,000
Freight-out expenses	50,000
Supplies and postage expense	12,000
Telephone and internet expense	125,000
Legal and professional expenses	48,000
Insurance expense	50,000
	1,297,000
Income from operations	103,000
Other revenue and expenses	
Dividend income	3,000
Interest income from investments	2,000
Gain from sale of building	5,000
Interest expense	(3,000)
	7,000
Income from continuing operations before income tax	110,000
Income tax expense	33,000
Net income	$ 77,000

Additional information:

1. The trading investment does not meet the criteria to be classified as a cash equivalent and no purchases or sales took place in the current year.
2. An examination of the intangible assets sub-ledger revealed that a patent had been sold in the current year. The intangible assets have an indefinite life.
3. No long-term investments were sold during the year.
4. No buildings or patents were purchased during the year.
5. Most of the unearned revenues occurred on December 31, 2019.
6. There were no other additions to the long-term note payable during the year.
7. Common shares were sold for cash. No other transactions occurred during the year.
8. Cash dividends were declared and paid.

The statement of cash flows can be challenging to prepare. This is because preparing the entries requires analyses of the accounts as well as an understanding of the types of transactions that affect each account. Preparing a statement of cash flows is made much easier if specific steps in a sequence are followed. Below is a summary of those steps.

1. Complete the statement **headings**.
2. Record the **net income/loss** in the operating activities section.
3. **Adjust for** any non-cash line items reported in the income statement to restate net income/loss from an accrual to a cash basis (i.e., depreciation expense, amortization expense and any non-cash gains or losses).
4. Record the description and change amount as cash inflows or outflows for **each current asset and current liability** (working capital accounts) except for the "current portion of long-term debt" line item, since it is not a working capital account. Subtotal the operating activities section.
5. In the investment activities section, using T-accounts or other techniques, determine the change for each **non-current (long-term) asset account**. Analyze and determine the reasons for the change. Record a description and the change amount(s) as cash inflows or outflows.
6. In the financing activities section, add back to long-term debt any current portion identified in the SFP/BS for both years, if any. Using T-accounts or other techniques, determine the change for each **non-current liability and equity account**. Analyze and determine the reason for the change(s). Record a description and the change amount(s) as cash inflows or outflows.
7. **Subtotal** the three sections and record as the net change in cash. Record the **opening and closing cash and cash equivalents balances**. Sum the opening balance, the new change in cash subtotal, and the closing balance. This should to reconcile with the ending cash and cash equivalent balances from the SFP/BS.
8. Complete any **required disclosures**.

To summarize the steps above into a few key words and phrases to remember:

Headings
Record net income/(loss)
Adjust out non-cash income statement items
Current assets and current liabilities changes
Non-current asset accounts changes
Non-current (long-term) liabilities and equity accounts changes
Subtotal and reconcile
Disclosures

Applying the Steps:

1. **Headings:**

Watson Ltd.
Statement of Cash Flows
For the Year Ended December 31, 2020

Cash flows from operating activities
Net income (loss)
Non-cash items (adjusted from net income):

Net cash from operating activities
Cash flows from investing activities

Net cash from investing activities
Cash flows from financing activities

Net cash from financing activities
Net increase (decrease) in cash
Cash, January 1
Cash, December 31

2. **Record net income/(loss)**

   As illustrated in step 3 below.

3. **Adjustments:**

Watson Ltd.
Income Statement
For the Year Ended December 31, 2020

Sales	$3,500,000
Cost of goods sold	2,100,000
Gross profit	1,400,000
Operating expenses	
Salaries and benefits expense	800,000
Depreciation expense	43,000
Travel and entertainment expense	134,000
Advertising expense	35,000
Freight-out expenses	50,000
Supplies and postage expense	12,000
Telephone and internet expense	125,000
Legal and professional expenses	48,000
Insurance expense	50,000
	1,297,000
Income from operations	103,000
Other revenue and expenses	
Dividend income	3,000
Interest income from investments	2,000
Gain from sale of building	5,000
Interest expense	(3,000)
	7,000
Income from continuing operations before income tax	110,000
Income tax expense	33,000
Net income	$ 77,000

Watson Ltd.
Statement of Cash Flows
For the Year Ended December 31, 2020

Cash flows from operating activities	
Net income (loss)	$77,000
Non-cash items (adjusted from net income):	
Depreciation expense	43,000
Gain from sale of equipment	(5,000)

Enter the amount of the net income/(loss) as the first amount in the operating activities section. Next, review the income statement and select the non-cash items. Look for items such as depreciation, depletion, amortization, and gain/loss on sale/disposal of assets. In this case, there are two non-cash items to adjust. Record them as adjustments to net income in the statement of cash flows.

4. **Current assets and liabilities:**

Calculate and record the change for each current asset and current liability (except the current portion of long-term notes payable, which is to be included with its corresponding long-term notes payable account) as shown in the financing activities section below:

Watson Ltd. Statement of Cash Flows for the year ended December 31, 2020	
Cash flows from operating activities	
Net income (loss)	$ 77,000
Non-cash items (adjusted from net income):	
Depreciation expense	43,000
Gain from sale of building	(5,000)
Cash in (out) from operating working capital:	
Increase in trading investments	(2,000)
Increase in accounts receivable	(84,510)
Decrease in notes receivable	3,550
Increase in inventory	(58,970)
Increase in prepaid expenses	(3,450)
Increase in accounts payable	143,000
Decrease in interest payable	(8,400)
Decrease in income taxes payable	(5,880)
Decrease in unearned revenue	(200,000)
Net cash from operating activities	(101,660)
Cash flows from investing activities	

Accounting Equation:

A = L + E MUST ALWAYS BALANCE!

Assets = Liabilities + Equity

Cash + (all other) Assets = Liabilities + Equity

Cash + Assets = Liabilities + Equity

Cash + Assets = Liabilities + Equity

Cash + Assets = Liabilities + Equity

Cash inflows are reported as positive numbers, while cash outflows are reported as negative numbers. To determine if the amount is a positive or negative number, a simple method is to use the accounting equation to determine whether cash is increasing as a positive number or decreasing as a negative number.

Recall that the **accounting equation**, Assets $=$ Liabilities $+$ Equity, must *always* remain in balance. This concept can be applied when analyzing the various accounts and recording the changes. For example, accounts receivable has increased from $165,000 to $249,510 for a total change of $84,510. Using the accounting equation, this can be expressed as:

Expanding the A $=$ L $+$ E equation a bit:

Cash + accounts receivable + all other assets = Liabilities + Equity

If accounts receivable increases by $84,510, this can be expressed as a black up-arrow above the account in the equation:

↑

Cash + accounts receivable + all other assets = Liabilities + Equity

If accounts receivable **increases**, its effect on the cash account must be a corresponding **decrease** to keep the equation balanced:

↓ ↑
Cash + accounts receivable + all other assets = Liabilities + Equity

If cash **decreases**, it is a cash outflow, and the number must be negative (bracketed) as shown in the statement above.

The same technique can be used when analyzing liability or equity accounts. For example, an increase in account payable (liability) of $143,000 will affect the equation as follows:

↑
Cash + all other assets = Liabilities + Equity

If accounts payable **increases**, cash must also **increase** by a corresponding amount in order to keep the equation in balance.

↑ ↑
Cash + all other assets = Liabilities + Equity

If cash **increases**, it is a cash inflow and the number must be positive (no brackets) as shown in the statement above.

5. **Non-current asset changes:**

The next section is the investing activities section. The analysis of all the non-current asset accounts must also take into account whether there have been any current year purchases or disposals/sales (or both) as part of the analysis. The use of T-accounts for this type of analysis provides a useful visual tool to help understand the changes that occurred in the account.

Cash flows from investing activities		↓ ↑
Investments (trading, FVNI)	(30,750)	Cash + Assets = Liabilities + Equity
Sales proceeds from sale of building	55,000	
Sales proceeds from sale of patent	14,300	↑ ↓
Net cash from investing activities	38,550	Cash + Assets = Liabilities + Equity
Cash flows from financing activities		

There are four non-current asset accounts: long-term investments, land, buildings, and intangible assets. The land account had no change so there were no purchases or sales of land. Analyzing the investment account results in the following cash flows:

Long-term investment	
–	
??	= purchase of investment
30,750	

Since the additional information presented above stated that there were no sales of long-term investments during the year, the entry would have been for a purchase:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Long term investments (at amortized cost)		30,750	
	Cash			30,750

Cash paid for the investment was therefore $30,750.

Analysis of the buildings account is a bit more complex because of the effects of the contra account for accumulated depreciation. In this case, the building account and its contra account must be merged since the SFP/BS reports only the net carrying amount. Analyzing the buildings account results in the following cash flows:

Building (net of accum. depr.)		
325,000		
	43,000	current year accum. depr.
	??	= sale of building
232,000		

Building (net of accum. depr.)		
325,000		
	43,000	
	50,000	= X
232,000		

Since there was a gain from the sale of buildings, the entry would have been:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		55,000	
	Gain on sale of building			5,000
	Buildings (net)			50,000

Cash proceeds were therefore $55,000.

The sale of the patent is straightforward since there were no other sales or purchases in the current year.

6. **Non-current liabilities and equity changes:**

Net cash from investing activities	38,550
Cash flows from financing activities	
Repayment of long-term note	(19,000)
Proceeds from shares issuance	182,200
Dividends paid	(42,590)
Net cash from financing activities	120,610

↑ ↑
Cash + Assets = Liabilities + Equity

↓ ↓
Cash + Assets = Liabilities + Equity

There are five long-term liability and equity accounts: long-term notes payable, preferred shares, common shares, contributed surplus, and retained earnings. The preferred shares and contributed surplus accounts had no changes to report. Analyzing the long-term note payable account results in the following cash flows:

Long-term note payable		
280,000		
45,000		
	??	= repayment
246,000		
60,000		

Since there were no other transactions stated in the additional information above, the entry would have been:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	LT note payable		19,000	
	Cash			19,000

Cash paid was therefore $19,000.

Note how the current portion of long-term debt has been included in the analysis of the long-term note payable. The current portion line item is a reporting requirement regarding the principal amount owing one year after the reporting date, but it is not actually a working capital account, so it is omitted from the operating section and included with its corresponding long-term liability account in the financing activities section as shown above.

The common shares and retained earnings accounts are straightforward and the analysis of each are shown below.

Common shares	
	680,300
	??
	862,500

= share issuance

Since there were no other transactions stated in the additional information above, the entry would have been:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		182,200	
	Common shares			182,200

Cash received was therefore $182,200.

Retained earnings		
	50,000	
	77,000	net income
??		= dividends paid
	84,410	

The additional information stated that cash dividends were declared and paid, so the entry would have been:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Retained earnings		42,590	
	Cash			42,590

Cash paid was therefore $42,590.

7. **Subtotal and reconcile:**

   The three activities total a net increase in cash of $57,500. When added to the opening cash balance of $250,000, the resulting total of $307,500 is equal to the ending cash balance, December 31, 2020 in the SFP/BS. This can be seen in the completed statement below.


A video is available on the Lyryx site. Click here to watch the video.


A video is available on the Lyryx site. Click here to watch the video.

4.3.2 Disclosure Requirements

Step 8 involves the identification and preparation of disclosures.

8. **Required disclosures:**

   The statement of cash flows must disclose cash flows associated with interest paid and received, dividends paid and received, and income taxes paid, as well as any non-cash transactions that occurred in the current year. These can be disclosed in the notes or at the bottom of the statement, if not too lengthy. The cash received for dividend income and interest income was taken directly from the income statement since no accrual accounts exist on the SFP/BS for these items. Cash paid for interest charges and income taxes are calculated based on an analysis of their respective liability accounts from the SFP/BS and expense accounts from the income statement.

   Following is the completed statement of cash flows, including disclosures, for Watson Ltd., for the year ended December 31, 2020:

Watson Ltd.
Statement of Cash Flows
For the Year Ended December 31, 2020

Cash flows from operating activities	
Net income (loss)	$ 77,000
Non-cash items (adjusted from net income):	
Depreciation expense	43,000
Gain from sale of equipment	(5,000)
Cash in (out) from operating working capital:	
Increase in trading investments	(2,000)
Increase in accounts receivable	(84,510)
Decrease in notes receivable	3,550
Increase in inventory	(58,970)
Increase in prepaid expenses	(3,450)
Increase in accounts payable	143,000
Decrease in interest payable	(8,400)
Decrease in income taxes payable	(5,880)
Decrease in unearned revenue	(200,000)
Net cash from operating activities	(101,660)
Cash flows from investing activities	
Purchase of AC investments	(30,750)
Sales proceeds from sale of building	55,000
Sales proceeds from sale of patent	14,300
Net cash from investing activities	38,550
Cash flows from financing activities	
Repayment of long-term note	(19,000)
Proceeds from shares issuance	182,200
Dividends paid	(42,590)
Net cash from financing activities	120,610
Net increase (decrease) in cash	57,500
Cash, January 1	250,000
Cash, December 31	$ 307,500

Disclosures:	
Cash paid for income taxes (60,000 + 33,000 − 54,120)	$38,880
Cash paid for interest charges (33,000 + 3,000 − 24,600)	11,400
Cash received for interest income	2,000
Cash received for dividend income	3,000

[There were no non-cash transactions to disclose.]

4.3.3 Interpreting the Statement of Cash Flows

The cash balance shows an increase of $57,500 from the previous year. Without looking deeper into the reasons why, a hasty conclusion could be drawn that all is well with Watson Ltd. However, there is trouble ahead for this company. For example, the operating activities section, which represents the reason for being in business, is in a negative cash flow position. The profit that a company earns is expected to result in positive cash flows, and this positive cash flow should be reflected in the operating activities section. In this case, it does not, since there is a negative cash flow of $101,660 from operating activities. Why?

For Watson, both the accounts receivable and inventory have increased, resulting in a net decrease in cash of $143,480. An increase in accounts receivable may mean that sales have occurred, but the collections are not keeping pace with the sales on account. An increase in inventory may be because there have not been enough sales in the current year to cycle the inventory from a current asset to sales/profit and ultimately into cash. The risk of holding large amounts of inventory is the increased possibility that inventory will become obsolete or damaged and unsellable.

In this case, an additional reason for decreased net cash from operating activities is due to a decrease in unearned revenue. This is an interesting issue that needs to be explained more fully. Recall that unearned revenue is cash received from customers in advance of earning the revenue. In this case, the cash would have been reported as a positive cash flow in the operating activities section in the previous reporting period when the cash was actually received. At that time, the cash generated from operating activities would have increased by the amount of the cash received for the unearned revenue. The entry upon receipt of the cash would have been:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		225,000	
	Unearned revenue			225,000

When the company provides the goods and services to the customer, the net income reported at the top of the operating section will reflect that portion of the unearned revenue that is now earned. However, it did not obtain actual cash for this revenue in this reporting period because the cash was already received in the prior reporting period. Keep in mind that unearned revenue is not normally an obligation that must be paid in cash to the customer. Once the goods and services are provided to the customer, the obligation ceases.

Looking at the investing activities, there was a sale of a building and a purchase of a long-term investment. The sales proceeds from the building may have been partially invested in the investment to make a return on the cash proceeds until it can be used for its intended purpose in the future. Again, more analysis is necessary to confirm whether this is the case. The sale of the patent also generated a positive cash flow. There was no gain on sale of the

patent reported in the income statement, so the sales proceeds did not exceed its carrying value at the time it was sold. Hopefully, the patent sale was not the result of a panic sale to raise additional cash.

Looking at the financing activities the majority of cash inflows for this reporting period resulted from the issuance of additional common shares of $182,200. This represents an increase in the share capital of greater than 25%. Increased shares will have a negative impact on the earnings per share and possibly its market price as well, which may send warning signals to investors. The shareholders were also paid dividends of $42,590, but this amount only barely covers the preferred shareholders dividend of $30,000 (15,000 $\times$ $2) plus its share of the participating dividend. This leaves very little dividend left over for the common shareholders. At some point, the common shareholders will likely become concerned with receiving so little in dividends, along with the dilution of their shareholdings due to the large issuance of additional shares.

When looking at the opening and closing cash balances for Watson, these seem like sizeable balances, but what matters is *where* the cash came from and whether those sources are sustainable. The $250,000 opening balance was almost entirely due to the $225,000 unearned revenue received in advance, but this is likely not a sustainable source. The ending cash balance of $307,500 is due to the issuance of additional share capital of $182,200 (possibly a one-time transaction) and an increase in accounts payable of $143,000 that must be paid soon. Consider that during the year, the cash from the unearned revenues was being consumed and the issuance of the additional capital had not yet occurred. It would be no surprise, if cash at the mid-year point was insufficient to cover even the short-term liabilities, hence the increase in accounts payable and ultimately the issuance of additional capital shares.

Watson is currently unable to generate positive cash flows from its operating activities. The unearned revenue of $225,000 at the start of the year added some needed cash early on, but this reserve was depleted by the end of the reporting year. In the meantime, without a significant change in how the company manages its inventory and receivables, Watson may continue to experience a shortage of cash from its operating activities. To compensate, it may continue to sell off assets, issue more shares, or incur more long-term debt to obtain needed cash. In any case, these sources will dry up eventually when investors are no longer willing to invest, creditors are no longer willing to loan cash, and no assets worth selling remain. This current negative cash position from operating activities for Watson Ltd. is unsustainable and must be turned around quickly for the company to remain a going concern.

Not all companies who report profits are financially stable. This is because profits do not translate on a one-to-one basis with cash. Watson reported a $77,000 net income (profit), but it is currently experiencing significant negative cash flows from its operating activities.

If sufficient cash is generated from operating activities, the company will not have to increase its debt, issue shares, or sell off useful assets to pay their bills. For Watson Ltd., it increased its short-term debt (accounts payable), sold off a building, and issued 25% more common shares.

Perhaps Watson's negative cash flow from operating activities will turn itself around in the next reporting period. This would be the company's best hope. For other companies who experience positive cash flows from operations, they must also ensure that this is sustainable and can be repeated consistently in the future.

4.4 Analysis

Statement of Financial Position/Balance Sheet (SFP/BS)

The SFP/BS is made up of many line items, comprised of many general ledger accounts, using different measurement bases (historical cost, fair value, and other valuation methods previously discussed in this chapter), and with significant adjusting entries for accruals and application of the company's accounting policies. For this reason, the SFP/BS does not present a clear-cut, definitive report of a company's exact financial state. Its purpose is to provide an overview as a starting point for further analysis. Some types of analysis typically undertaken by management are discussed below.

Comparative SFP/BS

Arranging previous reporting data beside the current data is a useful tool with which to analyze trends. Some companies also include the percentage change for each line item to allow certain changes in amounts to become highly visible. This enables analysts to narrow down possible areas of poor performance where further investigation will be undertaken to determine the reasons why.

Ratio Analyses

Ratio analysis is simply where relationships between selected financial data (presented in the numerator and denominator of the formula) provide key information about a company. Ratios from current year financial statements may be more useful when they are used to compare with benchmark ratios. Examples of benchmark ratios are ratios from other companies, ratios from the industry sector the company operates in, or historical and future ratio targets set by management as part of the company's strategic plan.

Care must be taken when interpreting ratios, because companies within an industry sector may use different accounting policies that will affect the comparison of ratios. In the end, ratios are based on current and past performance and are merely indicators. Further investigation is needed to gather more business intelligence about the reasons *why* certain variances are occurring.

Below are some common ratios used to analyze the SFP/BS and SCF financial statements:

Ratio	Formula	Purpose
Liquidity ratios – ability to pay short term obligations		
Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	ability to pay short term debt
Quick ratio (or acid test ratio)	$\frac{\text{Cash*, marketable securities and net receivables}}{\text{Current liabilities}}$	ability to pay short term debt using near-cash assets

* Cash includes cash equivalents, if any.

Ratio	Formula	Purpose
Activity ratios – ability to effectively use assets		
Accounts receivable turnover	$\frac{\text{Net sales}}{\text{Average net accounts receivable}}$	how quickly accounts receivable is collected
In days	$\frac{365}{\text{Accounts receivable turnover}}$	average # of days to collect accounts receivable
Days' sales uncollected	$\frac{\text{Accounts receivable}}{\text{Net sales}} \times 365$	average # of days that sales are uncollected (this can be compared to the credit terms of the company)
Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$	how quickly inventory is sold
In days	$\frac{365}{\text{Inventory turnover}}$	average number of days to sell inventory
Days' sales in inventory	$\frac{\text{Ending inventory}}{\text{Cost of Goods Sold}} \times 365$	average # of days for inventory to convert to sales
Asset turnover	$\frac{\text{Net sales}}{\text{Average total assets}}$	the ability of assets to generate sales

Ratio	Formula	Purpose
Profitability ratios – ability to generate profits		
Return on total assets	$\frac{\text{Net income}}{\text{Average total assets}} \times 100\%$	overall profitability of assets
Return on common shareholders' equity	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Average common shareholders' equity (includes retained earnings/deficit)}} \times 100\%$	overall profitability of common shareholders' investment
Earnings per share	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average common shares outstanding (WACS)}}$	net income for each common share
Payout ratio	$\frac{\text{Cash dividends}}{\text{Net income}} \times 100\%$	percentage of earnings distributed as dividends

Ratio	Formula	Purpose
Coverage – ability to pay long-term obligations		
Debt ratio	$\frac{\text{Total liabilities}}{\text{Total assets}} \times 100\%$	percentage of assets provided by creditors
Equity ratio	$\frac{\text{Total equity}}{\text{Total assets}} \times 100\%$	percentage of assets provided by investors
Cash debt coverage ratio	$\frac{\text{Net cash from operating activities}}{\text{Average total liabilities}} \times 100\%$	the ability to pay debt from net cash from operating activities (statement of cash flows)
Book value per common share	$\frac{\text{Common shareholders' equity}}{\text{\# of common shares outstanding}}$	the amount per common share if company liquidated at reported amounts.

Many of the ratios identified above will be illustrated throughout the remaining chapters of this course.

Note that ratios are not particularly meaningful without historical trends or industry standards. Some general benchmarks signifying a reasonably healthy financial state are:

Current ratio	2:1
Quick ratio	1:1
Days' sales uncollected	1.3 times the credit policy in days

For example, if the credit policy were 30 days, a reasonable day's sales uncollected ratio would be 30 days $\times$ 1.3 $=$ 39 days that a sale would remain uncollected.

Inventory turnover	5 times per year (or in days, every 365 ÷ 5 = 73 days)

Again, it is important to understand that the general benchmarks identified above are guidelines only. Industry standard ratios are superior in every way, if available, since ratios are only as good as what they are being compared to (the benchmark). If the comparative ratio is not accurate for that industry, the analysis will be meaningless. (This is often referred to as "garbage in; garbage out.") As a result, management can make incorrect decisions on that basis, seriously impairing a company's potential future performance and sustainability.

Below are the ratio calculations for Watson Ltd. as at December 31, 2020, based on the financial data presented in the previous section of this chapter. The material in this chapter is intended as a high-level review. In-depth discussions are included in the introductory accounting course, and students are encouraged to review that material at this time, if needed.

Ratio	Formula	Calculation	Results
Liquidity ratios – ability to pay short term obligations			
Current ratio	$\frac{\text{Current assets}}{\text{current liabilities}}$	$\frac{1{,}314{,}880}{384{,}720} = 3.42$ to 1	reasonable
Quick ratio (or acid test ratio)	$\frac{\text{Cash, marketable securities and net receivables}}{\text{Current liabilities}}$	$\frac{307{,}500 + 12{,}000 + 249{,}510 + 18{,}450}{384{,}720}$ $= 1.53$ to 1	reasonable

Ratio	Formula	Calculation	Results
Activity ratios – ability to effectively use assets			
Accounts receivable turnover	$\frac{\text{Net sales}}{\text{Average net accounts receivable}}$	$\frac{3{,}500{,}000}{((249{,}510 + 165{,}000) \div 2)} = 16.89$ times / year	reasonable
In days	$\frac{365}{\text{Accounts receivable turnover}}$	$\frac{365}{16.89} =$ every 21 days	reasonable
Days' sales uncollected	$\frac{\text{Accounts receivable}}{\text{Net sales}} \times 365$	$\frac{249{,}510}{3{,}500{,}000} \times 365 = 26$ days	reasonable, given the typical credit policy of net 30 days
Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$	$\frac{2{,}100{,}000}{((708{,}970 + 650{,}000) \div 2)} = 3.09$ times	this would be low, if the industry standard is around 5 times
In days	$\frac{365}{\text{Inventory turnover}}$	$\frac{365}{3.09} =$ every 118 days	possibly too low if standard is 5 times or every 73 days
Days' sales in inventory	$\frac{\text{Ending inventory}}{\text{Cost of Goods Sold}} \times 365$	$\frac{708{,}970}{2{,}100{,}000} \times 365 = 123$ days	the total # of days to sell inventory and collect the cash from accounts receivable is 123 + 26 = 149 days
Asset turnover	$\frac{\text{Net sales}}{\text{Average total assets}}$	$\frac{3{,}500{,}000}{((1{,}780{,}580 + 1{,}654{,}250) \div 2)} = 2.04$	depends on industry average and company trends

Ratio	Formula	Calculation	Results
Profitability ratios – ability to generate profits			
Return on total assets	$\frac{\text{Net income}}{\text{Average total assets}} \times 100\%$	$\frac{77{,}000}{((1{,}780{,}580 + 1{,}654{,}250) \div 2)} = 4.48\%$	depends on industry average and company trends
Return on common shareholders' equity	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Average common shareholders' equity (includes retained earnings/deficit)}} \times 100\%$	$\frac{(77{,}000 - 30{,}000)}{((862{,}500 + 18{,}450 + 84{,}410 + 680{,}300 + 18{,}450 + 50{,}000) \div 2)} = 5.48\%$	depends on industry average and company trends
Earnings per share	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average common shares outstanding (WACS)}}$	$\frac{(77{,}000 - 30{,}000)}{225{,}000} = \$20.89$ per share WACS $(250{,}000 + 200{,}000) \div 2 = 225{,}000$ shares assuming that sale of the shares occurred mid year	depends on industry average and company trends
Payout ratio	$\frac{\text{Cash dividends}}{\text{Net income}} \times 100\%$	$\frac{42{,}590}{77{,}000} \times 100\% = 55.3\%$	depends on industry average and company trends

Ratio	Formula	Calculation	Results
Coverage – ability to pay long-term obligations			
Debt ratio	$\frac{\text{Total liabilities}}{\text{Total assets}} \times 100\%$	$\frac{630{,}720}{1{,}780{,}580} \times 100\% = 35.42\%$	low
Equity ratio	$\frac{\text{Total equity}}{\text{Total assets}} \times 100\%$	$\frac{1{,}149{,}860}{1{,}780{,}580} = 64.58\%$ OR $100\% - 35.42\%$ debt ratio $= 64.58\%$	high
Cash debt coverage ratio	$\frac{\text{Net cash provided by operating activities}}{\text{Average total liabilities}} \times 100\%$	$\frac{101{,}660}{((630{,}720 + 721{,}000) \div 2)} = (15.04\%)$	unfavourable due to negative cashflow from operating activities
Book value per common share	$\frac{\text{Common shareholders' equity}}{\text{\# of shares outstanding}}$	$\frac{(862{,}500 + 18{,}450 + 84{,}410)}{250{,}000} = \$3.86$	depends on industry average and company trends and assumes no preferred shares dividends are in arrears

Cash Flow Ratio

It is critical to monitor the trends regarding cash flows over time. If trends are tracked, ratio analyses can be a powerful tool to evaluate a company's cash flows. Below are some of the cash flow ratios currently used in business:

Ratio	Formula	Purpose
Liquidity ratios – ability to pay short term obligations:		
Current cash debt coverage ratio	$\frac{\text{Net cash flow from operating activities}}{\text{Average current liabilities}}$	ability to pay short term debt from its day-to-day operations. A ratio of 1:1 is reasonable.
Financial flexibility – ability to react to unexpected expenses and investment opportunities:		
Cash debt coverage ratio	$\frac{\text{Net cash flow from operating activities}}{\text{Average total liabilities}}$	the ability to pay debt from net cash from operating activities (statement of cash flows)

Free Cash Flow Analyses

Free cash flow is the remaining cash flow from the operating activities section after deducting cash spent on capital expenditures such as purchasing property, plant, and equipment. Some companies also deduct cash paid dividends. The remaining cash flow represents cash available to do other things, such as expand operations, pay off long-term debt, or reduce the number of outstanding shares. Below is the calculation using the data from Watson Ltd. statement of cash flows:

Watson Ltd.
Free Cash Flow
December 31, 2020

Cash flow provided by operating activities	$(101,660)
Less capital expenditures	0
Dividends	$ (42,590)
Free cash flow	$(144,250)

It is no surprise that Watson has no free cash flow and no financial flexibility, since its operating activities are in a negative position. Note that the dividend deduction in the free cash flow calculation is optional, since dividends can be waived at management's discretion. In Watson's case, it met its current year dividend cash requirements by selling more common shares to raise additional cash. The capital expenditures should be for those relating to daily operations that are intended to sustain ongoing operations. For this reason, capital expenditures purchased as investments are usually excluded from the free cash flow analysis.

Chapter Summary

LO 1: Describe the statement of financial position/balance sheet (SFP/BS) and the statement of cash flows (SCF), and explain their role in accounting and business.

The statement of financial position (IFRS) also known as the balance sheet (ASPE) reports on what resources the company has (assets) at a specific point in time and what claims to those resources exist (liabilities and equity). The statement provides a way to assess a company's liquidity and solvency – both together creating a picture of the company's financial flexibility. The structure of the SFP/BS follows the basic accounting equation: $A = L + E$, where assets are presented first, followed by liabilities and equity, which together equal the total assets. Key issues are the recognition and valuation used for each account reported.

The statement of cash flows reports on how the company obtains and utilizes its cash flows and reconciles with the cash balance reported in the SFP/BS. It is separated into operating, investing, and financing activities. The combination of positive and negative cash flows from each activity can provide important information about how the company manages its cash flows.

LO 2: Explain the purpose of the SFP/BS and prepare a SFP/BS in good form.

The classified SFP/BS separates the assets and liabilities into current and non-current (long-term) subsections based on meeting certain criteria. The statement has many disclosure requirements that ensure it is faithfully representative, that the business continues as a going concern, and that revenue and expenses are grouped into appropriate classifications that meet the standards for disclosure. Some of the more common required disclosures are listed, including the measurement basis of each account, such as cost, net realizable value, fair value, and so on. The acceptable options regarding how to present the required disclosures include using parentheses in the body of the statement or disclosing in the notes to the financial statements.

Several factors influence what is reported in the SFP/BS. Included are changes in accounting estimates that are applied prospectively and changes due to errors or omissions or accounting policy that are applied retroactively with restatement. Descriptions of these are to be included in the notes with detailed explanations. Other factors that can affect the SFP/BS are provisions, contingencies and guarantees that may need to be recognized within the statement or disclosed in the notes. Certain subsequent events will also affect what is reported in the SFP/BS.

LO 3: Explain the purpose of the statement of cash flows and prepare a SCF in good form.

The statement of cash flows (SCF) provides the means to assess the business's capacity to generate cash and to determine where the cash flows come from. The statement combines with the SFP/BS to evaluate a company's liquidity and solvency; when combined, these represent a company's financial flexibility. This information can be used to predict the future financial position and cash flows of the company based on past events. The SCF can be prepared using either the direct or indirect method. Regarding the indirect method, the statement is presented in three distinct sections, which follow the basic structure of the balance sheet classifications: operating activities (current assets, and current liabilities), investing activities (non-current assets), and financing activities (long-term debt and equity). The changes between the opening and closing balances of the SFP/BS accounts are reported in the SCF as either cash inflows or cash outflows. The three sections net to a single net cash change amount that, when combined with the cash and cash equivalent opening balances, results in the same amount as the ending balances reported in the SFP/BS.

An important section in the SCF is the operating activities section because it reports the cash flows resulting from daily operations which is the reason why the company is in business. If cash flows are negative in this section, management must determine if this is due to a temporary condition or if fundamental changes are needed to better manage activities such as the collections of accounts receivables or levels of unsold inventory. If a company is in a negative cash flow position from operating activities, it will usually either increase its debt by borrowing, increase its equity by issuing more shares, or sell off some of its assets. If these activities are undertaken, they will be detected as cash inflows from either the investing or financing sections. None of these three options are ideal and can be done in the short run, but they cannot be sustained in the long run. Even positive cash flows from operating activities must be evaluated to determine if they are sustainable and will continue into the future.

LO 4: Identify and describe the types of analysis techniques that can be used for the statement of financial position/balance sheet and the statement of cash flows.

Several analytical techniques can be applied when reviewing the SFP/BS. For example, comparative years' data can be presented to help identify trends. Using a percentage for each line item will help highlight items that may possess unusual characteristics for further analysis. Ratio analysis is the most often used technique but is of limited value if no benchmarks such as historical ratios or industry standards exist. Ratios typically focus on an aspect of a company such as liquidity, profitability, effectiveness of assets used, and ability to service short- and long-term debts. Care must be taken when interpreting the results of ratio analysis, and management must be aware that differences in ratios from competitors' financial statements can result from changes in accounting policies or the application of different accounting estimates and methods.

Another technique called free cash flow analysis calculates the remaining cash flow from the operating activities section after deducting cash spent on capital expenditures such as purchasing property, plant, and equipment. Some companies also deduct cash paid as dividends. The cash flow remaining is available to use for expansion, repayment of long-term debt, or down-sizing shareholdings to improve the share price, reduce the amount of dividends to pay, and to attract investors.

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Exercises

EXERCISE 4–1

Using the classification codes identified in brackets below, identify where each of the accounts below would be classified:

Current assets (CA)
Long-term investments (LI)
Property, plant, and equipment (PPE)
Intangible assets (IA)
Accumulated other comprehensive income (AOCI)
Non-current liabilities (NCL)
Share Capital (Cap)
Contributed surplus (CS)
Retained earnings (RE)
Current liabilities (CL)

Account name	Classification
Preferred shares	
Franchise agreement	
Salaries and wages payable	
Accounts payable	
Buildings (net)	
Investment – Held for Trading	
Current portion of long-term debt	
Allowance for doubtful accounts	
Accounts receivable	
Bond payable (maturing in 10 years)	
Notes payable (due next year)	
Office supplies	
Mortgage payable (maturing next year)	
Land	
Bond sinking fund	
Inventory	
Prepaid insurance	
Income tax payable	
Cumulative unrealized gain or loss from an OCI investment	
Investment in associate	
Unearned subscriptions revenue	
Advances to suppliers	
Unearned rent revenue	
Copyrights	
Petty cash	
Foreign currency bank account or cash	

EXERCISE 4–2

Below is a statement of financial position as at December 31, 2021, for Aztec Artworks Ltd., prepared by the company bookkeeper:

Aztec Artworks Ltd.
Statement of Financial Position
For the Year Ended December 31, 2021

Current assets	
Cash (including a bank overdraft of $18,000)	$ 225,000
Accounts receivable (net)	285,000
Inventory (FIFO)	960,000
Investments (trading)	140,000
Property, plant, and equipment	
Construction work in progress	220,000
Building (net)	1,500,000
Equipment (net)	380,000
Land	420,000
Intangible assets	
Goodwill	190,000
Investment in bonds	200,000
Prepaid expenses	30,000
Patents (net)	21,000
Current liabilities	
Accounts payable	450,000
Notes payable	300,000
Pension obligation	210,000
Rent payable	120,000
Long-term liabilities	
Bonds payable	800,000
Shareholders' equity	
Common shares	700,000
Preferred shares	900,000
Contributed surplus	430,000
Retained earnings	501,000
Accumulated other comprehensive income	160,000

Additional information as at December 31, 2021:

1. Cash is made up of petty cash of $3,000, a bond sinking fund of $100,000, and a bank overdraft of $18,000 held at a different bank than the bank account where the cash balance is currently on deposit.

2. Accounts receivable balance of $285,000 includes:

Credit balances to be cleared in 90 days	35,000
Allowance for doubtful accounts	12,000

   The company considers the credit balance to be significant.

3. Inventory ending balance does not include inventory costing $20,000 shipped out on consignment on December 30, 2021. The company uses FIFO cost formula and a perpetual inventory system.

   The net realizable value of the inventory at year-end is:

Inventory, December 31	$960,000
Inventory on consignment	25,000

4. Investments are held for trading purposes. Their fair value at year-end is $135,000.
5. The accumulated depreciation account balance for buildings is $450,000 and $120,000 for equipment. The construction work-in-progress represents the costs to date on a new building in the process of construction. The land where the building is being constructed was purchased of $220,000. The remaining land is being held for investment purposes.
6. Goodwill of $190,000 was included in the accounts when management decided that their product development team has added significant value to the company.
7. The investment in bonds is being held to maturity in 2030, and is accounted for using amortized cost.
8. Patents were purchased by Aztec on January 1, 2019, at a cost of $30,000. They are being amortized on a straight-line basis over 10 years.
9. Income tax payable of $80,000 was accrued on December 31 and included in the accounts payable balance.
10. The notes payable are due June 30, 2022. The principal is not due until then.
11. The pension obligation is considered by the auditors to be a long-term liability.
12. The 20-year bonds payable bear interest at 5% and are due August 31, 2025. The bonds' annual interest was paid on December 31. The company established the bond sinking fund that is included in the cash balance.
13. For common shares, 900,000 are authorized and 700,000 are issued and outstanding. The preferred shares are $2, non-cumulative, participating shares. Fifty thousand are authorized and 20,000 are issued and outstanding.
14. Net sales for the year are $3,000,000 and gross profit is 40%.

Required:

a. Prepare a corrected classified SFP/BS as at December 31, 2021, in good form, including all required disclosures identified in Chapter 4. Adjust the account balances as required based on the additional information presented.

b. Calculate one liquidity ratio and one activity ratio and comment on the results. Use ending balances in lieu of averages when calculating ratios.

EXERCISE 4–3

Below is the trial balance for Johnson Berthgate Corp. at December 31, 2021. Accounts are listed in alphabetical order and all have normal balances.

Account	Balance
Accounts payable	$ 350,000
Accounts receivable	330,000
Accrued liabilities	70,000
Accumulated depreciation, buildings	110,000
Accumulated depreciation, equipment	50,000
Accumulated other comprehensive income	55,000
Administrative expenses	580,000
Allowance for doubtful accounts	15,000
Bonds investment at amortized cost	190,000
Bonds payable	655,684
Buildings	660,000
Cash	131,000
Commission payable	90,000
Common shares	520,000
Correction of prior year's error – a missed expense in 2020 (net of tax)	90,000
Cost of goods sold	3,050,000
Equipment	390,000
Freight-out	11,000
Goodwill	30,000
Income tax expense	8,500
Intangible assets, franchise (net)	115,000
Intangible assets, patents (net)	125,000
Interest expense	135,000
Inventory	440,000
Investment (available for sale)	180,000
Investment (trading)	100,000
Land	170,000
Notes payable (due in 6 months)	60,000
Notes payable	571,875
Preferred shares	80,000
Prepaid advertising	6,000
Retained earnings	290,941
Sales revenue	4,858,000
Selling expenses	1,190,000
Unearned consulting fees	13,000
Unrealized gain on trading investments	40,000
Unusual gain	102,000

Additional information as at December 31, 2021:

1. Inventory has a net realizable value of $430,000. The weighted average cost method of inventory valuation was used.
2. Trading investments are securities held for trading purposes and have a fair value of $120,000. Investments in bonds are being held to maturity at amortized cost with interest payments each December 31. Investments in other securities are classified as available for sale (FVOCI) and any gains or losses will be recognized through other comprehensive income (OCI). These have a fair value of $180,000 at the reporting date.
3. Correction of the prior period error relates to a missed travel expense from 2020. The books are still open for 2021.
4. Patents and franchise were being amortized on a straight-line basis. Accumulated amortization to December 31, 2021 is $80,000 for patents and $45,000 for the franchise.
5. Goodwill was recognized at the time of the purchase as the excess of the cash paid purchase price over the net identifiable assets.
6. The bonds were issued at face value on December 31, 2005 and are 5%, 20 year, with interest payable annually each December 31.
7. The 3%, 5-year note payable will be repaid by December 31, 2024 and was signed when market rates were 3.5%.

   Below is the payment schedule:

	Payment Amount	Interest @ 3.5%	Amortization	Balance
December 31, 2019				$566,906
December 31, 2020	17,400	19,842	2,442	569,348
December 31, 2021	17,400	19,927	2,527	571,875
December 31, 2022	17,400	20,016	2,616	574,491
December 31, 2023	17,400	20,107	2,707	577,198
December 31, 2024	17,400	20,202	2,802	580,000

8. During the year ended December 31, 2021, no dividends were declared and there was no preferred or common share activity.
9. On December 31, 2021, the share structure was; common shares, unlimited authorized, 260,000 shares issued and outstanding. $3 preferred shares, non-cumulative, 1,200 authorized, 800 shares issued and outstanding.
10. The company prepares financial statements in accordance with IFRS and investments in accordance with IFRS 9.
11. The income tax rate is 25%.

Required:

a. Prepare a classified statement of financial position as at December 31, 2021, in good form, including all required disclosures identified in Chapter 4. Adjust the account balances as required based on the additional information presented.

b. Calculate the company's debt ratio and equity ratio and comment on the results.

c. Assume now that accounts receivable is made up of the following:

Accounts with debit balances	$ 580,000
Accounts with credit balances	(250,000)

Discuss whether this change in the accounts will affect the liquidity of this company. Round final ratio answers to the nearest 2 decimal places.

EXERCISE 4–4

Below is the trial balance in no particular order for Hughey Ltd. as at December 31, 2021:

Hughey Ltd.
Trial Balance
As at December 31, 2021

	Debits	Credits
Cash	$ 250,000	
Accounts receivable	1,015,000	
Allowance for doubtful accounts		$ 55,000
Prepaid rent	40,000	
Inventory	1,300,000	
Investments – available for sale (FVOCI)	2,100,000	
Land	530,000	
Building	770,000	
Patents (net)	25,000	
Equipment	2,500,000	
Accumulated depreciation, equipment		1,200,000
Accumulated depreciation, building		300,000
Accounts payable		900,000
Accrued liabilities		300,000
Notes payable		600,000
Bond payable		1,100,000
Common shares		2,500,000
Accumulated other comprehensive income		245,000
Retained earnings		1,330,000
	$8,530,000	$8,530,000

Additional information as at December 31, 2021:

1. The inventory has a net realizable value of $1,350,000. The company uses FIFO method of inventory valuation.
2. Investments in available for sale securities (FVOCI) have a fair value of $2,250,000.
3. The company purchased patents of $60,000 on January 1, 2015.
4. Bonds are 8%, 25-year and pay interest annually each January 1, and are due December 31, 2030.
5. The 7%, notes payable represent bank loans that are secured by investments in available for sale securities (FVOCI) with a carrying value of $800,000. Interest is paid each December 31 and no principal is due until its maturity on April 30, 2022.
6. The capital structure for the common shares are # of authorized, 100,000 shares; issued and outstanding, 80,000 shares.

Required:

a. Prepare a classified statement of financial position as at December 31, 2021, in good form, including all required disclosures identified in Chapter 4.

b. Calculate the annual amortization for the patent.

c. Does this company follow IFRS or ASPE? Explain your answer.

EXERCISE 4–5

Below is a list of independent transactions. For each transaction, identify which section of the statement of cash flows it is to be reported and indicate if it is a cash in-flow (a positive number) or cash out-flow (negative number). (Hint: recall the use of the accounting equation $A = L + E$ to help determine if an amount is a positive or negative number.)

Description	Section	Amount
Issue of bonds payable of $500 cash		
Sale of land and building of $60,000 cash		
Retirement of bonds payable of $20,000 cash		
Current portion of long-term debt changed from $56,000 to $50,000		
Repurchase of company's own shares of $120,000 cash		
Issuance of common shares of $80,000 cash		
Payment of cash dividend of $25,000 recorded to retained earnings		
Purchase of land of $60,000 cash and a $100,000 note		
Cash dividends received from a trading investment of $5,000		
Interest income received in cash from an investment of $2,000		
Interest and finance charges paid of $15,000		
Purchase of equipment for $32,000		
Increase in accounts receivable of $75,000		
Decrease in a short-term note payable of $10,000		
Increase in income taxes payable of $3,000		
Purchase of equipment in exchange for a $14,000 long-term note		

EXERCISE 4–6

Below is the unclassified balance sheet for Carmel Corp. as at December 31, 2020:

Carmel Corp.
Balance Sheet
As at December 31, 2020

Cash	$ 84,000	Accounts payable	$ 146,000
Accounts receivable (net)	89,040	Mortgage payable	172,200
Investments – trading (FVNI)	134,400	Common shares	400,000
Buildings (net)	340,200	Retained earnings	297,440
Equipment (net)	168,000		$1,015,640
Land	200,000		
	$1,015,640		

The net income for the year ended December 31, 2021, was broken down as follows:

Revenues	$1,000,000
Gain	2,200
Total revenue	1,002,200
Expenses	
Operating expenses	809,200
Interest expenses	35,000
Depreciation expense – building	28,000
Depreciation expense – equipment	20,000
Loss	5,000
	897,200
Net income	$ 105,000

The following events occurred during 2021:

1. Investments in traded securities are short-term securities and the entire portfolio was sold for cash at a gain of $2,200. No new investments were purchased in 2021.
2. A building with a carrying value of $225,000 was sold for cash at a loss of $5,000.
3. The cash proceeds from the sale of the building were used to purchase additional land for investment purposes.
4. On December 31, 2021, specialized equipment was purchased in exchange for issuing an additional $50,000 in common shares.
5. An additional $20,000 in common shares were issued and sold for cash.
6. Dividends of $8,000 were declared and paid in cash to the shareholders.
7. The cash payments for the mortgage payable during 2021 included principal of $30,000 and interest of $35,000. For 2022, the cash payments will consist of $32,000 for the principal portion and $33,000 for the interest.
8. All sales to customers and purchases from suppliers for operating expenses were on account. During 2021, collections from customers were $980,000 and cash payments to suppliers were $900,000.
9. Ignore income taxes for purposes of simplicity.

Required:

a. Prepare a classified SFP/BS in good form as at December 31, 2021. Identify which required disclosures discussed in Chapter 4 were missed due to lack of information?

b. Prepare a statement of cash flows in good form with all required disclosures for the year ended December 31, 2021. The company prepares this statement using the indirect method.

c. Calculate the company's free cash flow and discuss the company's cash flow pattern including details about sources and uses of cash.

d. How can the information from the SFP/BS and statement of cash flows be beneficial to the company stakeholders (e.g., creditors, investors, management and others)?

EXERCISE 4–7

Below is the comparative balance sheet for Lambrinetta Industries Ltd.:

Lambrinetta Industries Ltd.
Balance Sheet

	December 31 2021	December 31 2020
Assets:		
Cash	$ 32,300	$ 40,800
Accounts receivable	79,900	107,100
Investments – trading (FVNI)	88,400	81,600
Land	86,700	49,300
Plant assets	425,000	345,100
Accumulated depreciation – plant assets	(147,900)	(136,000)
Total assets	$ 564,400	$ 487,900
Liabilities and Equity:		
Accounts payable	$ 18,700	$ 6,800
Current portion of long-term note	8,000	10,000
Long-term note payable	119,500	75,000
Common shares	130,900	81,600
Retained earnings	287,300	314,500
Total liabilities and equity	$ 564,400	$ 487,900

Additional information:

1. Net income for the year ended December 31, 2021 was $161,500.
2. Cash dividends were declared and paid during 2021.
3. Plant assets with an original cost of $51,000 and with accumulated depreciation of $13,600 were sold for proceeds equal to book value during 2021.
4. The investments are reported at their fair value on the balance sheet date. During 2021, investments with a cost of $12,000 were purchased. No other investment transactions occurred during the year. Fair value adjustments are reported directly on the income statement.
5. In 2021, land was acquired through the issuance of common shares. The balance of the common shares issued were for cash.

Required: Using the indirect method, prepare the statement of cash flows for the year ended December 31, 2021 in good form including all required disclosures identified in Chapter 4. The company follows ASPE.

EXERCISE 4–8

Below is a comparative statement of financial position for Egglestone Vibe Inc. as at December 31, 2021:

Egglestone Vibe Inc.
Statement of Financial Position

	December 31	
	2021	2020
Assets:		
Cash	$ 84,500	$ 37,700
Accounts receivable	113,100	76,700
Inventory	302,900	235,300
Investments – available for sale (FVOCI)	81,900	109,200
Land	84,500	133,900
Plant assets	507,000	560,000
Accumulated depreciation – plant assets	(152,100)	(111,800)
Goodwill	161,200	224,900
Total assets	$1,183,000	$1,265,900
Liabilities and Equity:		
Accounts payable	$ 38,100	$ 66,300
Dividend payable	19,500	41,600
Notes payable	416,000	565,500
Common shares	322,500	162,500
Retained earnings	374,400	370,200
Accumulated other comprehensive income	12,500	59,800
Total liabilities and equity	$1,183,000	$1,265,900

Additional information:

1. Net income for the 2021 fiscal year was $24,700.
2. During 2021 land was purchased for expansion purposes. Six months later, another section of land with a carrying value of $111,800 was sold for $150,000 cash.
3. On June 15, 2021, notes payable of $160,000 were retired in exchange for the issuance of common shares. On December 31, 2021, notes payable for $10,500 were issued for additional cash flow.
4. Available for sale investments (FVOCI) were purchased during 2021 for $20,000 cash. By year-end, the fair value of this portfolio dropped to $81,900. No investments from this portfolio were sold in 2021.

5. At year-end, plant assets originally costing $53,000 were sold for $27,300, since they were no longer contributing to profits. At the date of the sale, the accumulated depreciation for the asset sold was $15,600.
6. Cash dividends were declared and a portion of those were paid in 2021. Dividends are reported under the financing section.
7. Goodwill impairment loss was recorded in 2021 to reflect a decrease in the recoverable amount of goodwill.

Required:

a. Prepare a statement of cash flows in good form, including all required disclosures identified in Chapter 4. The company uses the indirect method to prepare the statement.

b. Analyze and comment on the results reported in the statement.

Chapter 5

Revenue

Trouble at Tesco

On November 9, 2014, it was reported that several legal firms were considering launching a class action suit against British grocery giant Tesco PLC. The claims were related to revelations made by the company in September that its profits for the first half of the year were overstated by £263 million. In October, the United Kingdom's Serious Fraud Office announced that it was launching its own investigation into the accounting practices at Tesco. This followed the company's suspension of eight senior executives along with the resignation of the CEO.

The issue at Tesco stemmed primarily from a misstatement of a revenue category described as "commercial income." Although the company's primary business is selling groceries to consumers, it also earns a significant amount from suppliers. Manufacturers and suppliers understand that in a grocery store, the location of the product on the shelves can have a significant effect on the level of sales generated. Many of these suppliers will offer rebates or other payments to Tesco in exchange for preferential placement of their products on the shelves. These rebates will often be calculated on a sliding scale, increasing as the level of sales increases.

In Tesco's interim financial statements, many of these rebates would need to be estimated, as the sales level for the entire year would not yet be known. Tesco's auditor, PwC, indicated in its 2014 audit report that the determination of commercial income was an area of audit risk due to the judgment required and possibility of manipulation. Tesco had been experiencing decreasing market share in 2014, and this may have provided an incentive for some degree of earnings management. Some analysts suggested that Tesco might have booked promotional rebates based on historic results rather than current activity.

Problems with revenue recognition have been a source of many accounting errors and frauds over the years. Given the complex nature of some types of business transactions and contracts, the criteria for recognition of revenue may not always be clear. When significant levels of judgment are required to determine the point at which revenue should be recognized, the opportunity for misstatement grows. Given that many of the complex issues surrounding revenue recognition are not always well understood by financial-statement readers, managers may sometimes give in to the temptation to "work" the numbers a little bit.

This chapter will explore some of the issues and judgments required with respect to revenue recognition and some of the problems that companies like Tesco may face.

(Source: Marriage, 2014)

Chapter 5 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe the criteria for recognizing revenue and determine if a company has earned revenue in a business transaction.

LO 2: Discuss the problem of measurement uncertainty and alternative accounting treatments for these situations.

LO 3: Prepare journal entries for a number of different types of sales transactions.

LO 4: Apply revenue recognition concepts to the determination of profit from long-term construction contracts.

LO 5: Prepare journal entries for long-term construction contracts.

LO 6: Apply revenue recognition concepts to unprofitable long-term construction contracts.

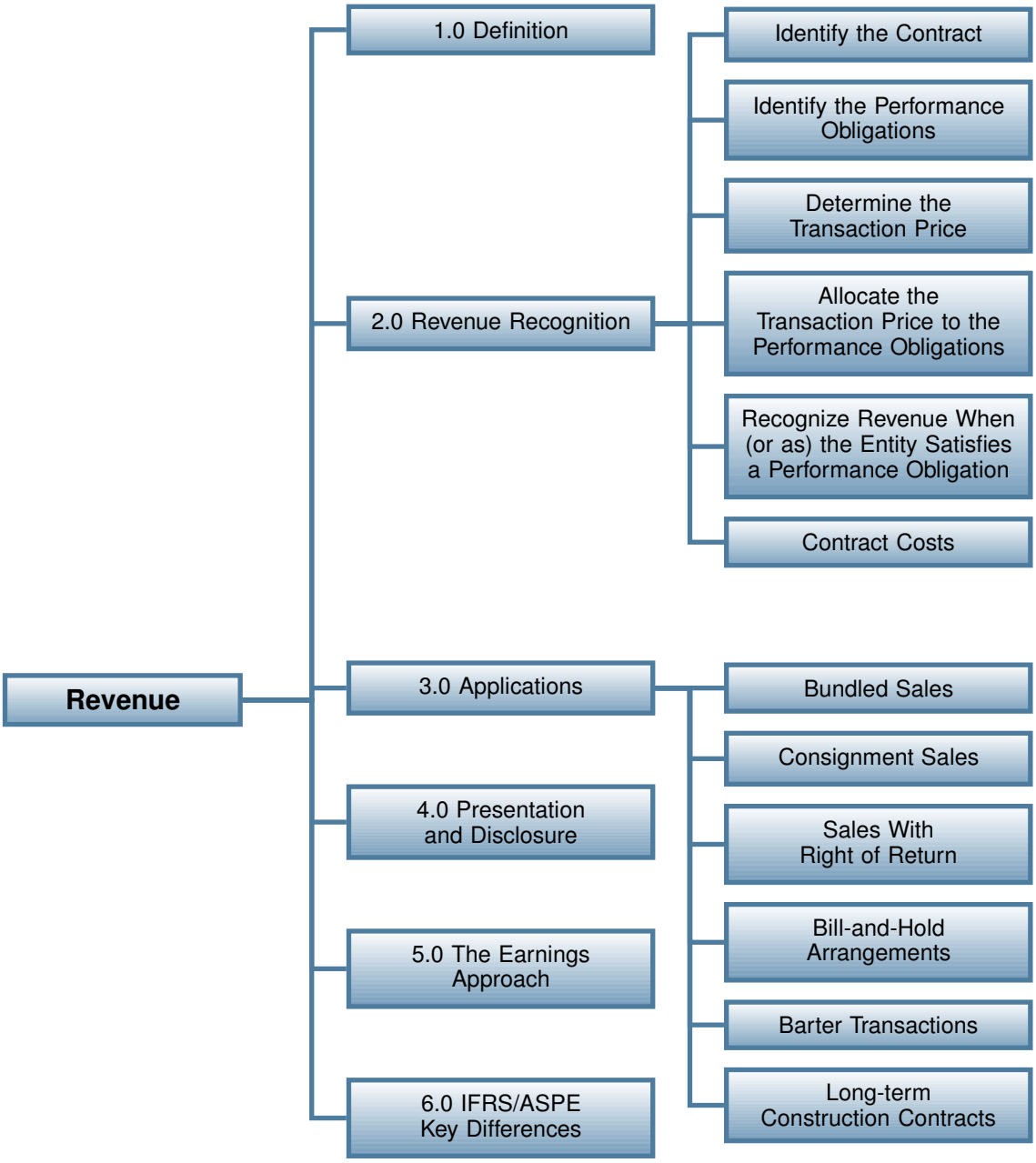
LO 7: Describe presentation and disclosure requirements for revenue-related accounts.

LO 8: Discuss the earnings approach to revenue recognition and compare it to current IFRS requirements.

Introduction

Revenue is the essence of any business. Without revenue, a business cannot exist. The basic concept of revenue is well understood by business people, but complex and important accounting issues complicate the recognition and reporting of revenue. Sometimes, the complexity of these issues can lead to erroneous or inappropriate recognition of revenue. In 2007, Nortel Networks Corporation paid a $35 million settlement in response to a Securities and Exchange Commission (SEC) investigation into its reporting practices. Although several problems were identified, one of the specific issues that the SEC investigated was Nortel's earlier accounting for bill-and-hold transactions. In a separate matter, Nortel was also required to restate its financial statements due to errors in the timing of revenue recognition for bundled sales contracts. In this chapter, we will examine these issues and determine the appropriate accounting treatment for revenues.

Chapter Organization



5.1 Definition

IFRS 15 defines *revenue* as "participants income arising in the course of an entity's ordinary activities." Income is defined as "increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in an

increase in equity, other than those relating to contributions from equity participants." (CPA Canada, 2017, IFRS 15 Appendix A).

ASPE defines *revenue* as "the inflow of cash, receivables or other consideration arising in the course of the ordinary activities of an enterprise, normally from the sale of goods, the rendering of services, and the use by others of enterprise resources yielding interest, royalties and dividends" (CPA Canada, 2017, 3400.03a).

Both definitions refer to the ordinary activities of the entity, which suggests that gains made from incidental activities, such as the sale of surplus assets, cannot be defined as revenue. However, these gains are still considered income, as the Conceptual Framework includes revenue and gains as part of its definition of income. Revenue is **realized** when goods or services are converted to cash. The point when cash is realized is usually easy to identify. In a grocery store, when a customer pays for his or her purchase with cash, the revenue is realized at that moment. In a wholesale business, when goods are sold on credit, the revenue is not realized until the account receivable is collected and cash is deposited in the bank. However, in this case, the revenue would have been **recognized** at some earlier point when the account receivable was created. In accounting, the point at which revenue should be recognized is not always so simple to determine.

5.2 Revenue Recognition

There are two different perspectives on how to recognize revenues:

- The contract-based approach
- The earnings approach

The contract-based approach is the subject of IFRS 15 – *Revenue from Contracts with Customers*. This standard focuses on the contractual rights and obligations of the buyer and the seller. The earnings approach is currently used in ASPE. This approach focuses on the process of adding value to the final product or service that is delivered to the customer, and will be discussed in Section 5.5.

IFRS 15, issued in 2014, is effective for fiscal years beginning on or after January 1, 2018, although early adoption is allowed. The length of this transition period reflects the anticipated effect this standard may have on business results and business processes. This standard was a joint project between IASB and FASB, as both standard-setting bodies were interested in creating more consistency in the application of revenue-recognition principles. The nature and complexity of this standard and the resulting process meant that development time was

lengthy. The project was first added to the IASB agenda in 2002, and the first discussion paper was produced in 2008.

The standard applies to all contractual relationships with customers except for leases, financial instruments, insurance contracts, and those transactions covered by standards that deal with subsidiaries, joint arrangements, joint ventures, and associates. The standard also doesn't apply to non-monetary exchanges between entities in the same line of business to facilitate sales to customers or potential customers. The new standard replaces several existing standards, including IAS 11, IAS 18, IFRIC 13, IFRIC 15, IFRIC 18, and SIC-31.

The standard takes the approach that the essence of the relationship between a business, and its customers can be characterized as one of contractual rights and obligations. To determine the correct accounting treatment for these transactions, the standard applies a five-step model:

1. Identify the contract(s) with a customer.
2. Identify the performance obligations in the contract.
3. Determine the transaction price.
4. Allocate the transaction price to the performance obligations in the contract.
5. Recognize revenue when (or as) the entity satisfies a performance obligation.

The standard provides a significant amount of detail in the application of these steps. We will focus on some of the key elements of each component of the model.

5.2.1 Identify the Contract

The contract must be approved by both parties and must clearly identify both the goods and services that will be transferred and the price to be paid for these goods and services. The contract must be one of commercial substance, and there must be reasonable expectation that the ultimate amount owing from the customer will be collected. This collectability criterion will prevent a situation where revenue is recognized and then a provision is immediately made for an uncollectible account. Under this criterion, the contract cannot be recognized until the collection is probable. If these conditions are not present, the contract can be continually reassessed to see if its status changes. The standard also applies guidance on how to deal with contract modifications. Depending on the circumstances, the modifications may be treated as either a change to the existing contract or as a completely new contract. A new contract would exist if the scope of the contract increases due to the addition of distinct goods or services, and the price of the contract increases by an amount that reflects the entity's stand-alone selling prices of the additional goods or services.

The contract will not exist if each party to the contract has the unilateral, enforceable right to terminate a wholly unperformed contract without compensating the other party. A contract would be considered wholly unperformed if the entity has not yet transferred any of the promised goods or services to the customer, and the entity has not received any consideration or entitlement to consideration. In this situation, there is clearly no revenue to recognize as there has not been any exchange under the contract.

5.2.2 Identify the Performance Obligations

This is a critical step, as the performance obligations will determine when revenue is recognized. The standard requires that the promised performance obligation be identified either as distinct goods and services or as a series of distinct goods and services that are substantially the same and that have the same pattern of transfer to the customer. A performance obligation exists only if there is a transfer of goods or services to a customer. This limitation in the definition means that internal administrative tasks required to manage a contract are not, in themselves, performance obligations.

During the development and implementation of IFRS 15, there was a great deal of discussion around the concept of distinct goods or services. The definition of "distinct" in this context contains two criteria: the customer can benefit from the good or service either on its own or together with other resources that are already available to the customer, and the contract contains a separately identifiable promise to transfer the good or service. It is important to note that both of these criteria must be satisfied to meet the definition of "distinct." For some contracts, the satisfaction of the second criteria may require some analysis. The standard provides further clarification by specifying the following indicators of a combined good or service (i.e., a single performance obligation):

- Significant services in integrating the goods or services with other goods or services are provided in the contract.
- The goods or services provided significantly modify or customize other goods or services provided in the contract.
- The goods or services are highly interdependent.

The standard provides further detailed examples to illustrate these concepts. A common, simple example can also illustrate the idea of "distinct". Consider a customer who wishes to build a brick wall. There are two ways this could be done. The customer could arrange with a local building supply warehouse to deliver all the required materials (bricks, mortar, tools, etc.) The company could then arrange a separate contract with a local mason to build the wall. In this case, there are two separate contracts. In the first contract, the performance obligation is

satisfied when the materials are delivered to the building site. The performance obligation in the second contract will be satisfied when the mason completes construction of the wall.

Now consider a different scenario: the company hires a local contractor to build the wall. The contractor purchases all the materials and arranges to have them delivered to the building site. Although these materials could meet the first criteria (i.e., the customer could benefit from them), the second criteria is not met. The contractor has made a promise for a single good: the completed wall. The contractor is going to provide significant services in integrating the goods (assembling the bricks with the mortar), the service modifies the goods, and the goods and services are interdependent (the skilled labour of the contractor is required to assemble the raw materials). In this case, the delivery of the materials to the building site does not satisfy a performance obligation. The performance obligation is not satisfied until the wall is completed.

To provide further clarity on the nature of performance obligations, the standard provides the following examples of goods and services:

- Sale of goods produced by the entity
- Resale of goods purchased by the entity
- Resale of rights to goods or services purchased by the entity
- Performing a contractually agreed upon task
- Providing a service of standing ready to provide goods or services
- Providing a service of arranging for another party the transfer of goods or services
- Granting rights to goods or services to be provided in the future that the customer can resell
- Constructing, manufacturing, or developing an asset on behalf of a customer
- Granting licenses
- Granting options to purchase additional goods or services

(CPA Handbook – Accounting, IFRS 15.26)

In some of the examples above, it is apparent that the entity would be acting as an agent for the benefit of a principal. In determining whether an agency relationship exists, the key factor to consider is control. If the entity controls the good or service before it is transferred to the customer, then the entity is a principal. If the entity does not control the good or service, the entity would be considered an agent. The main concern from an accounting perspective in these situations is the amount of revenue to recognize. For a principal, the gross amount of consideration expected from the transaction is considered revenue. For an agent, only the fee or commission earned from the transfer of goods or services is reported as revenue.

5.2.3 Determine the Transaction Price

The standard defines the transaction price as the amount of the consideration the entity expects to be entitled in exchange for transferring promised goods or services, excluding amounts collected on behalf of third parties. This consideration may be fixed or variable in nature. As well, there may be an implied financing component present in the consideration. Also, there are certain contracts that may require the payment of non-cash consideration.

Variable consideration can occur when discounts, rebates, refunds, credits, price concessions, or other incentives or penalties exist. When variable consideration is present in a contract, the amount should be estimated using either the expected value (the sum of probability-weighted amounts from a range of possible amounts) or the most likely amount (usually more appropriate when the range contains only a few choices). Variable consideration can be included in the transaction price only if it is highly probable that a significant reversal in the amount cumulative revenue recognized will not occur in the future. The standard does not define what is meant by “highly probable”, but it does provide a list of factors to consider when making this assessment. These situations require professional judgment and analysis of both quantitative and qualitative factors.

In some contracts, the entity may be providing significant financing services, even if these are not explicitly stated in the contract. A simple example would be goods sold which require payment in two years’ time. Although the contract may not state an interest rate, there is clearly a financing component present. The selling entity needs to account for the time value of money in determining the portion of the sale that relates to the goods and the portion that relates to the financing provided. In determining if a significant financing component exists, the entity should consider the difference between the consideration and the cash selling price of the goods or services, the length of time between the transfer of control and the customer’s payment, and prevailing interest rates in the relevant market. The discount rate used should reflect the rate that would be arrived at if the entity and the customer had engaged in a separate financing contract. This rate should reflect current market conditions, as well as the customer’s credit rating, collateral offered, and any other relevant factors. As a practical expedient, the standard allows entities to ignore the financing component if the time from delivery of goods or services to receipt of payment is expected to be one year or less.

When a contract allows non-cash consideration to be paid by a customer, that consideration should be measured at its fair value. In some cases, it may not be possible to determine the fair value of the consideration received. In these cases, the entity should use the stand-alone selling prices of the promised goods or services to determine the transaction price.

5.2.4 Allocate the Transaction Price to the Performance Obligations

Where multiple performance obligations are included in a single-price contract, the price should be allocated based on the relative proportions of the stand-alone selling prices of each component at the contract inception date. Where the stand-alone selling prices cannot be determined, other suitable estimation methods include

- the adjusted market assessment approach,
- the expected cost plus a margin approach, and
- the residual approach (permissible only in limited circumstances).

The application of these approaches may result in the identification of performance obligations that hadn't previously been identified due to the lack of stand-alone prices. If the customer receives a discount from purchasing a bundle of goods or services, this discount would normally be allocated in a proportional manner to the different performance obligations. The standard does, however, allow for discounts to be allocated in a disproportional manner if certain criteria are met. When variable consideration is present in a contract, the standard allows the variable component to be allocated to specific performance obligations if certain criteria are met. Otherwise, the variable consideration would be allocated in a proportional manner, similar to other consideration.

5.2.5 Recognize Revenue When (or as) the Entity Satisfies a Performance Obligation

Revenue should be recognized when the performance obligation has been satisfied. This occurs when the entity has transferred control of an asset to the customer. In this context, an asset includes either goods or services. A service is considered an asset because the customer obtains a benefit from its use, even if only briefly. The performance obligations can be satisfied either at a point in time or over time.

The standard defines control as the ability to direct the use of, and obtain substantially all of the benefits from the asset. (CPA Canada Handbook – Accounting, IFRS 15.33). Benefits are described as future cash flows, and can take the form of either inflows or reductions of outflows. Thus, cash flows can include not only the revenue derived directly from selling the asset, but also savings from using the asset to enhance other assets, or even the settlement of liabilities with the asset.

Many common business transactions result in performance obligations being satisfied at a point in time. This point could also be described as the *critical event*. For example, when you

buy groceries at your local convenience store, the critical event occurs when you exchange cash for possession of the goods. Once you leave the store with the groceries, revenue has been earned by the store. The proprietor no longer has any responsibility for or control over the goods. Other factors that can be considered when determining if control of an asset has been transferred include the transfer of legal title, the transfer of physical possession, the acceptance by the customer of the asset, the entity's entitlement to payment by the customer, and the transfer of significant risks and rewards of ownership. In the example of groceries purchased, the reward is the realization of the cash received from the sale. Prior to the sale, the risk to the vendor is that the food products may pass their sell-by date or may not be saleable due to changes in consumer tastes. Once you have purchased the goods, you are accepting responsibility for consuming the product prior to the sell-by date. Thus, the rewards have been transferred to the seller and the risks have been transferred to the buyer.

Often, the question of control can be answered by looking at a number of the factors identified above. As long as a company possesses the goods and still holds the title to the goods, there is both a risk (i.e., goods could be damaged, stolen, or destroyed) and a reward (i.e., goods can pledged or sold) available to the vendor. Sometimes, a vendor may transfer legal title to the customer but still maintain physical possession of the goods. In late 2000, Nortel Networks Corporation recorded approximately $1 billion of revenue using bill-and-hold transactions. These transactions were recorded as sales, but the company maintained possession of the goods until some later date when the customer requested delivery. In order to promote these types of sales, the company offered several different incentives to its customers. To report these types of transactions, US GAAP required that several conditions be met, including the conditions that the transaction must be requested by the customer and serve some legitimate business purpose. Nortel's actions violated these two conditions, and as such, the company was later required to restate revenues for the fourth quarter by over $1 billion.

The selling of services can create further accounting problems, as there is no longer the obvious transfer of a physical product to indicate completion of the earnings process. When you get a haircut, the service will be completed when you are satisfied with the cut and the barber enters the sale into the cash register. This can still be described as revenue earned at a point in time, as the completion of the haircut can be seen to be a critical event. However, some activities can take longer to complete, and they can even extend over several accounting periods. When a company agrees to provide a service over a period of time that crosses several fiscal years, the problem is to determine in which accounting periods to recognize the revenue. IFRS 15 requires one of three criteria be met to recognize revenue over time:

- The customer simultaneously receives and consumes benefits as the entity performs;
- The entity's performance creates or enhances an asset that the customer controls; or
- The entity's performance does not create an asset with an alternative use to the entity and entity has an enforceable right to payment

(CPA Canada Handbook – Accounting, IFRS 15.35)

When recognizing revenue for a performance obligation that is satisfied over time, it is essential that the entity have a reliable method for measuring progress. These methods should be based on either inputs or outputs. If the entity cannot reasonably measure its progress towards satisfaction of the performance obligation, then revenue should not be recognized. In some cases, although reliable measures of progress are not available, there is still a reasonable expectation that costs incurred will be recovered. In this instance, revenue would be recognized equal to the costs incurred. This is referred to as the **zero-margin method**. Revenue recognition for long term contracts will be discussed further in Section 5.3.6.

Accounting for revenue over time can create further problems when both goods and services are delivered. For example, in 2006, Nortel Networks was required to restate its financial statements due to improper accounting of several "multiple element arrangements." Nortel was engaged in many different types of long-term contracts with customers where installation, network planning, engineering, hardware, software, upgrades, and customer-support features were all included in the contract price. The accounting for these contracts was complicated, and the restatement was required because certain undelivered products and services were not considered separate accounting units, as no fair value could be determined for them.

5.2.6 Contract Costs

IFRS 15 also provides guidance on how to account for costs incurred to obtain and fulfill a contract. When obtaining a contract, any incremental costs incurred should be capitalized as an asset and amortized over the life of the contract. These costs only include those direct costs that would not have been incurred if the contract had not been obtained. A common example would be commissions paid to sales staff. As a practical expedient, the standard allows the costs to be expensed immediately for contracts terms of one year or less. This particular section of the standard has generated some debate, particularly in the telecommunications sector. Common practice in this industry usually involves expensing employee commissions at the time the contract is signed. Some industry representatives have expressed concern that the requirement to capitalize contract costs, along with other aspects of the standard, will result in significant changes and investments in IT systems to properly track the information.

For costs incurred to fulfill a contract, the standard requires capitalization only if the costs relate directly to the contract, the costs generate or enhance resources that will be used to satisfy the performance obligations, and the costs are expected to be recovered. These conditions will generally prevent the capitalization of general and administrative costs that are not explicitly chargeable under a contract or the cost of wasted resources that are not reflected in the price of the contract. However, overhead costs such as project management, supervision, insurance, and depreciation may be eligible for capitalization if they relate directly to the contract.

5.3 Applications

IFRS 15 provides fourteen sections of application guidance which elaborate on certain aspects of the standard as they relate to specific situations. As well, the standard provides sixty-three illustrative examples for further clarity. In this section, we will examine some of the examples and guidance.

5.3.1 Bundled Sales

Telurama Inc. sells mobile telephones with two-year bundled airtime and data plans. The stand-alone selling price of the telephone is $600. The the airtime and data plan does not have an observable stand-alone selling price, but Telurama has used the adjusted market assessment approach to estimate the stand-alone selling price as $1,000. As the mobile telephone business is very competitive, Telurama is required to sell the bundled package for $1,400. Telurama has determined that the discount should be allocated proportionally to the two performance obligations. In this case, the revenue would be recognized as follows:

Component	Calculation	Allocation
Telephone	$[600 \div (600 + 1{,}000)] \times 1{,}400$	$ 525
Airtime and data	$[1{,}000 \div (600 + 1{,}000)] \times 1{,}400$	$ 875
Total		$ 1,400

If the airtime and data plan was sold to different customer groups for a broad range of different prices, Telurama could use the residual approach instead, as the stand-alone selling price for this performance obligation would not be observable. With this approach, the value of the observable stand-alone selling price (the telephone) is subtracted from the total contract value to arrive at the value of the unobservable stand-alone selling price (the airtime and data plan). In this example, Telurama would recognize revenue as follows:

Component	Calculation	Allocation
Telephone	stand-alone price	$ 600
Airtime and data	$1{,}400 - 600$	$ 800
Total		$ 1,400

In either case, revenue will be recorded based on the allocation calculated above. The revenue for the telephone will be recorded immediately upon delivery to the customer, and the remaining amount relating to the airtime and data will be reported as unearned revenue that will be recognized over the term of the contract. The journal entry at the time of sale to record this transaction using the first example would look like this:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts receivable		1,400	
	Sales revenue			525
	Unearned revenue			875

5.3.2 Consignment Sales

Sometimes a retailer may not want to take the risk of purchasing a product for resale. The retailer may not want to tie up working capital or may think the product is too speculative or risky. In these cases, a consignment arrangement may be appropriate. Under this type of arrangement, the manufacturer of the product (*the consignor*) will ship the goods to the retailer (*the consignee*), but the manufacturer will retain legal title to the product. The consignee agrees to take care of the product and make efforts to the sell the product, but no guarantee of performance is made. As well, the agreement will likely require the return of the goods to the consignor after a specified period, if the goods are not sold. Thus, the performance obligation has not been satisfied when the goods are transferred to the consignee, and the consignor cannot recognize revenue at this point. The goods will, thus, remain on the consignor's books as inventory until the consignee sells them. When the consignee actually sells the product, an obligation is now created to reimburse the consignor the amount of the sales proceeds, less any commissions and expenses that are agreed to in the contract for the consignment arrangement. At the time of sale, the consignor can recognize the revenue from the product, and the consignee can recognize the commission revenue.

Assume the following facts: Dali Printmaking Inc. produces fine-art posters. Dali ships 3,000 posters to Magritte Merchandising Ltd. on a consignment basis. The total cost of the posters is $12,000, and Dali pays $550 in shipping costs. Magritte pays $1,200 for advertising costs that will be reimbursed by Dali. During the year, Magritte sells one-half of the posters for $23,000. Magritte informs Dali of this and pays the amount owing. Magritte's commission is 15 percent of the sales price. The accounting for this type of transaction looks like this:

Dali Printmaking Inc. (consignor)

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory on consignment		12,000	
	Finished goods inventory			12,000
	To segregate consignment goods.			
	Inventory on consignment		550	
	Cash			550
	To record freight.			
	Cash		18,350	
	Advertising expense		1,200	
	Commission expense (15% × $23,000)		3,450	
	Consignment revenue			23,000
	To record receipt of net sales.			
	Cost of goods sold		6,275	
	Inventory on consignment			6,275
	To record COGS: [(12,000 + 550) × 50%].			

Magritte Merchandising Ltd. (consignee)

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Account receivable		1,200	
	Cash			1,200
	To record payment of advertising.			
	Cash		23,000	
	Accounts payable			23,000
	To record sales of consigned goods.			
	Accounts payable		23,000	
	Accounts receivable			1,200
	Revenue from consignment sales			3,450
	Cash			18,350
	To record payment to consignor: 15% × $23,000 = $3,450.			

5.3.3 Sales With Right of Return

It is a common practice in the retail sector to allow customers to return products for various reasons, within a certain period of time. When the product is returned, the customer may receive a full refund, a credit to be applied against future purchases, or a replacement product. The accounting issue for the company is whether the full amount of revenue should be recognized at the time of sale, given that a certain number of returns may be expected. The general approach used here is to record revenue only in the amount of consideration expected to be received. In other words, the company needs to make an estimate at the time of sale of the amount of returns expected, and then exclude this amount from reported revenue. This amount should be reported as a refund liability. As well, the company should report an asset equal to the expected amount of product to be returned. The asset would be adjusted against the cost of goods sold in the period of sale. At the end of every accounting period,

the estimates used to arrive at the refund liability and asset should be reviewed and adjusted where necessary. It is expected that most companies should be able to make reasonable estimates of these amounts, using historical, industry, technical, or other data.

Consider the following example. Wyeth Mart sells high quality paintbrushes for use in fine art applications. Each brush costs the company $15 and sells for $25. Wyeth Mart offers a full refund for any unused product that is returned within 30 days of purchase, and the company expects that these returned products can resold for a profit. The company has reviewed historical sales data and estimated that 2% of products sold will be returned for a refund. During the month of May, 1,000 paintbrushes are sold for cash. The journal entries in May would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash (1,000 × $25)		25,000	
	Sales revenue (1,000 × $25 × 98%)			24,500
	Refund liability (1,000 × $25 × 2%)			500
	Cost of goods sold (1,000 × $15 × 98%)		14,700	
	Refund asset (1,000 × $15 × 2%)		300	
	Inventory (1,000 × $15)			15,000

In June, if 20 brushes are returned, the journal entry will be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Refund liability (20 × $25)		500	
	Inventory (20 × $15)		300	
	Cash			500
	Refund asset			300

If the amount returned differs from estimated amount, the refund liability and refund asset will need to be adjusted once the return period expires. This is an ongoing process, as most companies will continue to make new sales during the period. As a practical matter, many companies will only review the balances of the refund liability and refund asset account at the annual reporting date.

5.3.4 Bill-and-Hold Arrangements

There are times when a customer may purchase goods from a company, but not take physical possession of the goods until a later date. Customers may have legitimate reasons for doing this, including a lack of warehouse space, delays in their own productions processes, or the need to secure a supply of a scarce product. When the selling entity is considering whether

to recognize revenue on these types of contracts, it needs to consider if control of the goods has been transferred to the customer. Aside from the normal criteria that are used to evaluate control, an additional three conditions must be satisfied in bill-and-hold transactions:

- The reason for the bill-and-hold transaction must be substantive;
- The product must be identified separately;
- The entity must not have the ability to use or resell the product to another customer.

(CPA Canada Handbook – Accounting, IFRS 15.B81)

Consider the following example. Koenig Ltd. processes rare-earth elements used in certain technological applications. One of these elements forms a critical component of a customer's product. The customer has requested Koenig Ltd. set aside a one-year supply of the element to ensure that its production process is not interrupted. The customer's factory is in close proximity to Koenig's warehouse, and transportation between the two locations is easily facilitated. The customer agrees to pay for the entire one-year supply, as well as a monthly rental fee to cover Koenig's cost of storing the product in its warehouse. The entire payment of $500,000, representing the cost of the element and 12 months of rent, is received on December 29, 2022. Koenig has separately identified and segregated the product in its warehouse, and the contract with the customer specifies that product cannot be sold to another customer. The fair value of the warehouse rental service being provided is $800 per month.

In this case, the revenue from the sale of the product can be recognized on December 29, 2022 because the reason for the bill-and-hold transaction is substantive (the customer requested it), the product has been identified separately, and the contract specifies that the product cannot be resold. Assuming the transaction price has been determined using the fair value of the product and rental service, revenue will be recognized as follows:

$$\text{Revenue related to rental service } (\$800 \times 12) = \$9{,}600$$
$$\text{Revenue related to product } (\$500{,}000 - \$9{,}600) = \$490{,}400$$

Thus, on December 29, 2022, Koenig will recognize revenue of $490,400 and report unearned revenue of $9,600. The $9,600 will be recognized as revenue at the rate of $800 per month over the next year. If the holding period were longer than one year, Koenig would also need to consider the presence of a financing component in the transaction price.

5.3.5 Barter Transactions

When a customer and an entity agree that payment for goods or services can be made using non-cash consideration, the non-cash consideration received should be reported at its fair

value. Assume that an oil-and-gas company wishes to trade a quantity of crude oil for natural gas that is used to power the refinery where the oil is processed. The natural gas will be consumed and will not be held in inventory. As these two products have different uses for the company, this transaction has commercial substance. Assume that the fair value of the natural gas received is $10,000, and the cost of the crude oil traded is $7,000. The journal entry for this transaction would be as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Utility expense		10,000	
	Sales revenue			10,000
	Cost of goods sold		7,000	
	Crude oil inventory			7,000

5.3.6 Long-Term Construction Contracts

Many large construction projects can take several years to complete. With these types of projects, a significant amount of professional judgment is required to determine when to recognize revenue. An obvious approach may be to simply wait until the completion of the project before recognizing revenue. However, this approach would not properly reflect the periodic activities of the business. Although contracts of this nature are usually complex, they do usually establish the right of the contractor to bill for work that is completed throughout the project and result in a transfer of control to the customer. Because the contractor is adding economic value to the product, while at the same time establishing a legal right to collect money for work performed, it is appropriate to recognize revenue on a periodic basis throughout the life of the project. This method of recognizing revenue and related costs is referred to as the **percentage-of-completion method**.

The most difficult part of applying this method is determining the proportion of revenue to recognize at the end of each accounting period. Both *inputs* (labour, materials, etc.) and *outputs* (square footage of a building completed, sections of a bridge, etc.) can be used, but judgment must be applied to determine which approach results in the most accurate measurement of progress on the project. One of the problems with output methods is that the measure may not accurately represent the entity's progress toward satisfying the performance obligation. With input methods, the problem may be that the input measured does not directly correlate to the transfer of control of goods or services to the customer. A common approach that is used by many construction companies is called the **cost-to-cost basis**. This approach uses the dollar value of inputs as the measurement of progress. More precisely, the proportion of costs incurred to date to the current estimate of total project costs is multiplied by the total expected revenue on the project to determine the amount of revenue to recognize. When this method is used, it is assumed that costs incurred do correlate to the transfer of control of goods and services to the customer and that these costs are a reasonable representation of the entity's progress toward satisfying the performance obligation. This approach is illustrated in more detail in the examples below.

Example 1: Profitable Contract

Salty Dog Marine Services Ltd. commenced a $25 million contract on January 1, 2020, to construct an ocean-going freighter. The company expects the project will take three years to complete. The total estimated costs for the project are $20 million. Assume the following data for the completion of this project:

	2020	2021	2022
Costs to date	5,000,000	12,000,000	20,100,000
Estimated costs to complete project	15,000,000	8,050,000	
Progress billings during the year	4,500,000	7,000,000	13,500,000
Cash collected during the year	4,200,000	6,800,000	14,000,000

The amount of revenue and gross profit recognized on this contract would be calculated as follows:

	2020	2021	2022
Costs to date (A)	5,000,000	12,000,000	20,100,000
Estimated costs to complete project	15,000,000	8,050,000	0
Total estimated project costs (B)	20,000,000	20,050,000	20,100,000
Percent complete (C = A ÷ B)	25.00%	59.85%	100.00%
Total contract price (D)	25,000,000	25,000,000	25,000,000
Revenue to date (C × D)	6,250,000	14,962,500	25,000,000
Less previously recognized revenue		(6,250,000)	(14,962,500)
Revenue to recognize in the year	6,250,000	8,712,500	10,037,500
Costs incurred the year	5,000,000	7,000,000	8,100,000
Gross profit for the year	1,250,000	1,712,500	1,937,500

Note that the costs incurred in the year are simply the difference between the current year's costs to date and the previous year's costs to date. The total amount of gross profit recognized over the three-year contract is $4,900,000, which represents the difference between the contract revenue of $25 million and the total project costs of $20.1 million. It is not uncommon for the total project costs to differ from the original estimate. Adjustments to estimated project costs are always captured in the current year only. It is assumed that estimates are based on the best information at the time they are made, so it would be inappropriate to adjust previously recognized profit.

The journal entries to record these transactions in 2020 would look like this:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Construction in progress		5,000,000	
	Materials, payables, cash, etc.			5,000,000
	To record construction costs.			
	Accounts receivable		4,500,000	
	Billings on construction			4,500,000
	To record billings.			
	Cash		4,200,000	
	Accounts receivable			4,200,000
	To record collections.			
	Construction in progress		1,250,000	
	Construction expenses		5,000,000	
	Revenue			6,250,000
	To recognize revenue.			

Construction in progress is a balance sheet account that represents accumulated costs to date on a project plus any recognized profit. **Billings on construction** is also a balance sheet account; it represents total amounts billed to the customer. These two accounts are normally presented on a net basis on the balance sheet, and may sometimes be described as Contract Asset/Liability. If construction in progress exceeds billings on construction, the net balance would be reported as **recognized revenues in excess of billings**. This asset would be reported as either current or noncurrent, depending on the length of the contract. If billings on construction exceeds construction in progress, the net balance would be reported as **billings in excess of recognized revenues**. This liability would also be either current or noncurrent. On the income statement, the company would report the revenues and construction expenses, with the difference being reported as gross profit.

In 2022, once the contract is completed, an additional journal entry is required to close the billings on construction and construction in progress accounts:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Billings on construction		25,000,000	
	Construction in progress			25,000,000
	To record completion.			

 A video is available on the Lyryx site. Click here to watch the video.

 A video is available on the Lyryx site. Click here to watch the video.

 A video is available on the Lyryx site. Click here to watch the video.

Example 2: Unprofitable Contract

Although it would be ideal if contract costs could always be accurately estimated, most often this is not the case. Unexpected difficulties can occur during the construction process, or costs can rise due to uncontrollable economic factors. Whatever the reason, it is quite likely that the actual total costs on the project will differ from the original estimates. If costs rise during an accounting period, this situation is treated as a change in estimate, as it is presumed that the original estimates were based on the best information available at the time. A change in estimate is always applied on a prospective basis, which means the current period is adjusted for the net effect of the change, and future periods will be accounted for using the new information. There is no need to restate the prior periods when there is a change in estimate. If the revised estimate of costs will still result in the contract earning an overall profit, the only effect of increased cost estimates will be to reverse any previously overaccrued profits into the current year. This may result in a loss for the current year, but the project will still report a total profit over its lifespan.

Sometimes, however, cost estimates may increase so much that the total project becomes unprofitable. That is, the total revised project costs may exceed the total revenue on the project. This situation is referred to as an *onerous contract*, which results in a liability. When the unavoidable costs of fulfilling a contract exceed the economic benefits to be derived from the contract, a conservative approach should be applied, and the total amount of the expected loss should be recorded in the current year. In determining the unavoidable costs on the contract, the entity should consider the least costly option available, even if this means cancelling the contract and paying a penalty. This treatment is required because it is important to alert financial-statement readers of the potential total loss, regardless of the stage of completion, so that they are not misled about the realizable value of assets or income. Onerous contracts will be discussed in a later chapter.

To illustrate this situation, consider our Salty Dog example again, with one change. Assume that in 2021, due to a worldwide iron shortage, the expected costs to complete the project rise from $8,050,000 to $18,000,000. However, in 2022, it turns out that the drastic rise in iron prices was only temporary, and the final tally of costs at the end of the project is $26,500,000. The profit on the project would be calculated as follows:

	2020	2021	2022
Costs to date (A)	5,000,000	12,000,000	26,500,000
Estimated costs to complete project	15,000,000	18,000,000	0
Total estimated project costs (B)	20,000,000	30,000,000	26,500,000
Percent complete (C = A ÷ B)	25.00%	40.00%	100.00%
Total contract price (D)	25,000,000	25,000,000	25,000,000
Revenue to date (C × D)	6,250,000	10,000,000	25,000,000
Less previously recognized revenue	0	(6,250,000)	(10,000,000)
Revenue to recognize for the year	6,250,000	3,750,000	15,000,000
Costs incurred for the year	5,000,000	7,000,000	14,500,000
Gross profit (loss) for the year	1,250,000	(3,250,000)	500,000
Additional loss to recognize[1]		(3,000,000)	3,000,000
Gross profit (loss) for the year		(6,250,000)	3,500,000

Notice that the total loss recognized over the life of the project is $1,500,000, which reconciles with the total project revenue of $25,000,000 minus total project costs of $26,500,000.

 A video is available on the Lyryx site. Click here to watch the video.

Other Considerations

There may be cases where input costs include the purchase of a single, significant asset. The entity may be required to install the asset as part of the contract, but may not have anything to do with the construction of the asset itself. In this case, the use input costs may be a misleading way to measure progress toward satisfaction of the performance obligation, as the entity does not contribute to the construction of the asset.

Consider the following example. Rohe Construction Ltd. signs a contract with a customer to install a distillation tower in an oil refinery. Rohe Construction Ltd. purchases the distillation tower from a supplier for $3,000,000 and delivers it to the work site on November 20, 2022. At this time, the customer obtains control of the tower. The company estimates that it will take six months to install the distillation tower, and that the total project costs, excluding the tower, will be $1,200,000. The total value of the contract is $5,000,000.

The company has determined that using total input costs would be a misleading way to represent its progress toward satisfying the performance obligation. Instead, it will recognize revenue from the distillation tower itself using the **zero-margin method**, and revenue from the installation services using the percentage-of-completion method. Assume that by December

[1]Note: The additional loss to recognize in 2021 represents the loss expected at this point on work not yet completed (i.e., 60% × [25,000,000 − 30,000,000]). This additional loss gets reversed in 2022, because there is no further work to complete once the project is finished. By recognizing this additional amount in 2021, the financial statements will show the total expected loss on the project at this point. In 2021, the additional loss will be journalized by adding it to the total of the construction expenses account recognized.

31, 2022, the company has incurred $300,000 of costs, excluding the purchase of the tower. Revenue would be recognized as follows:

	Tower	Installation	Total
Revenue	3,000,000	500,000	3,500,000
Cost of goods sold	3,000,000	300,000	3,300,000
Gross profit	0	200,000	200,000

NOTE: Installation revenue is calculated as $(\$5{,}000{,}000 - \$3{,}000{,}000) \times (\$300{,}000 \div \$1{,}200{,}000)$

Using this approach, the total profit recorded to date of $200,000 represents 25% of the total expected project profit of $800,000 ($5,000,000 − $3,000,000 − $1,200,000). This makes sense, as the company has incurred 25% of the total expected costs, excluding the tower itself. The company doesn't recognize profit from the tower itself, as the tower's delivery does not represent satisfaction of the company's performance obligation to install the tower.

The zero-margin method can also be applied in situations where it is difficult to measure the outcome of a performance obligation. This could occur, for example, in the early stages of a long-term construction contract where significant progress cannot yet be measured. If the entity believes that costs incurred will ultimately be recoverable under the contract, then the zero-margin method can be applied, and the company will recognize revenue equal to the costs incurred. Once the entity determines that progress is now reliably measurable, it can then start applying the percentage-of-completion method.

5.4 Presentation and Disclosure

IFRS 15 requires the presentation of contract assets or liabilities on the balance sheet once performance of the contract occurs. Contract assets or liabilities should be reported separately from receivables under the contract. Receivables are defined as unconditional rights to consideration. The standard allows for alternate terminology in describing the contract asset/liability, as long is it is clearly distinguishable from the receivable.

The standard has fairly extensive quantitative and qualitative disclosure requirements for contracts with customers. These requirements were designed to address a deficiency in previous standards regarding the level of detail disclosed for revenue transactions. The disclosures provide information about the contracts themselves, the judgments applied in accounting for the contracts, and any assets recognized by creating or fulfilling the contract. Some of the key disclosures include:

- Revenue and impairment losses from contracts with customers

- Sufficient disaggregation of revenue categories to depict how the nature, amount, timing, and uncertainty of revenue amounts are affected by economic factors
- A reconciliation of opening and closing contract asset/liability balances, including an explanation of how satisfaction of performance obligations relates to the timing of customer payments
- A detailed description of performance obligations
- Details of transaction prices allocated to unsatisfied performance obligations
- Details of judgments applied in determining the performance obligations and the allocation of transaction prices to those obligations
- Explanations of methods used to determine the timing of satisfaction of performance obligations over time
- Details of methods, inputs, and assumptions used to determine and allocate transaction prices
- Details of assets recognized from costs to obtain or fulfill a contract
- The application of any practical expedient allowed under the standard

5.5 The Earnings Approach

ASPE uses a different approach to revenue recognition. This approach, often referred to as the **earnings approach**, focuses on how an entity adds value during the completion of a business transaction. While IFRS focuses on the balance sheet (contract assets and liabilities), ASPE focuses more on the processes the entity undertakes to earn revenue. In this sense, it can be thought of as income statement approach to revenue.

With the earnings approach, revenue is recognized when four conditions are met:

- The seller has transferred the significant risks and rewards of ownership to the buyer
- The seller maintains no continuing managerial involvement or control over the goods
- Reasonable assurance exists regarding the measurement of consideration to be received and the extent to which goods can be returned
- Collection of the consideration is reasonably assured

(CPA Canada Handbook – Accounting, ASPE 3400.04 and .05)

Although conceptually this approach appears quite different from the IFRS five-step approach, the results will often be the same when applying the two methods to the same circumstances. The transfer of risks and rewards of ownership under ASPE will often coincide with the satisfaction of a performance obligation under IFRS. There are, however, some situations where the results will be different under the two approaches.

One area where IFRS and ASPE differ is in the treatment of long term contracts. ASPE allows for either the percentage-of-completion method or the **completed contract method** to be used. The choice between methods is based on the accountant's professional judgment as to which method better relates the revenue to the work accomplished. The completed contract method would usually be used when a company is unable to make reasonable estimates of progress or performance of the contract consists of a single act. Under the completed contract method, no revenues or expenses are recognized until the contract is completed. This means the income statement will not reveal any information about the company's progress on the contract, as all costs and billings will simply be accumulated in balance sheet accounts. In the year the contract is completed, all revenue and expenses are recognized. Although this method avoids the problem of estimation error, it does not provide useful information in the interim periods before project completion.

5.6 IFRS/ASPE Key Differences

IFRS	ASPE
Revenue is recognized by applying the five-step process. The focus is on performance obligations and contract assets and liabilities.	Revenue is recognized using the earnings approach. The focus is on the transfer of risks and rewards of ownership.
The percentage-of-completion method should be used for long-term contracts, unless progress is not measurable, in which case the zero-margin method should be used.	Either the percentage-of-completion method or the completed-contract method can be used, depending on which more accurately relates the revenues to the work accomplished. The completed contract method should only be used if progress toward completion of the contract cannot be measured or if performance consists of a single act.
Barter transactions are measured at fair value.	Barter transactions are measured at fair value when the transaction has commercial substance. If there is no commercial substance, the asset acquired is measured at the carrying value of the asset given up, adjusted for any cash consideration.
Specific guidance provided on determination of the appropriate discount rate for payments received over time.	Payments received over time are discounted at the prevailing market rate.
Disclosure requirements are more specific and detailed.	Disclosure requirements are less detailed and indicate only that accounting policies and major categories should be disclosed.

Chapter Summary

LO 1: Describe the criteria for recognizing revenue and determine if a company has earned revenue in a business transaction.

Under IFRS, revenue is recognized using a five-step process: 1) identify the contract, 2) identify the performance obligations, 3) determine the transaction price, 4) allocate the transaction price to the performance obligations, and 5) recognize revenue when a performance obligation is satisfied. Performance obligations must relate to distinct goods or services. Performance obligations can be satisfied over time or at a point in time. The amount of revenue to be

recognized from a performance obligation will depend on whether the entity is acting as a principal or an agent. Incremental costs incurred to obtain or fulfill a contract should be capitalized and amortized over the life of the contract. For long-term contracts, a rational method of recognizing revenue will need to be applied, based on some method of measuring progress.

LO 2: Discuss the problem of measurement uncertainty and alternative accounting treatments for these situations.

Measurement uncertainty can occur when the contract includes variable consideration, an implied financing component, non-cash consideration, or a discount on a bundle of goods and services. The accounting treatment will depend on the nature of the measurement problem. Where sales are bundled, the consideration will normally be allocated based on the relative stand-alone selling prices of each component. Variable consideration should be measured at the expected value or most likely amount. Interest, even if not explicitly stated in the contract, should be identified as a separate performance obligation, unless the contract period is less than one year. Non-cash consideration should be reported at its fair value.

LO 3: Prepare journal entries for a number of different types of sales transactions.

For bundled sales, consideration should be allocated proportionally, based on the stand-alone selling price of each component. The residual value approach would only be appropriate if the stand-alone selling price of a component was not determinable. For consignment sales, inventory first needs to be reclassified. Revenue from consignment sales should not be recorded until the consignee actually sells the goods to a third party. Costs of the transaction also need to be recorded. For sales with a right of return, an accrual of the estimated amount of the refund liability needs to be recorded, along with an estimate of the amount of refund assets expected to be received from customers. For bill-and-hold arrangements, revenue should only be recognized if control has been transferred to the customer. Additional criteria will need to be evaluated in making this determination. For non-monetary exchanges, revenue should be recorded based on the fair value of the goods or services received.

LO 4: Apply revenue recognition concepts to the determination of profit from long-term construction contracts.

For a long-term construction contract, profits should be recognized in some rational manner over the life of the project. To do this, reliable estimates of progress are required. Input or output measures may be used. Many construction companies prefer to use the cost-to-cost

method, which measures progress in terms of the dollar value of inputs. If progress cannot be reliably measured, then profits should be reported using the zero-margin method.

LO 5: Prepare journal entries for long-term construction contracts.

Costs are accumulated a construction-in-progress account. When profit is estimated at the end of the year using the percentage-of-completion method, the revenue and related expense will be recorded, with the net profit being added to the construction-in-progress account. Also, journal entries will record billings to customers and collections of those billings. At the end of the construction contract, the construction-in-progress account will be zeroed out against the billings account. The terms “contract asset” and “contract liability” may also be used in place of the construction-in-progress and billings accounts.

LO 6: Apply revenue recognition concepts to unprofitable long-term construction contracts.

When a construction contract is predicted to be unprofitable, resulting in an onerous contract, the entire projected loss on the contract needs to be recognized immediately. Once the project is completed, this amount will be adjusted so that the actual amount of the project loss is reported. This approach results in inconsistent amounts of profit being reported in each year of the project, but the total profit will be correct over the life of the project.

LO 7: Describe presentation and disclosure requirements for revenue-related accounts.

Contract assets and liabilities should be presented separately from contract receivables on the balance sheet. IFRS 15 contains detailed qualitative and quantitative disclosure requirements, including disaggregation of revenue categories, descriptions and reconciliations of performance obligations, and discussions of methods and judgements applied in determining revenue.

LO 8: Discuss the earnings approach to revenue recognition, and compare it to current IFRS requirements.

The earnings approach is used in ASPE and includes four criteria for revenue recognition: 1) the seller has transferred the risks and rewards of ownership to the buyer, 2) the seller

does not maintain any continuing managerial involvement or control over the goods, 3) there is reasonable assurance regarding measurement of the consideration to be received and the amount of goods that may be returned, and 4) collection of consideration is reasonable assured. In many instances, the earnings approach will arrive at similar results as the contract based approach of IFRS 15. In some cases, however, the results may be different. With long-term construction contracts, the earnings approach allows for the completed contract method to be used if there is no reasonable way to estimate progress or performance of the contract consists of a single act.

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Exercises

EXERCISE 5–1

PhreeWire Phones offers a number of plans to its mobile telephone customers. For example, a customer can receive a free phone when signing a 3-year contract for airtime and data that requires a monthly payment of $80. Alternately, the customer could pay $300 for the telephone when signing a 2-year contract requiring monthly payments of $100.

Required: Determine the amount of revenue to be recognized each year under the two different scenarios. Assume that the fair value of the telephone is $500 and the fair value of the airtime and data is $600 per year.

EXERCISE 5–2

Refer to the previous question.

Required: Determine the amount of revenue to be recognized each year under the two

different scenarios. Assume that the fair value of the telephone is indeterminable and the fair value of the airtime and data is as indicated.

EXERCISE 5–3

Art Attack Ltd. ships merchandise on consignment to The Print Haus, a retailer of fine art prints. The cost of the merchandise is $58,000, and Art Attack pays the freight cost of $2,200 to ship the goods to the retailer. At the end of the accounting period, The Print Haus notifies Art Attack Ltd. that 80% of the merchandise has been sold for $79,000. The Print Haus retains a 10% commission as well as $3,400, which represent advertising costs it paid, and remits the balance owing to Art Attack Ltd.

Required: Complete the journal entries required by each company for the above transactions.

EXERCISE 5–4

Eames Fine Furniture sells high quality, roll-top desks. The company allows customers to return products for a full refund within 90 days of purchase. The desks sell for $3,000 and cost the company $2,000 to manufacture. The company expects that any returned desks can be resold for a profit. The company has reviewed historical financial data and determined that 0.5% of all desks sold are returned for a refund. During the month of January, the company sold 800 desks.

Required:

a. Prepare all the required journal entries to record the January sales.

b. Assume one desk was actually returned by the end of January. Prepare the journal entry required to record the return and describe the appropriate accounting treatment of any further returns.

EXERCISE 5–5

Frank Ledger, a non-designated accountant, has agreed to provide twelve months of bookkeeping services to Digital Dreams Inc. (DDI), a computer equipment and accessories retailer. Mr. Ledger will compile the accounting records of DDI every month and provide an unaudited financial statement. Mr. Ledger has agreed not to invoice DDI during the year, and DDI has agreed to provide Mr. Ledger with a free computer system. The computer would normally sell for $3,000. Mr. Ledger has indicated that he would typically charge approximately $250/month for similar bookkeeping services, although the actual amount invoiced per month would depend on the volume of transactions and a number of other factors.

Required: Assume the contract described above is signed on October 1 and Mr. Ledger's fiscal year end is December 31. Prepare all the required journal entries for Mr. Ledger between these two dates.

EXERCISE 5–6

Suarez Ltd. entered into a contract on January 1, 2020, to construct a small soccer stadium for a local team. The total fixed price for the contract is $35 million. The job was completed in December 2021. Details of the project are as follows:

	2020	2021
Costs incurred in the period	$20,000,000	$11,000,000
Estimated costs to complete the project	10,000,000	-
Customer billings in the period	18,000,000	17,000,000
Cash collected in the period	17,000,000	15,000,000

Required:

a. Calculate the amount of gross profit to be recognized each year using the percentage-of-completion method.

b. Prepare all the required journal entries for both years.

EXERCISE 5–7

In 2021, Gerrard Enterprises Inc. was contracted to build an apartment building for $5.2 million. The project was expected to take three years and Gerrard estimated the costs to be $4.3 million. Actual results from the project are as follows:

	2021	2022	2023
Accumulated costs to date	$1,100,000	$3,400,000	$4,500,000
Estimated costs to complete the project	3,200,000	1,000,000	-
Customer billings to date	1,500,000	3,300,000	5,200,000
Cash collected to date	1,000,000	3,000,000	5,200,000

Required:

a. Calculate the amount of gross profit to be recognized each year using the percentage-of-completion method.

b. Show how the details of this contract would be disclosed on the balance sheet and income statement in 2022.

EXERCISE 5–8

On February 1, 2020, Sterling Structures Ltd. signed a $3.5 million contract to construct an office and warehouse for a small wholesale company. The project was originally expected to be completed in two years, but difficulties in hiring a sufficient pool of skilled workers extended the completion date by an extra year. As well, significant increases in the price of steel in the second year resulted in cost overruns on the project. Sterling was able to negotiate a partial recovery of these costs, and the total contract value was adjusted to $3.8 million in the second year. Additional information from the project is as follows:

	2020	2021	2022
Total contract value	$3,500,000	$3,800,000	$3,800,000
Accumulated costs to date	800,000	2,400,000	3,900,000
Estimated costs to complete the project	2,100,000	1,600,000	-
Customer billings to date	1,000,000	2,100,000	3,800,000
Cash collected to date	1,000,000	2,000,000	3,800,000

Required:

a. Calculate the amount of gross profit to be recognized each year using the percentage-of-completion method.

b. Prepare all the required journal entries for 2021.

EXERCISE 5–9

Take the same set of facts as described in the previous question, except assume that there is no reasonable way to estimate progress on the contract.

Required:

a. Using the zero-margin method (IFRS), determine the amount of revenue and expense to report each year.

b. Using the completed-contract method (ASPE), determine the amount of revenue and expense to report each year.

Chapter 6

Cash and Receivables

Cash Overflows for Apple

In 2013, Apple advised their shareholders that it sold 34M iPhones, up 90% from the same quarter last year, and up 150% from the year before. Along with the increased sales came increased profits (almost double) and increased cash in the bank; about US$ 9.9B in cash flow from operations for a total cash holding of about US$ 100B.

Until that point, Apple was reluctant to pay out dividends to its shareholders as most high-tech companies need large amounts of cash to expand their existing markets and for research and development costs to find new markets. In 2013, Tim Cook, CEO of Apple Inc., convinced Apple's board of directors that it was time to start paying out some periodic cash dividends to its investors; US$ 3.05 per share. Dividend payouts, along with some shares repurchases, totalled about US$ 7.8B paid to investors in the third quarter of 2013. Since Apple is a multinational corporation operating globally, some of this cash stockpile was in foreign funds. This strategy avoids paying the 35% US tax on foreign earnings repatriation. In all, about two-thirds of its cash holdings are in foreign currencies. Even though this cash is not available for dividends, this does not seem to bother Apple, since the company seems to have more than enough US cash for dividends payments and other return of capital. Even so, all this currency, especially foreign currency, is creating a new problem.

At this rate of continued growth, many analysts are predicting a continued piling up of foreign and US cash. The issue then becomes; what to do with all this cash, especially the massive two-thirds portion of foreign cash? It has become a conundrum—to manage all this cash, Apple has had to open about two hundred different bank accounts across different banks to monitor and track cash locations and spending, as well as to track and manage liquidity across the organization on a day-to-day basis.

The risk to their gigantic cash pile sitting in bank accounts is that it may be earning simple interest instead of better rates from investing in higher yielding instruments such as money market funds. For a cash-rich company such as Apple, a centralized cash management system is crucial; it will provide information quickly and efficiently so that Apple's money managers can make critical (and timely) investment decisions. Another benefit of a centralized cash repository is reduced risk of fraudulent access to cash, since cash invested in money market funds and similar alternatives is less accessible than cash sitting in a bank account, or many bank accounts as is the case with Apple.

In Apple's case, a centralized cash treasury will add value by reducing the percentage of

idle cash through streamlining bank accounts and by allowing cash managers to focus on ensuring the right levels of cash with the remainder invested in instruments with better returns.

While some may consider too much cash in too many bank accounts to be an enviable position, it is still a risk that could lead to cash opportunities lost or worse, cash leaking away in inappropriate hands if left unexamined.

(Source: Apple Inc., 2013)

Chapter 6 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe cash and receivables, and explain their role in accounting and business.

LO 2: Describe cash and cash equivalents, and explain how they are measured and reported.

- LO 2.1: Explain the purpose and key activities of internal control for cash.

LO 3: Describe receivables, identify the different types of receivables, explain their accounting treatment, and prepare the relevant journal entries.

- LO 3.1: Describe accounts receivable, and explain how they are initially and subsequently measured and reported.
- LO 3.2: Describe notes receivables, and explain how they are initially and subsequently measured and reported.
- LO 3.3: Describe derecognition of receivables and the various strategies businesses use to shorten the credit-to-cash cycle through sales of receivables or borrowings secured by receivables.
- LO 3.4: Describe how receivables are disclosed on the balance sheet and in the notes.

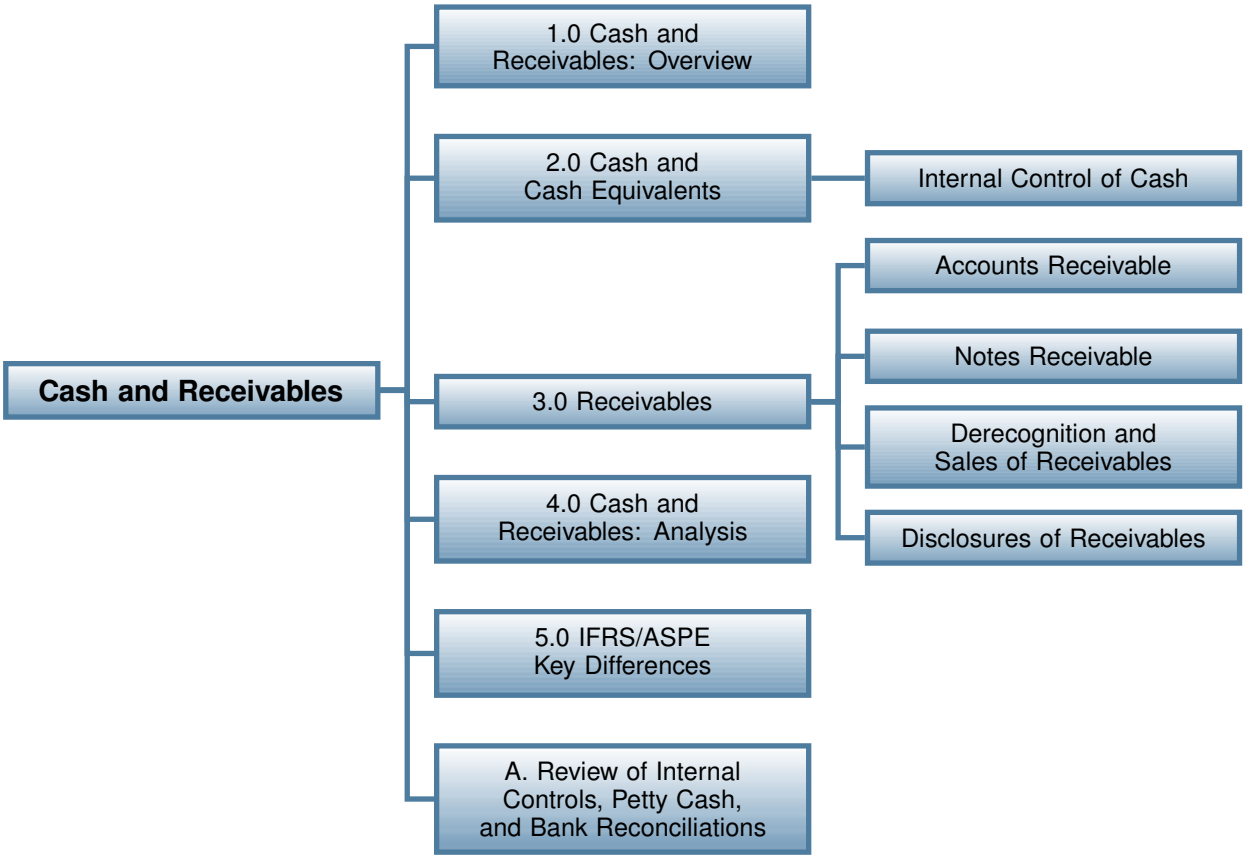
LO 4: Identify the different methods used to analyze cash and receivables.

LO 5: Explain the differences between IFRS and ASPE for recognition, measurement, and reporting for cash and receivables.

Introduction

As the opening story about Apple illustrates, actively managing cash and receivables has important implications for businesses. The time frame required to convert receivables to cash is a cycle that calls for regular monitoring. This chapter addresses how management uses financial reporting to regularly assess both the credit-to-cash cycle and its overall cash position in terms of **liquidity** (the availability of liquid assets to pay short-term obligations as they come due) or **solvency** (the ability to meet all maturing obligations as they come due). This chapter will focus on cash, cash equivalents, accounts receivable, and notes (loans) receivable. Each of these will be discussed in terms of their use in business: their recognition, measurement, reporting, and analysis.

Chapter Organization



6.1 Overview

Cash and receivables are **financial assets**. Specifically, cash, cash equivalents, accounts receivable, and notes receivable are all considered to be financial assets because they are either:

- Cash
- A **contractual right** to receive cash or another financial asset, from another entity (such as accounts and notes receivable).

A financial asset *derives* its value because of a **contractual right**, or **a claim for a** *determinable* **amount**. The physical paper that cash or receivables are printed on has no value by itself. Their real value is based on what they represent. For example, financial assets such as cash include foreign currencies because their value in Canadian dollars is *determinable* by applying the current exchange rate. Receivables result from the sale of goods and services on credit or through lendings, for which the amount has been fixed or known (determinable) at the time of the transaction. In contrast, the cash value is not known in advance for **non-financial assets** such as inventories and fixed assets because their cash value will depend on future market conditions.

Cash and receivables are also **monetary assets** because they represent a claim **to cash** where the amount is **fixed by contract**.

6.2 Cash and Cash Equivalents

Recognition, Measurement, and Disclosure

Cash is the most liquid of the financial assets and is the standard medium of exchange for most business transactions.

Cash is usually classified as a **current asset** and includes *unrestricted*:

- Coins and currency, including petty cash funds
- Bank accounts funds and deposits
- Negotiable instruments such as money orders, certified cheques, cashiers' cheques, personal cheques, bank drafts, and money market funds with chequing privileges.

Cash can be classified as a **long-term asset** if they are designated for specific purposes such as a plant expansion project, or a long-term debt retirement, or as collateral.

Petty cash funds are classified as cash because these funds are used to meet current operating expenses and to pay current liabilities as they come due. Even though petty cash has been set aside for a particular purpose, its balance is not material, so *it is included in the cash balance in the financial statements*.

Excluded from cash are:

- Post-dated cheques from customers and IOUs (informal letters of a promise to pay a debt), which are classified as receivables
- Travel advances granted to employees, which are classified as either receivables or prepaid expenses
- Postage stamps on hand, which are classified as either office supplies (asset) or prepaid expenses (asset)

Restricted Cash and Compensating Balances

Restricted cash and compensating balances are reported separately from regular cash if the amount is material. Any legally restricted cash balances are to be separately disclosed and reported as either a current asset or a long-term asset, depending on the length of time the cash is restricted and whether the restricted cash offsets a current or a long-term liability. In practice, many companies do not segregate restricted cash but disclose the restrictions through note disclosures.

A **compensating balance** is a minimum cash balance in a company's chequing or savings account as support for a loan borrowed from a bank (or other lending institution). By requiring a compensating balance, the bank can use the restricted funds that must remain on deposit to invest elsewhere resulting in a better rate of return to the bank than the stated interest rate (also called a face rate) of the loan itself.

Foreign Currencies

Many companies have bank accounts in other countries, especially if they are doing a lot of business in those countries. A company's foreign currency is reported in Canadian dollars at the exchange rate at the date of the balance sheet.

For example, if a company had cash holdings of US $85,000 during the year at a time when the exchange rate was US $1.00 = Cdn $1.05, at the end of the year when the exchange rate

had changed to US $1.00 = Cdn $1.11, the US cash balance would be reported on the balance sheet in Canadian funds as $94,350 ($85,000 $\times$ $1.11). Since the original transaction would have been recorded at Cdn $1.05, the adjusting entry would be for the difference in exchange rates since that time, or $5,100 ($85,000 $\times$ ($1.11 $-$ $1.05)):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		5,100	
	Gain on foreign exchange			5,100
	(US $85,000 $\times$ ($1.11 $-$ $1.05))			

Usually, this cash is included in current assets. However, if the cash flow out of the country is restricted, the cash is treated in the accounts as restricted and reported separately.

Bank Overdrafts

Bank overdrafts (a negative bank balance) can be netted and reported with cash on the balance sheet if the overdraft is repayable on demand and there are other positive bank balances in the same bank for which the bank has legal right of access to settle the overdraft. Otherwise, bank overdrafts are to be reported separately as a current liability.

Cash Equivalents

Cash equivalents are short-term, highly liquid assets that can readily be converted into known amounts of cash and with little risk of price fluctuations. An example of a short-term cash equivalent asset would be one that matures in three months or less from the acquisition date. They may be considered as “near-cash,” but are not treated as cash because they can include a penalty to convert back to cash before they mature. Examples are treasury bills (T-bills), money market funds, short-term notes receivable, and guaranteed investment certificates (GICs). For companies using ASPE, equities investments are usually not reported as cash equivalents. For IFRS, preferred shares that are *acquired within three months of their specified redemption date* can be included as cash equivalents.

Disclosures of Cash and Cash Equivalents

Cash equivalents can be reported at their fair value, together with cash on the balance sheet. Fair value will be their cost at acquisition plus accrued interest to the date of the balance sheet.

Below is a partial balance sheet from **Orange Inc.** that shows cash and cash equivalents as at December 31, 2020 along with the corresponding notes:

CONSOLIDATED BALANCE SHEETS
(in millions)

	December 31 2020	December 31 2019
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 18,050	$ 12,652
Short-term marketable securities	36,800	27,000

Financial Instruments

Cash Equivalents and Marketable Securities

All highly liquid investments with maturities of three months or less at the date of purchase are classified as cash equivalents and are combined and reported with Cash. Management determines the appropriate classification of its investments at the time of purchase and reevaluates the designations at each balance sheet date. For example, the Company classifies its marketable debt securities as either short term or long term based on each instrument's underlying contractual maturity date. If they have maturities of 12 months or less, they are classified as short term. Marketable debt securities with maturities greater than 12 months are classified as long term. The Company classifies its marketable equity securities, including mutual funds, as either short term or long term based on the nature of each security and its availability for use in current operations. The Company's marketable debt and equity securities are carried at fair value, with the unrealized gains and losses, reported either as net income or, net of taxes, as a component of shareholders' equity (IFRS 9). The cost of securities sold is based on the specific identification model. This will be discussed in more detail in Chapter 8, Investments.

Effective cash management includes strong internal controls and a strategy to invest any excess cash into short-term instruments that will provide a reasonable return in interest income but still be quickly convertible back into cash, if required.

Summary of Cash, Cash Equivalents, and Other Negotiable Instruments	
Asset Classification	**Description and Examples**
Cash (current asset)	Unrestricted: coins, currency, foreign currencies, petty cash, bank funds, money orders, cheques, and bank drafts
Cash equivalent (current asset)	Short-term commercial paper, maturing three months or less at acquisition, such as T-bills, money market funds, short-term notes receivable, GICs
Cash (long-term asset)	Cash funding set aside for plant expansion, or long-term debt retirement, or collateral

Cash (current or long-term asset)	Separate reporting for legally restricted cash and compensating bank balances
Receivables (current or long-term asset)	Post-dated cheques, IOUs, travel advances
Office supplies inventory (current asset)	Postage on hand
Bank indebtedness (current liability)	Bank overdraft accounts not offset by same bank positive balances

6.2.1 Internal Control of Cash

A key part of effective cash management is the internal control of cash. This topic was introduced in the introductory accounting course. Below are some highlights regarding internal control.

The purpose of effective financial controls is to:

- Protect assets
- Ensure reliable recognition, measurement, and reporting
- Promote efficient operations
- Encourage compliance with company policies and practices

The control of cash includes implementing internal controls over:

- The physical custody of cash on hand, including adequate levels of authority required for all cash-based transactions and activities
- The separation of duties regarding cash
- Maintaining adequate cash records, including petty cash and the preparation of regular bank reconciliations.

Controlling the physical custody of cash plays a key role in effective cash management. In the opening story, Apple consolidated its bank accounts to a more manageable number, converted its idle cash into less accessible commercial paper that earned interest, and implemented a robust financial reporting system that would provide reliable and timely information about its cash position.

Refer to 6.6 Appendix A: for a review of internal controls, petty cash, and bank reconciliations taken from an introductory financial accounting textbook.

6.3 Receivables

Receivables are asset accounts applicable to all amounts owing, unsettled transactions, or other monetary obligations owed to a company by its credit customers or debtors. These are contractual rights that have future benefits such as future cash flows to the company. These accounts can be classified as either a current asset, if the company expects them to be realized within one year or as a long-term asset, if longer than one year.

Typical receivable-related categories include:

- **Accounts (trade) receivable**—amounts owed by customers for goods or services sold by a company on credit in the normal course of business. The transaction document is typically called an **invoice**.
- **Notes receivable**—more formal, unconditional written promises to pay a specified amount of money on a specified future date or on demand. The transaction document is usually referred to as a **promissory note**.
- **Non-trade receivable**—arise from any number of other sources such as income tax refunds, GST/HST taxes receivable, amounts due from the sale of assets, insurance claims, advances to employees, amounts due from officers, and dividends receivable. These are generally classified and reported as separate items in the balance sheet or in a note that is cross-referenced to the balance sheet statement.

The illustration below shows a portion of the balance sheet for cash and cash equivalents and various receivables on the financial statements:

Consolidated Balance Sheet
As of December 31, 2020 and 2019
(In millions of dollars except share amounts)

	2020	2019
ASSETS		
Cash and cash equivalents	3,500	4,200
Marketable securities	1,500	1,400
Receivables from affiliates	30	60
Trade accounts and notes receivables (net)	3,800	3,800
Financing receivables (net)	25,500	22,200
Financing receivables, securitized (net)	4,200	3,200
Other receivables	1,000	1,500
Operating leases receivables (net)	3,000	2,500

Receivables Management

It is important to consider carefully how to manage and control accounts receivable balances. If credit policies are too restrictive, potential sales could be lost to competitors. If credit policies are too flexible, more sales to higher risk customers may occur, resulting in more uncollectible accounts. The bottom line is that receivables management is about finding the right level of receivables to maintain when implementing the company's credit policies.

As part of a credit assessment process, companies will initially assess the individual creditworthiness of new customers and grant them a credit limit consistent with the level of assessed **credit risk**. After the initial assessment, a customer's payment history will affect whether their credit limit will change or be revoked.

To lessen the risk of uncollectible accounts and improve cash flows, some companies will adopt a policy that offers:

- Cash discounts to encourage cash sales
- Sales discounts to encourage faster payments of amounts owing on credit
- Late payment interest charges for any overdue accounts

Other management strategies can be implemented to shorten the receivables to cash cycle. In addition to the discounts or late payment fees listed above, small- and medium-sized companies may decide to sell their accounts receivable to financial intermediaries (factors). This will convert the receivables into cash more quickly than if they waited for customers to pay. Larger companies may rely on another way of selling receivables, called **securitization**. This will be discussed later in this chapter.

Receivables management involves developing sound business practices for overall monitoring as well as early detection of potential uncollectible accounts. Key activities include:

- Regular analysis of aged accounts receivable
- Regularly scheduled assessments and follow up on overdue accounts

6.3.1 Accounts Receivable

Recognition and Measurement of Accounts Receivable

Accounts receivable result from credit sales in the normal course of business (called trade receivables) that are expected to be collected within one year. For this reason, they are

classified as current receivables on the balance sheet and initially measured at the time of the credit sale at their net realizable value (NRV). **Net realizable value (NRV)** is the amount expected to be received from the customer. IFRS and ASPE standards both allow NRV to approximate the fair value, since the interest component is immaterial when determining the present value of cash flows for short-term accounts receivable. In subsequent accounting periods, accounts receivable are to be measured at their amortized cost which is the same as cost, since there is no present value interest component to recognize. For long-term notes and loans receivable that have an interest component, the asset's carrying amount is measured at amortized cost which will be described later in this chapter.

The valuation of the account receivable is also affected by:

- Trade and sales discounts
- Sales returns and allowances

Trade Discounts

Manufacturers and wholesalers publish catalogues with inventory and sales prices to assist purchasers with their purchases. Catalogues are expensive to publish, so this is only done from time to time. Sellers often offer **trade discounts** to customers to adjust the sales prices of items listed in the catalogue. This can be an incentive to purchase larger quantities, as a benefit of being a preferred customer or because costs to produce the items for sale have changed.

Since the catalogue, or list, price is not intended to reflect the actual selling price, the seller records the net amount after the trade discount is applied. For example, if a plumbing manufacturer has a catalogue or list price of $1000 for a bathtub and sells it to a plumbing retailer for list price less a 20% trade discount, the sale and corresponding account receivable recorded by the manufacturer is $800 per bathtub.

Sales Discounts

Sales discounts can be part of the credit terms for customers and are offered to encourage faster payment of the account. The credit term *1.5/10, n/30* means there is a 1.5% discount if the invoice is paid within ten days with the total amount owed due in thirty days.

Companies purchasing goods and services that do not take advantage of the sales discounts are usually not using their cash as effectively as they could. For example, a purchaser who fails to take the 1.5% reduction offered for payment within ten days for an account due in thirty days is equivalent to missing a stated annual interest rate return on their cash for 27.38%

(365 days ÷ 20 days × 1.5%). For this reason, companies usually pay within the discount period unless their available cash is insufficient to take advantage of the opportunity.

IFRS 15.53 – the term *variable consideration*, discussed in Chapter 5, Revenue, would also include sales discounts because it is uncertain how many customers will actually take the sales discount. For this reason, IFRS states that an estimate of "highly probable" sales discounts expected to be taken by customers, needs to be determined and included at the time of the sale. Given the high rate of return identified in the preceding paragraph, recording the estimate immediately upon sale is conceptually sound and is consistent with the net method described below. The standard suggests using either the expected value (a weighted average of probabilities), or the "most likely amount" to estimate sales discounts, perhaps based on past history.

To illustrate the net method, assume that Cramer Plumbing sells fifty bathtubs to a reseller for $800 each, for a total sale of $40,000, with credit terms of 1.5/10, n/30. Using the net method, Cramer expects that the sales discount will be taken by the purchaser; therefore, Cramer Plumbing will record the following entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts receivable		39,400	
	Sales revenue			39,400
	($800 × 50 units × 98.5)			

Note the reduction due to the sales discount is immediately recorded upon the sale. This results in the accounts receivable being valued at its net realizable value and based on Cramer's "more likely than not" estimate of sales discounts expected to be taken, which is consistent with IFRS 15.53.

If $10,000 of the account receivable is collected from the reseller within the ten-day discount period (for a cash amount of $9,850), the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		9,850	
	Accounts receivable			9,850
	($10,000 × 1.5%)			

The entry for collection of the remaining amount owing for $30,000 after the discount period is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		30,000	
	Sales discounts forfeited			450
	Accounts receivable			29,550
	For Sales discount forfeited: ($30,000 × 1.5%)			

As can be seen above, the net method records and values the accounts receivable at its lowest, or net realizable value of $39,400, or gross sales for $40,000 less the 1.5% discount.

The gross method is much easier and ASPE can choose either method. For the **gross method**, sales are recorded at the gross amount with no discount taken. If the customer pays within the discount period, the applicable discount taken is recorded to a sales discounts account. Any payments made after the discount period are simply the cash amount collected and no calculation for the sales discounts forfeited is required.

Using the same example, assume that Cramer Plumbing sells fifty bathtubs for $800 each, with credit terms of 1.5/10, n/30. Using the gross method, the entry for the sale is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts receivable		40,000	
	Sales revenue			40,000
	($800 × 50 units)			

The entry on collection of $10,000 within the ten-day discount period is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		9,850	
	Sales discounts		150	
	Accounts receivable			10,000
	For Sales discounts (a contra sales revenue account): ($10,000 × 1.5%)			

The entry on collection of the remaining $30,000 after the discount period is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		30,000	
	Accounts receivable			30,000

Note how the accounts receivable would not be reported at its net realizable value with this method. If discounts are significant, this would overstate accounts receivable and sales in

the financial statements. For this reason, if the gross method is used and it is expected that significant cash discounts are likely to be taken by customers in the fiscal year, an **asset valuation account and an adjusting entry** is required to ensure that accounts receivable, net of the valuation account, will reflect its net realizable value.

At year-end, assume that $6 million of Cramer's accounts receivable all have terms of 1.5/10, n/30, and management expects that 60% of these accounts will be collected within the discount period, which it deems to be significant. The unadjusted balance in the **allowance for sales discounts** account (a contra account to accounts receivable) is $3,000 credit balance. The year-end adjusting entry to update the accounts receivable allowance account with the *estimated* sales discounts would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Sales discounts		51,000	
	Allowance for sales discounts			51,000
	(($6,000,000 × 1.5% × 60%) − $3,000). (Allowance for sales discounts is a contra accounts receivable account)			

Throughout the following year, the allowance account can be directly debited each time customers take the discounts and is adjusted up or down at the end of each reporting period.

 A video is available on the Lyryx site. Click here to watch the video.

Sales Returns and Allowances

Many ASPE companies have policies that allow for the return of goods under certain circumstances and will refund all or a partial amount of the returned item's cost.

Assuming that returns for this company are insignificant, the entry for a $1,000 sales return on account (with a cost $800) returned to inventory, for a company using a perpetual inventory system, would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		800	
	COGS			800
	Sales returns and allowances		1,000	
	Accounts receivable.....			1,000
	(Sales returns and allowances is a contra sales revenue account)			

Sales allowances are reductions in the selling price for goods sold to customers, perhaps due to damaged goods that the customer is willing to keep if the sales price is reduced sufficiently.

For example, if a sales allowance of $2,000 is granted due to damaged goods that the customer chose to keep, the entry, assuming sales allowances for this company are insignificant, would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Sales returns and allowances		2,000	
	Accounts receivable or cash			2,000
	(Sales returns and allowances is a contra sales revenue account)			

As was done with sales discounts, sales returns and allowances should be recognized in the period of the sale to avoid overstating accounts receivable and sales. Sales returns and allowances are therefore estimated and adjusted at the end of each reporting period. If the amount of returns and allowances is not material a year-end adjusting entry is not required and the entries shown above would be sufficient, provided that it is handled consistently from year to year. If returns and allowances are significant, an **allowance for sales returns and allowances** account, which is an asset valuation account contra to accounts receivable, is used to record the estimates.

For example, management estimates the total sales returns and allowances to be $51,500, which it deems to be significant. If the company follows ASPE, and the unadjusted balance in the **allowance for sales returns and allowances** account is $5,000 credit balance, the year-end adjusting entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Sales returns and allowances		46,500	
	Allowance for sales returns and allowances ($51,500 − $5,000) (Sales returns and allowances is a contra sales revenue account and Allowance for sales returns and allowances is a contra accounts receivable account)			46,500

Note how another contra account, the **sales returns and allowances** account, is used to record the debit entry for the previous two journal entries above. Its purpose is to track returns and allowances transactions separately, as opposed to directly recording them as a debit to sales. If amounts in this contra account become too high, it could indicate to management the possibility of future sales lost due to unsatisfied customers.

During the reporting period, the **allowance for sales returns and allowances** asset valuation account can be directly debited each time customers are granted returns or allowances. This

asset valuation account will subsequently be adjusted up or down at the end of each reporting period.

Sales with right of return under IFRS has been discussed in Section 5.3.3, Sales With Right of Return, where a detailed example is presented.

Estimating Allowance for Uncollectible Accounts

When accounts receivables exist, some amounts of uncollectible receivables are inevitable due to **credit risk**. This risk is the likelihood of loss due to customers not paying their amounts owing. If the uncollectible amounts are both likely and can be estimated, an amount for uncollectible accounts must be estimated and recognized in the accounts to ensure that accounts receivable and net income are not overstated over the lifetime of the accounts receivable (IFRS 9; lifetime expected credit losses). The allowance account, called the allowance for doubtful accounts (AFDA), is an asset valuation account (contra account to accounts receivable), which is used the same way as the Allowance for Sales Discounts discussed earlier.

Many companies set their credit policies to allow for a certain percentage of uncollectible accounts. This is to ensure that the credit policy is not too restrictive or liberal, as explained in the opening paragraph of the Receivables Management section of this chapter.

Measuring uncollectible amounts at the end of each reporting period involves estimates that can be calculated using several methods:

- Percentage of accounts receivable method
- Accounts receivable aging method
- Credit sales method
- Mix of methods

The first three methods were covered in the introductory accounting course. Below is a review of these methods. The mix of methods is perhaps a more realistic view of how companies estimate bad debt expense over a reporting period.

For each method above, management estimates a percentage that will represent the likelihood of collectability. The estimated total amount of uncollectible accounts is calculated and usually recorded to the AFDA allowance account, with the offsetting entry to **bad debt** expense. The net amount for accounts receivable and its contra account, the AFDA, reflects the **net realizable value of the accounts receivable at the reporting date**.

Percentage of Accounts Receivable Method

For this method, the accounts receivable closing balance is multiplied by the percentage that management estimates is uncollectible. This method is based on the premise that some portion of *accounts receivable* will be uncollectible, and management uses reasonably available and supportable information (IFRS 9) regarding past experiences, current economic conditions, and expected future conditions as a guide to the percentage used. For this reason, the estimated amount of uncollectible accounts is to be *equal to the adjusted ending balance of the AFDA*. The adjusting entry amount must therefore be the amount required that results in that ending balance of the AFDA.

For example, assume that accounts receivable and the AFDA ending balances were $200,000 debit and $2,500 credit balances respectively at December 31, and the uncollectible accounts is estimated to be 4% of accounts receivable. This means that the AFDA adjusted ending *balance* is estimated to be the amount equal to 4% of $200,000, or $8,000. The adjusting entry to achieve the correct AFDA adjusted ending balance of $8,000 would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		5,500	
	Allowance for doubtful accounts			5,500
	(($200,000 × 4%) − $2,500)			

The AFDA ending balance after the adjusting entry would correctly be $8,000 ($2,500 unadjusted balance + $5,500 adjusting entry).

Sometimes the AFDA ending balance can be in a temporary debit balance due to a write-off of an uncollectible account during the period. If this is the case, care must be taken to make the correct calculations for the adjusting entry. For the example above, if the unadjusted AFDA balance was a $300 debit balance, then the adjusting entry for uncollectible accounts would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		8,300	
	Allowance for doubtful accounts			8,300
	(($200,000 × 4%) + 300)			

The AFDA ending balance after the adjusting entry would correctly be $8,000 ($300 debit + $8,300 credit).

Notice that the AFDA ending balance of $8,000 is the same for both examples when applying the percentage of accounts receivable method. This is because the calculation is intended to be an estimate of the AFDA *ending balance*, so the adjustment amount is whatever is required to result in that ending balance.

Accounts Receivable Aging Method

Typically, the older the uncollected account, the more likely it is to be uncollectible. Following this premise, the accounts receivable are grouped into categories based on the length of time they have been outstanding.

Just as was done for the percentage of accounts receivable method above, companies will use past experience to estimate the percentage of their outstanding receivables that will become uncollectible for each aged group, such as the four aging groups identified in the schedule below. The sum of all the estimated uncollectible amounts by group represents the total estimated uncollectible accounts. Just like the percentage of accounts receivable method previously discussed, the estimated amount of uncollectible accounts using this method is to be equal to the *ending balance of the AFDA account*. The adjusting entry amount must therefore be whatever amount is required to result in this ending balance.

Aging schedules are also a good indicator of which accounts may need additional attention by management, due to their higher credit risk group, such as the length of time the account has been outstanding or overdue.

Below is an example of an accounts receivable aging schedule:

Taylor and Company
Aging Schedule
As at December 31, 2020

Customer	Balance Dec 31, 2020	Under 60 days	61–90 days	91–120 days	Over 120 days
Abigail Holdings	$3,500	$1,500	$2,000		
Beaver Industries Inc.	45,000	25,000	8,500	$6,500	$5,000
Cambridge Instruments Co.	18,000				18,000
Dereck Station Ltd.	25,000	25,000			
Falling Gate Repair	6,840		6,840		
Gladstone Walkways Corp.	26,000	26,000			
⋮		⋮	⋮		⋮
Tremsol Cladding Inc.	15,000	10,000	4,000	1,000	
Warbling Water Pond Installations	6,480	1,480			5,000
	$186,480	$124,050	$22,300	$22,130	$18,000
Percent estimated uncollectible		5%	10%	15%	35%
Total Allowance for uncollectible accounts ending balance	$18,053	$6,203	$2,230	$3,320	$6,300

The analysis above indicates that Taylor and Company expects to receive $186,480 less $18,053, or $168,427 net cash receipts from the December 31 amounts owed. The $168,427 represents the company's estimated **net realizable value** of its accounts receivable and this amount would be reported as the net accounts receivable in the balance sheet as at December 31.

Assuming the data above for Taylor and Company and an unadjusted AFDA credit balance as

at December 31 of $2,500, the adjusting entry for uncollectible accounts would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		15,553	
	Allowance for doubtful accounts			15,553
	($18,053 − $2,500)			

As was illustrated for the percentage of accounts receivable method above, the calculation of the adjusting entry amount must consider whether the unadjusted AFDA balance is a **debit** or **credit amount**.

Credit Sales Method

This is the easiest method to apply. The amount of credit sales (or total sales, if credit sales are not determinable) is multiplied by the percentage that management estimates is uncollectible. Factors to consider when determining the percentage amount to use will be trends resulting from amounts of uncollectible accounts in proportion to credit sales experienced in the past. The resulting amount is credited to the AFDA account and debited to bad debt expense.

Note that for this method, the previous balance in the AFDA account is *not* taken into consideration. This is because the credit sales method is intended to calculate the bad debt expense that will be reported in the income statement. This is a fast and simple way to estimate bad debt expense because the amount of sales (or preferably credit sales) is known and readily available. This method also illustrates proper matching of expenses with revenues earned over that reporting period.

For example, if credit sales were $325,000 at the end of the period and the uncollectible accounts was estimated to be 3% of credit sales, the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		9,750	
	Allowance for doubtful accounts			9,750
	($325,000 × 3%) (Allowance for doubtful accounts is a contra accounts receivable account)			

Mix of Methods

Often companies will use the percentage of credit sales method to adjust the net accounts receivables for interim (monthly) financial reporting purposes because it is easy to apply. At the end of the year, either the percentage of accounts receivable or aging accounts receivable method is used for purposes of preparing the year-end financial statements so that the AFDA account is adjusted accordingly, and reported on the balance sheet.

Below is a partial balance sheet for Taylor and Company using the data from the Accounts Receivable Aging Method section above:

Taylor and Company
Balance Sheet
December 31, 2020

Current assets:	
Accounts receivable	$186,480
Less: Allowance for doubtful accounts	18,053
	$168,427

To summarize, the $186,480 represents the total amount of trade accounts receivables owing from all the credit customers at the reporting date of December 31, 2020. The $18,053 represents the estimated amount of uncollectible accounts calculated using the allowance method, the percentage of sales method, or a mix of methods. The $168,427 represents the net realizable value (NRV) of the receivable at the reporting date.

 A video is available on the Lyryx site. Click here to watch the video.

Write-offs and Collections

Write-off of an Actual Uncollectible Account

Management may deem that a customer's account is uncollectible and may wish to remove the account balance from accounts receivable with the offsetting entry to the allowance for doubtful accounts. For example, using the data for Taylor and Company shown under the accounts receivable aging method, assume that management wishes to remove the account for Cambridge Instruments Co. of $18,000 because it remains unpaid despite efforts to collect the account. The entry to remove the account from the accounting records is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Allowance for doubtful accounts		18,000	
	Accounts receivable			18,000

Because the AFDA is a contra account to accounts receivable, and both have been reduced by identical amounts, there is no effect on the net accounts receivable (NRV) on the balance sheet. This treatment and entry makes sense because the estimate for uncollectible accounts adjusting entry (with a debit to bad debt expense) had already been done using one of the allowance methods discussed earlier. The purpose of the write-off entry is to simply remove the account from the accounting records.

Collection of a Previously Written-off Account

Even though management at Taylor and Company thinks that the collection of the $18,000 account has become unlikely, this does not mean that the company will make no further efforts to collect the amount outstanding from the purchaser. During the tough economic times in 2009 and onward, many companies were in such financial distress that they were simply unable to pay their amounts owing. Many of their accounts had to be written-off by suppliers during that time as companies struggled to survive the crisis. Some of these companies recovered through good management, and cash flows returned. It is important for these companies to rebuild their relationships with suppliers they had previously not paid. So, it is not uncommon for these companies, after recovery, to make efforts to pay bills that the supplier had previously written-off.

As a result, a supplier may be fortunate enough to receive some or all of a previously written-off account from a customer. When this happens, a two-step process accounts for the payment:

1. Reinstate the account receivable amount being paid by reversing the previous write-off entry for an amount equal to the payment now received.
2. Record the cash received as a collection of the accounts receivable amount reinstated in the first entry.

If Cambridge Instruments Co. pays $5,000 cash and indicates that this is all that the company can pay of the original $18,000, the entry would be:

Step 1: Reinstate the account receivable upon receipt of cash (reversing a portion of the write-off entry):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts receivable		5,000	
	Allowance for doubtful accounts			5,000

Step 2: Record the receipt of cash on account from Cambridge Instruments:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		5,000	
	Accounts receivable			5,000

Summary of Transactions and Adjusting Entries

An understanding of the relationships between the accounts receivable and the AFDA accounts and the types of transactions that affect them are important for sound accounts analysis. Below is an overview of some of the types of transactions that affect these accounts:

Transaction or Adjusting Entry:		Accounts Receivable			Allowance for Doubtful Accounts	
		Debit	Credit		Debit	Credit
Opening balance, assuming accounts have normal balances	1)	$$		1)		$$
Sale on account	2)	$$		2)		
Cash receipts	3)		$$	3)		
Customer account written-off	4)		$$	4)	$$	
Reinstatement of account previously written-off	5)	$$		5)		$$
Subtotal						
End of period adjustment for uncollectible accounts (debit to bad debt expense)	6)			6)		$$
Closing balance, end of period		$$				$$

Direct Write-off of Uncollectible Accounts

Some smaller companies may only have a few credit sales transactions and small accounts receivable balances. These companies usually use the simpler direct write-off method because the amount of uncollectible accounts is deemed to be immaterial. This means that when a specific customer account is determined to be uncollectible, the account receivable for that customer account is written-off with the debit entry recorded to bad debt expense as shown in the following entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		$$	
	Accounts receivable, S. Smith			$$

If the uncollectible account written-off is subsequently collected at some later date, the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		$$	
	Bad debt expense or uncollectible amount recovered, S. Smith (Income statement)			$$

If the uncollectible amounts were material, it would not be appropriate to use the direct write-off method, for many reasons:

- Without an estimate for uncollectible accounts, net account receivables would be reported at an amount higher than their net realizable value.
- The write-off of the uncollectible account will likely occur in a different year than the sale, which will create over- and under-statements of net income over the affected years resulting in non-compliance of the matching principle.
- Direct write-off creates an opportunity to manipulate asset amounts and net income. For example, management might delay a direct write-off to keep net income high artificially if this will favourably affect a bonus payment.

This section of the chapter is intended to be a summary overview of the methods and entries used to estimate and write-off uncollectible accounts originally covered in detail in the introductory accounting course. Students may wish to review those learning concepts from that course.

6.3.2 Notes Receivable

Recognition and Measurement of Notes Receivable

A note receivable is an unconditional written promise to pay a specific sum of money on demand or on a defined future date and is supported by a formal written promissory note. For this reason, notes are **negotiable instruments** the same as cheques and bank drafts.

Notes receivable can arise due to loans, advances to employees, or from higher-risk customers who need to extend the payment period of an outstanding account receivable. Notes can also be used for sales of property, plant, and equipment or for exchanges of long-term assets. Notes arising from loans usually identify collateral security in the form of assets of the borrower that the lender can seize if the note is not paid at the maturity date.

Notes may be referred to as interest-bearing or non-interest-bearing:

- Interest-bearing notes have a stated rate of interest that is payable in addition to the face value of the note.
- Notes with stated rates below the market rates or zero- or non-interest-bearing notes may or may not have a stated rate of interest. This is usually done to encourage sales. However, there is always an *interest component* embedded in the note, and that amount will be equal to the difference between the amount that was borrowed and the amount that will be repaid.

Notes may also be classified as short-term (current) assets or long-term assets on the balance sheet:

- Current assets: short-term notes that become due within the next twelve months (or within the business's operating cycle if greater than twelve months);
- Long-term assets: notes are notes with due dates greater than one year.

Cash payments can be interest-only with the principal portion payable at the end or a mix of interest and principal throughout the term of the note.

Notes receivable are initially recognized at the fair value on the date that the note is legally executed (usually upon signing). Subsequent valuation is measured at amortized cost.

Transaction Costs

It is common for notes to incur transactions costs, especially if the note receivable is acquired using a broker, who will charge a commission for their services. For a company using either ASPE or IFRS, the transaction costs associated with financial assets such as notes receivable that are carried at amortized cost are to be *capitalized* which means that the costs are to be added to the asset's fair value of the note at acquisition and subsequently included with any discount or premium and amortized over the term of the note.

Short-Term Notes Receivable

When notes receivable have terms of less than one year, accounting for short-term notes is relatively straight forward as discussed below.

Calculating the Maturity Date

Knowing the correct maturity date will have an impact on when to record the entry for the note and how to calculate the correct interest amount throughout the note's life. For example, to calculate the maturity date of a ninety-day note dated March 14, 2020:

Total days in March	31
Minus date of note	14
Days in March	17
Days in April	30
Days in May	31
Days in June to equal 90 days	12
Period of note	90

Maturity date is June 12, 2020

For example, assume that on March 14, 2020, Ripple Stream Co. accepted a ninety-day, 8% note of $5,000 in exchange for extending the payment period of an outstanding account receivable of the same value. Ripple's entry to record the acceptance of the note that will replace the accounts receivable is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Mar 14	Notes receivable		5,000	
	Accounts receivable			5,000

The entry for payment of the note ninety days at maturity on June 12 would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 12	Cash		5,098.63	
	Notes receivable			5,000.00
	Interest income			98.63
	For Interest income: ($5,000 × .08 × 90 ÷ 365)			

In the example above, if financial statements are prepared during the time that the note receivable is outstanding, interest will be accrued to the reporting date of the balance sheet. For example, if Ripple's year-end were April 30, the entry to accrue interest from March 14 to April 30 would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Apr 30	Interest receivable		51.51	
	Interest income			51.51
	($5,000 × .08 × 47 ÷ 365) (Mar 31 − 14 = 17 days + Apr = 30 days)			

When the cash payment occurs at maturity on June 12, the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 12	Cash		5,098.63	
	Interest receivable			51.51
	Notes receivable			5,000.00
	Interest income			47.12
	For Interest income: (($5,000 × .08 × 90 ÷ 365) − $51.51)			

The interest calculation will differ slightly had the note been stated in months instead of days. For example, assume that on January 1, Ripple Stream accepted a **three-month (instead of a ninety-day)**, 8%, note in exchange for the outstanding accounts receivable. If Ripple's year-end was March 31, the interest accrual would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Mar 31	Interest receivable		100.00	
	Interest income			100.00
	($5,000 × .08 × 3 ÷ 12)			

Note the difference in the interest calculation between the ninety-day and the three-month notes recorded above. The interest amounts differ slightly between the two calculations because the ninety-day note uses a 90/365 ratio (or 24.6575% for a total amount of $98.63) while the three-month note uses a 3/12 ratio (or 25% for a total of $100.00).

Receivables, Interest, and the Time Value of Money

All financial assets are to be measured initially at their fair value which is calculated as the **present value** amount of future cash receipts. But what is present value? It is a **discounted cash flow** concept, which is explained next.

It is common knowledge that money deposited in a savings account will earn interest, or money borrowed from a bank will accrue interest payable to the bank. The present value of a note receivable is therefore the amount that you would need to deposit *today*, at a given rate of interest, which will result in a specified future amount at maturity. The cash flow is discounted to a lesser sum that eliminates the interest component—hence the term *discounted* cash flow.

The future amount can be a single payment at the date of maturity or a series of payments over future time periods or some combination of both. Put into context for receivables, if a company must wait until a future date to receive the payment for its receivable, the receivable's face value at maturity will not be an exact measure of its fair value on the date the note is legally executed because of the embedded interest component.

For example, assume that a company makes a sale on account for $5,000 and receives a $5,000, six-month note receivable in exchange. The face value of the note is therefore $5,000. If the market rate of interest is 9%, or its value without the interest component, is $4,780.79 and not $5,000. The $4,780.79 is the amount that if deposited today at an interest rate of 9% would equal $5,000 at the end of six months. Using an equation, the note can be expressed as:

(0 PMT, .75% I/Y, 6 N, 5000 FV)

Where I/Y is interest of .75% each month (9%/12 months) for six months.

N is for interest compounded each month for six months.

FV is the payment at the end of six months' time (future value) of $5,000.

To summarize, the discounted amount of $4,780.79 is the fair value of the $5,000 note at the time of the sale, and the additional amount received after the sale of $219.21 ($5,000.00 − $4,780.79) is interest income earned over the term of the note (six months). However, for any receivables due in less than one year, this interest income component is usually insignificant. For this reason, both IFRS and ASPE allow **net realizable value** (the net amount expected to be received in cash) to approximate the fair value for short-term notes receivables that mature within one year. So, in the example above, the $5,000 face value of the six-month note will be equivalent to the fair value and will be the amount reported, net of any estimated uncollectability (i.e. net realizable value), on the balance sheet until payment is received. However, for notes with maturity dates greater than one year, fair values are to be determined at their discounted cash flow or present value, which will be discussed next.

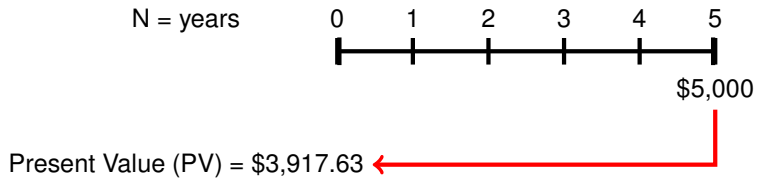
Long-Term Notes Receivable

The difference between a short-term note and a long-term note is the length of time to maturity. As the length of time to maturity of the note increases, the interest component becomes increasingly more significant. As a result, any notes receivable that are greater than one year to maturity are classified as long-term notes and require the use of **present values** to estimate their fair value at the time of issuance. After issuance, long-term notes receivable are measured at **amortized cost**. Determining present values requires an analysis of cash flows using interest rates and time lines, as illustrated next.

Present Values and Time Lines

The following timelines will illustrate how present value using discounted cash flows works. Below are three different scenarios:

1. Assume that on January 1, Maxwell lends some money in exchange for a $5,000, five-year note, payable as a lump-sum at the end of five years. The market rate of interest is 5%. Maxwell's year-end is December 31. The first step is to identify the amount(s) and timing of all the cash flows as illustrated below on the timeline. The amount of money that Maxwell would be willing to lend the borrower using the present value calculation of the cash flows would be $3,917.63 as follows:

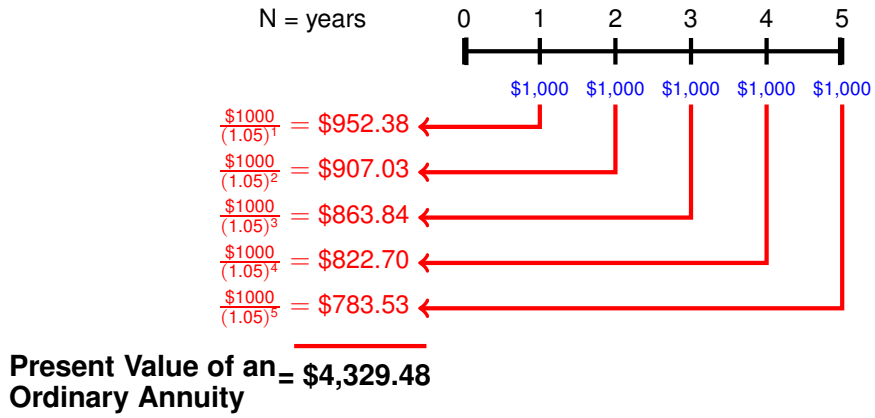


PV = (0 PMT, 5 I/Y, 5 N, 5000 FV)
where I/Y is interest
N is # of periods
FV is future value

In this case, Maxwell will be willing to lend $3,917.63 today in exchange for a payment of $5,000 at the end of five years at an interest rate of 5% per annum. The entry for the note receivable at the date of issuance would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		3,917.63	
	Cash			3,917.63

2. Now assume that on January 1, Maxwell lends an amount of money in exchange for a $5,000, five-year note. The market rate of interest is 5%. The repayment of the note is payments of $1,000 **at the end of each year** for the next five years (present value of an **ordinary annuity**). The amount of money that Maxwell would be willing to lend the borrower using the present value calculation of the cash flows would be $4,329.48 as follows:



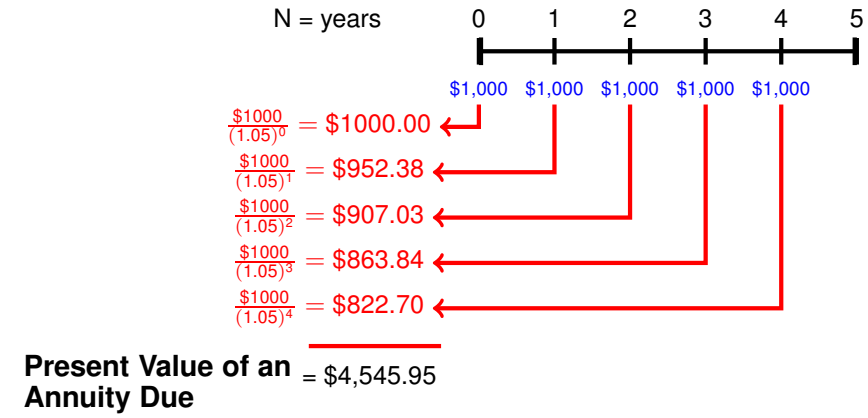
PV = (1000 PMT, 5 I/Y, 5 N, 0 FV)
where PMT is the payment amount
I/Y is the interest
N is the # of periods
FV is the single payment at maturity.

The entry for the note receivable would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		4,329.48	
	Cash			4,329.48

Note that Maxwell is willing to lend more money ($4,329.48 compared to $3,917.63) to the borrower in this example. Another way of looking at it is that the interest component embedded in the note is less for this example. This makes sense because the principal amount of the note is being reduced over its five-year life because of the yearly payments of $1,000.

3. How would the amount of the loan and the entries above differ if Maxwell received five equal payments of $1,000 **at the beginning of each year** (present value of an **annuity due**) instead of at the end of each year as shown in scenario 2 above? The amount of money that Maxwell would be willing to lend using the present value calculation of the cash flows would be $4,545.95 as follows:



PV = (1000 P/AD, 5 I/Y, 5 N, 0 FV)
where P/AD is the payment at the beginning of the period
I/Y is interest
N is # of periods
FV is a single payment at maturity.

The entry for the note receivable would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		4,545.95	
	Cash			4,545.95

Again, the interest component will be less because a payment is paid immediately upon execution of the note, which causes the principal amount to be reduced sooner than a payment made at the end of each year.

Below is a comparison of the three scenarios:

	Scenario 1 Single payment at maturity	Scenario 2 Five payments of $1,000 at the end of each month	Scenario 3 Five payments of $1,000 at the beginning of each month
Face value of the note	$5,000	$5,000	$5,000
Less: present value of the note	3,918	4,329	4,546
Interest component	$1,082	$671	$454

Note that the interest component decreases for each of the scenarios even though the total cash repaid is $5,000 in each case. This is due to the *timing* of the cash flows as discussed earlier. In scenario 1, the principal is not reduced until maturity and interest would accrue over the full five years of the note. For scenario 2, the principal is being reduced on an annual

basis, but the payment is not made until the end of each year. For scenario 3, there is an immediate reduction of principal due to the first payment of $1,000 upon issuance of the note. The remaining four payments are made at the beginning instead of at the end of each year. This results in a reduction in the principal amount owing upon which the interest is calculated.

This is the same concept as a mortgage owing for a house, where it is commonly stated by financial advisors that a mortgage payment split and paid every half-month instead of a single payment once per month will result in a significant reduction in interest costs over the term of the mortgage. The bottom line is: If there is less principal amount owing at any time over the life of a note, there will be less interest charged.

Present Values with Unknown Variables

As is the case with any algebraic equation, if all variables except one are known, the final unknown variable can be determined. For present value calculations, if any four of the five variables in the following equation

PV = (PMT, I/Y, N, FV)

are known, the fifth "unknown" variable amount can be determined using a business calculator or an Excel net present value function. For example, if the interest rate (I/Y) is not known, it can be derived if all the other variables in the equation are known. This will be illustrated when non-interest-bearing long-term notes receivable are discussed later in this chapter.

Present Values when Stated Interest Rates are Different than Effective (Market) Interest Rates

Differences between the stated interest rate (or face rate) and the effective (or market) rate at the time a note is issued can have accounting consequences as follows:

- If the stated interest rate of the note (which is the interest rate that the note pays) is 10% at a time when the effective interest rate (also called the market rate, or yield) is 10% for notes with similar characteristics and risk, the note is initially recognized as:

  face value = fair value = present value of the note

  This makes intuitive sense since the stated rate of 10% is equal to the market rate of 10%.

- If the stated interest rate is 10% and the market rate is 11%, the stated rate is **lower** than the market rate and the note is trading at a **discount**.

  If stated rate **lower than market** ⟶ Present value **lower** ⟶ Difference is a **discount**

- If the stated interest rate is 10% and the market rate is 9%, the stated rate is **higher** than the market rate and the note is trading at a **premium**.

If stated rate **higher than market** ⟶ Present value **higher** ⟶ Difference is a **premium**

The premium or discount amount is to be amortized over the term of the note. Below are the acceptable methods to amortize discounts or premiums:

- If a company follows IFRS, the **effective interest method** of amortization is required (discussed in the next section).
- If a company follows ASPE, the amortization method is not specified, so either straight-line amortization or the effective interest method is appropriate as an accounting policy choice.

Long-Term Notes, Subsequent Measurement

Under IFRS and ASPE, long-term notes receivable that are held for their cash flows of principal and interest are subsequently accounted for at amortized cost, which is calculated as:

- Amount recognized when initially acquired (present value) including any transaction costs such as commissions or fees
- Plus interest and minus any principal collections/receipts. Payments can also be blended interest and principal.
- Plus amortization of discount or minus amortization of premium
- Minus write-downs for impairment, if applicable

Below are some examples with journal entries involving various stated rates compared to market rates.

1. Notes Issued at Face Value

Assume that on January 1, Carpe Diem Ltd. lends $10,000 to Fascination Co. in exchange for a $10,000, three-year note bearing interest at 10% payable annually at the end of each year (ordinary annuity). The market rate of interest for a note of similar risk is also 10%. The note's present value is calculated as:

Face value of the note	$ 10,000
Present value of the note principal and interest:	
Interest = $10,000 × 10% = $1,000 PMT	
PV = (1000 PMT, 10 I/Y, 3 N, 10000 FV)	10,000
Difference	$ 0

In this case, the note's face value and present value (fair value) are the same ($10,000) because the effective (market) and stated interest rates are the same. Carpe Diem's entry on the date of issuance is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		10,000	
	Cash			10,000

If Carpe Diem's year-end was December 31, the interest income recognized each year would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Cash		1,000	
	Interest income			1,000
	(10,000 × 10%)			

2. Stated Rate Lower than Market Rate: A Discount

Assume that Anchor Ltd. makes a loan to Sizzle Corp. in exchange for a $10,000, three-year note bearing interest at 10% payable annually. The market rate of interest for a note of similar risk is 12%. Recall that the stated rate of 10% determines the amount of the cash received for interest; however, the present value uses the **effective (market) rate** to discount all cash flows to determine the amount to record as the note's value at the time of issuance. The note's present value is calculated as:

Face value of the note	$ 10,000
Present value of the note principal and interest:	
Interest = $10,000 × 10% = $1,000 PMT	
PV = (1000 PMT, 12 I/Y, 3 N, 10000 FV)	9,520
Difference	$ 480

As shown above, the note's market rate (12%) is higher than the stated rate (10%), so the note is issued at a discount.

Anchor's entry to record the issuance of the note receivable:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		9,520	
	Cash			9,520

Even though the face value of the note is $10,000, the amount of money lent to Sizzle would only be $9,520, which is net of the discount amount and is the difference between the stated and market interest rates discussed earlier. In return, Anchor will receive an annual cash payment of $1,000 for three years plus a lump sum payment of $10,000 at the end of the third year, when the note matures. The total cash payments received will be $13,000 over the term of the note, and the interest component of the note would be:

Cash received	$13,000	
Present value (fair value)	9,520	
Interest income component	3,480	(over the three-year life)

As mentioned earlier, if Anchor used IFRS the $480 discount amount would be amortized using the effective interest method. If Anchor used ASPE, there would be a choice between the effective interest method and the straight-line method.

Below is a schedule that calculates the cash received, interest income, discount amortization, and the carrying amount (book value) of the note at the end of each year using the effective interest method:

$10,000 Note Receivable Payment and Amortization Schedule
Effective Interest Method
Stated rate of 10% and market rate of 12%

	Cash Received	Interest Income @12%	Amortized Discount	Carrying Amount
Date of issue				$9,520
End of year 1	$1,000	$1,142*	$142	9,662
End of year 2	1,000	1,159	159	9,821
End of year 3	1,000	1,179	179	10,000
End of year 3 final payment	10,000	-	-	0
	$13,000	$3,480	$480	

* $9,520 $\times$ 12% $=$ $1,142

The total discount $480 amortized in the schedule is equal to the difference between the face value of the note of $10,000 and the present value of the note principal and interest of $9,250. The amortized discount is **added** to the note's carrying value each year, thereby increasing its carrying amount until it reaches its maturity value of $10,000. As a result, the carrying amount at the end of each period is always equal to the present value of the note's remaining cash flows discounted at the 12% market rate. This is consistent with the accounting standards for the subsequent measurement of long-term notes receivable at *amortized* **cost**.

If Anchor's year-end was the same date as the note's interest collected, at the end of year 1 using the schedule above, Anchor's entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 1	Cash		1,000	
	Note receivable (discount amortized amount)		142	
	Interest income			1,142
	For Interest income: (9,520 × 12%)			

Alternatively, if Anchor used ASPE the straight-line method of amortizing the discount is simple to apply. The total discount of $480 is amortized over the three-year term of the note in equal amounts. The annual amortization of the discount is $160 ($480 ÷ 3 years) for each of the three years as shown in the following entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 1	Cash		1,000	
	Note receivable (discount amortized amount)		160	
	Interest income			1,160

Comparing the three years' entries for both the effective interest and straight-line methods shows the following pattern for the discount amortization of the note receivable:

	Effective Interest	Straight-Line
End of year 1	$142	$160
End of year 2	159	160
End of year 3	179	160
	$480	$480

The amortization of the discount using the effective interest method results in increasing amounts of interest income that will be recorded in the adjusting entry (decreasing amounts of interest income for amortizing a premium) compared to the equal amounts of interest income using the straight-line method. The straight-line method is easier to apply but its shortcoming is that the interest rate (yield) for the note is not held constant at the 12% market rate as is the case when the effective interest method is used. This is because the amortization of the discount is in equal amounts and does not take into consideration what the carrying amount of the note was at any given period of time. At the end of year 3, the notes receivable balance is $10,000 for both methods, so the same entry is recorded for the receipt of the cash.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 3	Cash		10,000	
	Note receivable			10,000

3. Stated Rate More than Market Rate: A Premium

Had the note's stated rate of 10% been greater than a market rate of 9%, the present value would be greater than the face value of the note due to the premium. The same types of calculations and entries as shown in the previous illustration regarding a discount would be used. Note that the premium amortized each year would **decrease** the carrying amount of the note at the end of each year until it reaches its face value amount of $10,000.

$10,000 Note Receivable Payment and Amortization Schedule
Effective Interest Method
Stated rate of 10% and market rate of 9%

	Cash Received	Interest Income @9%	Amortized Premium	Carrying Amount
Date of issue				$10,253
End of year 1	$1,000	$923*	$77	10,176
End of year 2	1,000	916	84	10,091
End of year 3	1,000	908	92	10,000
End of year 3 final payment	10,000	-	-	0
	$13,000	$2,747	$253	

* $\$10{,}253 \times 9\% = \$923$

Anchor's entry on the note's issuance date is for the present value amount (fair value):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		10,253	
	Cash			10,253

If the company's year-end was the same date as the note's interest collected, at the end of year 1 using the schedule above, the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 1	Cash		1,000	
	Note receivable (premium amortized amount)			77
	Interest income			923
	For Interest income: (10,253 × 9%)			

The entry when paid at maturity would be:

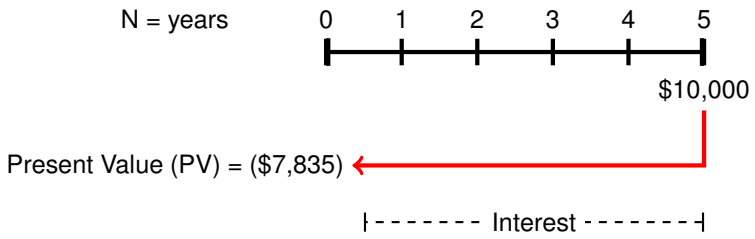
General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 3	Cash		10,000	
	Note receivable			10,000

A video is available on the Lyryx site. Click here to watch the video.

4. Zero-Interest Bearing Notes

Some companies will issue zero-interest-bearing notes as a sales incentive. The notes do not state an interest rate but the term "zero-interest" is inaccurate because financial instruments always include an interest component that is equal to the difference between the *cash lent* and the higher amount of *cash repaid* at maturity. Even though the interest rate is not stated, the *implied* interest rate can be derived because the cash values lent and received are both known. In most cases, the transaction between the issuer and acquirer of the note is at arm's length, so the implicit interest rate would be a reasonable estimate of the market rate.

Assume that on January 1, Eclipse Corp. received a five-year, $10,000 zero-interest bearing note. The amount of cash lent to the issuer (which is equal to the present value) is $7,835 (rounded). Eclipse's year-end is December 31. Looking at the cash flows and the time line:



I/Y = (+/- 7835 PV, 0 PMT, 5 N, 10000 FV)
where I/Y is interest
PV is the amount of cash lent
N is # of periods
FV is the future cash received

Interest = 5% (rounded), or $2,165

Notice that the sign for the $7,835 PV is preceded by the +/- symbol, meaning that the PV amount is to have the opposite symbol to the $10,000 FV amount, shown as a positive value. This is because the FV is the cash received at maturity or cash **inflow** (positive value), while the PV is the cash lent or a cash **outflow** (opposite or negative value). Many business calculators require the use of a +/- sign for one value and no sign (or a positive value) for the other to calculate imputed interest rates correctly. Consult your calculator manual for further instructions regarding zero-interest note calculations.

The implied interest rate is calculated to be 5% and the note's interest component (rounded) is $2,165 ($10,000 − $7,835), which is the difference between the cash lent and the higher amount of cash repaid at maturity. Below is the schedule for the interest and amortization calculations using the effective interest method.

Non-Interest-Bearing Note Receivable Payment and Amortization Schedule Effective Interest Method				
	Cash Received	Interest Income @5%	Amortized Discount	Carrying Amount
Date of issue				$7,835.26
End of year 1	$0	$391.76*	$391.76	8,227.02
End of year 2	0	411.35	411.35	8,638.37
End of year 3	0	431.92	431.92	9,070.29
End of year 4	0	453.51	453.51	9,523.81
End of year 5	0	476.19	476.19	10,000.00
End of year 5 payment	10,000			0
		$2,164.74	$2,164.74	

* $\$7{,}835.26 \times 5\% = \$391.76$

The entry for the note receivable when issued would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		7,835.26	
	Cash			7,835.26

At Eclipse's year-end of December 31, the interest income at the end of the first year using the effective interest method would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Note receivable (discount amortized amount)		391.76	
	Interest income			391.76
	(7,835.26 × 5%)			

At maturity when the cash interest is received, the entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 5	Cash		10,000	
	Note receivable			10,000

If Eclipse used ASPE instead of IFRS, the entry using straight-line method for amortizing the discount is calculated as the total discount of $2,164.74, amortized over the five-year term of the note resulting in equal amounts each year. Therefore, the annual amortization is $432.95 ($2,164.74 ÷ 5 years) each year is recorded as:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
End of year 1	Note receivable (discount amortized amount) . .		432.95	
	Interest income			432.95

5. Notes Receivable in Exchange for Property, Goods, or Services

When property, goods, or services are exchanged for a note, and the market rate and the timing and amounts of cash received are all known, the present value of the note can be determined. For example, assume that on May 1, Hudson Inc. receives a $200,000, five-year note in exchange for land originally costing $120,000. The market rate for a note with similar characteristics and risks is 8%. The present value is calculated as follows:

PV = (0 PMT, 8 I/Y, 5 N, 200000 FV)

PV = $136,117

The entry upon issuance of the note and sale of the land would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
May 1	Notes receivable		136,117	
	Gain on sale of land.			16,117
	Land.			120,000

However, if the market rate is not known, either of following two approaches can be used to determine the fair value of the note:

a. **Determine the fair value of the property, goods, or services given up.** As was discussed for zero-interest bearing notes where the interest rate was not known, the implicit interest rate can still be derived because the cash amount lent, and the timing and amount of the cash flows received from the issuer are both known. In this case the amount lent is the fair value of the property, goods, or services **given up**. Once the interest is calculated, the effective interest method can be applied.[1]

   For example, on June 1, Mayflower Consulting Ltd. receives a $40,000, three-year note in exchange for some land. The market rate cannot be accurately determined due to

[1]Source: http://www.iasplus.com/en/standards/ifrs/ifrs13 *IFRS 13 Fair Value Measurement* applies to IFRSes that require or permit fair value measurements or disclosures and provides a single IFRS framework for measuring fair value and requires disclosures about fair value measurement. The Standard defines fair value on the basis of an "exit price" notion and uses a "fair value hierarchy," which results in a market-based, rather than entity-specific, measurement. IFRS 13 was originally issued in May 2011 and applies to annual periods beginning on or after 1 January 2013 and is beyond the scope of this course. For simplicity, the fair value of the property, goods or services given up as explained in the chapter material assumes that IFRS 13 assumptions and hierarchy to determine fair values have been appropriately considered.

credit risks regarding the issuer. The land cost and fair value is $31,750. The interest rate is calculated as follows:

I/Y = (+/-31750 PV, 0 PMT, 3 N, 40000 FV)

I/Y = 8%; the interest income component is $8,250 over three years ($40,000 − $31,750)

The entry upon issuance of the note would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 1	Notes receivable		31,750	
	Land			31,750

b. **Determine an imputed interest rate.** An imputed interest rate is an estimated interest rate used for a note with comparable terms, conditions, and risks between an independent borrower and lender.

On June 1, Edmunds Co. receives a $30,000, three-year note in exchange for some swampland. The land has a historic cost of $5,000 but neither the market rate nor the fair value of the land can be determined. In this case, a market rate must be imputed and used to determine the note's present value. The rate will be estimated based on interest rates currently in effect for companies with similar characteristics and credit risk as the company issuing the note. For IFRS companies, the "evaluation hierarchy" identified in IFRS 13 Fair Value Measurement would be used to determine the fair value of the land and the imputed interest rate. In this case, the imputed rate is determined to be 7%. The present value is calculated as follows:

PV = (7 I/Y, 3 N, 30000 FV)

PV = $24,489

The entry upon issuance of the note would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 1	Notes receivable		24,489	
	Gain on sale of land			19,489
	Land			5,000

Loans to employees

In cases where there are non-interest-bearing long-term loans to company employees, the fair value is determined by using the market rate for loans with similar characteristics, and the present value is calculated on that basis. The amount loaned to the employee invariably will be higher than the present value using the market rate because the loan is intended as a reward or incentive. This difference would be deemed as additional compensation and recorded as Compensation expense.

Impairment of notes receivable

Just as was the case with accounts receivable, there is a possibility that the holder of the note receivable will not be able to collect some or all of the amounts owing. If this happens, the receivable is considered **impaired**. When the investment in a note receivable becomes impaired for any reason, the receivable is re-measured at the present value of the currently expected cash flows at the loan's **original effective interest rate**.

The impairment amount is recorded as a debit to bad debt expense and as a credit either to an allowance for uncollectible notes account (a contra account to notes receivable) or directly as a reduction to the asset account.

6.3.3 Derecognition and Sale of Receivables: Shortening the Credit-to-Cash Cycle

Derecognition is the removal of a previously recognized receivable from the company's balance sheet. In the normal course of business, receivables arise from credit sales and, once paid, are removed (derecognized) from the books. However, this takes valuable time and resources to turn receivables into cash. As someone once said, "turnover is vanity, profit is sanity, but cash is king"[2]. Simply put, a business can report all the profits possible, but profits do not mean cash resources. Sound cash flow management has always been important but, since the economic downturn in 2008, it has become the key to survival for many struggling businesses. As a result, companies are always looking for ways to shorten the credit-to-cash cycle to maximize their cash resources. Two such ways are secured borrowings and sales of receivables, discussed next.

Secured Borrowings

Companies often use receivables as collateral for a loan or a bank line of credit. The receivables are pledged as security for the loan, but the control and collection often remain with the company, so the receivables are left on the company's books. The company records the proceeds of the loan received from the finance company as a liability with the loan interest and any other finance charges recorded as expenses. If a company defaults on its loan, the finance company can seize the secured receivables and directly collect the cash from the receivables as payment against the defaulted loan. This will be illustrated in the section on factoring, below.

Sales of Receivables

What is the accounting treatment if a company's receivables are transferred (sold) to a third party (factor)? Certain industry sectors, such as auto dealerships and almost all small- and medium-sized businesses selling high-cost goods (e.g., gym equipment retailers) make exten-

[2] "Cash is king" is a catch phrase for "cash is most important." While a firm can generate a profit, if it cannot be converted to cash fast enough to pay the liabilities as they are due, then the company runs the risk of failing.

sive use of third-party financing arrangements with their customers to speed up the credit-to-cash cycle. Whether a receivable is transferred to a factor (sale) or held as security for a loan (borrowing) depends on the criteria set out in IFRS and ASPE which are discussed next.

Conditions for Treatment as a Sale

For accounting purposes, the receivables should be derecognized as a sale when they meet the following criteria:

IFRS—substantially **all of the risks and rewards have been transferred** to the factor. The evidence for this is that the contractual rights to receive the cash flows have been transferred (or the company continues to collect and forward all the cash it collects without delay) to the factor. As well, the company cannot sell or pledge any of these receivables to any third parties other than to the factor.

ASPE—control of the receivables has been surrendered by the transferor. This is evidenced when the following three conditions are *all* met:

a. The transferred assets have been isolated from the transferor.

b. The factor has obtained the right to pledge or to sell the transferred assets.

c. The transferor does not maintain effective control of the transferred assets through a repurchase agreement.

If the conditions for either IFRS or ASPE are not met, the receivables remain in the accounts and the transaction is treated as a secured borrowing (recorded as a liability) with the receivables as security for the loan. The accounting treatment regarding the sale of receivables using either standard is a complex topic; the discussion in this section is intended as a basic overview.

Below are some different examples of sales of receivables; such as **factoring** and **securitization**.

Factoring

Factoring is when individual accounts receivable are sold or transferred to a recipient or factor, usually a financial institution, in exchange for cash minus a fee called a discount. The seller does not usually have any subsequent involvement with the receivable and the factor collects directly from the customer. (Companies selling fitness equipment exclusively use this method for all their credit sales to customers.)

The downside to this strategy is that factoring is expensive. Factors typically charge a 2% to 3% fee when they buy the right to collect payments from customers. A 2% discount for an

invoice due in thirty days is the equivalent of a substantial 25% a year, and 3% is over 36% per year compared to the much lower interest rates charged by banks and finance companies. Most companies are better off borrowing from their bank, if it is possible to do so.

However, factors will often advance funds when more traditional banks will not. Even with only a prospective order in hand from a customer, a business can turn to a factor to see if it will assume or share the risk of the receivable. Without the factoring arrangement, the business must take time to secure and collect the receivable; the factor offers a reduction in additional effort and aggravation that may be worth the price of the fee paid to the factor.

There are risks associated with factoring receivables. Companies that intend to sell their receivables to a factor need to check out the bank and customer references of any factor. There have been cases where a factor has gone out of business, still owing the company substantial amounts of money held back in reserve from receivables already paid up.

Factoring versus Borrowing: A Comparison

The difference between factoring and borrowing can be significant for a company that wants to sell some or all of its receivables. Consider the following example:

Assume that on June 1, Cromwell Co. has $100,000 accounts receivable it wants to sell to a factor that charges 10% as a financing fee. Below is the transaction recorded as a sale of receivables compared to a secured note payable arrangement, starting with some opening balances:

Cromwell Co. Balance Sheet – Opening Balances	
Cash	$ 10,000
Accounts receivable	150,000
Property, plant, and equipment	200,000
Total assets	$360,000
Accounts payable	$ 70,000
Note payable	0
Equity	290,000
Total liabilities and equity	$360,000
Debt-to-total assets ratio	19%

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		90,000	
	Loss on sale of receivables		10,000	
	Accounts receivable			100,000
	Cromwell Co. – Sale of Receivables. Loss on sale: ($100,000 × 10%)			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		90,000	
	Discount on note payable**		10,000	
	Note payable			100,000
	Cromwell Co. – Note Payable. **Discount shown separately from notes payable for comparability. Discount will be amortized to interest expense over the term of the note.			

Below is the balance sheet after the transaction:

Cromwell Co. Balance Sheet – Sale of Receivables	
Cash	$100,000
Accounts receivable	50,000
Property, plant, and equipment	200,000
Total assets	$350,000
Accounts payable	$ 70,000
Note payable	0
Equity	280,000
Total liabilities and equity	$350,000
Debt-to-total assets ratio	20%

Cromwell Co. Balance Sheet – Note Payable	
Cash	$100,000
Accounts receivable	150,000
Property, plant, and equipment	200,000
Total assets	$450,000
Accounts payable	$ 70,000
Note payable	90,000
Equity	290,000
Total liabilities and equity	$450,000
Debt-to-total assets ratio	36%

Note that the entry for a sale is straightforward with the receivables of $100,000 derecognized from the accounts and a decrease in retained earnings due to the loss reported in net income. However, for a secured borrowing, a note payable of $90,000 is added to the accounts as a liability, and the accounts receivable of $100,000 remains in the accounts as security for the note payable. Referring to the journal entry above, in both cases cash flow increased by $90,000, but for the secured borrowing, there is added debt of $90,000, affecting Cromwell's debt ratio and negatively impacting any restrictive covenants Cromwell might have with other creditors. After the transaction, the debt-to-total assets ratio for Cromwell is 20% if the accounts receivable transaction meets the criteria for a sale. The debt ratio worsens to 36% if

the transaction does not meet the criteria for a sale and is treated as a secured borrowing. This impact could motivate managers to choose a sale for their receivables to shorten the credit-to-cash cycle, rather than the borrowing alternative.

Sales without Recourse

For sales without recourse, all the risks and rewards (IFRS) as well as the control (ASPE) have been transferred to the factor, and the company no longer has any involvement.

For example, assume that on August 1, Ashton Industries Ltd. factors $200,000 of accounts receivable with Savoy Trust Co., the factor, on a without-recourse basis. All the risks, rewards, and control are transferred to the finance company, which charges an 8% fee and withholds a further 4% of the accounts receivables for estimated returns and allowances. The entry for Ashton is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Aug 1	Cash		176,000	
	Due from factor		8,000	
	Loss on sale of receivables		16,000	
	Accounts receivable			200,000
	For Due from factor: ($200,000 × 4%), for Loss on sale of receivables: ($200,000 × 8%)			

The accounting treatment will be the same for IFRS and ASPE since both sets of conditions (risks and rewards and control) have been met. If no returns and allowances are given to customers owing the receivables, Ashton will recoup the $8,000 from the factor. In turn, Savoy's net income will be the $16,000 revenue reduced by any uncollectible receivables, since it now has assumed the risks/rewards and control of these receivables.

Sales with Recourse

In this case, Ashton guarantees payment to Savoy for any uncollectible receivables (recourse obligation). Under IFRS, the guarantee means that the risks and rewards have **not** been transferred to the factor, and the accounting treatment would be as a secured borrowing as illustrated above in Cromwell—Note Payable. Under ASPE, if all three conditions for treatment as a sale as described previously are met, the transaction can be treated as a sale.

Continuing with the example for Ashton, assume that the receivables are sold with recourse, the company uses ASPE, and that all three conditions have been met. In addition to the 8% fee and 4% withholding allowance, Savoy estimates that the recourse obligation has a fair value of $5,000. The entry for Ashton, including the estimated recourse obligation is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Aug 1	Cash		176,000	
	Due from factor		8,000	
	Loss on sale of receivables		21,000	
	Accounts receivable			200,000
	Recourse liability			5,000
	For Due from factor: ($200,000 × 4%), for Loss on sale of receivables: ($16,000 + $5,000)			

You will see that the recourse liability to Savoy results in an increase in the loss on sale of receivables by the recourse liability amount of $5,000. If there were no uncollectible receivables, Ashton will eliminate the recourse liability amount and decrease the loss. Savoy's net income will be the finance fee of $16,000 with no reductions in revenue due to uncollectible accounts, since these are being guaranteed and assumed by Ashton.

 A video is available on the Lyryx site. Click here to watch the video.

Securitization

Securitization is a financing transaction that gives companies an alternative way to raise funds other than by issuing debt, such as a corporate bond or note. The process is extremely complex and the description below is a simplified version.

The receivables are sold to a holding company called a Special Purpose Entity (SPE), which is sponsored by a financial intermediary. This is similar to factoring without recourse, but is done on a much larger scale. This sale of receivables and their removal from the accounting records by the company holding the receivables is an example of **off-balance sheet accounting**. In its most basic form, the securitization process involves two steps:

Step 1: A company (the asset originator) with receivables (e.g., auto loans, credit card debt), identifies the receivables (assets) it wants to sell and remove from its balance sheet. The company divides these into bundles, called **tranches**, each containing a group of receivables with similar credit risks. Some bundles will contain the lowest risk receivables (senior tranches) while other bundles will have the highest risk receivables (junior tranches).

The company sells this portfolio of receivable bundles to a special purpose entity (SPE) that was created by a financial intermediary specifically to purchase these types of portfolio assets. Once purchased, the originating company (seller) derecognizes the receivables and the SPE accounts for the portfolio assets in its own accounting records. In many cases, the company that originally sold the portfolio of receivables to the SPE continues to service the receivables in the portfolio, collects payments from the original borrowers and passes them on—less a servicing fee—directly to the SPE. In other cases, the originating company is no longer involved and the SPE engages a bank or financial intermediary to collect the receivables as a

collecting agent.

Step 2: The SPE (issuing agent) finances the purchase of the receivables portfolio from the originating company by issuing tradeable interest-bearing securities that are secured or backed by the receivables portfolio it now holds in its own accounting records as stated in Step 1—hence the name **asset-backed securities (ABS)**. These interest-bearing ABS securities are sold to capital market investors who receive fixed or floating rate payments from the SPE, funded by the cash flows generated by the portfolio collections. To summarize, securitization represents an alternative and diversified source of financing based on the transfer of credit risk (and possibly also interest rate and currency risk) from the originating company and ultimately to the capital market investors.

The Downside of Securitization

Securitization is inherently complex, yet it has grown exponentially. The resulting highly competitive securitization markets with multiple securitizers (financial institutions and SPEs), increase the risk that underwriting standards for the asset-backed securities could decline and cause sharp drops in the bundled or tranched securities' market values. This is because both the investment return (principal and interest repayment) and losses are allocated among the various bundles according to their level of risk. The least risky bundles, for example, have first call on the income generated by the underlying receivables assets, while the riskiest bundles have last claim on that income, but receive the highest return.

Typically, investors with securities linked to the lowest-risk bundles would have little expectation of portfolio losses. However, because investors often finance their investment purchase by borrowing, they are very sensitive to changes in underlying receivables assets' quality. This sensitivity was the initial source of the problems experienced in the sub-prime mortgage market (derivatives) meltdown in 2008. At that time, repayment issues surfaced in the riskiest bundles due to the weakened underwriting standards, and lack of confidence spread to investors holding even the lowest risk bundles, which caused panic among investors and a flight into safer assets, resulting in a fire sale of securitized debt of the SPEs.

In the future, securitized products are likely to become simpler. After years of posting virtually no capital reserves against high-risk securitized debt, SPEs will soon be faced with regulatory changes that will require higher capital charges and more comprehensive valuations. Reviving securitization transactions and restoring investor confidence might also require SPEs to retain an interest in the performance of securitized assets at each level of risk (Jobst, 2008).

6.3.4 Disclosures of Receivables

The standards for receivables reporting and disclosures have been in a constant state of change. IFRS 7 (IFRS, 2015) and IAS 1 (IAS, 2003) include significant disclosure requirements that provide information based on significance and the nature and extent of risks.

The *Significance* of Financial Instruments

IFRS 7 and IAS 1 specify the separate reporting categories based on significance such as the following:

- Trade accounts, amounts owing from related parties, prepayments, tax refunds, and other significant amounts
- Current amounts from non-current amounts
- Any impaired balances and amount of any allowance for credit risk and a reconciliation of the changes in the allowance account during the accounting period
- Disclosure on the income statement of the amounts of interest income, impairment losses, and any reversals associated with impairment losses
- Net losses on sales of receivables (IFRS, 2015, 7.20 a, iv).

For each receivables category above, the following disclosures are required:

- The carrying amounts such as amortized cost/cost and fair values (including methods used to estimate fair value) with details of any amounts reclassified from one category to another or changes in fair values
- Carrying amount and terms and conditions regarding financial assets pledged as collateral or any financial assets held as collateral
- An indication of the amounts and, where practicable, the maturity dates of accounts with a maturity of more than one year
- For IFRS, extensive disclosures of major terms regarding the securitization or transfers of receivables, whether these have been derecognized in their entirety or not. Some of these disclosures include the characteristics of the securitization, the fair value measurements and methods used and cash flows, as well as the nature of the servicing requirements and associated risks.

The *Nature and Extent of Risks* Arising from Financial Instruments

Stakeholders, such as investors and creditors, want to know about the various transactions that hold risks. Basic types of risks and related disclosures are:

- Credit risk—the risk that one party to a financial instrument will default on its debt obligation. Disclosures include an analysis of the age of financial assets that are past

due as at the end of the reporting period but not impaired and an analysis of financial assets that are individually determined to be impaired as at the end of the reporting period, including the factors the entity considered in determining that they are impaired (IFRS 2015, 7.37 a, b).

- Liquidity risk—the risk that an entity will have difficulties in paying its financial liabilities.
- Market risk—the risk that the fair value or cash flows of a receivable will fluctuate due to changes in market prices which are affected by interest rate risk, currency risk, and other price risks. Disclosures include a sensitivity analysis for each type of market risk to which the entity is exposed at the end of the reporting period, showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date (IFRS 2015, 7.40 a).

In addition, information about company policies for managing risk, including quantitative and qualitative data, is to be disclosed. ASPE disclosure requirements are much the same as IFRS, though perhaps requiring slightly less information about risk exposures and fair values than IFRS (CPA Canada, 2016, Part II, Section 3856.38–42).

6.4 Cash and Receivables: Analysis

The most common analytical tool regarding cash is the **statement of cash flows**. This statement reveals how a company spends its money (cash outflows) and where the money comes from (cash inflows). It is well known that a company's profitability, as shown by its net income, is an important performance evaluator. Although accrual accounting provides a basis for matching revenues and expenses, this system does not actually reflect the amount of *cash* that the company has received from its profits. This can be a crucial distinction as discussed earlier in this chapter. The statement of cash flows was discussed in Chapter 4.

For receivables analysis, three key financial tools are:

- An accounts receivable aging report
- Trendline analysis
- Ratio analysis

Accounts Receivable Aging Report

One of the easiest methods for analyzing the state of a company's accounts receivable is to print an accounts receivable aging report, which is a standard report available in any

accounting software package. As was discussed earlier in this chapter, this report divides the age of the accounts receivable into various groups according to the amount of time uncollected. Any invoices uncollected for greater than 30 days are cause for increased vigilance, especially if they drop into the oldest time grouping.

There are several issues to be aware of when analyzing accounts receivables based on an aging report.

Individual credit terms—Management may have authorized unusually long credit terms to specific customers, or for specific types of invoices. If so, these items may appear to be severely overdue for payment when they are, in fact, not yet due for payment at all.

Distance from billing date—In many companies, most of the invoices are billed at the end of the month. If an aging report is run a few days later as part of the month-end analysis, it will likely still show outstanding accounts receivable from one month ago for which payment is about to arrive, as well as the full amount of all the receivables that were just billed a few days ago. In total, it appears that receivables are in a bad state. However, if you were to run the report just prior to the month-end billing activities, there would be far fewer accounts receivable in the report, and there may appear to be very little cash coming from uncollected receivables.

Time grouping size—The groupings should approximate the duration regarding the company's credit terms. For example, if credit terms are just ten days and the first time grouping spans 30 days, nearly all invoices will appear to be current.

Trendline Analysis

Another accounts receivable analysis tool is the trendline. If the outstanding accounts receivable balance at the end of each month for the past year is graphed, it can be used to predict the amount of receivables that should be outstanding in the near future. This is a particularly valuable tool when sales are seasonal, since you can apply seasonal variability to estimates of future sales levels.

Trendline analysis is also useful for comparing the percentage of bad debts to sales over time. If there is a strong recurring trend in this percentage, management will likely take action. As was discussed earlier, if the percentage of bad debt is increasing, management will likely authorize tighter credit terms to customers. Conversely, if the bad debt percentage is extremely low, management may elect to loosen credit terms to expand sales to somewhat more risky customers. Their philosophy will be that not all customers in the riskier categories will default on paying their debts to suppliers so there should be a net benefit from increasing sales. The bottom line is that the credit terms need to strike a balance between the two opposites. Trendline analysis is a particularly useful tool when you run the bad debt percentage analysis for individual customers, since it can spotlight problems that may indicate the possible bankruptcy of a customer.

There are two issues to be aware of when you use trendline analysis:

- **Change in credit policy**. If management has authorized a change in the credit policy, it can lead to sudden changes in accounts receivable or bad debt levels.
- **Change in products or business lines**. If a company adds to or deletes from its mix of products or business lines, it may cause profound changes in the trend of accounts receivable.

An interesting analysis related to accounts receivable is a trendline of the proportion of customer sales that are paid at the time of sale, noting the payment type used. Changes in a company's selling procedures and policies may shift sales toward or away from up-front payments, which therefore has an impact on the amount and characteristics of accounts receivable.

Ratio Analysis

A third type of accounts receivable analysis is ratio analysis. Ratios, on their own, do not really tell the whole story. Ratios compared to a benchmark, such as an industry sector or previous period trends will be more meaningful. Some of the more common ratios that include cash and accounts receivable are:

- Quick or acid-test ratio, which measures immediate debt-paying ability
- Accounts receivable turnover, which measures how quickly the receivables are converted into cash
- Days' sales uncollected, which measures the number of days that receivables remain uncollected

These are examples of *liquidity ratios* which measure a company's ability to pay its debts as they come due. Below is selected financial data for Best Coffee and Donuts:

Best Coffee and Donuts Inc.
Excerpts from the Consolidated Balance sheet
(in thousands of Canadian dollars)
(Unaudited)

	As at December 29, 2021	As at December 30, 2020
Current assets		
Cash and cash equivalents	$ 50,414	$ 120,139
Restricted cash and cash equivalents	155,006	150,574
Accounts receivable, net (includes royalties and franchise fees receivable)	210,664	171,605
Notes receivable, net	4,631	7,531
Deferred income taxes	10,165	7,142
Inventories and other, net	104,326	107,000
Advertising fund restricted assets	39,783	45,337
Total current assets	$ 574,989	$ 609,328
Current liabilities		
Accounts payable	$ 204,514	$ 169,762
Accrued liabilities	274,008	227,739
Deferred income taxes	-	197
Advertising fund liabilities	59,912	44,893
Short-term borrowings	30,000	-
Current portion of long-term obligations	17,782	20,781
Total current liabilities	$ 586,216	$ 463,372

Best Coffee and Donuts Inc.
Excerpts from the Consolidated Statement of Operations
(in thousands of Canadian dollars, except share and per share data)
(Unaudited)

	Year ended December 29, 2021	Year ended December 30, 2020
REVENUES		
Sales	$ 2,265,884	$ 2,225,659
Franchise revenues		
Rents and royalties	821,221	780,992
Franchise fees	168,428	113,853
	989,649	894,845
TOTAL REVENUES	$ 3,255,533	$ 3,120,504

Quick ratio

The quick or acid-test ratio, measures only the most liquid current assets available to cover its current liabilities. The quick ratio is more conservative than the current ratio which includes

all current assets and current liabilities because it excludes inventory and any other current assets that are not highly liquid.

Formula:

$$\text{Quick Ratio} = \frac{\text{Cash \& cash equivalents} + \text{short-term investments} + \text{current receivables}}{\text{Current liabilities}}$$

Calculation:

	2021	2020
Quick Ratio =	$\frac{\$50{,}414+\$210{,}664+\$4{,}631}{\$586{,}216} = .45$	$\frac{\$120{,}139+\$171{,}605+\$7{,}531}{\$463{,}372} = .65$

As of December 31, 2021, with amounts expressed in thousands, Best Coffee and Donuts' quick current assets amounted to $265,709, while current liabilities amounted to $586,216. The resulting ratio produced is .45. This means that there is $.45 of the most liquid current assets available for each $1.00 of current liabilities. If a quick ratio of greater than $1.00 is a reasonable measure of liquidity, this means that Best Coffee and Donuts' ability to cover its current liabilities as they mature is at risk. Moreover, this ratio has weakened compared to the previous year of .65 or $.65 for each $1.00 in current liabilities.

Variations

In practice, some presentations of the quick ratio calculate quick assets (the formula's numerator) as simply the total current assets minus the inventory account. This is quicker and easier to calculate. By excluding a relatively less-liquid account such as inventory, it is thought that the remaining current assets will be of the more-liquid variety.

Using Best Coffee and Donuts as an example, for 2021, the quick ratio using the shorter calculation would be:

$$\text{Quick ratio} = \frac{\$574{,}989 - \$104{,}326}{\$586{,}216} = .80$$

It is clear from the comparative calculations that .80 is significantly higher than the previously calculated .45 ratio. Restricted cash, prepaid expenses, and deferred income taxes do not pass the test of truly liquid assets. Thus, using the shorter calculation artificially overstates Best Coffee and Donuts more-liquid current assets and inflates its quick ratio. For this reason, it is not advisable to rely on this abbreviated version of the quick ratio.

Another type of analysis is to compare the quick ratio with its corresponding current ratio. If the current ratio is significantly higher, it is a clear indication that the company's current assets are

dependent on inventory and other “less than liquid” current assets, such as legally restricted cash balances.

Even though the quick ratio is a more conservative measure of liquidity than the current ratio, they both share the same problems regarding the time it takes to convert accounts receivables to cash in that they assume a liquidation of accounts receivable as the basis for measuring liquidity. In truth, a company must focus on *the time it takes to convert its working capital assets to cash*—that is the true measure of liquidity. This is the credit-to-cash cycle emphasized throughout this chapter. So, if a company’s accounts receivable, has a much longer conversion time than a typical credit policy of thirty days, the quickness attribute of this ratio becomes a focal point. For this reason, investors and creditors need to be aware that relying solely on the current and quick ratios as indicators of a company’s liquidity can be misleading. The “quickness” attribute will be discussed next.

Accounts Receivable Turnover Ratio

The accounts receivable turnover ratio measures the number of times per year on average that it takes to collect a company’s receivables. When using this ratio for analysis, the following issues must be considered:

- *Credit* sales, rather than all sales, would be the better measure to use for the numerator, but this information can be more difficult to obtain by third parties such as prospective investors and creditors, so total sales are often used in practice.
- Typically, average receivables outstanding are usually calculated from the beginning and ending balances. However, if a business has significant seasonal cycles, calculating a series of turnover averages throughout the fiscal year, such as semi-annually or quarterly, will likely provide better results.
- Companies can choose to sell their receivables making comparability with other companies not suitable.
- Net accounts receivable includes the allowance for doubtful accounts (AFDA), so the choice of what method and rates to use when estimating uncollectible accounts can vary significantly between companies, resulting in invalid comparisons.

The key consideration is to ensure *comparability and consistency* when interpreting ratio analysis, since ratios are used to determine favourable or unfavourable trends resulting from comparison to other factors. Using Best Coffee and Donuts data, we calculate the following:

Formula:

$$\text{A/R turnover} = \frac{\text{Net credit sales (or net sales, if unavailable)}}{\text{Average net accounts receivable}}$$

Calculation for 2021:

$$\begin{aligned}\text{A/R turnover} &= \frac{\$3{,}255{,}533}{(\$210{,}664 + 171{,}605) \div 2} \\ &= 17.03 \text{ times or every 21.43 days on average (365/17.03 = 21.43)}\end{aligned}$$

If the industry standard or the company credit policy is n/30 days, an accounts receivable turnover of every twenty-one days on average would be a favourable outcome compared to the thirty-day due date set by the company's credit policy. Aging schedules would provide further information about the quality of specific receivables and would highlight any customer accounts that were overdue and requiring immediate attention.

Days' sales uncollected

This ratio estimates how many days it takes to collect on the **current** receivables outstanding.

Formula:

$$\text{Days' sales uncollected} = \left(\frac{\text{Accounts receivable (net)}}{\text{Net sales}}\right) \times 365$$

Calculation for 2021:

$$\text{Days' sales uncollected} = \left(\frac{\$210{,}664}{\$3{,}255{,}533}\right) \times 365 = 23.62 \text{ days}$$

Note that the average receivables are not used in this calculation. This means that the ratio measures the collectability of the **current** accounts receivables instead of the average accounts receivable. If a guideline for this ratio is that it should not exceed 1.33 times its credit period when no discount is offered (or the discount period if a discount is offered), 23.62 days compared to the benchmark of forty days (30 days $\times$ 1.33) means that the ratio is favourable.

The best way to analyze accounts receivable is to use all three techniques. The accounts receivable collection period can be used to get a general idea of the ability of a company to collect its accounts receivable, add an analysis of the aging report to determine exactly which invoices are causing collection problems, and add trend analysis to see if these problems have been changing over time.

6.5 IFRS/ASPE Key Differences

Item	ASPE	IFRS
Cash equivalents	Equity investments are excluded from this classification.	Preferred shares can be included if there is a specified redemption date and are acquired close to their maturity date.
Accounts receivable—initial measurement	Initially measured at **net realizable value** (net of trade discounts and sales discounts, returns and allowances) in lieu of fair value given their short-term nature (there is no significant interest component).	Same as ASPE
Accounts receivable—subsequent measurement	**Cost** in lieu of amortized cost since there is no significant interest component.	Same as ASPE
Accounts receivable—impairment	Impairment is determined by estimating uncollectible accounts using either accounts receivable or credit sales as the basis. Direct write-off of uncollectible accounts directly to bad debt expense is only used under limited circumstances.	Same as ASPE
Short-term notes receivable—initial and subsequent measurement	In lieu of fair value, measured at NRV:	Same as ASPE
	face value plus stated rate of interest for interest-bearing notes and **face value** which includes interest for non-interest-bearing notes.	
Long-term notes receivable—initial measurement	At fair value: Interest bearing: Present value of the expected cash flows discounted at the market rate of interest.	Same as ASPE

	Non-interest bearing: Present value of the expected cash flows discounted at the market rate of interest. The interest component is the difference between the proceeds (the present value set by the lender) and the repayment amount.	
Long-term notes receivable—subsequent measurement	Measured at amortized cost using either the straight-line method or the effective interest method for interest, discounts, or premiums.	Measured at amortized cost using the effective interest rate method for interest, discounts, or premiums.
Long-term notes receivable—impairment	If impaired, the receivable is re-measured at the present value of the expected cash flows at the current market interest rate.	If impaired, the receivable is remeasured at the present value of the expected cash flows at the loan's original effective interest rate.
Long-term notes receivable—transaction costs	Capitalized at acquisition and added to discount or premium to be amortized over life of note.	Same as ASPE
Derecognition of receivables	When the entity has **given up the control** of the receivables by meeting **all three conditions**: • The transferred assets are isolated in the books. • The company does not have a repurchase agreement. • The receiver (factor) has the right to pledge or sell the assets.	When substantially all of the **risks and rewards have been transferred**: • The contractual rights to receive the cash flows is transferred or collected and immediately passed on to the recipient. • The company cannot sell or pledge any of these receivables to any third parties other than to the factor.
Derecognition of receivables—sale without recourse	If all three conditions met, treat as a sale, otherwise as a secured borrowing.	If condition met, treat as a sale, otherwise as a secured borrowing.
Derecognition of receivables—sale with recourse	If all three conditions met, treat as a sale, otherwise as a secured borrowing.	Treat as a secured borrowing.

Disclosure of receivables	Are to provide information about: • the **significance** of financial instruments • the **nature and extent of risks** arising from financial instruments Less disclosure requirements than IFRS.	Are to provide information about: • the **significance** of financial instruments • the **nature and extent of risks** arising from financial instruments More information required than ASPE, including a reconciliation of any changes in the allowance account and extensive disclosures regarding securitization transactions.
Analysis of receivables	Three financial tools: • An accounts receivable aging report • Trendline analysis • Ratio analysis	Same as ASPE

6.6 Appendix A: Review of Internal Controls, Petty Cash, and Bank Reconciliations

Internal Control

Assets are the lifeblood of a company and must be protected. This duty falls to managers of a company. The policies and procedures implemented by management to protect assets are collectively referred to as **internal controls**. An effective internal control program not only protects assets, but also aids in accurate record-keeping, produces financial statement information in a timely manner, ensures compliance with laws and regulations, and promotes efficient operations. Effective internal control procedures ensure that adequate records are maintained, transactions are authorized, duties among employees are divided between record-keeping functions and control of assets, and employees' work is checked by others. The use of electronic recordkeeping systems does not decrease the need for good internal controls.

The effectiveness of internal controls is limited by human error and fraud. Human error can

occur because of negligence or mistakes. Fraud is the intentional decision to circumvent internal control systems for personal gain. Sometimes, employees cooperate with each other to avoid internal controls. This *collusion* is often difficult to detect, but fortunately, it is not a common occurrence when adequate controls are in place.

Internal controls take many forms. Some are broadly based, like mandatory employee drug testing, video surveillance, and scrutiny of company email systems. Others are specific to an asset type or process. For instance, internal controls need to be applied to a company's accounting system to ensure that transactions are processed efficiently and correctly to produce reliable records in a timely manner. Procedures should be documented to promote good recordkeeping, and employees need to be trained in the application of internal control procedures.

Financial statements prepared according to generally accepted accounting principles are useful not only to external users in evaluating the financial performance and financial position of the company, but also for internal decision making. There are various internal control mechanisms that aid in the production of timely and useful financial information. For instance, using a chart of accounts is necessary to ensure transactions are recorded in the appropriate account. As an example, expenses are classified and recorded in applicable expense accounts, then summarized and evaluated against those of a prior year.

The design of accounting records and documents is another important means to provide financial information. Financial data is entered and summarized in records and transmitted by documents. A good system of internal control requires that these records and documents be prepared at the time a transaction takes place or as soon as possible afterwards, since they become less credible and the possibility of error increases with the passage of time. The documents should also be consecutively pre-numbered, to indicate whether there may be missing documents.

Internal control also promotes the protection of assets. Cash is particularly vulnerable to misuse. A good system of internal control for cash should provide adequate procedures for protecting cash receipts and cash payments (commonly referred to as cash disbursements). Procedures to achieve control over cash vary from company to company and depend upon such variables as company size, number of employees, and cash sources. However, effective cash control generally requires the following:

- Separation of duties: People responsible for handling cash should not be responsible for maintaining cash records. By separating the custodial and record-keeping duties, theft of cash is less likely.
- Same-day deposits: All cash receipts should be deposited daily in the company's bank account. This prevents theft and personal use of the money before deposit.
- Payments made using non-cash means: Cheques or electronic funds transfer (EFT) provide a separate external record to verify cash disbursements. For example, many

businesses pay their employees using electronic funds transfer because it is more secure and efficient than using cash or even cheques.

Two forms of internal control over cash will be discussed in this chapter: the use of a petty cash account and the preparation of bank reconciliations.

Petty Cash

The payment of small amounts by cheque may be inconvenient and costly. For example, using cash to pay for postage on an incoming package might be less than the total processing cost of a cheque. A small amount of cash kept on hand to pay for small, infrequent expenses is referred to as a **petty cash fund**.

Establishing and Reimbursing the Petty Cash Fund

To set up the petty cash fund, a cheque is issued for the amount needed. The custodian of the fund cashes the cheque and places the coins and currency in a locked box. Responsibility for the petty cash fund should be delegated to only one person, who should be held accountable for its contents. Cash payments are made by this petty cash custodian out of the fund as required when supported by receipts. When the amount of cash has been reduced to a predetermined level, the receipts are compiled and submitted for entry into the accounting system. A cheque is issued to reimburse the petty cash fund. At any given time, the petty cash amount should consist of cash and supporting receipts, that total to the petty cash fund amount. To demonstrate the management of a petty cash fund, assume that a $200 cheque is issued to establish a petty cash fund.

The journal entry is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Petty Cash		200	
	Cash			200
	To establish the $200 petty cash fund.			

Petty Cash is a current asset account and is reported with Cash as one amount.

Assume the petty cash custodian has receipts totalling $190 and $10 in coin and currency remaining in the petty cash box. The receipts consist of the following: delivery charges $100, $35 for postage, and office supplies of $55. The petty cash custodian submits the receipts to the accountant who records the following entry and issues a cheque for $190.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Delivery Expense		100	
	Postage Expense		35	
	Office Supplies Expense[3]		55	
	Cash			190
	To reimburse the petty cash fund.			

The petty cash receipts should be cancelled at the time of reimbursement to prevent their reuse for duplicate reimbursements. The petty cash custodian cashes the $190 cheque. The $190 plus the $10 of coin and currency in the locked box immediately prior to reimbursement equals the $200 total required in the petty cash fund.

Sometimes, the receipts plus the coin and currency in the petty cash locked box do not equal the required petty cash balance. To demonstrate, assume the same information above except that the coin and currency remaining in the petty cash locked box was $8. This amount plus the receipts for $190 equals $198 and not $200, indicating a shortage in the petty cash box. The entry at the time of reimbursement reflects the shortage and is recorded as:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Delivery Expense		100	
	Postage Expense		35	
	Office Supplies Expense		55	
	Cash Over/Short Expense		2	
	Cash			192
	To reimburse the petty cash fund and account for the $2.00 shortage.			

The $192 credit to Cash plus the $8 of coin and currency remaining in the petty cash box immediately prior to reimbursement equals the $200 required total in the petty cash fund.

Assume, instead, that the coin and currency in the petty cash locked box was $14. This amount plus the receipts for $190 equals $204 and not $200, indicating an overage in the petty cash box. The entry at the time of reimbursement reflects the overage and is recorded as:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Delivery Expense		100	
	Postage Expense		35	
	Office Supplies Expense		55	
	Cash Over/Short Expense			4
	Cash			186
	To reimburse the petty cash fund and account for the $4.00 overage.			

[3] An expense is debited instead of Office Supplies, an asset, because the need to purchase supplies through petty cash assumes the immediate use of the items.

The $186 credit to Cash plus the $14 of coin and currency remaining in the petty cash box immediately prior to reimbursement equals the $200 required total in the petty cash fund.

What happens if the petty cash custodian finds that the fund is rarely used? In such a case, the size of the fund should be decreased to reduce the risk of theft. To demonstrate, assume the petty cash custodian has receipts totalling $110 and $90 in coin and currency remaining in the petty cash box. The receipts consist of the following: delivery charges $80 and postage $30. The petty cash custodian submits the receipts to the accountant and requests that the petty cash fund be reduced by $75. The following entry is recorded and a cheque for $35 is issued.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Delivery Expense		80	
	Postage Expense		30	
	Petty Cash			75
	Cash			35
	To reimburse the petty cash fund and reduce it by $75.			

The $35 credit to Cash plus the $90 of coin and currency remaining in the petty cash box immediately prior to reimbursement equals the $125 new balance in the petty cash fund ($200 original balance less the $75 reduction).

In cases when the size of the petty cash fund is too small, the petty cash custodian could request an increase in the size of the petty cash fund at the time of reimbursement. Care should be taken to ensure that the size of the petty cash fund is not so large as to become a potential theft issue. Additionally, if a petty cash fund is too large, it may be an indicator that transactions that should be paid by cheque are not being processed in accordance with company policy. Remember that the purpose of the petty cash fund is to pay for infrequent expenses; day-to-day items should not go through petty cash.

Cash Collections and Payments

The widespread use of banks facilitates cash transactions between entities and provides a safeguard for the cash assets being exchanged. This involvement of banks as intermediaries between entities has accounting implications. At any point in time, the cash balance in the accounting records of a company usually differs from the bank cash balance. The difference is usually because some cash transactions recorded in the accounting records have not yet been recorded by the bank and, conversely, some cash transactions recorded by the bank have not yet been recorded in the company's accounting records.

The use of a bank reconciliation is one method of internal control over cash. The reconciliation

process brings into agreement the company's accounting records for cash and the **bank statement** issued by the company's bank. A bank reconciliation explains the difference between the balances reported by the company and by the bank on a given date.

A bank reconciliation proves the accuracy of both the company's and the bank's records, and reveals any errors made by either party. The bank reconciliation is a tool that can help detect attempts at theft and manipulation of records. The preparation of a bank reconciliation is discussed in the following section.

The Bank Reconciliation Process

The bank reconciliation is a report prepared by a company at a point in time. It identifies discrepancies between the cash balance reported on the bank statement and the cash balance reported in a business's Cash account in the general ledger, more commonly referred to as the *books*. These discrepancies are known as *reconciling items* and are added or subtracted to either the book balance or bank balance of cash. Each of the reconciling items is added or subtracted to the business's cash balance. The business's cash balance will change as a result of the reconciling items. The cash balance prior to reconciliation is called the *unreconciled* cash balance. The balance after adding and subtracting the reconciling items is called the *reconciled* cash balance. The following is a list of potential reconciling items and their impact on the bank reconciliation.

Book reconciling items	*Bank reconciling items*
Collection of notes receivable (added)	Outstanding deposits (added)
NSF cheques (subtracted)	Outstanding cheques (subtracted)
Bank charges (subtracted)	
Book errors (added or subtracted, depending on the nature of the error	Bank errors (added or subtracted, depending on the nature of the error)

Book Reconciling Items

The collection of notes receivable may be made by a bank on behalf of the company. These collections are often unknown to the company until they appear as an addition on the bank statement, and so cause the general ledger cash account to be understated. As a result, the collection of a notes receivable is added to the unreconciled book balance of cash on the bank reconciliation.

Cheques returned to the bank because there were not sufficient funds (NSF) to cover them appear on the bank statement as a reduction of cash. The company must then request that the customer pay the amount again. As a result, the general ledger cash account is overstated by the amount of the NSF cheque. NSF cheques must therefore be subtracted from the unreconciled book balance of cash on the bank reconciliation to reconcile cash.

Cheques received by a company and deposited into its bank account may be returned by the customer's bank for many reasons (e.g., the cheque was issued too long ago, known as a stale-dated cheque, an unsigned or illegible cheque, or the cheque shows the wrong account number). Returned cheques cause the general ledger cash account to be overstated. These cheques are therefore subtracted on the bank statement, and must be deducted from the unreconciled book balance of cash on the bank reconciliation.

Bank service charges are deducted from the customer's bank account. Since the service charges have not yet been recorded by the company, the general ledger cash account is overstated. Therefore, service charges are subtracted from the unreconciled book balance of cash on the bank reconciliation.

A business may incorrectly record journal entries involving cash. For instance, a deposit or cheque may be recorded for the wrong amount in the company records. These errors are often detected when amounts recorded by the company are compared to the bank statement. Depending on the nature of the error, it will be either added to or subtracted from the unreconciled book balance of cash on the bank reconciliation. For example, if the company recorded a cheque as $520 when the correct amount of the cheque was $250, the $270 difference would be added to the unreconciled book balance of cash on the bank reconciliation. Why? Because the cash balance reported on the books is understated by $270 because of the error. As another example, if the company recorded a deposit as $520 when the correct amount of the deposit was $250, the $270 difference would be subtracted from the unreconciled book balance of cash on the bank reconciliation. Why? Because the cash balance reported on the books is overstated by $270 because of the error. Each error requires careful analysis to determine whether it will be added or subtracted in the unreconciled book balance of cash on the bank reconciliation.

Bank Reconciling Items

Cash receipts are recorded as an increase of cash in the company's accounting records when they are received. These cash receipts are deposited by the company into its bank. The bank records an increase in cash only when these amounts are actually deposited with the bank. Since not all cash receipts recorded by the company will have been recorded by the bank when the bank statement is prepared, there will be outstanding deposits, also known as **deposits in transit**. Outstanding deposits cause the bank statement cash balance to be understated. Therefore, outstanding deposits are a reconciling item that must be added to the unreconciled bank balance of cash on the bank reconciliation.

On the date that a cheque is prepared by a company, it is recorded as a reduction of cash in a company's books. A bank statement will not record a cash reduction until a cheque is presented and accepted for payment (or *clears* the bank). Cheques that are recorded in the company's books but are not paid out of its bank account when the bank statement is prepared are referred to as **outstanding cheques**. Outstanding cheques mean that the bank statement

cash balance is overstated. Therefore, outstanding cheques are a reconciling item that must be subtracted from the unreconciled bank balance of cash on the bank reconciliation.

Bank errors sometimes occur and are not revealed until the transactions on the bank statement are compared to the company's accounting records. When an error is identified, the company notifies the bank to have it corrected. Depending on the nature of the error, it is either added to or subtracted from the unreconciled bank balance of cash on the bank reconciliation. For example, if the bank cleared a cheque as $520 that was correctly written for $250, the $270 difference would be added to the unreconciled bank balance of cash on the bank reconciliation. Why? Because the cash balance reported on the bank statement is understated by $270 as a result of this error. As another example, if the bank recorded a deposit as $520 when the correct amount was $250, the $270 difference would be subtracted from the unreconciled bank balance of cash on the bank reconciliation. Why? Because the cash balance reported on the bank statement is overstated by $270 because of this specific error. Each error must be carefully analyzed to determine how it will be treated on the bank reconciliation.

Illustrative Problem—Bank Reconciliation

Assume that a bank reconciliation is prepared by Big Dog Carworks Corp. (BDCC) at April 30. At this date, the Cash account in the general ledger shows a balance of $21,929 and includes the cash receipts and payments shown in Figure 6.1.

Cash — Acct. No. 101

Date		Description	Debit	Credit	DR/CR	Balance
2020						
Mar.	31	Balance			DR	20673 -
Apr.	30	April cash receipts	9482 -		DR	30155 -
	30	April cash payments		8226 -	DR	21929 -

Remember, 'DR' (debit) denotes a positive cash balance in the far right-hand column of the general ledger.

Figure 6.1: Big Dog's General Ledger 'Cash' Account at April 30

Extracts from BDCC's accounting records are reproduced with the bank statement for April in Figure 6.2.

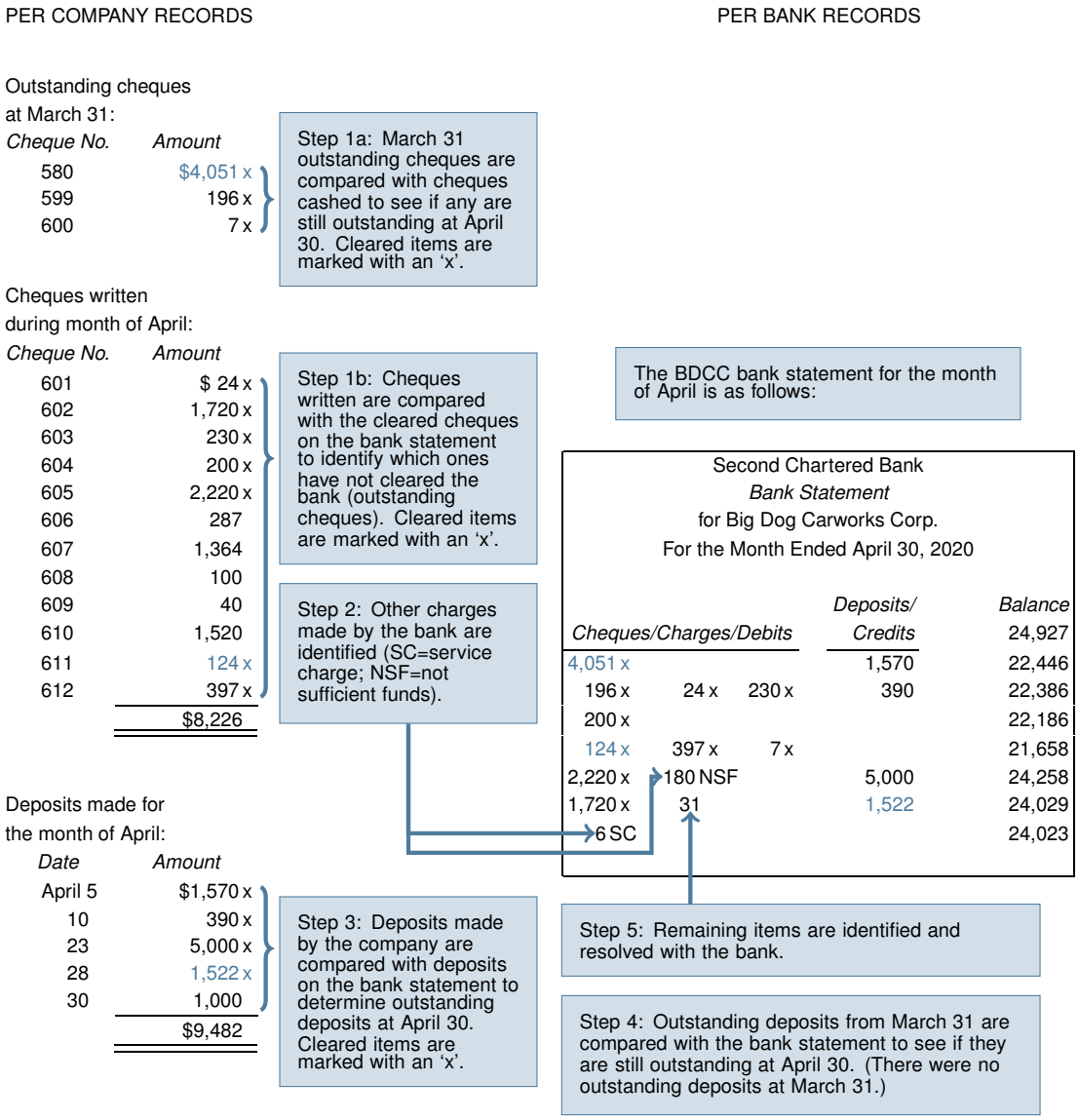


Figure 6.2: The Bank Reconciliation Process

For each entry in BDCC's general ledger Cash account, there should be a matching entry on its bank statement. Items in the general ledger Cash account but not on the bank statement must be reported as a reconciling item on the bank reconciliation. For each entry on the bank statement, there should be a matching entry in BDCC's general ledger Cash account. Items on the bank statement but not in the general ledger Cash account must be reported as a reconciling item on the bank reconciliation.

There are nine steps to follow in preparing a bank reconciliation for BDCC at April 30, 2020:

Step 1

Identify the ending general ledger cash balance ($21,929 from Figure 6.1) and list it on the bank reconciliation as the book balance on April 30 as shown in Figure 6.3. This represents the unreconciled book balance.

Step 2

Identify the ending cash balance on the bank statement ($24,023 from Figure 6.2) and list it on the bank reconciliation as the bank statement balance on April 30 as shown in Figure 6.3. This represents the unreconciled bank balance.

Step 3

Cheques written that have cleared the bank are returned with the bank statement. These cheques are said to be *cancelled* because, once cleared, the bank marks them to prevent them from being used again. Cancelled cheques are compared to the company's list of cash payments. Outstanding cheques are identified using two steps:

a. Any outstanding cheques listed on the BDCC's March 31 bank reconciliation are compared to the cheques listed on the April 30 bank statement.

   For BDCC, all of the March outstanding cheques (nos. 580, 599, and 600) were paid by the bank in April. Therefore, there are no reconciling items to include in the April 30 bank reconciliation. If one of the March outstanding cheques had not been paid by the bank in April, it would be subtracted as an outstanding cheque from the unreconciled bank balance on the bank reconciliation.

b. The cash payments listed in BDCC's accounting records are compared to the cheques on the bank statement. This comparison indicates that the following cheques are outstanding.

Cheque No.	*Amount*
606	$ 287
607	1,364
608	100
609	40
610	1,520

   Outstanding cheques must be deducted from the bank statement's unreconciled ending cash balance of $24,023 as shown in Figure 6.3.

Step 4

Other payments made by the bank are identified on the bank statement and subtracted from the unreconciled book balance on the bank reconciliation.

a. An examination of the April bank statement shows that the bank had deducted the NSF cheque of John Donne for $180. This is deducted from the unreconciled book balance on the bank reconciliation as shown in Figure 6.3.

b. An examination of the April 30 bank statement shows that the bank had also deducted a service charge of $6 during April. This amount is deducted from the unreconciled book balance on the bank reconciliation as shown in Figure 6.3.

Step 5

Last month's bank reconciliation is reviewed for outstanding deposits at March 31. There were no outstanding deposits at March 31. If there had been, the amount would have been added to the unreconciled bank balance on the bank reconciliation.

Step 6

The deposits shown on the bank statement are compared with the amounts recorded in the company records. This comparison indicates that the April 30 cash receipt amounting to $1,000 was deposited but it is not included in the bank statement. The outstanding deposit is added to the unreconciled bank balance on the bank reconciliation as shown in Figure 6.3.

Step 7

Any errors in the company's records or in the bank statement must be identified and reported on the bank reconciliation.

An examination of the April bank statement shows that the bank deducted a cheque issued by another company for $31 from the BDCC bank account in error. Assume that when notified, the bank indicated it would make a correction in May's bank statement.

The cheque deducted in error must be added to the bank statement balance on the bank reconciliation as shown in Figure 6.3.

Step 8

Total both sides of the bank reconciliation. The result must be that the book balance and the bank statement balance are equal or reconciled. These balances represent the adjusted balance.

The bank reconciliation in Figure 6.3 is the result of completing the preceding eight steps.

Big Dog Carworks Corp.
Bank Reconciliation
At April 30, 2020

Book balance at Apr. 30		$21,929	Bank statement balance at Apr. 30		$24,023
			Add: Outstanding deposit		1,000
			Cheque deducted in error		31
					25,054
Less: Bank charges	$6		Less: Outstanding cheques		
NSF Cheque – J. Donne	180	186	*Cheque No.*	*Amount*	
			606	$287	
			607	1,364	
			608	100	
			609	40	
			610	1,520	3,311
Adjusted book balance at Apr. 30		$21,743	Adjusted bank balance at Apr. 30		$21,743

These balances must agree.

Reconciling items in this section require journal entries to be made in the general journal to correct the unreconciled Cash balance of $21,929 in the general ledger to the reconciled balance of $21,743.

Reconciling items in this section do not require journal entries because the outstanding deposits and cheques should clear the bank next month, in May. Additionally, the other reconciling items (e.g., the $31 cheque deducted in error) must be reported to the bank so it can make the necessary corrections to Big Dog's account in the next month.

Figure 6.3: BDCC's April Bank Reconciliation

Step 9

For the adjusted balance calculated in the bank reconciliation to appear in the accounting records, an adjusting entry(s) must be prepared.

The adjusting entry(s) is based on the reconciling item(s) used to calculate the adjusted book balance. The book balance side of BDCC's April 30 bank reconciliation is copied to the left below to clarify the source of the following April 30 adjustments.

Book balance at Apr. 30		$21,929
Less: Bank charges	$ 6	
NSF Cheque – J. Donne	180	186
Adjusted book balance at Apr. 30		$21,743

Bank Service Charges Expense 6
Cash 6
To record service charges from April 30 bank reconciliation.

Accounts Receivable – J. Donne 180
Cash 180
To record NSF cheque from April 30 bank reconciliation.

It is common practice to use one compound entry to record the adjustments resulting from a bank reconciliation as shown below for BDCC.

Once the adjustment is posted, the Cash general ledger account is up to date, as illustrated in Figure 6.4.

Bank Service Charges Expense 6
Accounts Receivable – J. Donne 180
Cash 186

To record reconciling items from April 30 bank reconciliation.

Cash — Acct. No. 101

Date		Description	Debit	Credit	DR/CR	Balance
2020						
Mar.	31	Balance			DR	20673 -
Apr.	30	April cash receipts	9482 -		DR	30155 -
	30	April cash payments		8226 -	DR	21929 -
	30	Bank charge expense		6 -	DR	21923 -
	30	NSF cheque		180 -	DR	21743 -

This adjusted cash balance now agrees with the bank reconciliation.

Figure 6.4: Updated Cash Account in the General Ledger

Note that the balance of $21,743 in the general ledger Cash account is the same as the adjusted book balance of $21,743 on the bank reconciliation. Big Dog does not make any adjusting entries for the reconciling items on the bank side of the bank reconciliation since these will eventually clear the bank and appear on a later bank statement. Bank errors will be corrected by the bank.

Chapter Summary

LO 1: Describe cash and receivables, and explain their role in accounting and business.

Companies usually have significant amounts of accounts receivable and the time frame and effort required to convert receivables to cash is a cycle that calls for regular monitoring for which financial reporting plays a significant role. Cash and receivables are financial assets defined as cash or a contractual right to receive cash or another financial asset from another entity. Cash and receivables are also monetary assets because they represent a claim to cash where the amount is fixed by contract.

Cash and receivables need to be kept in balance for the company to be financially stable. Too many accounts receivable may mean a substandard credit policy, resulting in significant uncollectible accounts. Too few accounts receivable could be an indication that the company's credit policy is too restrictive, resulting in missed sales opportunities. Effective cash management is essential to ensure that any surplus cash is invested appropriately to maximize interest income and to minimize any bank loans and other borrowings.

LO 2: Describe cash and cash equivalents, and explain how they are measured and reported.

Cash is the most liquid asset and if unrestricted is usually classified as a current asset. Cash consists of coins, currency, bank accounts and petty cash funds, and negotiable instruments such as money orders, cheques, and bank drafts. Temporary **same-bank overdrafts** are usually netted with the current cash balance. Foreign currencies are reported in Canadian dollars as at the balance sheet date. Cash balances set aside for long-term purposes, such as a plant expansion project or long-term debt retirement, are classified long-term assets. Legally restricted or compensating balances are reported separately as current or non-current assets depending on the classification of the account it is supporting.

Cash equivalents are short-term, highly liquid assets with maturities no longer than three months (or ninety days) at acquisition that can be converted into known amounts of cash. Cash equivalents are usually combined with cash and reported in a single cash and cash equivalents account on the balance sheet. Examples are treasury bills, money market funds, short-term notes receivable, and guaranteed investment certificates (GICs).

LO 3: Describe receivables, identify the different types of receivables, explain their accounting treatment, and prepare the relevant journal entries.

Receivables are claims held against customers and debtors that are contractual rights with a legal claim to receive cash or other financial assets. They can be classified as current or long-term and are initially reported at their fair value. Subsequently they are measured at amortized cost. Categories include trade (accounts) receivable, notes receivable, and non-trade receivables.

Accounts receivable are usually collected within one year, so the interest component is not significant. Measurement in lieu of fair value is **net realizable value**. This is equivalent to the transaction value on the date the credit sale initially occurred and adjusted by any trade or sales discounts, sales returns, and allowances. Subsequent measurement is at cost (in lieu of amortized cost, since there is no interest component to amortize). Accounts receivable are affected by credit risk which may result in impairment of the accounts thereby reducing their net realizable value. This requires estimating an amount for uncollectible accounts that can be recorded to a valuation account called an allowance for doubtful accounts (AFDA). The AFDA is a contra account to accounts receivable and the net of the two accounts is intended to reflect the accounts receivable's net realizable value. The calculations to estimate uncollectible accounts will be completed at each reporting date using either a percentage of accounts receivable, percentages applied to the accounts receivable aging report, a percentage of credit sales, or a mix of these methods. Whenever an actual account is deemed uncollectible, it is written-off by removing it from the accounts receivables and AFDA accounts.

Notes receivable are a written promise to pay a specific sum of money on demand or on a defined future date. Payments can be a single lump sum at maturity, a series of payments, or a combination of both. Notes may be referred to as interest bearing or non-interest-bearing, even though there is always an interest component that must be recognized. For interest-bearing notes, the interest paid is equal to the stated interest rate on the note. For non-interest-bearing notes, the interest paid is the difference between the amount lent (proceeds) and the (higher) amount paid at maturity. Notes may be classified as short-term (less than twelve months) or long-term. Notes are initially measured at their fair value including transaction fees on the date that the note is legally executed. For short-term notes, since the effects of the discounted cash flows are insignificant, the net realizable value is used to approximate fair value. For long-term notes, fair value is equal to the present value of the expected future cash flows discounted by the market rate at the time of note issuance. After issuance, long-term notes receivable are measured at amortized cost, which allocates the interest income and discount or premium, if any, over the term of the note. For ASPE, either the effective interest rate method or the straight-line method can be used for amortization purposes. For IFRS, the effective interest rate method is to be used.

Non-trade receivables are amounts due for item such as income tax refunds, GST/HST receivable, amounts due from the sale of assets, insurance claims, advances to employees, amounts due from officers of the company, or dividends receivable.

To shorten the cycle of receivables to cash, companies can arrange for a borrowing (loan) from a financial institution (using the receivables as collateral) or as a sale of the receivables to another entity for cash. Sales can be either factoring or securitization. Factoring involves a financial intermediary (factor), such as a finance company that purchases the receivables and collects from the customers. Securitization is more complex; it involves a special purpose entity or vehicle (SPV) set up by a financial institution that purchases the receivables from the transferor using proceeds obtained from selling debt instruments to investors. These debt instruments are secured by the receivables received from the transferor. Companies selling receivables may or may not have continuing involvement regarding the transferred receivables. The issue becomes whether the transfer should be treated as a secured borrowing or a sale. For IFRS, receivables are treated as a sale if the risks and rewards have substantially been transferred. This is evidenced by the contractual rights to cash flows being transferred or the company continues to collect but immediately passes the proceeds on to the entity that purchased the receivables. As well, the company cannot sell or pledge the receivables to any other party. For ASPE, the focus is on control of the receivables. Three conditions must be met for control to occur and for receivables to be treated as a sale.

IFRS disclosures of receivables involve levels of significance and the nature and extent of the risks arising from them and how these risks are managed. Separate reporting is required for:

- trade accounts receivable from non-trade accounts
- current accounts receivable from non-current
- disclosures of any impairments or reversals of impairments
- details regarding any allowance accounts.

Other disclosures require details about the carrying amounts such as fair values, amortized costs or costs where applicable, and methods used for estimating uncollectible accounts. For long-term receivables, the amounts and maturity dates are to be disclosed. Information about any assets pledged or held as collateral is to be disclosed. Extensive disclosures are required for any securitization or transfers of receivables. Various types of risks such as credit, liquidity and market risks are to be disclosed. Companies following ASPE require less disclosure than IFRS companies.

LO 4: Identify the different methods used to analyze cash and receivables.

Cash and receivables are analyzed using various techniques to determine the levels of risk for uncollectible accounts as well as the company's overall liquidity or solvency. The statement of cash flows provides information about the sources and uses of cash. Receivables can be analyzed using accounts receivable aging reports, trendline analysis, and various ratio

analyses such as quick and current ratios, accounts receivable turnover ratios, and days' sales uncollected.

LO 5: Explain the differences between IFRS and ASPE for recognition, measurement, and reporting for cash and receivables.

For the most part, the IFRS and ASPE standards are similar. The differences between IFRS and ASPE arise regarding: 1) what is recognized as cash equivalents; 2) the method used to amortize interest, premiums, or discounts for long-term receivables; 3) the criteria needed for treatment as either a sale of receivables or as a secured borrowing; and 4) both the nature and extent of disclosing requirements for cash and receivables on the balance sheet.

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Exercises

EXERCISE 6–1

Below is a list of various items. For each item, determine the amount that should be reported as cash or cash equivalent. For all other items, identify the proper disclosure.

a. Chequing account balance $600,000

b. Short-term (60-day) treasury bills $22,000

c. Cash advance received from a customer $2,670

d. Cash advance of $5,000 to company executive, payable on demand

e. Refundable deposit of $13,000 paid to developer to guarantee performance on a construction contract

f. Cash restricted for future plant expansion $545,000

g. Certificate of deposit $575,000, maturing in nine months

h. Utility deposit paid to utility company $500

i. Cash advance to subsidiary $100,000

j. Post-dated cheque from customer $30,000

k. Cash restricted to maintain compensating balance requirement $115,000, considered to be significant

l. Certified cheque from customer $13,000

m. Postage stamps on hand $1,115

n. Savings account balance $545,000 and overdraft in special chequing account at same bank as normal chequing account $25,000

o. Cash held in non-current bond sinking fund $150,000

p. Petty cash fund $1,200

q. Cash on hand $13,000

r. Money-market balance at mutual fund with chequing privileges $75,400

s. NSF cheque received from the bank for a customer $8,000

EXERCISE 6–2

Below is financial information for Overachiever Ltd. The company's year-end is December 31.

i. A commercial savings account with $575,000 and a commercial chequing account with $450,000 are held at First Royal Bank. There is also a bank overdraft of $150,000 in a chequing account at the Lemon Bank. It is the only account held at the Lemon Bank.

ii. The company must maintain a minimum cash balance of $175,000 with First Royal Bank in order to retain its overdraft privileges.

iii. A separate cash fund for $2 million is restricted for the retirement of long-term debt.

iv. There are five cash floats for retail operation cash registers for $250 each.

v. Currency and coin on hand amount to $15,000.

vi. The petty cash fund has $1,500.

vii. The company has received a cheque dated January 18, 2021, in the amount of $12,500 from a customer for an amount owing as at December 31.

viii. The company has received a cheque dated January 12, 2021, in the amount of $1,800 from a customer as payment in advance for an order placed on December 27. Goods will be delivered FOB destination on January 20, 2021.

ix. There are cash advances for $15,000 paid for executive travel to occur in the first quarter of next year. These travel advances will be recovered from the travel expense reports after they travel.

x. An employee owes $2,300 that was borrowed from the company and will be withheld from his salary in January 2021.

xi. The company has invested $2.5 million in money market funds (with chequing privileges) maturing in 2 months at the Commercial Bank of British Columbia.

xii. The company has a 180-day treasury bill for $50,000. It was purchased on November 22.

xiii. The company has a 60-day treasury bill for $18,000. It was purchased on December 15.

xiv. The company holds commercial paper for $1.56 million from Ace Furniture Co., which is due in 145 days.

xv. The company acquired 1,000 shares of Highland Ltd. for $3 per share on July 31 and is holding them for trading. The shares are still on hand as at December 31 have a fair value of $4.06 per share on December 31, 2020.

Required:

a. Prepare a partial statement of financial position (balance sheet) as at December 31, 2020, reporting any cash balances.

b. For any items not reported in (a) above, indicate the proper way to disclose them.

EXERCISE 6–3

Amy Glitters Ltd. provides you with the following information about its accounts receivable at December 31, 2020:

Due from customers, of which $30,000 has been pledged as security for a bank loan	$275,000
Instalment accounts due after December 31, 2021	50,000
Advances to employees	2,500
Advances to a related party (originated in 2015)	30,000
Overpayments made to a supplier	6,000

Required: Prepare a partial classified balance sheet at December 31, which is their year-end. Make the required disclosures in parentheses after the line item account.

EXERCISE 6–4

From July 1 to August 30, 2020, Busy Beaver Ltd. completed the following transactions:

On July 1, Busy Beaver sold 40 computers at a unit price of $3,000 to Heintoch Corp., terms 1/15, n/30. Average cost for these computers was $1,500. Busy Beaver also paid the freight costs of $3,200 cash. On July 5, Heintoch Corp. returned for full credit three damaged computers from the July 1 shipment. These were not returned to inventory. Heintoch agreed to pay the $240 freight cost to return the computers to Busy Beaver. On July 10, Busy Beaver received payment from Heintoch for the full amount owed from the July transactions. On July 14, Busy Beaver purchased 50 computers on account from Correl Computers Ltd. for $1,500 per unit plus freight for $4,000. On July 17, Busy Beaver sold $224,000 in computers and peripherals to Perkins Store, terms 1.5/10, n/30. Cost for these computers was $112,000. On July 26, Perkins Store paid Busy Beaver for half of its July purchases. On August 30, Perkins Store paid Busy Beaver for the remaining half of its July purchases. Busy Beaver uses the perpetual inventory system.

Required:

a. Prepare the entries for Busy Beaver Computers Ltd., assuming the gross method is used to record sales and sales discounts.

b. Assume that Heintoch has access to a bank line of credit facility at a rate of 8%. Is it a good idea to pay within the discount period? Explain your answer using data from the question.

c. Prepare the entries for July and August, assuming Busy Beaver is an IFRS company that uses the net method to record sales and sales discounts. Also assume that on August

30 year-end, Busy Beaver estimates sales returns and allowances to be $44,000 for the year just ended, which it considers to be significant. The unadjusted balance of its refund liability account prior to the July and August transactions was $23,000 credit.

EXERCISE 6–5

The following information is available for Inverness Ltd.'s second year in business:

- Opening merchandise inventory is $35,000.
- Goods are marked to sell at 35% above cost.
- Merchandise purchased totalled $600,000.
- Collections from customers are $420,000.
- Ending merchandise inventory is $225,000.
- Opening accounts receivable balance is $0.
- Ending accounts receivable balance is $85,000.

Required:

a. Estimate the ending accounts receivable that should appear in the ledger. Calculate any shortages, if any. Assume that all sales are made on account.

b. What controls can be put in place to prevent theft?

EXERCISE 6–6

The trial balance before adjustment of Cyncrewd Inc. shows the following balances:

	Dr.	Cr.
Accounts receivable	$225,000	
Allowance for doubtful accounts (AFDA)	2,340	
Credit sales		375,000
Sales returns	35,000	

Required:

a. Give the entry for bad debt expense for the current year assuming:

- The allowance should be 4% of gross accounts receivable.
- Historical records indicate that based on accounts receivable aging the following statistics apply:

	Balance	Percentage Estimated to be Uncollectible
0–30 days outstanding	$141,000	1%
31–60 days outstanding	53,500	3%
61–90 days outstanding	10,500	8%
Over 90 days outstanding	20,000	14%

- Allowance for doubtful accounts is $2,340, but it is a credit balance, and the allowance should be 2% of gross accounts receivable.

b. What could account for the unadjusted debit balance in the AFDA account for $2,340?

EXERCISE 6–7

At January 1, 2020, the credit balance of Reimer Corp.'s allowance for doubtful accounts was $575,000. During 2020, the bad debt expense entry was based on a percentage of net credit sales. Net sales for 2020 were $16 million, of which 75% were on account. Based on the information available at the time, the 2020 bad debt expense was estimated to be 1% of net credit sales. During 2020, uncollectible receivables amounting to $40,000 were written off against the allowance for doubtful accounts. The company has estimated that at December 31, 2020, based on a review of the aged accounts receivable, the allowance for doubtful accounts would be properly measured at $500,000.

Required:

a. Prepare a schedule calculating the balance in Reimer Corp.'s allowance for doubtful accounts at December 31, 2020. Prepare any necessary journal entry at year-end to adjust the allowance for doubtful accounts to the required balance.

b. If accounts receivable balance at December 31 was $50,950,000, prepare a partial classified balance sheet at December 31, 2020 for Reimer. What is the net accounts receivable balance intended to measure?

c. Under what conditions is using the direct write-off method justified?

EXERCISE 6–8

On May 1, 2020, Effix Ltd. provided services to Harper Inc. in exchange for Harper's $336,000, five-year, zero-interest-bearing note. The implied interest is 8%. Effix's year-end is December 31.

Required:

a. Prepare Effix's entries for the note, the interest entries over the five years and the collection of the note at maturity.

b. Using present value calculations prove that the note yields 8%.

c. Prepare a partial classified balance sheet as at December 31, 2021. What would be the unamortized discount/premium, if any? How would the classification of the note receivable differ on the partial classified balance sheet as at December 31, 2024?

d. If an appropriate market rate of interest for the note receivable is not known, how should the transaction be valued and recorded on December 31, 2020?

EXERCISE 6–9

Below are three unrelated scenarios:

i. On July 1, a one-year note for $120,000 was accepted in exchange for an unpaid accounts receivable for $120,000. Interest for 5% would be payable at maturity.

ii. On July 1, a one-year non-interest-bearing note for $110,250 was accepted in exchange for an unpaid accounts receivable for $105,000. The market rate of interest at that time was 5%.

iii. On July 1, a one-year 10% note for $115,000 was accepted in exchange for unpaid accounts receivable $104,545 from a higher-risk customer. The customer's borrowing interest rate at that time was 10%.

Required:

a. Prepare the entries to recognize the notes payable and accrued interest, if any. The year-end is December 31.

b. Assume that for item (iii) above, the borrower faces financial difficulties and can only pay 75% of the note's maturity amount. After a thorough analysis, the creditor determines that the 25% remaining is uncollectible. Prepare the entry for the note at maturity.

EXERCISE 6–10

On January 1, Harrison Corp. sold used vehicles with a cost of $78,000 and a carrying amount of $12,600 to Aberdeen Ltd. in exchange for a $18,000, four-year non-interest-bearing note receivable. The market rate of interest for a note of similar risk is 7.5%. Harrison follows IFRS and has a year-end of December 31.

Required:

a. Prepare the entries to record the sale of equipment in exchange for the note, the interest for the first year, and the collection of the note at maturity.

b. Prepare the interest entry for the first year assuming that Harrison follows ASPE and uses the straight-line method for interest.

EXERCISE 6–11

On July 1, 2020, Helim Ltd. assigns $800,000 of its accounts receivable to Central Bank of Tasmania as collateral for a $500,000 loan that is due October 1, 2020. The assignment agreement calls for Helim to continue to collect the receivables. Central Bank assesses a finance fee of 3.5% of the accounts receivable, and interest on the loan is 7.5%, a realistic rate for a note of this type and risk.

Required:

a. Assuming the transaction does not qualify as a sale, prepare the July 1, 2020 journal entry for Helim Ltd.

b. Prepare the journal entry for Helim's collection of $750,000 of the accounts receivable during the period July 1 to September 30, 2020.

c. On October 1, 2020, Helim paid Central Bank the entire amount that was due on the loan.

d. Explain the differences between IFRS and ASPE regarding the sale of receivables compared to a secured borrowing.

e. Explain if management would prefer the transaction to be reported as a sale of receivables or a secured borrowing and why.

EXERCISE 6–12

Browing Sales Ltd. sells $1,450,000 of receivables with a fair value of $1,500,000 to Finnish Trust in a securitization transaction that meets the criteria for a sale. Browing receives the full fair value of the receivables and agrees to continue to service them. The fair value of the service liability component is estimated as $250,000.

Required: Prepare the journal entry for Browing to record the sale.

EXERCISE 6–13

Jertain Corporation factors $800,000 of accounts receivable with Holistic Financing Inc. on a with recourse basis. Holistic Financing will collect the receivables. The receivable records are transferred to Holistic Financing on February 1, 2020. Holistic Financing assesses a finance charge of 2.5% of the amount of accounts receivable and also reserves an amount equal to 4% of accounts receivable to cover probable adjustments. Jertain prepares financial statements under ASPE and has a year-end of December 31.

Required:

a. Assuming that the conditions for a sale are met, prepare the journal entry on February 1, 2020, for Jertain to record the sale of receivables, assuming the recourse obligation has a fair value of $10,000.

b. What effect will the factoring of receivables have on calculating the accounts receivable turnover for Jertain?

EXERCISE 6–14

On July 1, 2020, Brew It Again Ale Co. sold excess land in exchange for a three-year, non-interest-bearing promissory note in the face amount of $530,000. The land's carrying value is $250,000.

On September 1, Brew It Again Ale rendered services in exchange for a six-year promissory note having a face value of $500,000. Interest at a rate of 3% is payable annually.

For both transactions, the customers are able to borrow money at 11% interest. Brew It Again Ale's cost of capital is 7.4%.

On October 1, 2020, Brew It Again Ale agreed to accept an instalment note from one if its

customers, in partial settlement of accounts receivable that were overdue. The note calls for five equal payments of $12,000, including the principal and interest due, on the anniversary of the note. The implied interest rate on this note is 12%.

Required:

a. Prepare the journal entries to record the three notes receivable for Brew It Again Ale Co. for 2020 fiscal year.

b. Prepare an effective-interest amortization table for the instalment note obtained in partial collection of accounts receivable. Brew It Again Ale's year-end is December 31. Prepare the year-end journal entry and the first cash payment entries for the first year.

c. From Brew It Again Ale's perspective, what are the advantages of an instalment note compared with a non-interest-bearing note?

EXERCISE 6–15

The following information below relates to Petervale Corporation for 2020:

- The beginning of the year net Accounts Receivable balance was $123,000.
- Net sales for the year were $1,865,000. Credit sales were 54.8% of the total sales and no cash discounts are offered.
- Collections on accounts receivable during the year were $863,260, and uncollectible accounts written off in 2020 were $12,500. The AFDA account ending balance for 2020 needed no further adjustment for estimated uncollectible accounts at year-end.

Required:

a. Calculate Petervale Corporation's accounts receivable turnover ratio for the year. How old is the average receivable?

b. Use the turnover ratio calculated in part (a) to analyze Petervale Corporation's liquidity. The turnover ratio last year was 5.85.

EXERCISE 6–16

Jersey Shores Ltd. sold $1,250,000 of accounts receivable to Fast Factors Inc. on a without recourse basis. The transaction meets the criteria for a sale, and no asset or liability components of the receivables are retained by Jersey Shores. Fast Factors charges a 3.5% finance fee and retains another 5% of the total accounts receivable for estimated returns and allowances.

Required:

a. Prepare the journal entries for both companies.

b. Assume instead, that Jersey Shores follows ASPE and sells the accounts receivable with recourse. The recourse obligation has a fair value of $7,400. Prepare the journal entries for the sale by Jersey Shores.

EXERCISE 6–17

Opal Co. Ltd. transfers $400,000 of its accounts receivable to an independent trust in a securitization transaction on July 11, 2020, receiving 95% of the receivables balance as proceeds. Opal will continue to manage the customer accounts, including their collection. Opal estimates this obligation has a fair value of $14,000. In addition, the agreement includes a recourse provision with an estimated value of $12,000. The transaction is to be recorded as a sale.

Required: Prepare the journal entry on July 11, 2020, for Opal Co. Ltd. to record the securitization of the receivables, assuming it follows ASPE.

Chapter 7

Inventory

Too Much Inventory

BlackBerry Ltd. faced a rough week in late September 2013. Within a seven-day period, the company not only announced a potential buyer for the company but also reported a quarterly loss of close to a billion dollars. The loss was generated primarily by write-down of BlackBerry 10 handsets (BB 10), the company's new flagship product. Prior to this result, the company had been struggling to keep up with other smartphone competitors, and sales of the new phone had not met expectations. As a result of the news reported during this week, the company's share price fell over 20 percent on the market.

When the company reported its annual financial results for the year ended March 1, 2014, the gross profit on hardware sales was actually negative. In fact, it was – $2.5 billion. How can a company report a negative gross profit? In BlackBerry's case, a further write-down of the BB 10 handset occurred in the third quarter, resulting in total write-downs for the year of approximately $2.4 billion. As described in the company's *Management Discussion and Analysis of Financial Condition* report, evaluations of inventory require an assessment of future demand assumptions (BlackBerry Ltd., 2014). Sales of the new BlackBerry product were significantly lower than expected, resulting in a large number of unsold handsets. As the goal of financial reporting is to portray the economic truth of a company, BlackBerry Ltd. had no choice but to accept the reality that their inventory of BB 10 phones could not be sold for the amount reported on the balance sheet. The company described the causes of the write-down as these: the maturing smartphone market, very intense competition, and uncertainty created by the company's strategic review process.

Regardless of the causes, it was clear that this massive write-down had a profound effect on BlackBerry Ltd.'s financial results and share price. Although the write-down was a symptom of other deeper problems in the company, it is clear that management of inventory levels can be a significant issue for many businesses. For the accountant, understanding the importance of the reported inventory amount is paramount, and critically analyzing the valuation assumptions is essential to fair reporting of inventory balances.

(Sources: BlackBerry Ltd., 2014; Damouni, Kim & Leske, 2013)

Chapter 7 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Define *inventory* and identify those characteristics that distinguish it from other assets.

LO 2: Identify the types of costs that should be included in inventory.

LO 3: Identify accounting issues and treatments applied to inventory subsequent to its purchase.

- LO 3.1: Describe the differences between periodic and perpetual inventory systems.
- LO 3.2: Identify the appropriate criteria for selection of a cost flow formula and apply different cost flow formulas to inventory transactions.
- LO 3.3: Determine when inventories are overvalued and apply the lower of cost and net realizable value rule to write-down those inventories.

LO 4: Describe the presentation and disclosure requirements for inventories under both IFRS and ASPE.

LO 5: Identify the effects of inventory errors on both the balance sheet and income statement and prepare appropriate adjustments to correct the errors.

LO 6: Calculate estimated inventory amounts using the gross profit method.

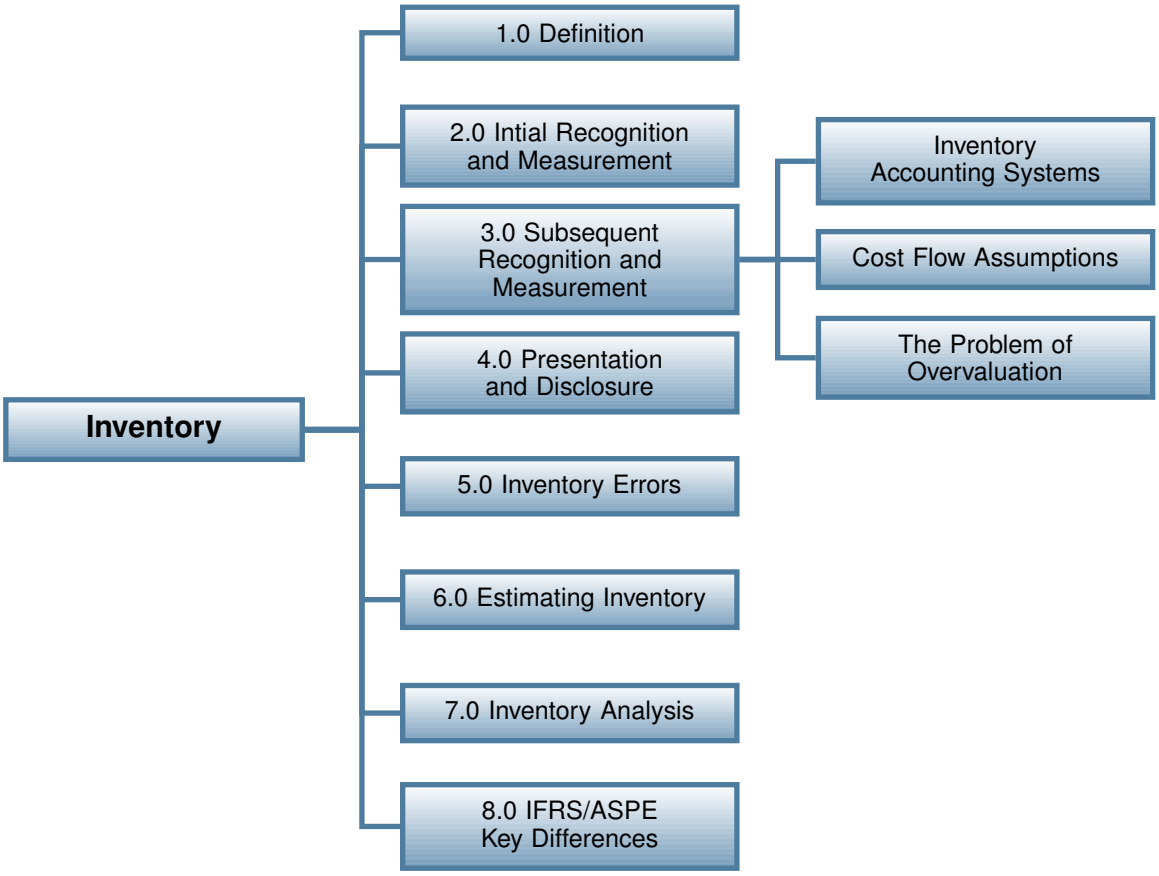
LO 7: Calculate gross profit margin and inventory turnover period and evaluate the significance of these results with respect to the profitability and efficiency of the business's operations.

LO 8: Identify differences in accounting for inventories between ASPE and IFRS.

Introduction

The nature of economic activity has been evolving rapidly over the last two decades. The knowledge economy is becoming an increasingly significant component of the world's gross domestic product. But even in the wired world of services and data, there is always a need for physical products. The concept of retail business may be changing through the development of online shopping, but consumers still expect to receive their goods eventually. This chapter will deal with some accounting issues surrounding the acquisition, production, and sale of inventory items, and it will discuss some of the problems that can arise when errors are made in the recording of inventory items.

Chapter Organization



7.1 Definition

IFRS defines *inventories* as assets that are:

- held for sale in the ordinary course of business,
- in the process of production for such sale, and
- in the form of materials or supplies to be consumed in the production process or in the rendering of services (International Accounting Standards, n.d., 2.6).

The key feature of inventory is that it is held for sale in the normal course of business, which differentiates it from other tangible assets, such as property, plant, and equipment, that are only sold only when their productive capacity is exhausted or no longer required by the business.

The definition also recognizes that for manufacturing businesses, inventory can take various forms throughout the production process. Raw materials, work in process, and finished goods are all considered inventory. For many businesses, inventory can represent a significant asset. In 2013, Bombardier Inc., a manufacturer of airplanes and trains, reported total inventory of $8.2 billion, which represented over 28 percent of the company's total assets. In the same year, Loblaw Companies Ltd., a grocery retailer, reported total inventory of over $2 billion.

It is not surprising that, given its significance, inventory can also be the source of various types of accounting problems. In 2014, BlackBerry had to write off approximately $2.4 billion of its inventory due to slow sales resulting from competitive pressures. In a more troubling series of events, inventories of DHB Industries Inc., a manufacturer of body armour for the military and police, were overstated by approximately $47 million in 2004. The accounting errors included the falsification of amounts included in work in process, and raw materials and a failure to write off significant amounts of obsolete raw materials. These accounting errors led to a Securities and Exchange Commission (SEC) investigation and penalties.

7.2 Initial Recognition and Measurement

An obvious question that arises when considering inventory is, what costs should be included? In answering this question, IFRS has provided some general guidance: the cost of inventories shall include all costs of purchase, costs of conversion, and "other costs incurred in bringing the inventories to their present location and condition" (International Accounting Standards, n.d., 2.10).

Costs of Purchase

Purchase costs include not only the direct purchase price of the goods but also the costs to transport the goods to the company's premises and any nonrecoverable taxes or import duties paid on the purchase. As well, any discounts or rebates earned on the purchase should be deducted from the cost of the inventory.

One issue that often needs to be considered when determining inventory costs at the end of an accounting period is the matter of goods in transit. Goods may be shipped by a seller before the end of an accounting period but are not received until after the end of the purchaser's accounting period. The question of who owns the goods while they are in transit obviously needs to be addressed. More specifically, three issues arise from this question:

1. Who pays for the shipping costs?
2. Who is responsible for the loss if goods are damaged in transit?
3. When should the transfer of ownership be recorded in the accounting records?

To answer these questions, the legal term *free on board* (FOB) needs to be understood. When goods are shipped by a seller, the invoice will usually indicate that the goods are shipped either *FOB shipping* or *FOB destination*. If the goods are FOB shipping, the purchaser is assuming legal title as soon as the goods leave the seller's warehouse. This means the purchaser is responsible for shipping costs as well as for any damage that occurs in transit. As well, the purchaser should record these goods in his or her inventory accounts as soon as they are shipped, even if they don't arrive until after the end of the accounting period. If the goods are FOB destination, the purchaser is not assuming ownership of the goods until they are received. This means that the seller would be responsible for shipping costs and any damage that occurs in transit. As well, the purchaser should not include these goods in his or her inventory until they are actually received. Likewise, the seller would still include the goods in his or her inventory until they are actually delivered to the purchaser. Accountants and auditors pay close attention to the FOB terms of purchases and sales near the fiscal period end, as these terms can affect the accurate recording of the inventory amount on the balance sheet.

Costs of Conversion

Another more complex issue arises in the determination of the cost of manufactured inventories. As noted above, IAS 2-10 requires the inclusion of costs to convert inventories into their current form. For a manufacturing company, this means that inventories will include raw materials, work in progress, and finished goods. For raw materials, the cost is fairly easy to determine. However, for work in progress and finished goods, the determination of which costs to include becomes more complicated. Although labour and variable overhead costs, such as utilities consumed by operating factory machines, are fairly easy to associate directly with the production of a product, the treatment of other fixed overhead costs is not as clear. It can be argued that costs such as factory rent should not be included in the inventory cost because this cost will not vary with the level of production. However, it can also be argued that without the payment of rent, the production process could not occur. For management accounting purposes, a variety of methods are used to account for overhead costs. For financial accounting purposes, however, it is clear that all conversion costs need to be included in inventory. Thus, the financial accountant will need to determine the best way to allocate fixed overhead costs. In normal circumstances, the fixed overhead costs are simply allocated to each unit of inventory produced in an accounting period. However, if production levels are significantly higher or lower than normal levels, then the accountant needs to apply some judgment to the situation. If fixed overhead costs are applied to very low levels of production, the result would be inventory that is carried at a value that may be higher than its realizable value. For this reason, fixed overhead costs should be allocated to low production volumes using the rate calculated on normal production levels, with unallocated overhead being expensed in the period. This is done to avoid reporting misleadingly high inventory levels. On the other hand, if abnormally high production occurs, the fixed overhead costs are allocated using the actual production level. This would result in lower per-unit costs for the inventory produced. This situation could result in higher profits, as presumably some of the excess production would be held in inventory at the end of the year. A manager may be tempted to increase production strictly for the purpose of increasing current earnings. Although this does not violate any accounting standard, the accountant should be careful

in this situation, as there may be a risk of obsolete inventory as a result of the overproduction, or there may be other forms of income-maximizing earnings management occurring.

Other Costs

IAS 2–15 indicates that other costs can be included in inventory only to the extent "they are incurred in bringing the inventories to their present location and condition." The standard provides examples such as certain non-production overhead costs or product-design costs for specific customers. Clearly, the accountant would need to exercise judgment in allocating these kinds of costs to inventory. The standard also clearly defines some costs that should *not* be included in inventories but rather expensed in the current period. These costs include the following:

- Abnormal amounts of wasted materials, labour, or other production costs
- Storage costs, unless those costs are necessary in the production process before a further production stage
- Administrative overheads that do not contribute to bringing inventories to their present location and condition
- Selling costs

As well, IAS 23–Borrowing Costs describes some limited and specific circumstances when interest costs can be included in inventory. IAS 2-19 also discusses inventory of a service provider. An example of this would be a professional services firm, such as an accounting practice. These types of firms will often track work in progress on their balance sheets. These accounts should include only direct costs (which would primarily consist of direct and supervisory labour) and attributable overheads. These costs should not include the costs of any administrative or sales personnel or other non-attributable overheads, nor should they include any mark-ups on costs that might be included in standard charge rates for customers.

7.3 Subsequent Recognition and Measurement

Once the initial inventory amounts have been determined and recorded, a number of subsequent accounting decisions need to be made. These decisions can be summarized in the following questions:

- What type of inventory accounting system should be used?
- What cost flow assumption should be applied?

- What method can be applied to ensure reported inventories are not overvalued?

We will examine each of these issues in the following sections.

7.3.1 Inventory Accounting Systems

A merchandising business can typically be engaged in thousands or millions of inventory transactions each year. As well, inventory can comprise a significant proportion of a merchandising company's total assets. It is thus important for merchandising businesses to have robust and accurate systems in place for gathering data on inventory transactions. The use of various technologies, such as computers, bar codes, and RFIDs, has simplified the complex task of gathering inventory transaction information. The use of such technologies has allowed most businesses to implement **perpetual inventory systems** as their data-collection method. A perpetual inventory system is one that tracks all inventory additions and subtractions (purchases and sales) directly in the accounting records. Thus, at any point in time, the company can produce an accurate income statement and balance sheet that will display the amount of the cost of goods sold for the period and inventory balance at the end of the period. This type of system provides more timely information to managers, which can lead to better decision processes.

A **periodic inventory system**, on the other hand, does not track purchases and sales of inventory items directly in the accounting records. Rather, purchases are tracked through a separate purchases account, and the cost of goods sold is not recorded at all at the time of sale. The cost of goods sold can be determined only at the end of the accounting period, when a physical inventory count is taken, and the ending inventory is then reconciled with the opening inventory. This type of system is less useful for management purposes, as profitability can be determined only at the end of the accounting period. As well, the balance sheet would not reflect the appropriate inventory balance until the period-end reconciliation is performed. Periodic inventory systems may be appropriate for a small business where accounting resources are limited, but improvements in technology have resulted in many businesses switching to perpetual inventory systems.

Note that although a perpetual inventory system does result in an instantaneous update of inventory accounts, physical inventory counts are still required under this system. There are many situations, such as product spoilage or theft, that are not captured by perpetual inventory systems, so it is important that companies employing these systems still physically verify the goods at least once per year.

7.3.2 Cost Flow Assumptions

The issue of cost flow assumptions can become particularly important when prices of inventory inputs are changing. Consider a merchandising company that purchases inventory items on a continuous basis in order to fill customer orders. At any given point during the accounting period, the goods available for sale may consist of identical items that were purchased at different times for different costs. The question the accountant must answer is, which costs should be allocated to the current cost of goods sold and which costs should continue to be held in inventory? To answer this question, the accountant can choose from three possible methods:

- Specific identification
- Weighted average cost
- First in, first out

Specific Identification

This technique is theoretically the most correct way to allocate costs. Each unit that is sold is specifically identified, and the cost for that unit is allocated to cost of goods sold. This method would thus achieve the perfect matching of costs to the revenue generated. There are, however, some disadvantages to this method. First, unless items are easy to physically segregate, it may difficult to identify which items were actually sold. As well, although physical segregation may be possible, this method could be expensive to implement, as a great deal of record keeping is required. The second disadvantage of this method is its susceptibility to earnings-management techniques. If a manager wanted to manipulate the current period net income, he or she could do this very easily using this method by simply choosing which items to sell and which to retain in inventory. Lower cost items could be shipped to customers, which would result in lower cost of goods sold, higher profits, and higher inventory values on the statement of financial position. Because of this potential problem, this technique should be applied only in situations where inventory items are not normally interchangeable with each other. An example of this would be the inventory held by a car dealership. Each item would have a separate serial number and could not be substituted for another item.

Average Cost

This technique can be applied to either periodic or perpetual inventory systems by calculating the average of all goods available for sale and then allocating the average to both the quantity of goods sold and the quantity of goods retained in inventory. When this technique is applied to a perpetual inventory system, it is usually referred to as a **moving average cost**. An example of a moving average cost calculation is as follows:

The following transactions occurred in the month of May for PartsPeople Inc.

May 1	Opening inventory	300 units @ $3.00
May 3	Purchase	100 units @ $3.20
May 7	Purchase	200 units @ $3.25
May 11	Sale	150 units
May 22	Purchase	250 units @ $3.30
May 25	Sale	375 units
May 31	Ending inventory	325 units

Inventory and cost of goods sold would be calculated as follows:

Date	Purchase	Cost of Goods Sold	Balance	Moving Average[1]	Balance of Units
May 1			300 × $3.00 = **$900.00**	$3.0000	300
May 3	100 × $3.20		(300 × $3.00) + (100 × $3.20) = **$1,220.00**	$3.0500	400
May 7	200 × $3.25		(300 × $3.00) + (100 × $3.20) + (200 × $3.25) = **$1,870.00**	$3.1167	600
May 11		150 × $3.1167 = **$467.50**	450 × $3.1167 = **$1,402.50**	$3.1167	450
May 22	250 × $3.30		(450 × $3.1167) + (250 × $3.30) = **$2,227.50**	$3.1821	700
May 25		375 × $3.1821 = **$1,193.30**	325 × $3.1821 = **$1,034.20**	**$3.1821**	**325**

The total cost of goods sold for the period is $(\$467.50 + \$1{,}193.30) = \$1{,}660.80$, and the ending inventory balance is $1,034.20. Under this approach, the average inventory cost is recalculated after each purchase, and this revised average cost is then used to determine the cost of goods sold when a sale is made. After a sale is made, the revised average cost becomes the new base amount for further inventory transactions until the next purchase occurs, and a new average is determined.

This method is often used due to its simplicity and reliability. It is very difficult for managers to manipulate income with this method, as the effects of rising or falling prices will be averaged

[1] The moving average after each transaction is calculated as the total inventory balance divided by the total number of units remaining. The calculation of cost of goods sold and ending balances are out slightly due to rounding differences.

over both the goods sold and the goods remaining on the balance sheet. As well, for goods that are similar and interchangeable, this method may most closely represent the actual physical flow of those goods.

 A video is available on the Lyryx site. Click here to watch the video.

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First in, First out (FIFO)

Another cost-flow choice companies can use is referred to as the **first in, first out** method, usually abbreviated as FIFO. This method allocates the oldest costs to goods sold first, with newer costs remaining in the inventory balance. Assume the same set of facts for PartsPeople Inc. used in the previous example. Under FIFO, each time a sale occurs, the oldest items are removed from inventory first. The calculation of costs and inventory amounts would be done as follows:

Date	Purchase	Sale	Balance	Balance of Units
May 1			300 × $3.00 = **$900.00**	300
May 3	100 × $3.20		(300 × $3.00) + (100 × $3.20) = **$1,220.00**	400
May 7	200 × $3.25		(300 × $3.00) + (100 × $3.20) + (200 × $3.25) = **$1,870.00**	600
May 11		150 × $3.00 = **$450.00**	(150 × $3.00) + (100 × $3.20) + (200 × $3.25) = **$1,420.00**	450
May 22	250 × $3.30		(150 × $3.00) + (100 × $3.20) + (200 × $3.25) + (250 × $3.30) = **$2,245.00**	700
May 25		(150 × $3.00) + (100 × $3.20) + (125 × $3.25) = **$1,176.25**	(75 × $3.25) + (250 × $3.30) = **$1,068.75**	**325**

In this case, the total ending inventory balance of $1,068.75 is higher than the balance calculated under the moving average cost system. This makes sense, as FIFO inventory balances represent the most recent purchases, and in this scenario, input costs were rising throughout the month. This feature of FIFO is considered one of its strengths, as the method results in balance-sheet amounts that more closely represent the current replacement cost of the inventory. Also note that the total cost of goods sold of $1,626.25 ($450.00 + $1,176.25) is lower than moving average amount. This also makes sense, as older costs, which are lower in this case, are being expensed first. This characteristic of FIFO is also one of its major drawbacks. The method of expensing older costs first means that proper matching is not being achieved, as current revenues are being matched to older costs. This method thus represents a trade-off common in accounting standards. A more relevant balance sheet results in a less relevant income statement. Moving average, on the other hand, averages out the differences between the balance sheet and income statement, resulting in some loss of relevance for both statements. As both methods are acceptable under IFRS and ASPE, management would have to decide which statement is more important to the end users and then choose a policy accordingly.

 A video is available on the Lyryx site. Click here to watch the video.

How to Choose?

When making an inventory cost flow assumption, what factors do managers need to consider? Generally, the cost flow assumption should attempt to reflect the actual physical flow of goods as much as possible. For example, a grocery retailer selling perishable merchandise may want to use FIFO, as it is common practice to place the oldest items at the front of the rack to encourage their sale first. Alternatively, consider a hardware store that sells bulk nails that are scooped from a bin. There is no way to identify the individual items specifically, and it is likely that over time, customers scooping out nails would mix together items stocked at different times. Weighted average costing would make the most sense in this case, as this would likely represent the real movement of the product. For a company selling heavy equipment, specific identification would likely make the most sense, as each item would be unique with its own serial number, and these items can be easily tracked.

A further consideration would be the effects on the income statement and balance sheet. FIFO results in the inventory reported on the balance being reported at more current costs. As there is an increasing emphasis in standard setting on valuation concepts, this approach would result in the most useful information for determining the value of the company. If profitability is more important to a financial-statement reader, then weighted average cost would be more useful, as more current costs would be averaged into income.

Income taxes may also be a consideration when choosing a cost flow formula. This motivation must be considered carefully, however, as income will be affected in opposite ways, depending on whether input prices are rising or falling. As well, although taxes could be reduced in any

given year through the cost flow assumption made, this is only a temporary effect, as all inventory will eventually be expensed through cost of goods sold.

Whatever method is chosen, it should be applied on a consistent basis. It would be inappropriate for a company to change cost flow assumptions year to year, simply to achieve a certain result in net income. Once the cost flow assumption is determined, it should be applied the same way each year, unless there has been a significant change in circumstances that warrants a change. A company may use different cost flow assumptions for different major inventory classes, but these choices should still be applied consistently.

As a historical note, a further cost flow assumption, last in, first out (LIFO), was once available for use. This method took the most recent purchases and allocated them to the cost of the goods sold first. LIFO is now not allowed in Canada under IFRS or ASPE, but it is still used in the United States. Although this method resulted in the most precise matching on the income statement, tax authorities criticized it as way to reduce taxes during periods of inflation. As well, it was more easily manipulated by management and did not result in accurate valuations on the balance sheet. Canadian companies that are allowed to report under US GAAP may still use this method, but it is not allowed for tax purposes in Canada.

7.3.3 The Problem of Overvaluation

Overvaluation can occur when inventory is reported at a higher value than the ultimate amount that can be recovered. This happens with changes in market conditions or consumer tastes, or it happens for other reasons. If a particular product loses favour with the market and must be severely discounted or even disposed of, it would not be appropriate to continue to carry that item on the balance sheet at its cost when that cost is not recoverable. To avoid this problem, the **lower of cost and net realizable value (LCNRV)** needs to be applied. Under this approach, inventory values are reduced to their recoverable amounts in order to ensure that current assets are not stated at an amount greater than the ultimate amount of cash that will be realized from their sale. This also results in recording an expense equal to the loss in value of the asset, which achieves the effect of matching the cost to the period in which the loss actually occurs. For example, if an inventory item has a reported cost of $1,000 but a net realizable value of only $800, the company should record the following journal entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss due to decline in inventory value		200	
	Inventory			200

Most companies will simply report the loss as part of the cost of goods sold account on the income statement. Separate disclosure may be appropriate, however, if the amount is considered material or unusual in nature.

What Is Net Realizable Value?

When determining the loss in inventory value, it is important to have a clear understanding of the concept of **net realizable value (NRV)**. Net realizable value is an estimate based on the expected selling price of the goods in the ordinary course of business, less any estimated costs required to complete and sell the goods. It thus represents the net cash flow that will ultimately be generated by the sale of the product. Because the net realizable value is an estimate, it can be affected by management estimation bias and by changes in economic circumstances. As a result, write-downs of inventories need to be reviewed carefully and frequently by accountants to ensure the reported amounts are reasonable.

How Is the Lower of Cost and Net Realizable Test Applied?

In general, the lower of cost and net realizable test should be applied to the most detailed level possible. This would normally be considered to be individual inventory items. However, in some situations, it may be appropriate to group inventory items together and apply the test at the group level. This would be appropriate only when items relate to the same product line, have similar end uses, are produced and marketed in the same geographic area, and cannot be segregated from other items in the product line in a reasonable or cost-effective way. If grouping is appropriate, the amount of inventory write-downs will be less than if the test is applied on an individual-item basis. This occurs because grouping allows for some offsetting of over- and undervalued items.

Biological Assets

One interesting exception to the lower of cost and net realizable value rule is accounting for biological assets. Although ASPE does not specifically address these types of assets, IFRS does present a separate standard: IAS 41 *Agriculture*. This standard covers raising and harvesting living plants and animals. The biological assets are considered the original source of the commercial activity, such as the fruit tree that produces apples, the sheep that produces wool, or the dairy cow that produces milk. The detailed accounting for these specialized assets goes beyond the scope of this course. Generally, the product of the biological asset would fall under the normal rules for inventory accounting, but the biological asset itself is accounted for at its fair value, less selling costs. This means that every year, the value of the biological-asset must be determined, and an adjustment to the assets carrying value must be made. This adjustment would result in an unrealized gain or loss. As the inventory is produced, it is transferred from the biological-asset account to an inventory account at its fair value less selling costs at the point of harvest. This value now becomes the inventory's cost. When inventory is sold, the sale amount is transferred from the unrealized account to realized revenue.

Conceptually, these types of assets are similar in nature to a capital asset, but they are also different in that they grow and obtain value independent of the inventory they produce. This unique nature is the reason IFRS presents a separate standard for the accounting and disclosure of biological assets.

7.4 Presentation and Disclosure

Inventories are required to be disclosed as a separate item on the company's balance sheet. As well, significant categories of inventories should be disclosed, such as raw materials, work in process, and finished goods. As with any significant balance sheet item, the company's accounting policies for measuring and reporting inventories, including its chosen cost formula, should be disclosed. The company should also disclose the amount of inventories recognized as an expense during the period. This would normally be disclosed as cost of goods sold, but there may be other material amounts that could be disclosed separately, such as write-downs due to obsolescence and subsequent reversals of those write-downs. As well, under IFRS, additional details of the write-downs need to be disclosed, such as qualitative reasons for the write-downs or subsequent reversal. If the inventory has been pledged as collateral for any outstanding debt, this fact needs to be disclosed, along with the amount pledged.

7.5 Inventory Errors

Given the volume of inventory transactions that occur in a merchandising or manufacturing business and the portable nature of many inventory items, it is inevitable that errors in accounting for those items will occur. It is important to understand how inventory errors affect the reported net income and financial position of the company, as these errors could be material and could affect users' interpretations of financial results. To understand the effects of inventory errors, it is useful to review the formula for determining the cost of goods sold:

Opening inventory
+ Purchases
= Goods available for sale
– Ending inventory
= Cost of goods sold

As the ending inventory for one accounting period becomes the opening inventory for the next period, it is easy to see how an inventory error can affect two accounting periods. Let's look at a few examples to determine the effects of different types of inventory errors.

Example 1: Using our previous company, assume PartsPeople missed counting a box of rotors during the year-end inventory count on December 31, 2019, because the box was hidden in a storage room. Further assume that the cost of these rotors was $7,000 and that the invoice for the purchase was correctly recorded. How would this error have affected the financial statements? If we consider the cost of goods sold formula above, we can see that understating ending inventory would have overstated the cost of goods sold, as the ending inventory is subtracted in the formula. As well, consider the following year. The opening

inventory on January 1, 2020, would have also been understated, which would have resulted in an understatement of cost of goods sold for 2020. Thus, over a two-year period, net income would have been understated by $7,000 in 2019 and overstated by $7,000 in 2020. At the end of two years, the error would have corrected itself, and the total income reported for those two years would be correct. However, the allocation of income between the two years was incorrect, and the company's balance sheet at December 31, 2019, would have been incorrect. This could be significant if, for example, PartsPeople had a bank loan with a covenant condition that required maintenance of certain ratios, such as debt to equity or current ratios. If the error were discovered prior to the closing of the 2019 books, it would have been corrected as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		7,000	
	Cost of goods sold			7,000

If the error was not discovered until after the 2019 books were closed, it would have been corrected as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		7,000	
	Retained earnings			7,000

After 2020, as noted above, the error would have corrected itself, so no adjustment would be required. However, the 2019 financial statements used for comparative purposes in future years would have to be restated to reflect the correct amounts of inventory and cost of goods sold.

Example 2: Suppose instead that PartsPeople correctly counted its inventory on December 31, 2019, but missed recording an invoice to purchase a $4,000 shipment of brake pads, because the invoice fell behind a desk in the accounting office. Again, using our cost of goods sold formula, we can see that an understatement of purchases will result in an understatement of the cost of goods sold. As the ending inventory balance was counted correctly, one may think that this problem was isolated to this year only. However, in 2020, the vendor may have issued a replacement invoice when they realized PartsPeople hadn't paid for the shipment. When PartsPeople recorded the invoice in 2020, the purchases for that year would have been overstated, which means the cost of goods sold was also overstated. Again, the error corrected itself over two years, but the allocation of income between the two years was incorrect. If the error was discovered before the books were closed for 2019 (and before a replacement invoice is issued by the vendor), it would have been corrected as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cost of goods sold		4,000	
	Accounts payable			4,000

If the error was not discovered until after the 2019 books were closed, it would have been corrected as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Retained earnings		4,000	
	Accounts payable			4,000

Example 3: This time, let's consider the effect of two errors. Assume PartsPeople sold goods to a customer with terms FOB shipping on December 29, 2019. The company correctly recorded this as a sale on December 29, but due to a data-processing error, the goods, with a cost of $900, were not removed from inventory. Further, assume that a supplier sent a shipment to PartsPeople on December 29, also with the terms FOB shipping, and the cost of these goods was $500. These goods were not received until January 4 of the following year, but due to poor cut-off procedures at PartsPeople, these goods were not included in the year-end inventory balance.

In this situation, we have two different errors that create opposing effects on the income statement and balance sheet. The goods sold to the customer should not have been included in inventory, resulting in an overstatement of year-end inventory. The goods shipped by the supplier should have been included in inventory, resulting in an understatement of year-end inventory. The net effect of the two errors is a $\$900 - \$500 = \$400$ overstatement of ending inventory. This will result in an understatement of the cost of goods sold and thus an overstatement of net income. If these errors were discovered before the books were closed in 2019, the entry to correct them would be as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cost of goods sold		400	
	Inventory			400

If the errors were not discovered until after the 2019 books were closed, they would have been corrected as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Retained earnings		400	
	Inventory			400

These three illustrations are just a small sample of the many kinds of inventory errors that can occur. In evaluating the effect of inventory errors, it is important to have a clear understanding of the nature of the error and its impact on the cost of goods sold formula. It is also important to consider the effect of the error on subsequent years. Although immediate correction of errors is preferable, most inventory errors will correct themselves over a two-year period.

However, even if an error corrects itself, there may still be a need to restate comparative financial-statement information.

 A video is available on the Lyryx site. Click here to watch the video.

7.6 Estimating Inventory

Although a business will normally take an inventory count at least once per year to verify the perpetual inventory records, there may be circumstances where an inventory count is either impractical or impossible. For example, when a company prepares interim unaudited financial statements, it may be too costly to conduct an inventory count, as operations would have to cease during the count, and staff would need to be reallocated to this purpose. Or, in the case where a disaster strikes, such as a warehouse fire, inventory may be destroyed, making a count impossible. In these situations, the company may choose to use an estimation method to determine the inventory. The estimated balance can be used for the interim financial statements or for making an insurance claim in the case of a disaster. Several methods can be used to estimate inventory. We will focus on the **gross profit method**.

This method attempts to estimate the inventory balance at a point in time using past relationships between the cost of goods sold and sales and then applying the cost of goods sold formula to determine the ending inventory balance. Consider the following scenario for PartsPeople. On May 17, 2019, a fire caused by faulty electrical wiring completely destroyed one of the company's warehouses and all of the contents. Fortunately, this loss was covered by the company's insurance policy, but in order to make a claim, the company needed a credible estimate of the amount of inventory destroyed. Assume that the inventory on January 1, 2019, was reported at a cost of $250,000, which was verified by a count. As well, assume that between January 1 and May 17, 2019, the cost of all inventory purchases was $820,000, and sales for this period were reported at $1,200,000. Based on analysis of the previous year's results, the company knows that its gross profit percentage is 25 percent. Based on this information, the company could have estimated the cost of the destroyed inventory as follows:

Inventory on January 1		$250,000
Purchases		$820,000
Goods available for sale		$1,070,000
Sales	$1,200,000	
Less gross profit (25% × $1,200,000)	$300,000	
Estimated cost of goods sold		$900,000
Estimated inventory on May 17		$170,000

PartsPeople could have used this information to make a claim in the amount of $170,000 for inventory damaged in the fire. There are some obvious limitations in using this technique.

First, the gross profit percentage used here was based on the previous year's results. If the company had made changes to its pricing or purchasing strategies in 2019, the percentage would need to have been adjusted. Second, a single gross profit percentage has been used for all inventory items. It is quite likely that individual inventory items would have different amounts of gross profit built into their pricing, depending on consumer demand, purchasing dynamics, and so on. This blanket rate is based on an average of all inventory items, but depending on the product mix of both sales and purchases during the intervening period, this rate may not be appropriate.

Because this technique provides only an estimate, it should not be used for annual financial reporting purposes. In the circumstances noted above, however, it can be useful, but the calculated amount should be compared with the perpetual inventory records to determine the reasonableness of the estimate. Management should consider the suitability of the single gross profit percentage and consider any adjustments that may be appropriate.

 A video is available on the Lyryx site. Click here to watch the video.

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7.7 Inventory Analysis

As mentioned previously, inventory can be a significant asset for many businesses, as it represents profit-generating potential. Buying or producing goods at a certain price and then selling them for a higher price is the essence of the retail, wholesale and manufacturing sectors. Obviously, efficient management of these inventories is essential for the success of the business. A company needs to control the cost of inventories in order to maintain its profit margins. As well, companies need to ensure that inventories move through the system quickly. Inventories sitting in a warehouse, unsold, are not producing profits or cash flow for the company. While the items sit in the warehouse, the company will incur costs: the cost of the warehouse space itself and the cost of funds required to finance the inventory. Obviously, to minimize these costs, it is important to sell the inventory as quickly as possible, while maintaining the desired margin.

To analyze inventory, we will look at two types of ratios: gross profit margin and inventory turnover period.

Gross Profit Margin

Gross profit represents the difference between sales revenue and cost of sales. This is an essential measurement in determining the profitability of a business, as it represents the profit

generated by the primary business activity of selling goods, before considering any other expenses. To facilitate comparisons between different sales volumes, the **gross profit margin** is calculated as follows:

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales revenue}} \times 100$$

By expressing this relationship as a percentage, one can make comparisons between different companies or different accounting periods for the same company. This is a type of common size analysis that helps the reader discern relationships and trends that may indicate something about the company's profitability. Consider the following example from the financial statements of a large automobile manufacturer (in $ millions):

	Year Ended December 31, 2021	Year Ended December 31, 2020
Sales	$136,200	$140,100
Cost of sales	123,400	125,300
Gross profit	$ 12,800	$ 14,800

Sales declined slightly in 2021 compared with the previous year, as did gross profit. By calculating the gross profit margin, we can get a better idea of the meaning of these results:

Gross profit margin 2021 = 9.40%
Gross profit margin 2020 = 10.56%

Although the gross profit margin dropped by only 1.16 percent between years, this represents lost profits of approximately $1.5 billion on this scale of revenues. Management would obviously be motivated to find ways to control these margins to prevent further declines, whether through adjusting sales prices or controlling costs better.

Inventory Turnover Period

Aside from the profitability of the business's core activities as calculated above, management is also interested in the efficiency of carrying out those activities. One way to measure the efficiency of inventory movements to calculate the **inventory turnover period**:

$$\text{Inventory turnover period} = \frac{\text{Average inventories held}}{\text{Cost of sales}} \times 365$$

This ratio will help us understand how quickly the company moves inventory through the various business processes that eventually result in a sale. For a manufacturing company,

this process begins with the receipt of raw materials and ends when the finished goods are finally sold. Once again, consider the reported inventory levels of the automobile manufacturer (in $ millions): 2021–$7,860, 2020–$7,700, 2019–$7,360.

Using the formula above, we can determine the following inventory turnover periods:

2021: 23.01 days
2020: 21.94 days

(Note that the average inventories amount was calculated as the simple average of opening and closing inventories. For businesses with seasonal or other unusual patterns of sales, more sophisticated calculations of the average inventories may be required.)

In this example, the inventory turnover period increased by slightly more than one day during the current year. This may not seem significant, but it does indicate that inventories are being held for a longer time, which will increase the company's costs. Line managers are very motivated to find ways to reduce the turnover period through more efficient purchasing practices, better production techniques, and more effective sales promotions.

It should be noted that the absolute values of the ratios we have calculated are not particularly useful on their own. Like all ratios, a comparison or benchmark is needed for comparison. Most companies will start by comparing the ratio with the previous year to see if improvements have occurred in the current year. Many managers will also compare with a budgeted or target amount, as this will provide feedback on the actions they have taken. It may also be useful to compare with industry standards or competitor data, as this indicates something of the company's competitive position. Ratio analysis does not provide answers to questions, but it does help managers and other financial statement users to identify areas where performance is improving or declining.

7.8 IFRS/ASPE Key Differences

IFRS	ASPE
Biological assets that produce a harvestable product are accounted for under the provisions of IAS 41.	No specific standard exists for biological assets or agricultural produce.
Disclosures regarding categories of inventories and accounting policies are required. As well, further disclosures regarding qualitative reasons for write-downs are required.	Disclosures regarding categories of inventories and accounting policies used are required.

Chapter Summary

LO 1 Define inventory, and identify those characteristics that distinguish it from other assets.

Inventories can be a significant asset for many businesses. The key feature of inventory is that it is held for sale in the normal course of business, which distinguishes it from financial instruments and long-lived assets, such as property, plant, and equipment.

LO 2: Identify the types of costs that should be included in inventory.

Recognition of the initial cost of purchase should include transportation, discounts, and other nonrecoverable taxes and fees that need to be paid to transport the goods to the place of business. FOB terms of purchase need to be considered when applying cut-off procedures at the end of the accounting period. This is important for determining when the responsibility for the inventory passes from the seller to the buyer. For manufacturers, conversion costs must also be included in inventory. For direct materials and labour, this allocation is fairly straightforward. However certain issues with overhead allocations can occur with low or high production levels. With abnormally low production levels, overheads should be allocated at the rate used for normal production levels. With abnormally high production levels, overheads should be allocated using the actual level of production. Other costs required to bring the inventory to the place of business and get into a saleable condition may also be included. The accountant will need to exercise judgment when considering other costs to include.

LO 3: Identify accounting issues and treatments applied to inventory subsequent to its purchase.

LO 3.1: Describe the differences between periodic and perpetual inventory systems.

Perpetual inventory systems are those that instantly update accounting records for sales and purchases of goods. These types of systems are commonly used today and are facilitated by advances in computer and other technologies. Periodic inventory systems do not allow for the real-time updating of accounting records. Rather, these systems require a periodic inventory count (at least annually) that is then used to derive the cost of goods sold. These types of systems are less useful for management purposes. Even under a perpetual inventory system, annual inventory counts are still required to detect spoilage, theft, or other unaccounted inventory changes.

LO 3.2: Identify the appropriate criteria for selection of a cost flow formula, and apply different cost flow formulas to inventory transactions.

The cost flow formula determines how to allocate inventory costs between the income statement and the balance sheet. Although specific identification of individual inventory items is the most precise way to allocate these costs, this method would only be appropriate with inventory items whose characteristics uniquely differentiate them from other inventory units. For homogeneous inventory products, weighted average or first in, first out (FIFO) are appropriate choices. Weighted average (or moving average, when used with a perpetual inventory system) recalculates the average cost of the inventory every time a new purchase is made. This revised cost is used to determine the cost of goods sold. With FIFO, the oldest inventory items are assumed to be sold first. Each method has certain advantages and disadvantages, and each has a different effect on the balance sheet and income statement. The choice of method will depend on the actual physical movement of goods, financial reporting objectives, tax considerations, and other factors. Whatever method is chosen, it should be applied consistently.

LO 3.3: Determine when inventories are overvalued, and apply the lower of cost and net realizable value rule to write-down those inventories.

When economic circumstances change, such as a shift in consumer preferences, a company may find itself holding inventory that cannot be sold for its carrying value. In this case, the inventory should be written-down to its net realizable value (selling price less estimated costs required to complete and sell the goods) in order to ensure the balance sheet is not reporting a current asset at a value greater than the amount of cash that can be realized from its sale. Generally, this technique should be applied on an individual-item basis, but in certain cases where a group of products all belong to one product line, are produced and marketed in one geographic area, have similar end uses, or are difficult to segregate, it may be appropriate to apply the test on a grouped basis. Judgment is required in applying this technique, as net realizable values are estimates that may not be easy to verify.

One unique application of fair value inventory accounting relates to biological assets. These are assets that are living plants or animals used to produce an agricultural product. Under IFRS these assets are adjusted to their fair value, less selling costs, each year. This can result in increases as well as decreases in value.

LO 4: Describe the presentation and disclosure requirements for inventories under both IFRS and ASPE.

Inventory should be described separately on the balance sheet, with separate disclosure of major categories such as raw materials, work in process, and finished goods. Accounting policies used should also be disclosed, as well as the amount of any inventory that has been

pledged as collateral for any liability. The amount of inventory expensed during the period should be disclosed as cost of goods sold on the income statement, but other categories, if material, could be disclosed separately, such as significant write-downs or reversals of write-downs.

LO 5: Identify the effects of inventory errors on both the balance sheet and income statement, and prepare appropriate adjustments to correct the errors.

Due to the nature and relative volume of inventory transactions, material errors in financial reporting can occur. To correct these errors, the accountant must have a firm understanding of the cost of goods sold formula and its effects on both the current and subsequent years. If inventory errors are discovered after the closing of the books, an adjustment to retained earnings may be required. If an error is not discovered until two years after its occurrence, it is quite likely that the error has corrected itself. In this case, no adjusting entry would be required, but restatement of prior-year comparative results would still be necessary.

LO 6: Calculate estimated inventory amounts using the gross profit method.

The gross profit method can be useful for estimating inventory amounts when a physical count is impractical or impossible. This could be the case when for interim reporting periods or when the inventory is destroyed in a disaster. The technique uses past gross profit percentages and applies it to purchases and sales during the period to estimate the amount of inventory on hand. The method is not appropriate for annual financial reporting purposes, as the estimate could be subject to error as a result of using past gross profit percentages that are not representative of current margins or are not representative of the current product mix. Considerable judgment and care should be applied when using this method.

LO 7: Calculate gross profit margin and inventory turnover period, and evaluate the significance of these results with respect to the profitability and efficiency of the business's operations.

Managers are concerned about the profitability of the company's core business of buying and selling products. Managers are also concerned with the efficiency with which products are moved through the production and sales process. Calculating gross profit margin can identify trends in the profitability of the company's core operations. Calculating inventory turnover period can identify problems with the efficiency movement of inventories, including raw materials, work in progress, and finished goods. Ratio calculations need to be compared with some type of benchmark to be meaningful.

LO 8: Identify differences in accounting for inventories between ASPE and IFRS.

Inventory accounting standards under IFRS and ASPE are substantially the same. The primary difference relates to biological assets. IFRS has a complete set of standards (IAS 41) for these types of assets, whereas ASPE does not separately identify this category. As well, IFRS requires certain additional disclosures that ASPE does not, including a description of qualitative reasons for inventory write-ups and write-downs.

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Exercises

EXERCISE 7–1

Identify which of the following costs of a product manufacturer would be included in inventories:

- Salaries of assembly line workers
- Raw materials
- Salary of factory foreman
- Heating cost for the factory
- Miscellaneous supplies used in production process
- Salary of the CEO
- Costs to ship raw materials from the supplier to the factory

- Electricity cost for the factory
- Salaries of the sales team
- Depreciation of factory machines
- Property taxes on factory building
- Discounts for early payment of raw material purchases
- Salaries of the factory's janitorial staff

EXERCISE 7–2

Complete the following table by identifying whether the seller (S) or the purchaser (P) is the appropriate response for each cell.

	FOB Shipping	FOB Destination
Owns the goods while in transit		
Is responsible for the loss if goods are damaged in transit		
Pays for the shipping costs		

EXERCISE 7–3

Hasselbacher Industries Ltd. has fixed production overhead costs of $150,000. In a normal year, the company produces 100,000 units of product, which results in a fixed overhead allocation of $1.50 per unit.

Required:

a. If the company produces 105,000 units in a year, how much total fixed overhead should be allocated to the inventory produced?

b. If the company produces 30,000 units in a year, how much total fixed overhead should be allocated to the inventory produced?

c. If the company produces 160,000 units in a year, how much total fixed overhead should be allocated to the inventory produced?

EXERCISE 7–4

Segura Ltd. operates a small retail store that sells guitars and other musical accessories. During the month of May, the following transactions occurred:

	Number of Units	Cost per unit
Opening inventory, May 1	8	$550
Purchase, May 5	50	$560
Purchase, May 8	10	$575
Sale, May 15	15	
Purchase, May 22	12	$572
Sale, May 25	23	
Closing inventory, May 31	42	

Required: Segura Ltd. uses a perpetual inventory system. Using the FIFO cost flow assumption, calculate the cost of goods sold for the month of May and inventory balance on May 31.

EXERCISE 7–5

Refer to the information in the previous question.

Required: Assume that Segura Ltd. uses the moving average cost flow assumption instead. Calculate the cost of goods sold for the month of May and the inventory balance on May 31.

EXERCISE 7–6

The following chart for Severn Ltd. details the cost and selling price of the company's inventory:

Description	Category	Cost ($)	Selling Price ($)
Brake pad #1	Brake pads	159	140
Brake pad #2	Brake pads	175	180
Total brake pads		334	320
Soft tire	Tires	325	337
Hard tire	Tires	312	303
Total tires		637	640

Required:

a. Assume that grouping of inventory items is **not** appropriate in this case. Apply the lower of cost and net realizable value test and provide the required adjusting journal entry.

b. Assume that grouping of inventory items is appropriate in this case. Apply the lower of cost and net realizable value test and provide the required adjusting journal entry.

EXERCISE 7–7

Hawthorne Inc. identified the following inventory errors in 2020.

a. Goods were in transit from a vendor on December 31, 2020. The invoice cost was $82,000 and the goods were shipped FOB shipping point on December 27, 2020. The goods will be sold in 2021 for $135,000. The goods were not included in the inventory count.

b. On January 6, 2021, a freight bill for $6,000 was received. The bill relates to merchandise purchased in December 2020 and two-thirds of this merchandise was still in inventory on December 31, 2020. The freight charges were not included in either the inventory account or accounts payable on December 31, 2020.

c. Goods shipped to a customer FOB destination on December 29, 2020, were in transit on December 31, 2020, and had a cost of $27,000. When notified that the customer had received the goods on January 3, 2021, Hawthorne's bookkeeper issued a sales invoice for $42,000. These goods were not included in the inventory count.

d. Excluded from inventory was a box labelled "Return for Credit." The cost of this merchandise was $2,000 and the sale price to a customer had been $3,500. No entry had been made to record this return and none of the returned merchandise seemed damaged.

Required: Determine the effect of each of the above errors on both the balance sheet accounts at December 31, 2020, and the reported net income for the year ended December 31, 2020 and complete the table below.

Item	Inventory	A/R	A/P	Net Income
A				
B				
C				
D				
Total				

EXERCISE 7–8

Refer to the information provided in the previous question.

Required:

a. Assume the books are still open for 2020. Provide any required adjusting journal entries to correct the errors.

b. How would the adjustments change if the books are now closed for 2020?

EXERCISE 7–9

Wormold Industries suffered a fire in its warehouse on March 4, 2021. The warehouse was full of finished goods, and after reviewing the damage, management determined that inventory, with a retail selling price of $90,000, was not damaged by the fire.

For the period from January 1, 2021, to March 4, 2021, accounting records showed the following:

Purchases	$650,000
Purchase returns	16,000
Sales revenue	955,000

The inventory balance on January 1, 2021, was $275,000, and the company has historically earned a gross profit percentage of 35%.

Required: Use the gross profit method to determine the cost of inventory damaged by the fire.

EXERCISE 7–10

Bollen Custom Automobile Mfg. reported the following results (all amounts are in millions USD):

	2020	2019
Sales	20,222	13,972
Cost of sales	17,164	11,141
Gross profit	3,058	2,831
Inventories at year end	2,982	1,564

Inventories at the end of 2018 were $1,239.

Required: Using the data above, analyze the profitability and efficiency of the company with respect to its core business activities. Provide any points for further investigation that your analysis reveals.

Chapter 8

Intercorporate Investments

An Acquisition Debacle for Hewlett Packard

In 2011, Hewlett-Packard (HP) purchased approximately 87% of the share capital (213 million shares) of Autonomy Corporation plc. for US $11.1 billion cash. The purpose of this acquisition was to ensure that HP took the lead in the quickly growing enterprise information management sector. Autonomy's products and solutions complemented HP's existing enterprise offerings and strengthened the company's data analytics, cloud, industry, and workflow management capabilities, so the acquisition made sense from a strategic point of view.

Autonomy HP was to operate as a separate business unit. Dr. Mike Lynch, founder and CEO of Autonomy, would continue to lead Autonomy HP's business and report to HP's Chief Executive Meg Whitman (Hewlett Packard, 2011).

However, trouble quickly brewed and in 2012, accounting "anomalies" were uncovered by HP, giving rise to a massive impairment write-down of the Autonomy HP unit to the tune of an $8.8 billion impairment charge. Compared to the original $11.1 billion purchase price, the impairment represented a whopping 79% drop in the investment's value, a mere one year later.

HP alleged that the owners of Autonomy misrepresented their company's financial position due to what HP referred to as serious accounting *improprieties*. To make matters worse, all this came at a bad time for HP, given that its fourth quarter financial results were already down 20% in hardware sales and 12% in laptop/desktop sales (Souppouris, 2012).

The question remained; how was it possible to lose 79% of Autonomy HP unit value in less than one year? HP claims to have discovered all kinds of accounting irregularities which were denied by Autonomy's founder and CEO, Mike Lynch. HP claimed that it would have paid half the purchase price, had it known what it later discovered about Autonomy's true profitability and growth.

Consider that software companies like Autonomy do not have much value in hard assets, so the impairment did not relate to a revaluation of assets. Also, Autonomy did not have much in the way of outstanding invoices, so there was no large non-payment of amounts owed to trigger the drop in value and subsequent impairment write-down.

So the impairment charge more likely reflected a reassessment by HP of the future cash flows originally estimated, based on the financials, to be much less than anticipated. This

is backed up by Chief Executive Meg Whitman's assertion that Autonomy's real operating profit margin was closer to 30%, and not its reported 40 to 45%.

Whitman accused Autonomy of recording both long-term deals and sales through resellers as fully realized sales. Consider that the booking of revenue is not clear-cut in the software industry because of the differing accounting rules. For example, if Autonomy recorded an extra $20 million of future sales now, without recording the associated additional cost of goods sold, the gross profit percentage would exponentially increase, perhaps by as much as 10 to 15%.

HP also stated that the actual losses of Autonomy's loss-prone hardware division were misclassified as "sales and marketing expenses" in the operating expenses section rather than as cost of goods sold in the gross profit section. Since sales figures were reported as steeply increasing, this would create a more favourable overall growth rate. Since growth is another factor in business valuations, this exponential effect could also have affected the purchase price HP thought it was willing to pay.

Companies can also increase reported net income by inappropriately classifying certain current expenses as investments (assets), which are thereafter amortized over several years. Some analysts suspected that Autonomy misclassified some of its research costs in this way. Moreover, some of Autonomy's growth was generated from acquisitions of other businesses. Takeovers can, for example, give a more favourable impression of growth rates, if pre-acquisition sales are understated. In this light, apparently, some analysts questioned Autonomy's acquisition accounting.

With all the factors discussed above, it is possible that HP could allege and demonstrate that inappropriate reporting and valuation errors led to a discrepancy the size of which it purports. Autonomy HP unit CEO, Mike Lynch, denies all charges of reporting impropriety or error. He said that Autonomy followed international accounting rules.

Until HP's accusations are fully investigated, it will be impossible for stakeholders and others to know what really happened.

(Source: Webb, 2012)

[Note: IFRS refers to the balance sheet as the *statement of financial position* **(SFP) and ASPE continues to use the historically-used term** *balance sheet* **(BS). To simplify the terminology, this chapter will refer to this statement as the historically generic term** *balance sheet***.**

Chapter 8 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe intercorporate investments and their role in accounting and business.

LO 2: Identify and describe the three types of non-strategic investments.

- LO 2.1: Fair value through net income (FVNI) classification and accounting treatment.
- LO 2.2: Fair value through OCI (FVOCI) classification and accounting treatment.
- LO 2.3: Amortized Cost (AC) classification and accounting treatment.

LO 3: Identify and describe the three types of strategic investments.

- LO 3.1: Investments in associates classification and accounting treatment.
- LO 3.2: Investments in subsidiaries classification and accounting treatment.
- LO 3.3: Investments in joint arrangements general overview.

LO 4: Explain disclosures requirements for intercorporate investments.

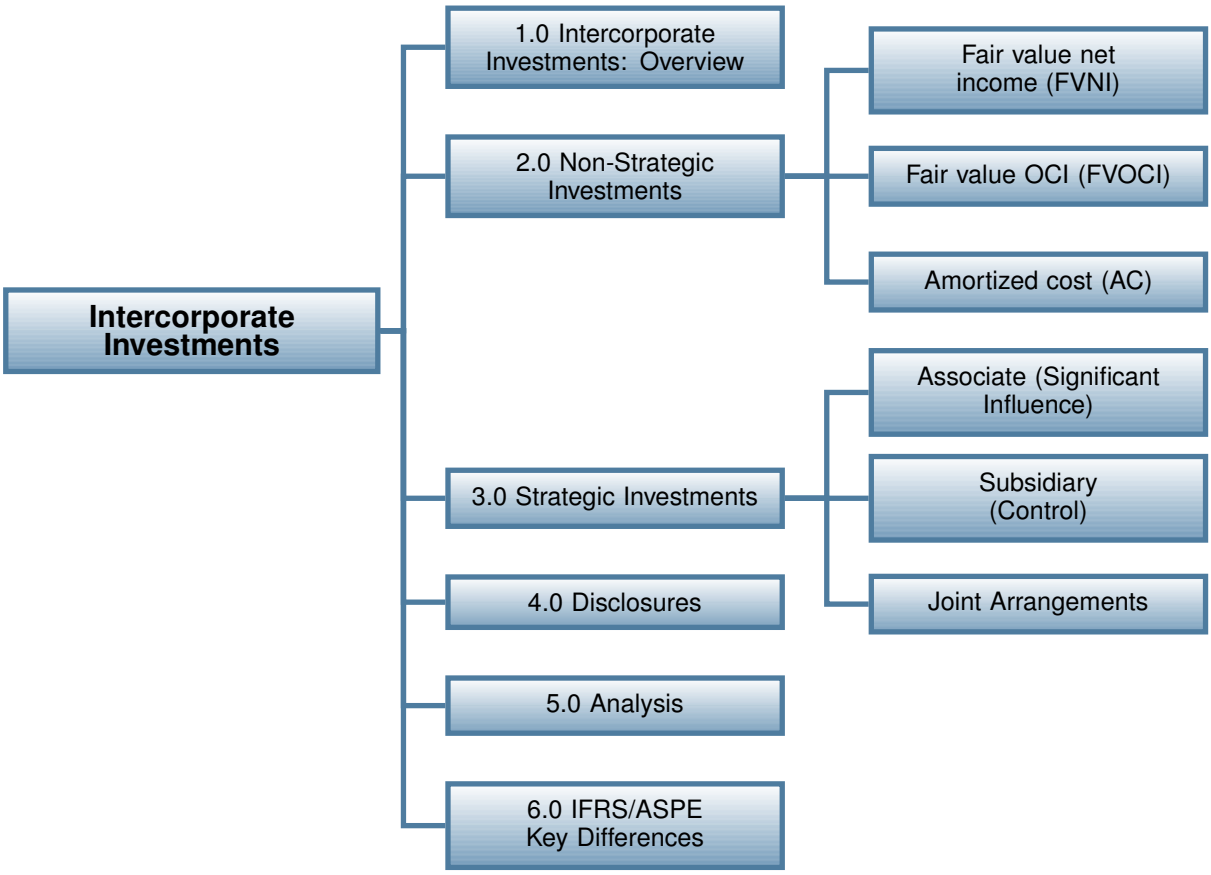
LO 5: Identify the issues for stakeholders regarding investment analyses of performance.

LO 6: Discuss the similarities and differences between IFRS and ASPE for the three non-strategic investment classifications.

Introduction

Intercorporate investments arise when companies invest in other companies' securities as the Hewlett Packard shares acquisition cover story illustrates. This chapter will focus on explaining how these investments are classified, measured (both initially and subsequently), reported, and analyzed. Canada currently has two IFRS standards in effect: IFRS 9, which was effective January 1, 2018 and ASPE. The purpose of this chapter is to identify the various classifications and accounting treatments permitted by either standard for investments in other companies' debt and equity securities.

Chapter Organization



8.1 Intercorporate Investments: Overview

There are many reasons why companies invest in bonds, shares, and securities of other companies. It is well-known that banks, insurance companies, and other financial institutions hold large portfolios of investments (financed by deposits and fees their customers paid to the banks) to increase their interest income. But it may also be the best way for companies in non-financial industry sectors to utilize excess cash and to strengthen relationships with other companies. If the investments can earn a higher return compared to idle cash sitting in a bank account, then it may be in a company's best interests to invest. The returns from these investments will be in the form of interest income, dividend income, or an appreciation in the value of the investment itself, such as the market price of a share.

In some cases, investments are a part of a portfolio of actively managed short-term investments undertaken in the normal course of business, to offset other financial risks such as foreign exchange fluctuations. Other portfolios may be for longer-term investments such as bonds that will increase the company's interest income. These are examples of **non-strategic**

investments where the prime reason for investing is to increase company income using cash not required for normal business operations.

Alternatively, companies may undertake **strategic investments** where the prime reason is to enhance a company's operations. If the percentage of voting shares held as an investment is large enough, the investing company can exercise its right to influence or control the investee company's investing, financing and operating decisions. Strategies to purchase shares of a manufacturer, wholesaler, or customer company can strengthen those relationships, perhaps to guarantee a source of raw materials or increase market share for sales. In some cases, it can be part of a strategy to take over a competitor because it would enhance business operations and profits to do so. Intercorporate investments do have risks as the opening story explains. Hewlett Packard's acquisition of a controlling interest in the voting shares of Autonomy Corp. is an example of where a strategic investment, which was to improve HP's operations and profit, does not always work out as originally intended.

The many different reasons why companies invest in other companies creates significant accounting and disclosure challenges for standard setters. For example, how are investments to be classified and reported in order to provide relevant information about the investments to the stakeholders? What is the best measurement—cost or fair value? How should investments be reported if the investment's value were to suddenly decline in the market place? Are there differences in the accounting treatments and reporting requirements between IFRS and ASPE? These are all relevant accounting issues that will be examined in this chapter.

What are Investments?

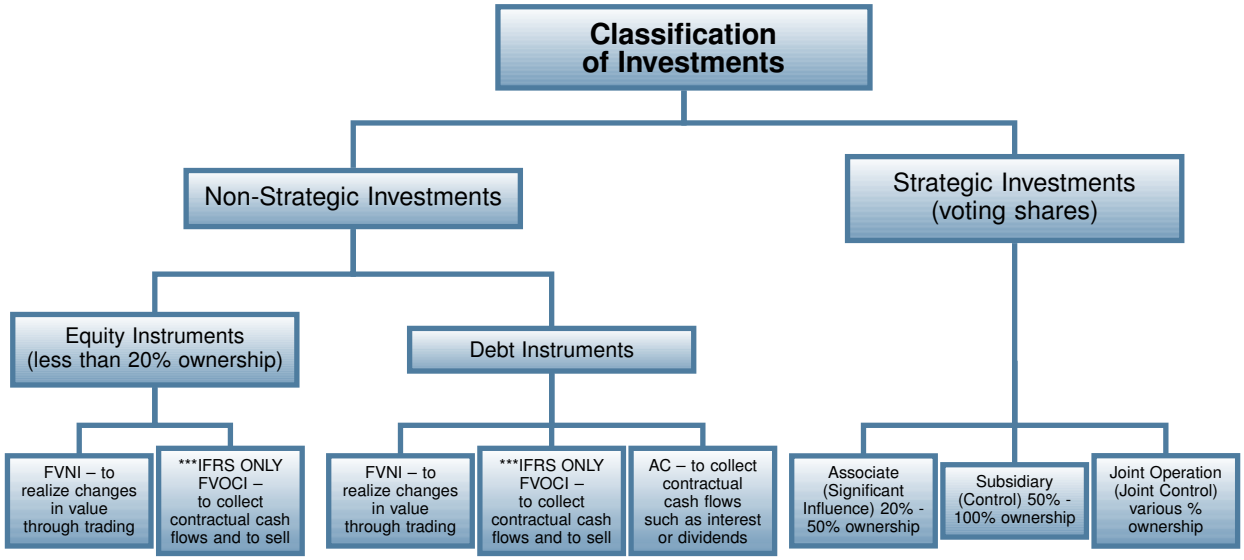
Investments are **financial assets**. Chapter 6: Cash and Receivables, defines financial assets as those that have contractual rights to receive cash or other financial assets from another party. Examples of intercorporate investments include the purchase of another company's **debt instruments** (such as bonds or convertible debt) or **equity instruments** (such as common shares, preferred shares, options, rights, and warrants). The company purchasing the investment (investor) will report these purchases as investment assets, while the company whose bonds or shares were purchased (investee) will report these as liabilities or equity respectively. For this reason, intercorporate investments are **financial instruments** because the financial asset reported by one company gives rise to a financial liability or equity instrument in another company.

Initial Measurement

The initial measurement for investments is relatively straightforward. All investments are initially measured at fair value which is the acquisition price that would normally be agreed to between unrelated parties. Any transactions costs such as fees and commissions are either expensed or included in the investment asset except valuation which will be explained later in the chapter.

Subsequent Measurement

There is no single subsequent measurement for all investments for IFRS and ASPE. Below is a summary of the various classification alternatives for the two current standards for IFRS 9 and ASPE.



*includes most derivatives

As stated above, investments can either be a **strategic** acquisition of voting shares of another company in order to influence the investee company's operating, investing, financing decisions, or a non-strategic financing decision in order to earn a return on otherwise idle or under-utilized cash. Within these two broad categories are six classifications: fair value through net income (FVNI), fair value through OCI (FVOCI), amortized cost (AC), significant influence, subsidiary, and joint arrangement.

Both IFRS and ASPE identify some percentage of ownership reference points as guidelines to help determine in which category to classify an investment. For example, any investment in shares where the ownership is less than 20% would be considered a non-strategic investment. It is highly unlikely that this level of ownership would result in having any influence on a company's decisions or operations. These investments are acquired mainly for the investment return of interest income, dividend income, and capital appreciation resulting from a change in fair values of the investment itself, depending on the company's investment business model. For share purchases of between 20% and 50%, the investor will more likely have a significant influence over the investee company as previously explained. These percentages are not cast in stone. Classifications of investments do not always have to adhere to these ranges where it can be shown that another classification is a better measure of the true economic substance of the investment. For example, an investment of 30% of the shares of a company may not have any significant influence if the remaining 70% is held by very few other investors who are tightly connected together. The circumstances for each investment must be considered when determining the classification of an investment purchase.

A share investment of 50% or greater will result in the investor having control over the company's decisions and policies because the majority of the shares are held by the investing company. The investee company will be regarded as a subsidiary of the investor company. This was the case in the cover story where Hewlett Packard purchased the majority of the outstanding shares of Autonomy Corporation in order to enhance HP's operations.

Classifications and Accounting Treatments

Below is a classification summary for IFRS 9 and ASPE (Sec. 3856). Note the differences between the accounting standards. ASPE has two classifications for its non-strategic investments and IFRS has three classifications. The table below summarizes the classification criteria for ASPE and IFRS:

	ASPE		**IFRS**	
Classification basis	*Type of investment as either debt or equity, and if there is an active market*		*Management intent and investment business model is to hold and collect interest and dividends only, or to also sell/trade in order to realize changes in value of the investment*	
	Description	**Classification**	**Description**	**Classification**
Non-strategic Investments				
	Short-term trading Investments: equities trading in an active market	Fair value through net income (FVNI)	Equities, debt or non-hedged derivatives (i.e., options, warrants) where intent is to sell/trade to realize changes in value of the investment	Fair value through net income (FVNI)
			Equities[1] and debt where intent is to collect cash flows of interest or dividends, AND to sell, to realize changes in value of the investment.	Fair value through Other Comprehensive Income (FVOCI) with recycling (debt) or no recycling (equities)
	All other equities and debt	Equities at cost and debt at amortized cost (AC)	Debt where intent is to collect contractual cash flows of principal and interest and to hold investment until maturity	Amortized cost (AC)
Strategic Investments – must be voting shares				

	Significant Influence: equities	Choice of equity method, cost or fair value through net income if active market exists	**Associate: equities** acquired to influence company decisions	Equity method
	Subsidiary: equities	Choice of consolidation, equity, cost, or quoted amount if active market exists	**Control: equities** acquired for control of company	Consolidation
	Joint Arrangement: equities	Proportionate consolidation, equity, or cost depending upon the nature of the joint arrangement and arrangement terms	**Joint Arrangement: equities**	Proportionate consolidation or equity depending upon the nature of the joint arrangement and arrangement terms

Under IFRS 9, investments are divided into separate portfolios according to the way they are managed. For non-strategic investments these classifications are based on "held to collect solely principal and interest cash flows (AC)", "held to collect solely principal and interest cash flows AND to sell (FVOCI)", and "all else (FVNI)". That is not to say that investments classified as AC can never be sold, but sales in this classification would be incidental and made in response to some sort of change in the investment, such as an increase in investment risk. FVOCI considers that sales are an integral part of portfolio management where active buying and selling are typical activities in order to collect cash flows while investing is held, AND to realize increases in fair values through selling. Both ASPE and IFRS allows companies to classify an investment as FVNI only at acquisition. For IFRS this FVNI election is only to eliminate or significantly reduce an accounting mismatch arising from a measurement or recognition inconsistency for investments that would otherwise be classified as AC or FVOCI.

Differences in the ASPE standard, such as the choice of either straight-line or effective interest rate methods or impairment evaluation and measurement of certain investments, will be separately identified throughout the chapter. Companies that follow IFRS can choose to record interest, dividends, and fair value adjustments to a single "investment income or loss" account or they can keep these separated in their own accounts. ASPE requires that interest, dividends, and fair value adjustments each be reported separately. Since IFRS companies still need to know the interest expense from any dividends received for tax purposes, this chapter separates interest and dividends for both IFRS and ASPE companies, as this is appropriate for both standards and for simplicity and consistency.

Below are the classification categories with details about how they are measured and reported.

[1] Equities is a special irrevocable election only.

8.2 Non-Strategic Investments

8.2.1 Fair Value Through Net Income (FVNI)

Types of Investments	Accounting Treatment
Debt (bonds)	Interest and dividends through net income as earned/declared.
Equities[2](shares)	Remeasure investment to fair value at each reporting date or upon sale, with gains/losses through net income. Can be recorded directly to investment or through an asset valuation account.

Investments in debt and equity, including derivatives, are reported at their fair value at each balance sheet date with fair value changes reported in net income. Transactions costs are expensed as incurred. Any gain (loss) upon sale of the investment is reported in net income. FVNI investments are reported as a current asset if they meet the conditions of a current asset, such as; a cash equivalent, are held for trading purposes, or are expected to mature or be sold within 12 months of the balance sheet/SFP reporting date or the normal operating cycle. Otherwise, they are a long-term asset.

Market (fair) values can go up or down while FVNI investments are being held. These increases and decreases are referred to as **unrealized gains and losses and are reported in net income**. Once a sale occurs, the investment can either be remeasured to its fair value as an unrealized gain/loss followed by the receipt of cash, or the gain or loss will be recorded as **realized** and reported through net income as a gain (loss) from the sale of the investment. Either treatment is acceptable for FVNI classification, because the unrealized and realized gains/losses are reported the same way in the income statement. For this reason, treatment as either an unrealized or realized gain/loss upon sales can become blurred.

In order to preserve the original cost of the investment, companies may choose to use an asset **valuation allowance** account instead of directly changing the asset carrying value. This is an option for any of the FVNI, FVOCI, and AC classification discussed in this chapter and will be illustrated in more detail below.

Impairment

Investments are reported at fair value at each reporting date, so no separate impairment evaluations and entries are required.

[2]Equities in FVNI classification can include non-hedged derivatives such as options or warrants.

FVNI Investments in Shares

The accounting for FVNI equity investments such as shares is usually more straight-forward compared to debt investments such as bonds.

Assume that the following equity transactions occurred for Lornelund Ltd. in 2020:

Lornelund Ltd. – Non-Strategic Equity Investments				
Dates in 2020	Transaction Detail	# of Shares	Price per Share	Total Amount
June 1	Purchased Symec Org. shares for $150 per share (transaction costs were an additional $1.25 per share)	1,000	$150.00	$150,000
Aug 15	Purchased Hemiota Ltd. shares	2,500	84.00	210,000
Nov 30	Dividends for Symec declared and received	1,000	6.10	6,100
Dec 31	Market price for Symec shares at year-end		165.00	
Dec 31	Market price for Hemiota shares at year-end		82.00	
Dates in 2021				
Jan 10	Sold Symec shares	500	165.70	82,850

The journal entries for the FVNI investments are recorded below:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 1 2020	FVNI investments – Symec shares		150,000	
	Transactions fees expense		1,250	
	Cash			151,250
Aug 15 2020	FVNI investments – Hemiota shares		210,000	
	Cash			210,000
Nov 30 2020	Cash (or Dividend receivable if declared but not paid)		6,100	
	Dividend income			6,100
Dec 31 2020	FVNI investments – Symec shares		15,000	
	Unrealized gain (loss) on FVNI investments ($165 − $150) × 1,000			15,000
Dec 31 2020	Unrealized gain (loss) on FVNI investments....		5,000	
	FVNI investments – Hemiota shares ..... ($82 − 84) × 2,500			5,000
Jan 10 2021	Cash		82,850	
	FVNI investments – Symec shares			82,500
	Gain (loss) on sale of FVNI investments....			350
	For cash amount: ($165.70 × 500 shares), for share value: ($165 × 500 shares)			

Note that the transaction fees are expensed for FVNI investments. This makes intuitive sense since the shares are being purchased at their fair market value and this represents the maximum amount that can be reported on the investor company's balance sheet. At December 31 year-end, Lornelund makes two adjusting entries to record the latest fair values changes for each FVNI investment. The fair value for Symec shares increased from $150 to $165 per share, resulting in an overall increase in the investment value by $15,000 (from $150,000 to $165,000). Conversely, the fair value for Hemiota shares decreased from $84 to $82 per share, resulting in a decrease in the investment value of $5,000 (from $210,000 to $205,000). In both cases, the gains and losses will be reported in the income statement as unrealized gains (losses) on FVNI investments. The FVNI investment account would appear in the balance sheet as shown below.

Lornelund Ltd.
Balance Sheet
December 31, 2020

Current assets:	
FVNI investments (at fair value) *	$370,000

*($150,000 + 210,000 + 15,000 − 5,000)

As previously mentioned, instead of recording the changes in fair value directly to the FVNI investment account as shown above, companies will often record the changes to a **valuation allowance** as a contra account to the FVNI investment account (asset). This separates and preserves the original cost information from the fair value changes in much the same way as the accumulated depreciation account for buildings or equipment. If a valuation allowance contra account was used, the balance sheet would appear as follows:

Lornelund Ltd.
Balance Sheet
December 31, 2020

Current assets:	
FVNI investments (at cost)*	$360,000
Valuation allowance for fair value adjustments**	$ 10,000
	$370,000

* ($150,000 + 210,000)
**($15,000 − 5,000)

On January 10, 2021, the Symec shares were sold at $165.70 per share. As previously explained, the shares can be remeasured to fair value prior to recording the sales proceeds, or the entry can skip that step and record the sales proceeds with the gain/loss as realized from sale of the investment. The entry above chose the latter, simpler alternative.

 A video is available on the Lyryx site. Click here to watch the video.

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FVNI Investments in Debt

FVNI investments can also be bonds, if market fair values are determinable. On January 1, 2020, Osterline Ltd. purchases 7%, 5-year bonds of Waterland Inc. with a face value of $500,000. Interest is payable on July 1 and January 1. The market rate for a bond with similar characteristics and risks is 6%. The bond sells for $521,326.[3]

On December 31, the fair value of the bonds at year-end is $510,000. Osterline follows IFRS. The interest is calculated using the effective interest method as shown below.

Effective Interest Method for 7% Bonds (market/yield rate 6%)				
Date	Cash Received @ 3.5% stated rate for 6 months	Interest Income @ 3% market rate for 6 months	Amortized Premium (decreases carrying value)	Carrying Value
Jan 1, 2020				$521,326
Jul 1	17,500	15,640	1,860	519,466
Jan 1, 2021	17,500	15,584	1,916	517,550
Jul 1	17,500	15,527	1,973	515,577
Jan 1, 2022	17,500	15,467	2,033	513,544
Jul 1	17,500	15,406	2,094	511,450
Jan 1, 2023	17,500	15,344	2,156	509,294
Jul 1	17,500	15,279	2,221	507,073
Jan 1, 2024	17,500	15,212	2,288	504,785
Jul 1	17,500	15,144	2,356	502,429
Jan 1, 2025	17,500	15,073	2,429*	500,000

*rounded

Osterline's journal entries from January 1, 2020 to July 1, 2021 are shown below.

[3] $521,326 is the present value of the bond's future cash flows. Since the bond interest is being paid twice per year, the number of payments is 10 payments (5 years × 2 payments per year) until the bond matures. The market interest rate is 6% or 3% for each semi-annual interest payment. At maturity, $500,000 principal amount of the bond is payable to the bondholder/investor. The present value can be calculated using a financial calculator as follows: PV = 17,500 P/A, 3 I/Y, 10 N, 500,000 FV). For a review of present value techniques, refer to Chapter 6: Cash and Receivables.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	FVNI investments – Waterland bonds		521,326	
	Cash			521,326
Jul 1 2020	Cash		17,500	
	FVNI investments – Waterland bonds			1,860
	Interest income			15,640
	For cash: ($500,000 × 7% × 6 ÷ 12), for Interest income: ($521,326 × 3%)			
Dec 31 2020	Interest receivable		17,500	
	FVNI investments – Waterland bonds			1,916
	Interest income			15,584
	For Interest receivable: ($500,000 × 7% × 6 ÷ 12), for Interest income: (($521,326 − 1,860) × 3%)			
Dec 31 2020	Unrealized gain (loss) on FVNI investments		7,550	
	FVNI investments – Waterland bonds			7,550
	($521,326 − 1,860 − 1,916 − 510,000)			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2021	Cash		17,500	
	Interest receivable			17,500
Jul 1 2021	Cash		17,500	
	FVNI investments – Waterland bonds			1,973
	Interest income			15,527
	For Cash: ($500,000 × 7% × 6 ÷ 12), for Interest income: (($521,326 − 1,860 − 1,916) × 3%)			

The bond was initially valued and recorded at its purchase price (fair value) of $521,326. Note that this is higher than the face value of $500,000. This is referred to as purchasing at a **premium**, which is amortized to the FVNI investment account over the life of the bond using the **effective interest method**. This method was also discussed in Chapter 6: Cash and Receivables; review that material again, if necessary. There were no transaction costs, but these would have been expensed as incurred just as was done in the previous FVNI shares example.

The July 1, 2020, entry was for interest income based on the **market rate** (or yield) for 3% (6% annually for six months), while the cash paid by Waterland on that date of $17,500 was based on the **stated or face rate** for 3.5% (7% annually for six months). The $1,860 difference was the amount of premium to be amortized to the FVNI investment account on that date. On Dec 31, there were two adjusting entries:

- The first entry was for the interest income that has accrued since the last interest payment on July 1. This interest entry must be done *before* the fair value adjustment to ensure that the carrying value is up to date.
- The second adjusting entry is for the fair value adjustment which is the difference between the investment's carrying value of $517,550 ($521,326 − 1,860 − 1,916) and the fair value on that date of $510,000. Since the fair value is less than the carrying value, this FVNI investment (or a valuation allowance) is reduced to its fair value by $7,550 ($517,550 − 510,000). The investment carrying amount after the adjustment is now equal to the fair value of $510,000.

It is important to note that the July 1, 2021, interest income of $15,527 calculated after the fair value adjustment had been recorded continues to be based on the amounts calculated in the original effective interest schedule. **The interest rate calculations will continue to use the original effective interest rate schedule amounts throughout the bond's life, without any consideration for the changes in fair value.**

On July 1, 2021, just after receiving the interest, Osterline sells the bonds at the market rate of 107. The entry for the sale of the bonds on July 1, 2021 is shown below.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jul 1 2021	Cash		535,000	
	Gain on sale of FVNI bonds			26,973
	FVNI Investment – Waterland bonds			508,027
	For cash: ($500,000 × 1.07), for FVNI Investment: ($510,000 − 1,973)			

Recall from the journal entries above that on December 31, 2020, the investment had been reduced to its fair value of $510,000. On July 1, 2021, the interest entry included amortization of the premium for $1,973, resulting in a carrying value as at July 1, 2021 of $508,027. The market price for selling the investment was 107 resulting in a gain of $26,973. Note that this entry skipped the remeasure to fair value as an unrealized holding gain and recorded the sale entry as simply a gain on sale. Either method is acceptable.

ASPE companies can choose to use straight-line amortization of the bond premium instead of the effective interest method. If straight-line was used, the amount recorded to the investment account would be $2,133 ($21,326 ÷ 5 years × 6 ÷ 12) at each interest date until the investment is sold.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		17,500	
	FVNI Investment – Waterland bonds			2,133
	Interest income			15,367

Again, note that no separate impairment evaluations or entries are recorded since the debt investment is already adjusted to its current fair value at each reporting date.

 A video is available on the Lyryx site. Click here to watch the video.

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Investments in Foreign Currencies

Investments may be priced in foreign currencies, which must be converted into Canadian currency for recording and reporting purposes. Illustrated below are the accounting entries for a FVNI investment priced in a foreign currency.

FVNI investments purchased in foreign currencies are converted into Canadian currency using the exchange rates *at the time of the purchase*. Also, depending on the accounting standard and the circumstances of the investment, the fair value adjusting entry may have to separately record the foreign exchange gain (loss) from the fair value adjustment amount.

For example, assume that the US dollar is worth $1.03 Canadian at the time of an investment purchase for US $50,000 bonds at par. In Canadian dollars, the amount would be $51,500. The entry to record the purchase would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	FVNI Investment – bonds.....		51,500	
	Cash			51,500
	(US $50,000 × 1.03)			

At year-end, the fair value of the bonds is US $49,000 and the exchange rate at that time is 1.05. In Canadian dollars the amount would be $51,450 (US $49,000 × 1.05) compared to the original purchase price in Canadian dollars of $51,500, an overall net loss of $50.

The entry to record the fair value adjustment separately from the exchange gain/loss would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unrealized loss on FVNI investments		1,050	
	Foreign exchange gain			1,000
	FVNI Investment – bonds			50
	For Unrealized loss: ((US $50,000 − 49,000) × 1.05), for Foreign exchange gain: (US $50,000 × (1.05 − 1.03)), for FVNI investment: ($51,500 − 51,450)			

Note that the exchange rate increased from 1.03 to 1.05 for the US $50,000 investment amount. This increase in the exchange rate resulted in a gain of Cdn $1,000 which was recorded separately from the fair value adjustment loss of Cdn $1,050.

If there was no requirement to separate the exchange gain from the fair value adjusting entry, the adjusting entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unrealized loss on FVNI investments		50	
	FVNI Investment – shares			50
	($51,500 − 51,450)			

8.2.2 Fair Value Through OCI Investments (FVOCI); (IFRS only)

Types of Investments	Accounting Treatment
• Debt (bonds)	• Interest and dividends through net income as earned/declared.
• Debt (bonds) • Equities (shares) by special irrevocable election only at acquisition	• Remeasure investment to fair value at each reporting date through OCI. Can be recorded directly to investment or through an asset valuation account. • Upon sale, remeasure investment sold to its fair value with gains/losses through OCI. • Reclassify the OCI for the debt investment sold to net income (FVOCI with recycling), and to retained earnings for equities investments (FVOCI without recycling).

Looking at the table above, one cannot help but notice how the FVOCI debt investments are recycled through net income when sold in contrast to the FVOCI equities investments which are not recycled, and are reclassified to retained earnings instead, bypassing net income

altogether. Originally, the FVOCI classification was without recycling for both debt and equity. This was done to lessen the instances of "earnings management" which is the manipulation of earnings due to bias. By timing the most opportune time to sell, a company could suddenly boost net income resulting from the reclassification of OCI from AOCI to net income of the unrealized gains dating back to when the investment was purchased. However, it appears that an exception has now been made to allow FVOCI debt investments to recycle through net income. FVOCI investments in equities continue to be classified as FVOCI without recycling.

FVOCI debt and equity investments are reported at their fair value at each balance sheet date with fair value changes recorded in Other Comprehensive Income (OCI). Unlike FVNI investments, transaction costs are usually added to the carrying amount of the FVOCI investment, and are usually reported as long-term assets unless it is expected they will be sold within twelve months or the normal operating cycle.

The fair value measurement at each reporting date is recorded to the investment asset account (or an asset valuation account). The unrealized holding gain (loss) is recorded to unrealized gain (loss) OCI and reported in OCI (net-of-tax). When the investments are sold, a remeasure to fair value can precede the entry for the sales proceeds, or alternatively, any gains (losses) resulting from the sale are reported in net income as a realized gain (loss) on sale of investment.

This is the point where FVOCI investments in *debt* differ from FVOCI investments in *equity*.

For FVOCI, *debt* investment sold:

- any unrealized gain (loss) in AOCI at the time of the sale is reclassified from AOCI to net income (with recycling).

For FVOCI, *equity* investment sold:

- any unrealized gain (loss) in AOCI at the time of the sale is reclassified from AOCI to retained earnings (without recycling).

Recall from the chapter on Statement of Income and Statement of Changes in Equity, that OCI is not included in net income, and is reported in a separate statement called the Statement of Comprehensive Income. This means that any unrealized gains (losses) from holding FVOCI investments will not be reported as net income until the debt investment is sold or impaired as will now be discussed. Students are encouraged to review the material regarding the topic of OCI.

Impairment of Investments with no recycling (Equity)

For FVOCI in equity investments, there is no need for impairment tests because equities are continually re-measured to their fair value based on the readily available market prices and these changes in value are not reported in net income, so impairment testing is not done. For FVOCI investments in debt, impairments will be discussed in detail in the FVOCI with recycling (debt) section later in this chapter.

FVOCI (without recycling) – Investments in Shares

The similarities and differences between FVNI and FVOCI investments journal entries will be examined next, since both apply fair value remeasurements, but differ in how these are recorded and reported. Using the same example for Lornelund Ltd. used in the FVNI investments above, a comparison between the entries required for FVNI and FVOCI is shown below. The transactions are repeated below but now include another fair value change at the end of 2021.

Lornelund Ltd. – Non-Strategic Equity Investments				
Dates in 2020	Transaction Detail	# of Shares	Price per Share	Total Amount
June 1	Purchased Symec Org. shares for $150 per share (transaction costs were an additional $1.25 per share)	1,000	$150.00	$150,000
Aug 15	Purchased Hemiota Ltd. shares	2,500	84.00	210,000
Nov 30	Dividends for Symec declared and received	1,000	6.10	6,100
Dec 31	Market price for Symec shares at year-end		165.00	
Dec 31	Market price for Hemiota shares at year-end		82.00	
Dates in 2021				
Jan 10	Sold Symec shares	500	165.70	82,850
Dec 31	Market price for Symec shares at year-end		$167.00	
Dec 31	Market price for Hemiota shares at year-end		$75.00	

COMPARISON OF FVNI TO FVOCI (without recycling)					
		(FVNI)		(FVOCI)	
2020					
June 1	Investments – Symec shares	150,000		151,250	
	Transactions fees expense	1,250			
	Cash		151,250		151,250
Aug 15	Investments – Hemiota shares	210,000		210,000	
	Cash		210,000		210,000
Nov 30	Cash (or dividend receivable if declared but not paid)	6,100		6,100	
	Dividend income		6,100		6,100

Dec 31	Investments – Symec shares	15,000		13,750	
	Unrealized gain (loss) on FVNI investments (NI)		15,000		
	($165 × 1,000 shares)				
	Unrealized gain (loss) on FVOCI investments (OCI)				13,750
	($165,000 − 151,250)				
NOTE – Both FVNI and FVOCI shares carrying values for Symec are $165 per share × 1,000 = $165,000.					
Dec 31	Unrealized gain (loss) on FVNI investments (NI)	5,000			
	(($84 − 82) × 2,5000 shares)				
	Unrealized gain (loss) on FVOCI investments (OCI)			5,000	
	Investments – Hemiota shares		5,000		5,000
NOTE – Both FVNI and FVOCI shares carrying values for Hemiota are $82 per share × 2,500 = $205,000					
2021					
Jan 10	Cash	82,850		82,850	
	Investments – Symec shares		82,500		82,500
	Gain (loss) on sale of investments (NI)		350		
	Gain (loss) on sale of investments (OCI)				350
	For Cash: ($165.70 × 500 shares), For Investments: ($165 × 500 shares)				
Jan 10	AOCI			7,225	
	Retained earnings				7,225
	($13,750 × 500 ÷ 1,000 shares + 350)				
	To reclassify unrealized gains from AOCI to retained earnings for 500 Symec shares sold.				
Dec 31	Investments – Symec shares	1,000		1,000	
	Unrealized gain (loss) on FVNI investments (NI)		1,000		
	Unrealized gain (loss) on FVOCI investments (OCI)				1,000
	(500 × ($165.00 − 167.00))				
Dec 31	Unrealized gain (loss) on FVNI investments (NI)	17,500			
	Investments – Hemiota shares		17,500		
	($205,000 − (2,500 × $75))				
	Unrealized gain (loss) on FVOCI investments (OCI)			17,500	
	FVOCI Investments – Hemiota shares				17,500

Note that the transaction fees are expensed for FVNI investments but are added to the carrying value for FVOCI investments. At December 31 year-end, Lornelund makes two end-of-period

adjusting entries to record the latest fair values changes for each investment. The fair value for Symec shares increased FVOCI $150 to $165 per share resulting in an increase in the investment value by $15,000 and $13,750 for FVNI and FVOCI categories respectively. These amounts are different due to the transaction costs originally recorded to the investment asset of the FVOCI investment. The fair value for Hemiota shares decreased from $84 to $82 per share resulting in a decrease in the investment value of $5,000 for both FVNI and FVOCI investments.

Ignoring taxes for simplicity, below are the financial statements for 2020 under FVNI and FVOCI:

Lornelund Ltd.
Balance Sheet
December 31, 2020

Current assets:	FVNI	FVOCI
FVNI investments (at fair value)*	$370,000	
Long-term assets:		
Long-term investment (at fair value)		$ 370,000
Equity:		
Accumulated other comprehensive income **		$ 8,750

* FVNI ($150,000 + 210,000 + 15,000 − 5,000); FVOCI ($151,250 + 210,000 + 13,750 − 5,000)
** AOCI ($13,750 − 5,000)

There is no difference in the ending balances of the investment asset accounts under the FVNI and FVOCI methods on December 31, 2020, because both are reported at fair value at each reporting date. Even though the transaction costs were initially capitalized under the FVOCI method, the year-end fair value adjustment entry for both FVNI and FVOCI investments resulted in equalizing the investments balances.

Lornelund Ltd.
Income Statement and Comprehensive Income Statement (partial)
For the Year Ended December 31, 2020

	FVNI	FVOCI
Dividend income	$ 6,100	$ 6,100
Unrealized gain ($15,000 − 5,000)	10,000	
Transaction fees expense	(1,250)	
Net income	$14,850	$ 6,100
Other Comprehensive Income:		
Items that may be reclassified subsequently to net income or loss:		
Unrealized gain from FVOCI investments ($13,750 − 5,000)		$ 8,750
Total comprehensive income	$14,850	$ 14,850

At December 31, 2021 year-end, 50% of the Symec shares have been sold in January and the fair values are once again adjusted for both Symec and Hemiota investments at year-end.

Below is a partial balance sheet and income statement reporting the investment at December 31, 2021.

Lornelund Ltd.
Balance Sheet
December 31, 2021

Current assets:	FVNI	FVOCI
FVNI investments (at fair value)*	$271,000	
Long-term assets:		
Long-term investment (at fair value)		$ 271,000
Equity:		
Retained earnings		$ 7,225
Accumulated other comprehensive income/loss **		(14,625)

* FVNI ($370,000 − 82,500 + 1,000 − 17,500); FVOCI ($370,000 − 82,500 + 1,000 − 17,500)

** AOCI ($8,750 + 350 − 7,225 + 1,000 − 17,500)

Lornelund Ltd.
Income Statement and Comprehensive Income Statement (partial)
For the Year Ended December 31, 2021

	FVNI	FVOCI
Gain on sale of shares	$ 350	$
Unrealized loss	(17,500)	
Net income/(loss)	$(16,150)	
Other Comprehensive Income:		
Items that may be reclassified subsequently to net income or loss:		
Unrealized gain/loss from FVOCI investments	$	(16,150)*
Total comprehensive income/(loss)	$(16,150)	$ (16,150)

* ($1,000 + 350 − 17,500)

As can be seen from the illustrations above, there are significant differences in net income, due to the accounting treatments between FVNI and FVOCI investments. This could lead to earnings management, if care is not taken to ensure that these differences are considered solely for the purpose of managing net income to get higher bonuses, or fall under the radar regarding any restrictive covenants (for example, net income minimum thresholds set by creditors as performance targets). These differences also have to be taken into account when analyzing investment portfolio performance.

FVOCI (with recycling) – Investments in Debt

FVOCI investments for IFRS companies can also be debt, such as bonds. FVOCI shares (no recycling) reports dividends in net income and unrealized gains in OCI until sold, at which time the OCI corresponding to the shares sold are reclassified from OCI/AOCI to retained earnings. FVOCI debt (with recycling) reports interest in net income and unrealized gains in OCI until sold. As the "with recycling" name suggests, when the debt securities are sold, the corresponding OCI is recycled through net income.

Using the same example as for FVNI investments in bonds discussed earlier, where Osterline Ltd. purchased 7%, 5-year Waterland bonds with a face value of $500,000. On July 1, 2021, just after receiving the interest, Osterline sells the bonds at the market rate of 107. Osterline's journal entries from Jan 1, 2020 to July 1, 2021 classified as FVNI are repeated below and compared with debt investments classified as FVOCI.

Osterline Ltd. COMPARISON OF FVNI TO FVOCI debt (with recycling)					
		(FVNI)		**(FVOCI)**	
2020 Jan 1	Investments – Waterland bonds	521,326		521,326	

	Cash		521,326		521,326
Jul 1	Cash	17,500		17,500	
	Investments – Waterland bonds		1,860		1,860
	Interest income		15,640		15,640
	For Cash: ($500,000×7%×6÷12), for Interest income: ($521,326 × 3%)				
Dec 31	Interest receivable	17,500		17,500	
	Investments – Waterland bonds		1,916		1,916
	Interest income		15,584		15,584
	For Interest receivable: ($500,000 × 7% × 6 ÷ 12), for Interest income: (($521,326 − 1,860) × 3%)				
Dec 31	Unrealized loss on FVNI investment (NI)	7,550			
	Unrealized gain (loss) on investments (OCI)			7,550	
	Investments – Waterland bonds		7,550		7,550
	For NI: ($521,326 − 1,860 − 1,916 − 510,000)				
2021					
Jan 1	Cash	17,500		17,500	
	Interest receivable		17,500		17,500
Jul 1	Cash	17,500		17,500	
	Investments – Waterland bonds		1,973		1,973
	Interest income		15,527		15,527
	For Cash: ($500,000×7%×6÷12), for Interest income: (($521,326 − 1,860 − 1,916) × 3%)				
Jul 1	Cash	535,000		535,000	
	Gain on sale of Waterland bonds		26,973		
	Gain on sale of Waterland bonds (OCI)				26,973
	Investments – Waterland bonds		508,027		508,027
	For Cash: ($500,000 × 1.07), for Investments: ($510,000 − 1,973)				
Jul 1	OCI – removal of gain due to sale			19,473	
	Gain from sale of investment (NI)				19,473
	($26,973 gain − 7,550 loss)				

Note the similarities in accounting treatment between the FVNI and FVOCI classifications for bonds. As was the case for the FVNI investment in shares, the investment is adjusted to fair value at the reporting date. The difference between the two methods is the account used for the fair value adjustment. For FVNI, the unrealized gain/loss is reported in net income, whereas for FVOCI, the unrealized gain/loss is reported as Other Comprehensive Income which is closed at each year-end to the AOCI account (an equity account), until the investment

is sold. Once sold, any unrealized gains/losses that relate to the sale of this investment are now *realized* and are transferred from OCI to net income. This is referred to as "*with recycling*" (through net income). Recall that FVOCI in equities do not recycle through net income. It is for this reason that FVOCI investments in debt with recycling must be evaluated for impairment which is discussed next.

Also note the order of the entries upon sale. The July 1 sales is comprised of two entries above. The first entry is a combined entry that records the cash proceeds, removal of the investment sold and any realized gain/loss through OCI. This is the same as the method used for FVOCI equities. The second entry is a transfer of the OCI related to the sale from OCI to net income. For FVOCI equities this entry is a reclassification from OCI to retained earnings. This is an important distinction regarding the accounting treatment for the FVOCI investments.

Because the entire investment was sold, the net income differed in the first and second year between FVNI and FVOCI with recycling, but over two years, the net income was the same for both. If only part of the investment been sold, the differences would be similar to the example regarding FVOCI equities, with regard to balances in the OCI/AOCI account compared to FVNI where all the gains/losses are reported through net income.

Impairment of Investments – FVOCI with recycling (Debt)

For FVOCI in debt investments, an evaluation is done starting at its acquisition date. Under IFRS 9, impairment evaluation and measurement is based on *expected losses*, and must now reflect the basic principles below:

- An unbiased evaluation over a range of probability-based possible outcomes
- Estimated revised cash flows are discounted to reflect time value of money
- The evaluation and measurements are based on data from past, current and estimated future economic conditions, using reasonable and supportable information without undue cost or effort at the reporting date

The last point suggests that a company does not need to identify every possible scenario when risks are low, and companies are encouraged to use modelling techniques to simplify evaluations and impairment measurements of large low-risk portfolios.

Essentially how it works is that for each investment at acquisition, various potential **default scenarios** (where the debt owing is not paid when due) are identified. Expected future cash flows are estimated for each scenario, which is multiplied by its probability of occurring. These probability-based cash flows are summed, and the total is deemed as the *expected credit loss* (ECL) for that investment. This is a separate evaluation and measurement of impairment losses than fluctuations in the market.

These estimated cash flows can either be based on scenarios and probabilities of default over the investment's next 12 months (12-month ECL) from acquisition, if risk of default is low, or over the investment's lifetime (Lifetime ECL), if risk of default is higher. IFRS 9 identifies three approaches for receivables and investments:

- Credit adjusted approach – for investments that are impaired at acquisition, such as deeply discounted investments from high risk investee companies. This approach will apply only rarely. Evidence of high risk could be due to significant financial difficulties or potential bankruptcy, a history of defaults, a history of concessions granted by creditors on previous debt, or economic downturns in the investee company's industry sector. This approach uses the cumulative change in Lifetime ECL.
- Simplified approach – this approach is intended specifically for trade receivables, IFRS 15 contract assets and lease receivables where the financial instrument does not contain a significant interest component. It is based on Lifetime ECL
- General approach – this approach applies to all other financial instruments not covered in the first two approaches. It is based on a 12-month ECL unless the credit risk increases significantly.

If the credit risk is high at the investment's acquisition, the credit adjusted approach with Lifetime ECL will apply, otherwise the general approach would be used with the shorter 12-month ECL. The end-result is that every investment will have an ECL amount associated with it. These risk-based cash flows are discounted using the **historic interest rate at acquisition**, and compared to the carrying value of the debt investment at the evaluation date. The carrying value of the investment (or an asset valuation account) is reduced by the loss amount and recorded to net income. Below is a schedule that illustrates a simple ECL calculation:

Investment in Bonds – Emil Ltd. Investee
Expected Credit Loss Calculation

	Scenario 1	Scenario 2	Scenario 3	Total
Estimated future cash flows at acquisition assuming no risk of default, discounted @ effective interest rate	$ 500,000	$ 500,000	$ 500,000	
Future cash flows if default occurs, discounted @ historic effective rate at acquisition	450,000	400,000	350,000	
Cash flow shortage	50,000	100,000	150,000	
Probability of default	2.0%	1.5%	0.5%	
Expected Credit Loss (ECL)	$ 1,000	$ 1,500	$ 1,750	$4,250

Management can include as many default scenarios as is appropriate. In this case, there are three scenarios where management has identified potential defaults for this investment. If at

the first reporting date after acquisition the fair value of the investment is $480,000, the entry to record the fair value change would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment due to ECL (net income) . .		4,250	
	Unrealized loss in FV-OCI (OCI)		15,750	
	FV-OCI investment (or asset valuation allowance)			20,000
	For FV-OCI investment: ($500,000 face value − 480,000)			

The unrealized loss of $15,750 is to adjust for changes in the market fluctuations that is not due to an impairment, so *it is recorded to OCI*. The loss on impairment resulting from the ECL calculation must be *reported through net income*. Compared to the previous accounting standard (IAS 39), this results in an earlier recognition of an impairment loss because it is recorded at the first reporting period after the investment acquisition. This clearly could create more volatility in the income statement.

After the initial recognition, the ECL is adjusted up or down, through net income at each reporting date as the probabilities of default change. Once the investment is collected, the ECL will be reduced to zero and impairment recoveries will be reported through net income. If default risk increases due to adverse changes in business conditions, not only will the estimated cash flow shortages and probabilities increase, the increased credit risk could result in a change from the simpler 12-month ECL to the Lifetime ECL if risk becomes too high. If a default does occur, the ECL amount will equal the actual cash flow shortage. In IFRS 9, there is a presumption that credit/default risk significantly increases if contractual payments from the investee are more than 30 days past due.

To summarize, assessing credit risk is only required for amortized cost and FVOCI debt (with recycling). FVNI and FVOCI equities do not need to be evaluated for impairment because they are always remeasured to fair value each reporting date. Evaluating and measuring impairments requires considerable judgement and companies are encouraged to establish an accounting policy regarding factors to consider when determining if increases in credit risk (ECL) is to be deemed as significant or not.

8.2.3 Amortized Cost Investments (AC)

For ASPE companies, either debt or equities *that are not traded in an active market* are reported at amortized cost or cost respectively. Unlike investments acquired for short-term profit such as FVNI investments, shares or bonds may be purchased as AC investments for other reasons, such as to strengthen relationships with a supplier or an important customer.

For IFRS companies, if the investment business model is to acquire investments to collect the contractual cash flows of principal and interest, and there is no intention to sell, investments in debt securities such as bonds are reported at their amortized cost at each balance sheet date. Management intent is to hold these investments until maturity, so debt instruments are included in this category. Equity investments have no set maturity dates, therefore they are not classified as an AC investment. Even if equities such as shares are not part of a quoted market system, IFRS states that fair values are still normally determinable, making FVOCI equities (without recycling) the more appropriate classification for unquoted equities.

Transactions costs are added to the investment (asset) account. AC investments are reported as long-term assets unless they are expected to mature within twelve months of the balance sheet date or the normal operating cycle.

To summarize the initial and subsequent measurements used for AC investments:

- Initial purchase is at cost (purchase price) which is also fair value on the purchase date. Unlike FVNI investments, transaction fees are added to the investment (asset) account. This is because AC investments are cost-based investments, so any fees paid to acquire the asset are to be capitalized like property, plant, and equipment, which are also cost-based purchases.
- Bond interest and share dividends declared are reported in net income as realized. Any premium or discount is amortized to the investment asset using the effective interest rate method (IFRS). For ASPE companies, they can choose between the effective interest rate method and the straight-line method.
- If the investment is impaired, determine the impairment amount. For ASPE the impairment amount is the higher of: a) the present value of impaired future cash flows at the current market interest rate, and b) net realizable value through sale (or sale of collateral). ASPE allows for reversals of impairment. For IFRS, refer to the Impairment section above in the FVOCI debt (with recycling).
- Report the investment at its carrying value at each reporting date, net of any impairment. As asset valuation account can be used instead of recording the impairment loss directly to the investment account.
- When the investment is sold, remove the related accounts from the books. For debt instruments, ensure that any interest, amortization or possible impairment recovery is updated *before* calculating the gain/loss on sale prior to its removal from the books. The difference between the carrying value and the net sales proceeds is reported as a gain/loss on sale (including full or partial recovery of a previous impairment, if applicable) and reported in net income.

AC Investments in Debt

In the previous sections discussing FVNI and FVOCI investments, Osterline purchased Waterland bonds on the January 1, 2020, the interest payment date. Assume now that Osterline classified this as an AC investment. The entries would be the same as illustrated earlier for the FVNI category, except to exclude any fair value adjustments.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	AC investments – Waterland bonds		521,326	
	Cash			521,326
Jul 1 2020	Cash		17,500	
	AC investments – Waterland bonds			1,860
	Interest income			15,640
	For Cash: ($500,000 × 7% × 6 ÷ 12), for Interest income: ($521,326 × 3%)			
Dec 31 2020	Interest receivable		17,500	
	AC investments – Waterland bonds			1,916
	Interest income			15,584
	For Interest receivable: ($500,000 × 7% × 6 ÷ 12), for Interest income: (($521,326 − 1,860) × 3%)			
Jan 1 2021	Cash		17,500	
	Interest receivable			17,500
Jul 1 2021	Cash		17,500	
	AC investments – Waterland bonds			1,973
	Interest income			15,527
	For Cash: ($500,000 × 7% × 6 ÷ 12), for Interest income: (($521,326 − 1,860 − 1,916) × 3%)			
Jul 1 2021	Cash		535,000	
	Gain on sale of Waterland bonds			19,423
	AC investments – Waterland bonds			515,577
	For Cash: ($500,000 × 1.07), for AC investments: ($521,326 − 1,860 − 1,916 − 1,973)			

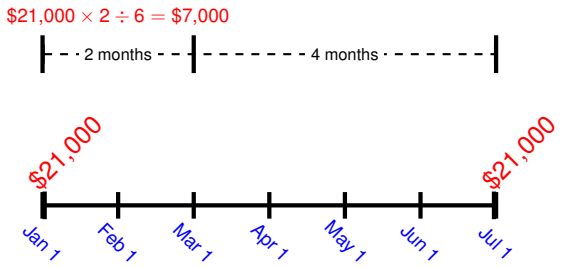
Note that the entry to the investment account for the sale of Waterland bonds for the FVNI or FVOCI methods shown earlier is $508,027 compared to AC method above for $515,577. The reason for this difference is due to the fair value adjustment for $7,550 for the FVNI and FVOCI methods (both fair-value based) but not done for AC method which is based on amortized cost.

AC Investments in Bonds – Between Interest Dates

What if the debt investment is purchased in between interest payment dates? Below is an example of the accounting treatment for an AC investment in bonds that is purchased between interest payment dates.

On March 1, 2020, Trimliner Co. purchases 6%, 5-year bonds of Zimmermann Inc. with a face value of $700,000. Interest is payable on January 1 and July 1. The market rate for a bond with similar characteristics and risks is 6.48%. The bond is purchased for $685,843 cash. Stated another way, the bond is purchased at 98 ($685,843 ÷ $700,000) on March 1, 2020. On December 31, 2020 year-end, the fair value of the bond at year-end is $710,000. Trimliner follows IFRS and intends to hold the investment to collect the contractual cash flows of principal and interest and to hold until maturity (AC classification).

Note that the purchase date of March 1 falls in between interest payments on January 1 and July 1. The business practice regarding bond interest payments is for the bond issuer to pay the full six months interest to the bond holder throughout the life of the bond. This creates a much simpler bond interest payment process for the bond issuer, but it creates an issue for the purchaser since they are only entitled to the interest from the purchase date to the next interest date, or four months in this case, as illustrated below.



This issue is easily resolved. The purchaser includes in the cash paid any interest that has accrued between the last interest payment date on January 1 and the purchase date on March 1, or two months. In other words, the purchaser adds to the cash payment any interest that they are *not entitled to receive*. Later, when they receive the full six months of interest on July 1 for $21,000, the net amount received will be for the four-month period that was earned, which was from the purchase date on March 1 to the next interest payment on July 1 as shown above.

In this example, the purchase price of $685,843 is lower than the face value of $700,000, so the bonds are purchased at a discount.

The entry to record the investment for Trimliner, including the interest adjustment on March 1, 2020 and the first interest payment on July 1, 2020, is shown below. Note that the discount is also amortized from the date of the purchase of bonds to the end of the interest period.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Mar 1	Interest receivable		7,000	
	AC investment – Zimmermann bonds		685,843	
	Cash			692,843
	For Interest receivable: ($700,000 × 6% × 2 ÷ 12)			
Jul 1	Cash		21,000	
	AC investment – Zimmermann bonds		814	
	Interest receivable			7,000
	Interest income			14,814
	For Cash: ($700,000 × 6% × 6 ÷ 12), for Interest income: ($685,843 × 6.48% × 4 ÷ 12)			

The net interest income recorded by Trimliner is $14,814 on July 1 ($685,843 × 3.24% × 4 ÷ 6), which represents the four months interest earned from the March 1 purchase date to the first interest payment date on July 1. The interest receivable is now eliminated.

Note that for AC bonds, **there are no entries to adjust the AC investment to fair value at year-end. The fair value information of $710,000 on December 31, 2020, that was provided in the question data is not relevant for AC investments.**

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Interest receivable		21,000	
	AC investments – Zimmermann bonds		1,248	
	Interest income			22,248
	For Interest receivable: ($700,000 × 6% × 6 ÷ 12), for Interest income: (($685,843 + 814) × 6.48% × 6 ÷ 12)			
Jan 1 2021	Cash		21,000	
	Interest receivable			21,000
Jul 1 2021	Cash		21,000	
	AC investments – Zimmermann bonds		1,288	
	Interest income			22,288
	For Interest income: (($685,843 + 814 + 1,248) × 6.48% × 6 ÷ 12)			

When the bonds mature at the end of five years, the entry to record the proceeds of the sale is shown below.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2025	Cash		700,000	
	AC investment – Zimmermann bonds			700,000

As previously stated, ASPE companies can choose to use either the effective interest or the straight-line method to amortize premiums or discounts. If straight-line method is used, the discount for $14,157 ($700,000 – 685,843) will be amortized over five years. The amortization amount for the July 1 entry would be for four months or $944 ($14,157 ÷ 5 years × 4 ÷ 12). After that, the amortization will be for every six months or $1,416 ($14,157 ÷ 5 × 6 ÷ 12).

 A video is available on the Lyryx site. Click here to watch the video.

AC Impairment

For IFRS companies, the process to evaluate and measure impairments was already discussed in FVOCI debt (with recycling). The accounting treatment for impairments (IFRS) is the same for both FVOCI debt with recycling and AC.

This section will now discuss impairment for ASPE companies with AC investments.

Since AC investments are measured at amortized cost for bonds and cost for shares, there is always the possibility of an impairment loss since fair values are not used. For this reason, investments should be assessed at the end of each reporting period to see if there has been a loss event. Investment assets should be evaluated on both an individual investment and portfolio (grouped) investment basis to minimize any possibilities of hidden impairments within a portfolio of investments with similar risks. Below are details regarding how impairments for AC investments are measured:

ASPE—reduce the investment carrying value to the higher of:

- the present value of impaired future cash flows using the *current market* interest rate and
- the net realizable value either through sale or by exercising the entity's rights to sell any collateral.

The loss is reported in net income and the investment (or an asset valuation allowance) is reduced accordingly. These impairments may be reversed.

For example, assume that Vairon Ltd. purchased an investment in Forsythe Ltd. bonds for $200,000 at par value on January 1 and intends to hold them until maturity. The bonds pay interest on December 31 of each year. At year-end, Forsythe experiences cash flow problems that are considered by the investor as a loss event that triggers an impairment evaluation. The following cash flows are identified:

Present value of impaired cash flows using the *current* market rate	$190,000
Net realizable value either through sale or by exercising the investor's rights to sell any collateral	185,000

For companies following ASPE, the entry for the AC investment in bonds would be:

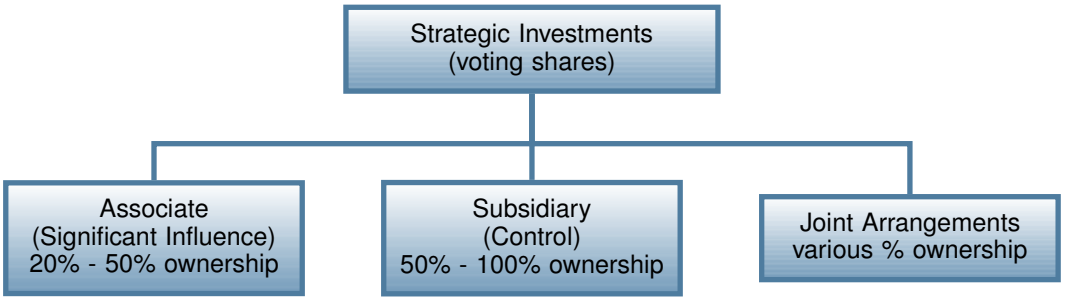
General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment of AC investments		10,000	
	AC Investment – Forsythe bonds			10,000
	Present value using higher of the current interest rate of $190,000 and the net realizable value of $185,000: ($200,000 − 190,000)			

Changes in Classifications

Changes in management's intention to sell or hold to maturity can result in a change in classification. However, earlier in this chapter some significant impacts in net income and investment asset values were illustrated between FVNI, FVOCI, and AC methods. It is easy to see how this might lead to manipulation of net income or asset values by management. To minimize this possibility, for ASPE, no reclassification is permitted unless there's a change in the company's business model, which happens very rarely. For IFRS, there is the fair value option discussed earlier for FVOCI equities, which is irrevocable.

8.3 Strategic Investments

In the previous categories, investments in other companies' debt or shares were acquired in order to make a return on idle cash. Investing in other companies can also be for strategic purposes, such as to acquire the power to influence the board of directors and company policies, or to take over control of the company outright. This is done by acquiring various amounts of another company's voting common shares. The degree of ownership (number of votes) defines the level of influence.



Guidelines have been developed to help determine the classification of the investment based on the degree of influence. For example, the previous three categories of investments (FVNI, FVOCI, and AC) each assumed that the investor's ownership in shares were less than 20%, therefore having no influence on the investee company.

For ownership in shares greater than 20% but less than 50%, it is assumed that **significant influence** exists. IFRS calls this category **investment in associates**. However, if an investing company owns between 20% and 50% of another company's shares, significant influence is by no means assured and can be refuted, if there is evidence to the contrary. For example, if an investor acquires 40% of the outstanding common shares of a company but the remaining 60% of the shares are held by one other investor, then significant influence will not exist. A general assumption is that the greater the number of investors, the more likely that investment holdings of greater than 20% will result in significant influence.

If an investor holds greater than 50% of the common shares, then it has the majority of the votes at the board of directors' meetings, thereby having **control** of the investee company's operations, decisions and policies.

Joint arrangements is another type of strategic investment that involves the contractually-agreed sharing of control by two or more investors. There are two types of joint arrangements, namely; joint operations and joint ventures. A joint operation exists if the investor has rights to the assets and unlimited liability obligations of the joint entity and a joint venture exists if the investor has rights to net assets (assets and limited liability obligations of the joint entity.

Regarding strategic investments—why would an investor want to influence or control another company? If the investee company has resources that would enhance the operations of the investor, then acquiring sufficient voting shares to significantly influence or control the investee's board of directors would be a prime motivator to do so. Acquiring an interest in another company could secure a guaranteed source of materials and products, open up new markets, or broaden existing ones for the investor company. It could also expand an investor company's range of products and services available for sale as was the case with Hewlett Packard's acquisition of 87% of Autonomy Corporation's shares resulting in control of the company.

The accounting treatments for these classifications are complex and will be covered in more

detail in the advanced accounting courses. The rest of this chapter will focus on an introduction to the three strategic investment classifications.

8.3.1 Investments in Associates (Significant Influence)

For IFRS, investments between 20% and 50% of the voting shares in another company are reported using the equity method. For ASPE companies, management can choose the equity method, the fair value through net income method (if this investment is traded in an active market), or the cost method if no market exists. Transactions costs are expensed for the equity and fair value methods and added to the investment (asset) account for the cost method. Investments in associates are reported as long-term investments and income from associates is to be separately disclosed.

This chapter has already discussed the fair value and cost models, so the focus will now be on the equity method.

The equity method initially records the shares at the cost of acquiring them which is also fair value. Subsequent measurement of the investment account includes recording the proportionate share of the investee's:

- net income (loss) adjusted for any inter-company transactions
- dividends
- amortization of any fair value difference in the investee's capital assets
- impairments, if any
- proceeds of sale

The equity method is often referred to as the *one-line consolidation* because *all the related transactions are recorded as increases or decreases in a single investment asset account*. For example, if the investee company reported net income, this would result in a proportionate increase in the investor's investment (asset) due to the added profit. Conversely, a net loss reported or dividend received would be recorded as a proportionate decrease in the investment. Any amortization of fair value adjustments from the date of purchase or impairment would also be recorded as a decrease in the investment account. Below is an example of how the investment is accounted for using the equity method.

On January 1, 2020, Tilton Co. purchased 25% of the 100,000 outstanding common shares of Beaton Ltd. for $455,000. Beaton currently is one of Tilton's suppliers of manufactured goods. The outstanding shares are widely held, so with this purchase, Tilton can exercise

significant influence over Beaton. This investment solidified the relationship between Tilton and will guarantee a steady supply of goods needed by Tilton for its customers. The following financial information relates to Beaton:

	Total	25%	Note
Amount paid by Tilton for 25% shares of Beaton		$455,000	1
Book value of Beaton's net assets on January 1, 2020	$1,500,000	375,000	
Excess of the amount paid from the net book value		80,000	
Fair value allocation of excess paid for net depreciable assets	240,000	60,000	4
Remaining life of Beaton's depreciable assets as at January 1, 2020	10 years		
Unexplained excess assumed to be goodwill		20,000	
Dividends declared and paid on December 31, 2020	150,000	37,500	2
Net income for the year ended December 31, 2020	250,000	62,500	3

Below are the entries recorded to Tilton's books that relate to its investment in Beaton:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Investment in associate – Beaton shares		455,000	
	Cash			455,000
	Note 1: Purchase of 25% of Beaton's common shares			
Dec 31 2020	Cash		37,500	
	Investment in associate – Beaton shares ...			37,500
	Note 2: 25% share of dividends received			
Dec 31 2020	Investment in associate – Beaton shares		62,500	
	Investment income (loss)			62,500
	Note 3: 25% share of net income for 2020			
Dec 31 2020	Investment income (loss)		6,000	
	Investment in associate – Beaton shares ...			6,000
	Note 4: Amount of excess price paid for net depreciable assets amortized over 10 years. ($60,000 ÷ 10 years)			

On December 31, Tilton recorded its 25% share of dividends received, net income (loss), and amortization of Beaton's net depreciable assets. But what about the $80,000 excess paid for the investment? The excess of $60,000 relates to Beaton's net depreciation assets, so this portion of the excess is amortized over ten years. The remaining $20,000 is inexplicable, so it will be treated as *unrecorded* goodwill. Goodwill is discussed in detail in Chapter 11: Intangible Assets and Goodwill. Since there is unrecorded goodwill, an intangible asset, Tilton must evaluate its investment each reporting date to determine if there has been any impairment in the investment's value.

Below is a partial balance sheet and income statement reporting the investment at December 31, 2020.

Tilton Co.
Balance Sheet
December 31, 2020

Long-term investment:	
Investment in associates (equity method)*	$474,000

*($455,000 − 37,500 + 62,500 − 6,000)

For IFRS, investments in this classification are assessed each balance sheet date for possible impairment. If it was determined that the investment's recoverable amount—being the higher of its value in use (the present value of expected cash flows from holding the investment, discounted at the current market rate) and fair value less costs to sell, both of which are discounted cash flow concepts—was $460,000, then the carrying value is more than the recoverable amount and an impairment loss of $14,000 ($460,000 − 474,000) is recorded as a reduction to the investment (or valuation account) and to net income (loss).

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss due to impairment		14,000	
	Investment in associate – Beaton shares . . .			14,000

For ASPE, impairment evaluation and measurement is the same as IFRS except "fair value" does not include netting the costs to sell.

Since there is $20,000 of unrecorded goodwill, the $14,000 impairment charge represents a loss in an intangible asset and is therefore not reversible. If there had been no unrecorded goodwill, any subsequent impairment charge would be reversible, but limited and the recovery amount could not result in a carrying value balance greater than if there had been no impairment.

8.3.2 Investments in Subsidiaries (Control)

For IFRS, investments greater than 50% of the voting shares in another company are reported using the consolidation method. For ASPE companies, there is a choice of consolidation, equity, or cost methods. Transactions costs are expensed for the consolidation and equity methods and added to the investment (asset) account for the cost method.

For IFRS companies, the investor is referred to as the **parent**, and the investee as the **subsidiary**, and it is reasonable to treat the two companies as one economic unit and prepare a

consolidated set of financial reports for the combined entity. This means that the investment account is eliminated and 100% of each asset and liability of the subsidiary is reported within the parent company's balance sheet on a line-by-line basis. For example, the accounts receivable ending balance for the subsidiary would be added to the accounts receivable balance of the parent and reported as a single amount on the consolidated balance sheet. This would be done for all of the subsidiary's assets and liabilities sheet accounts. As well, 100% of each of the subsidiary's revenues, expenses, gains, and losses accounts would be included with those of the parent company and reported in the consolidated income statement.

Since 100% of all the net assets and net income (loss) is being reported by the parent, any percentage of ownership held by outside investors, referred to as the minority interest, must also be reported in the financial statements. This is reported as a single line in the balance sheet and the income statement as *non-controlling interest*. For example, in the cover story, Hewlett Packard purchased a majority of the voting shares of Autonomy Corp. The remaining percentage would be the minority interest shareholders who did not sell their shares to Hewlett Packard and continue to be investors of Autonomy Corp. This non-controlling interest would be reported as a single line in the balance sheet and the income statement. Earlier chapters regarding the income statement and statement of financial position both illustrate how the non-controlling interest is presented in these financial statements.

8.3.3 Investments in Joint Arrangements

As previously stated in the overview of strategic investments, joint arrangements is another type of strategic investment for both IFRS and ASPE that involves a contractual arrangement between two or more investors regarding control of a joint entity. Control in this case means that the investors must together agree on the decision-making. For IFRS, there are two types of joint arrangements:

- Joint operations—investor has direct rights to assets and (unlimited) liability obligations of the joint entity, such as a partnership where liability can be unlimited. Each investor would include in their financial statements the assets, liabilities, revenue, and expenses that they have a direct interest in. In other words, it is a form of proportionate consolidation where the investor's proportionate share of the assets, liabilities, revenue and expense accounts from the joint entity are added to the investor's existing accounts.
- Joint ventures—investor has rights to *net* assets (assets and (limited) liability obligations) of the joint entity, such as the case involving corporations with limited liability. The equity method is used for this type of investment which is the method illustrated for investments in associates above. In this case, the joint entity is shown on a net basis in an investment account on the statement of financial position.

The ASPE standards are very similar, though the terms are a bit different, namely, jointly

controlled operations, jointly controlled assets, and jointly controlled enterprises. ASPE companies can make a policy choice to use proportionate consolidation, equity, or cost to account for their joint entity investments. Once chosen, the method must be applied to all investments of this nature.

8.4 Investments Disclosures

Reporting disclosures were addressed under each accounting method above. To summarize, investments will be reported as either current or long-term assets on the same basis as other assets. If the investment is expected to be sold within twelve months of the balance sheet date (or its operating cycle), is held for trading purposes, or is a cash equivalent, it will be reported as a current asset. All other investments will be reported as long-term assets. Both IFRS and ASPE companies are similar regarding this classification. IFRS and ASPE standards are also similar regarding the *disclosure objectives* for investments for the following reasons:

- to ensure that information is available to assess the level of significance of the overall financial position and performance of the investments
- to understand the nature and extent of risks arising from the investments
- to know how these risks are managed

Examples of disclosure details are:

- separation of investments by type (i.e., FVNI, AC, FVOCI, Significant Influence, Subsidiary, Joint arrangements)
- the carrying value of investments with details about their respective fair values including valuation techniques, interest income, unrealized and realized gains (losses), impairments and reversals of impairments, and reclassifications
- information from the legal documents including maturity dates, interest rates, and collateral
- information regarding market risk, liquidity risk, and credit risk, as well as the policies in place to manage risks
- IFRS for impaired assets must disclose the basis for the ECL and changes in ECL as well as a breakdown and reconciliation of the reporting year's adjustments of any impairment allowance accounts

Since investments are also financial instruments, the disclosure requirements identified in Chapter 6: Cash and Receivables apply to intercorporate investments as well. Refer to that chapter for more details.

8.5 Investments Analysis

Access to the information contained in financial statements and required disclosures is vital to sound investment analysis. This information will assist management to separate the assets, liabilities, and income components of the investment portfolios from the company's core operations to accurately assess performance of the company and of the investment itself. As well, creditors and potential investors will have to keep in mind the impact that certain accounting treatments would have on existing financial data. The equity method was referred to earlier as the one-line consolidation method for a reason: some of the key data using this method is not separately identifiable. As well, the accounting treatment chosen could affect the amounts and timing of net income and assets balances reported by the investor company. Some of these differences are identified in the chapter highlights below. Decisions regarding when to purchase or sell are in part determined by analysis of the investee company's operating results, earnings prospects, and earnings ratios. For this reason, care must be taken to clearly be aware of any obscured data and to understand the differences in data created by the choice of accounting treatments for each investment portfolio. Proper access to information and a thorough understanding of the various accounting treatments will reduce the possibility that management will make sub-optimal business investment decisions due to misinterpretation of analysis results.

8.6 IFRS/ASPE Key Differences

There is no doubt that accounting for investments is complex, given the presence of two accounting standards that have identified eight separate categories for IFRS and ASPE as shown in the Classifications chart at the beginning of this chapter.

Below is a *decision map* for the various equity investment categories:

Std	Description	Corporate Planning	Purpose	Treatment
IFRS	If **voting** shares ownership is greater than 50%	Strategic	Control	Full consolidation

	If **voting** shares ownership is between 20% and 50%	Strategic	Associate	Equity method
	If equity investment is less than 20%	Non-strategic	For trading purposes (FVNI)	FVNI – fair value – net income
	If equity investment is less than 20%	Non-strategic	To collect dividends and also to sell (FVOCI)	Fair value – OCI without recycling (equities)
ASPE	If **voting** shares ownership is greater than 50%	Strategic	Subsidiary	Choice of consolidation, equity method, or cost method
	If **voting** shares ownership is between 20% and 50%	Strategic	Significant influence	Choice of equity method or cost method, or fair value (if market exists) – net income
	If equity investment is less than 20% and has an active market	Non-strategic	Short-term trading	FVNI – fair value – net income
	If equity investment is less than 20% and has no active market	Non-strategic	All other equities	Cost

Chapter Summary

LO 1: Describe intercorporate investments and their role in accounting and business.

Non-strategic intercorporate investments exist when companies invest in other companies' equity (shares or derivatives) or debt (bonds or convertible debt) to earn a better return on their idle cash. These returns will take the form of interest income, dividend income, or capital appreciation of the security itself.

Strategic intercorporate investments are voting shares purchased by the investor company to

enhance its own operations. The goal is to either influence the investee's board of directors (share holdings 20% or greater) or to take control over the company (share holdings 50% or greater). This is undertaken in order to guarantee a source of scarce materials or services or to increase sales and hence profit. There are also joint arrangements where two or more investors, through a contractual agreement, control a joint entity.

Intercorporate investments are financial assets because the investor's contractual rights to receive cash or other assets of the investee company result in a financial liability or equity instrument of the investee. They are reported as either current or long-term investments depending on the investments business model and if management intends to hold and collect interest and dividends or to realize changes in their value through selling them.

For all investments, the initial measurement is the acquisition price (which is equal to the fair value) in Canadian funds. For equity investments this would likely be the market price and for debt investments such as bonds, it would be the future cash flows discounted using the market interest rate (net present value). Subsequent measurement will depend on the category of the investment. For non-strategic investments, IFRS has three categories: a) FVNI for trading and measured at fair value through net income; b) AC to hold and collect cash flows and measured at amortized cost; and c) FVOCI to collect cash flows and to sell, measured at fair value through OCI with recycling (debt) or without recycling (equities). ASPE has two categories: a) investments for trading purposes (FVNI); and b) all other investments at cost or amortized cost. Strategic investments have three categories: a) holdings of 20% or greater (associate or significant influence) which uses the equity method (IFRS); b) holdings of 50% or greater (subsidiary or control) which uses consolidation (IFRS); and c) joint arrangements made up of various percentages, using the equity method for joint ventures or a form of proportionate consolidation for joint operations. ASPE allows some other choices of methods for its strategic investments and permits straight-line amortization of its debt instruments. The ownership percentages are guidelines only and there can be exceptions to these.

LO 2: Identify and describe the three types of non-strategic investments.

Held-for-trading (FVNI) investments in debt, equity, or derivatives are held for short periods of time. For ASPE companies, these are for equities trading in an active market, debt, or most derivatives under the fair value option (classification irrevocable, once made). FVNI investments are reported as current assets at fair value through net income at each balance sheet date. Transaction costs are expensed. Gains (losses) upon sale are reported in net income. Since they are reported at fair value, no separate impairment tests or charges are required. Investor companies often use an asset valuation allowance account (contra account to the investment asset) to record changes in fair value to preserve the original cost information for the investment. For debt instruments such as bonds, any amortization is calculated using the effective interest method for IFRS. ASPE companies can also elect to use straight-line method for its amortization.

FVOCI investments in debt or equity are for sale, but also for the purpose of collecting the cash flows of interest and dividends. This classification is only available for IFRS companies. They are reported as long-term assets (until within twelve months of the intention to sell them) at fair value through OCI at each balance sheet date until sold. Transactions costs are capitalized. For FVOCI investments in debt, gains/losses upon sale are transferred from OCI to net income. For FVOCI investments in equities, gains/losses upon sale are reclassified from AOCI to retained earnings. Impairment evaluations begin as soon as the investment is acquired and estimated costs regarding potential defaults (expected credit losses or ECL) are calculated and reported at the first reporting date after acquisition. The ECL is adjusted up or down depending on if credit risk increasing or decreasing.

For IFRS, AC investments in debt are reported at amortized cost at each balance sheet date. ASPE companies can also classify equity securities not traded in an active market to this category at cost. Transaction costs are capitalized. AC investments are reported at their carrying value as long-term assets, unless they are expected to mature within twelve months of the balance sheet date. Interest earned on investments in debt (bonds), and dividends earned on equity securities measured at cost, are reported in net income. Any bond premium or discount amortization is calculated using the effective interest rate method for IFRS companies. ASPE can choose to use either the effective interest or the straight-line method. For ASPE, if a loss event occurs, any impairment is calculated as the difference between the carrying value and the present value of the impaired cash flows using the current market rate. Any gain (loss) due to impairment or upon sale is reported in net income. An asset valuation allowance can be used for either standard and any of the classifications.

For IFRS, impairment evaluations for AC investments are the same process as for FVOCI debt. To summarize, impairment evaluations begin as soon as the AC investment is acquired and estimated costs regarding potential defaults (expected credit losses or ECL) are calculated and reported at the first reporting date after acquisition. The ECL is adjusted up or down depending on if credit risk increasing or decreasing.

LO 3: Identify an describe the three types of strategic investments.

Investments in the voting shares of an investee company are undertaken to influence or take over control of the board of directors. The degree of ownership defines the level of influence and the classification.

Associate (Significant Influence) investments of 20% or greater voting shares are reported using the equity method for IFRS. For ASPE, management can choose the equity method, the fair value method through net income if traded in an active market, or the cost method if no market exists. Transaction costs are expensed for the equity and fair value methods and added to the investment (asset) account for the cost method. Investments in associates are reported as long-term investments and income from associates is to be separately disclosed on the income statement. The equity method is based on a reflection of ownership in the investee

company. Dividends received are treated as a return of some of the investment asset and are recorded as a reduction in the value of the investment. Conversely, the investor company's share of an associate's reported net income is added to the value of the investment. Included in the journal entries are also any excess amount paid that is attributable to the investee's net identifiable assets amortized over the remaining life of the assets. Any remaining excess is usually attributable to unrecorded goodwill. Any impairment charge other than those attributed to unrecorded goodwill is recoverable, but limited.

Investments in subsidiaries (Control) for greater than 50% of the voting shares in another company are reported using the consolidation method for IFRS. For ASPE companies, there is a choice of consolidation, equity, or cost methods. Transaction costs are expensed for the consolidation and equity methods and added to the investment (asset) account for the cost method. Consolidation involves the elimination of the investment account, and 100% of each asset and liability of the subsidiary is incorporated on a line-by-line basis with the assets and liabilities of the parent company's balance sheet. As well, 100% of the revenues, expenses, gains, and losses are also incorporated on a line-by-line basis in the parent company's consolidated statement of income. If the parent company owns less than 100%, then a minority interest held by other shareholders exists. This is reported as a single line called non-controlling interest in the parent company's consolidated balance sheet and consolidated income statement.

The investments in joint arrangements classification is used when there are multiple investors each having direct rights to the assets and obligations of the joint arrangement. The degrees of ownership can be varying percentages, and are reported in each investor company using the proportionate consolidation method for IFRS. For ASPE companies, there is a choice of using proportionate consolidation, equity, or cost. The mechanics of the proportionate consolidation method are similar to the consolidation method discussed above.

LO 4: Explain disclosures requirements for intercorporate investments.

The various classifications and accounting treatments can significantly impact the asset values and net income of investor companies. Accounting methods in this chapter can obscure some of the key data and stakeholders may have difficulty distinguishing between performance of the investor's core operations and those of its investments. Investment decisions to buy or sell are based on this information so it is critical to be aware of any obscured data that could influence these decisions.

LO 5: Identify the issues for stakeholders regarding investment analyses of performance.

Analyzing the performance of a company's portfolio of intercorporate investments is a critical process. The most significant hurdle to good investment management is to ensure that the information used to assess performance is clearly understood by those performing the analysis and interpreting the results, since some of the critical data can be obscured by the choice of accounting treatment. Investments have three potential accounting categories for both non-strategic (FVNI, FVOCI, AC) and strategic (associate, control, joint arrangements) investments. As well, accounting treatments can also vary between debt instruments and equity securities within a specific classification, making comparisons with other benchmark data (e.g., historic or industry ratios) difficult, and hence performance assessment challenging as well. The result is that both net income and investment accounts balances can differ widely at each reporting date depending on the category classification chosen to account for the investment(s).

LO 6: Discuss the similarities and differences between IFRS and ASPE for the three non-strategic investment classifications.

A decision map assists in determining the proper treatment for various types of investment decisions.

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Exercises

EXERCISE 8–1

On January 1, Maverick Co. purchased 500 common shares of Western Ltd. for $50,000 plus a 1% commission of the transaction. On September 30, Western declared and paid a cash dividend of $2.25 per share. At year-end, the fair value of the shares was $108 per share. In early March of the following year, Maverick sold the shares for $57,000 less a 1% commission. The shares are not publicly traded, so Maverick will account for them using the cost method. Maverick follows ASPE.

Required:

a. Describe the type of investment and how it would be reported.

b. Prepare the journal entry for the purchase, the dividends received, and the sale, and any year-end adjustments, if required.

c. Assume now that Maverick follows IFRS and the investment in shares is accounted for as FVNI investment. Prepare the journal entry for the purchase, the dividends received, any year-end adjusting entries and the sale.

d. How would your answer to part (c) change if Maverick follows ASPE and the shares are traded on an active market?

EXERCISE 8–2

On January 1, 2020, Smythe Corp. invested in a 10-year, $25,000 face value 4% bond, paying $25,523 in cash. Interest is paid annually, every January 1. On January 3, 2028, Smythe sold all of the bonds for 101. Smythe's year-end is December 31 and the company follows IFRS. At the time of purchase, Smythe intended to collect the contractual cash flows of interest and principle, and to hold the bonds to maturity.

Required:

a. What is the effective interest rate for this bond, rounded to the nearest whole dollar? (Hint: this involves a net present value calculation as discussed in Chapter 6: Cash and Receivables.)

b. What is the amount of the bond premium or discount? Indicate if it is a premium or a discount.

c. Record all relevant entries for 2020, the January entry for 2021, and the entry for the sale in 2028, if Smythe classifies the investment as an AC investment. Round amounts to the nearest whole dollar.

d. What is the total interest income and net cash flows for Smythe over the life of the bond? What accounts for the difference between these two amounts?

e. Assume now that Smythe follows ASPE. How would the entries in part (c) differ? Use numbers to support your answer.

EXERCISE 8–3

On January 2, Terrace Co. purchased $100,000 of 10-year, 4% bonds from Inverness Ltd. for $88,580 cash. The effective interest yield for this transaction is 5.5%. The bonds pay interest on January 1 and July 1. Terrace's business model is to hold and collect the contractual cash flows of interest and principal until maturity. The company follows IFRS and their year-end is December 31.

Required:

a. What is the discount or premium, if any, for this investment? Explain why a premium or discount could occur when purchasing bonds.

b. Record the bond purchase, the first two interest payments, and any year-end adjusting entries, rounding amounts to the nearest whole dollar.

c. Record the entries from part (b), assuming now that Terrace follows ASPE and has chosen the alternative method to account for the premium or discount, if any.

EXERCISE 8–4

On January 2, Bekinder Ltd. purchased $100,000 of 10-year, 4% bonds from Colum Ltd. for $88,580 cash. The effective interest yield for this transaction is 5.5%. The bonds pay interest on January 1 and July 1. Terrace follows IFRS and classifies this investment as AC. Their year-end is September 30.

Required: Record the first two interest payments and any adjusting entries, rounding amounts to the nearest whole dollar.

EXERCISE 8–5

On March 1, Imperial Mark Co. purchased 5% bonds with a face value of $20,000 for trading purposes. The bonds were priced in the trading markets at 101 to yield 4.87%, at the time of the purchase, and pay interest annually each July 1. At year-end on December 31, the bonds had a fair value of $21,000. Imperial Mark follows IFRS.

Required:

a. What classification would Imperial Mark use to report this investment?

b. Prepare the journal entries for the bond purchase, the first interest payment, and any year-end adjusting entries required. Round amounts to the nearest whole dollar.

c. Assume now that Imperial Mark follows ASPE. How would Imperial Mark classify and report this investment? Prepare the journal entries from part (b) using the ASPE classification and the alternate method to amortize the premium. Assume that bond investment matures in ten years.

EXERCISE 8–6

Halberton Corp. purchased 1,000 common shares of Xenolt Ltd., a publicly traded company, for $52,800. During the year Xenolt paid cash dividends of $2.50 per share. At year-end, due to a temporary downturn in the market, the shares had a market value of $50 per share. Halberton's business model is to collect the dividend cash flows for now, and sell this investment if/when the share price reaches 54,000. Halberton follows IFRS and has elected to classify this investment as FVOCI equities, with recycling to best fit with their intentions to sell, but at a later date.

Required:

a. How would Halberton report this investment?

b. Prepare Halberton's journal entries for the investment purchase, the dividend, and any year-end adjusting entries. Is the drop in market price due to an investment impairment?

c. Prepare the sale entry if Halberton sells the investment one week into the next fiscal year for $54,200 cash.

d. How would the answer for part (a) change if Halberton followed ASPE?

EXERCISE 8–7

The following are various transactions that relate to the investment portfolio for Zeus Corp., a publicly traded corporation. The portfolio is made up of debt and equity instruments all purchased in the current year and accounted for as investments for trading (FVNI). The investee's year-end is December 31.

a. On February 1, the company purchased Xtra Corp. 12% bonds, with a par value of $500,000, at 106.5 plus accrued interest to yield 10%. Interest is payable April 1 and October 1.

b. On April 1, semi-annual interest was received on the Xtra bonds.

c. On July 1, 9% bonds of Vericon Ltd. were purchased. These bonds, with a par value of $200,000, were purchased at 101 plus accrued interest to yield 8.5%. Interest dates are June 1 and December 1.

d. On August 12, 3,000 shares of Bretin ACT Corp. were acquired at a cost of $59 per share. A 1% commission was paid.

e. On September 1, Xtra Corp. bonds with a par value of $100,000 were sold at 104 plus accrued interest.

f. On September 28, a dividend of $0.50 per share was received on the Bretin ACT Corp. bonds.

g. On October 1, semi-annual interest was received on the remaining Xtra Corp. bonds.

h. On December 1, semi-annual interest was received on the Vericon Ltd. bonds.

i. On December 28, a dividend of $0.52 per share was received on the Bretin ACT Corp. shares.

j. On December 31, the following fair values were determined: Xtra Corp. 101.75; Vericon Ltd. bonds 97; and Bretin ACT Corp. shares $60.50.

Required: Prepare the journal entries for each of the items (a) to (j) above. The company wishes to record interest income separately from other investment gains and losses.

EXERCISE 8–8

On January 1, 2020, Verex Co. purchased 10% of Optimal Instrument's 140,000 shares for $135,000 plus $1,750 in brokerage fees. Management accounted for this investment as a FVOCI. In October, Optimal declared a $1.10 cash dividend. On December 31, which is Verex's year-end, the market value of the shares was $9.80 per share. On February 1, 2021, Verex sold 50% of the investment for $12 per share less brokerage fees of $580.

Required:

a. Does Verex follow ASPE or IFRS, and why?

b. Record all the relevant journal entries for Verex for this investment from purchase to sale.

EXERCISE 8–9

At December 31, 2020, the following information is reported for Jackson Enterprises Co.:

Net income	$250,000
Investments in FVOCI – carrying value	320,000
Investments in FVOCI – fair value	350,000
Accumulated Other Comprehensive Income, Jan 1, 2020	15,000

Required: Calculate the Other Comprehensive Income (OCI) and total comprehensive income for the year ending December 31, 2020, and the December 31, 2020 ending balance for the Accumulated Other Comprehensive Income (AOCI). Ignore income taxes.

EXERCISE 8–10

On January 2, 2020, Bellevue Holdings Ltd. purchased 5%, 10-year bonds with a face value of $200,000 at par. This investment is accounted for at amortized cost. On January 4, 2021, the investee company was experiencing financial difficulties. As a result, Bellevue evaluated the investment and determined the following:

- The present value of the cash flows using the current market rate was $195,000
- The present value of the cash flows using the original effective interest rate was $190,000

By June 30, 2021, the investee recovered from the financial difficulties and was no longer considered impaired.

Required: Record all the impairment related transactions in 2020 and 2021 assuming Bellevue uses ASPE.

EXERCISE 8–11

On December 31, 2020, Camille Co. provided the following information as at December 31, 2020 about its investment accounts that it acquired for trading purposes:

	Carrying Amount	Fair Value
ABC Ltd. shares	$15,000	$17,500
Warbler Corp. shares	24,300	22,500
Shickter Ltd. Shares	75,000	80,200

During 2021, Warbler Corp. shares were sold for $23,000 and 50% of the Shickter shares were sold for $42,000. At the end of 2021, the fair value of ABC shares was $19,200 and Shickter Ltd. was $41,000. Camille follows IFRS.

Required:

a. Prepare the adjusting entry for December 31, 2020, if any.

b. Prepare the entry for the Warbler and Shickter sales.

c. Prepare the adjusting entry for December 31, 2021, if any.

d. How would the entries in parts (a), (b), and (c) differ if Camille accounted followed ASPE?

EXERCISE 8–12

On September 30, 2019, FacePlant Inc. purchased a $225,000 face-value bond for par plus accrued interest. The bond pays interest each October 31 at 4%. Management's investment business model is to hold for trading purposes. On December 31, 2019, the company year-end, the fair value published for bonds of similar characteristics and risk was 102.6. On March 1, 2020, FacePlant sold the bonds for 102.8 plus accrued interest. FacePlant follows IFRS.

Required:

a. Prepare all the related journal entries for this investment. The company wants to report interest income separately from other gains and losses.

b. Prepare a partial classified balance sheet and income statement for FacePlant, as at December 31, 2019.

c. How would the answer to parts (a) and (b) change if FacePlant followed ASPE?

d. What kinds of returns did this investment generate? (Hint: Consider all sources, such as interest income and gain/loss on sale of the investment.)

EXERCISE 8–13

Bremblay Ltd. owns corporate bonds that it accounts for using the amortized cost model. As at December 31, 2020, after an impairment review was triggered, the bonds have the following financial data:

Par value	$500,000
Amortized cost	422,000
Discounted cash flow at the current market rate	400,000
Discounted cash flows at the original historic rate	390,000
Bond, net realizable value	395,000

The company does not use a valuation account.

Required:

a. Prepare all relevant entries related to the impairment assuming the company follows ASPE. Is this reversible?

b. Prepare all relevant entries related to the impairment assuming that the company follows ASPE but uses an asset valuation allowance account.

EXERCISE 8–14

On January 1, 2020, Helsinky Co. paid cash to acquire 8% bonds of Britanica Corp. with a maturity value of $250,000, to mature January 1, 2028. The bonds provide a 9% yield and pay interest each December 31. Helsinky purchased these bonds as part of its trading portfolio and accounts for the bonds as FVNI investments. On December 31, 2020, the bonds had a fair value of $240,000. Helsinky follows ASPE and has a December 31 year-end.

During 2021, the industry sector that Britanica operates in experienced some difficult times due to the drop in international market prices for oil and gas. As a result, by December 31, 2021, their debt was downgraded to the market price of 87.3. By December 31, 2022, the bond had a market price of 92.3. In 2023, conditions improved measurably, resulting in the bonds having a fair value on December 31, 2023 of 99.3.

Required:

a. Prepare all of the relevant entries for 2020, 2021, 2022 and 2023, including any adjusting entries as required. Round entry amounts to the nearest whole dollar.

b. If Helsinky had accounted for the investment at amortized cost, identify and describe the impairment model that the company would have used.

EXERCISE 8–15

On January 1, 2014, Billings Ltd. purchased 2,500 shares of Outlander Holdings for $87,500. During the time that this investment has been held by Billings, the economy and the investee company Outlander have experienced many good and bad times. In 2020, Outlander stated that it was experiencing a reduction in profits but was trying to get things to improve.

Required:

a. Assume that Billings applies the cost method to this investment because there is no active market for Outlander shares. In 2019, Billings had a general sense that the value of its investment in Outlander had probably dropped by about 8.6% to $80,000. This was not enough to trigger an impairment evaluation as it was still uncertain. By 2020, seeing no improvement, Billings' management completed an evaluation of the investment and estimated that the discounted cash flows from this investment was now $50,000.

   Prepare the entries for 2019 and 2020, assuming that Billings follows ASPE.

b. Next, assume that Billings classifies the investment as a FVNI. By the end of 2019, the price of Outlander shares had fallen from $34.00 the previous year to $32.00. By 2020, the price had dropped to a 52-week low of $25.00 per share.

   Prepare the entries for 2019 and 2020, assuming that Billings follows ASPE.

c. Finally, assume that Billings follows IFRS and had purchased the shares of Outlander because Billings wanted to collect the dividends and sell them to realize the change in the shares' valuation. For this reason, Billings classified the investment as a FVOCI investment. How might the accounting treatment change due to a change to IFRS and FVOCI?

EXERCISE 8–16

On January 1, 2020, Sandar Ltd. purchased 32% of Yarder Co.'s 50,000 outstanding common shares at a price of $25 per share. This price is based on Yarder's net assets. On June 30, Yarder declared and paid a cash dividend of $60,000. On December 31, 2020, Yarder reported net income of $120,000 for the year. At this time, the shares had a fair value of $23. Sandar's year-end is December 31 and follows ASPE.

Required:

a. Assuming that Sandar does not have any significant influence over Yarder, prepare all the 2020 entries relating to this investment using the FVNI classification.

b. Prepare all the 2020 entries relating to this investment if it was classified as cost due to no active markets.

c. Prepare all the 2020 entries relating to this investment assuming that Sandar has significant influence over Yarder. Sandar uses the equity method of accounting.

EXERCISE 8–17

The following T-account shows various transactions using the equity method. This investment of $290,000 is made up of 30% of the outstanding shares of another company who had a carrying amount of $900,000. The excess of the purchase price over the investment amount is attributable to capital assets in excess of the carrying values with the remainder allocated to goodwill. The investor company has significant influence over the investee company. Dividends for 15% of the investee's net income are paid out in cash annually. The investee's net assets have a remaining useful life of 10 years. The investor company follows IFRS.

Investment in Investee Company	
$290,000	
60,000	
	9,000
	1,500

Required:

a. What was the investee's total net income for the year?

b. What was the investee's total dividend payout for the year?

c. What is the investor's share of net income?

d. How much was the investor's annual depreciation of the excess payment for capital assets?

e. How much of the excess payment would be assigned to goodwill?

f. How much are the investor's share of dividends for the year?

EXERCISE 8–18

On January 1, 2019, Dologan Enterprises Ltd. purchased 30% of the common shares of Twitterbug Inc. for $380,000. These shares are not traded in any active markets. The carrying value of Twitterbug's net assets at the time of the shares purchase was $1.2 million. Any excess of the purchase cost over the investment is attributable to unrecorded intangibles with a 10-year life.

During 2019, the following summary operations for Twitterbug occurred:

Net income and Total comprehensive income	$ 50,000
Dividends paid	25,000
Investment fair value	400,000

During 2020, the following summary operations for Twitterbug occurred:

Net loss and Total comprehensive loss	$ 15,000
Dividends paid	0
Investment fair value	360,000
Investment recoverable amount	370,000

Required:

a. Prepare all the relevant entries for 2019 and 2020 assuming no significant influence. Assume that Dologan follows IFRS and accounts for the investment as a FVNI.

b. How is the comprehensive income affected in 2019 and 2020 in part (a)?

c. Prepare all the relevant entries for 2019 and 2020 assuming that Dologan can exercise significant influence. Assume that Dologan follows IFRS.

d. Calculate the carrying value of the investment as at December 31, 2020 assuming Dologan can exercise significant influence and follows IFRS.

e. How would your answer to part (c) be different if Twitterbug's statement of comprehensive income included a loss from discontinued operations of $15,000 (net of tax) for 2019?

EXERCISE 8–19

On January 1, 2020, Chacha Holdings Ltd., a privately-held corporation that follows ASPE, purchased 35% of the common shares of Eugene Corp. for $600,000. With this purchase,

Chacha now has significant influence over Eugene, who is a supplier of materials for Chacha's production processes. Below is some information about the investee at the date the shares were purchased:

Carrying value of assets subject to amortization	$ 900,000
Carrying value of assets not subject to amortization (10 years useful life remaining, on a straight-line basis)	780,000
Fair value of the assets subject to amortization	1,050,000
Liabilities	225,000

Required: Prepare all relevant entries for the investment based on the information provided above. Subsequently, the investee reported net income of $225,000 and dividends paid of $100,000. Assume that any excess of payment that is unexplained is attributed to goodwill.

EXERCISE 8–20

Below are details for several independent investments:

i. Preferred shares were purchased from a publicly traded company because of their favourable dividend payout history. They are for sale, but management has no specific intention to sell at this time.

ii. On February 1, 2020, 10% or 1,400 shares of the total outstanding shares were purchased from another company that is a privately-held corporation. Management intends to acquire 30% of the total outstanding shares.

iii. The company has an investment in 10-year bonds which will mature in 5 more years. Management's intention was to hold them until maturity but the company is short of cash, so a possibility exists that they may be sold in 2020, though that is not certain at this point.

iv. Common shares of a supplier company were purchased to strengthen their relationship. Management intends to hold this investment into the future.

v. On January 1, 2020, a 4% bond that will mature in 6 years was purchased at market price of 92. When the price point reaches 103, management intends to sell the investment.

vi. Bonds that mature in 10 years were purchased with monies set aside for a new building purchase expected to occur in 10 years. The bonds will be sold once they mature.

vii. On March 1, 2020, bonds maturing in 2021 were purchased.

Required:

a. What classification would each investment item be if the investor company follows APSE? How are impairments treated from an accounting perspective?

b. What classification would each investment item be if the investor company follows IFRS?

EXERCISE 8–21

On January 1, 2020, Amev Ltd., an IFRS company, acquires a 3%, 5-year, bond at par for $1,150,000, which it intends to hold and collect the contractual cash flows of principal and interest. At year-end, management has determined that there is no significant increase in credit risk, but there is a 1% chance that the company will not collect 15% of the bond face value in the next 12 months.

Required: Determine the investment's classification and prepare the year-end journal entry. What is the carrying value of the bond?

EXERCISE 8–22

Referring to the data in Exercise 8–21, assume now that management estimates that there has been a significant increase in the credit risk and there is now a 6% chance that the Amev will not collect 50% of the bond face value over its life.

Required: Prepare the year-end entry and determine the carrying value of the investment. What else has changed since the previous ECL valuation?

EXERCISE 8–23

Referring to the data in Exercise 8–21, prepare the year-end entry assuming that Amev classifies the investment as FVOCI and the fair value of the bond at year-end was 99.5, assuming the probabilities have not changed and there has been no significant change in credit risk.

Chapter 9

Property, Plant, and Equipment

Winter in Hawaii!

In July 2014, WestJet Airlines Ltd. (WestJet) announced that it planned to purchase four Boeing 767-300ERW aircraft to continue and enhance its service from Alberta to Hawaii. These flights had previously been offered through an arrangement with another airline. This represented a significant investment by the company, as each Boeing 767 sells for approximately $191 million. The company had previously announced in March 2014 that it had placed an order for an additional five Bombardier Q400 NextGen aircraft. Aside from these orders, the company had also taken delivery of five other Q400 NextGen aircraft and two Boeing 737NG 800s in the first half of 2014. The company's total fleet of aircraft in mid-2014 was 120 units, but the company indicated that it planned to expand the fleet to approximately 200 units by 2027.

Clearly, aircraft equipment is a significant asset for an airline. In WestJet's case, the total carrying value of all its property and equipment at June 30, 2014 was approximately $2.7 billion. This represented approximately 66% of the company's total asset base. The bulk of the company's investment in equipment was comprised of aircraft ($1.9 billion) and deposits on aircraft ($0.5 billion). For any financial statement reader or decision maker, it is important to gain a clear understanding of the nature of this significant asset class in WestJet.

WestJet reports that their aircraft equipment is actually comprised of several components. These components include the aircraft itself—the engine, airframe, and landing gear components—and the live satellite television equipment. Each component is depreciated over different periods of time, ranging from five to twenty years. In addition to the aircraft equipment, the company depreciates other property and equipment, such spare engines, ground property, buildings, and leasehold improvements over periods ranging from three to forty years. It is evident that understanding the nature and identification of components is an important accounting function in a company like WestJet.

In the company's accounting policy note, it is stated that the identification of components is based on management's judgment of what constitutes a significant cost in relation to the total cost of an asset. As well, it states that management considers the patterns of consumption and useful lives of the assets when identifying reportable components. The accounting policy note further states that most overhaul expenditures are capitalized and depreciated.

As WestJet continues to expand its fleet into new types of aircraft, it will be important for

management to consider their accounting policies carefully with respect to their property and equipment. With such a significant investment in non-current assets, accounting decisions regarding the identification of asset components can have a profound effect on reported income. A sound understanding of the criteria and principles behind capitalization of property, plant, and equipment assets is essential to understanding WestJet.

(Sources: Barterm, 2014; Westjet, 2014)

Chapter 9 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe the characteristics of property, plant, and equipment assets that distinguish them from other assets.

LO 2: Identify the criteria for recognizing property, plant, and equipment assets.

LO 3: Determine the costs to include in the measurement of property, plant, and equipment at acquisition.

LO 4: Determine the cost of a property, plant, and equipment asset when the asset is acquired through a lump-sum purchase, a deferred payment, or a non-monetary exchange.

LO 5: Identify the effect of government grants in determining the cost of a property, plant, and equipment asset.

LO 6: Determine the cost of a self-constructed asset, including treatment of related interest charges.

LO 7: Identify the accounting treatment for asset retirement obligation.

LO 8: Apply the cost model.

LO 9: Apply the revaluation model.

LO 10: Apply the fair value model.

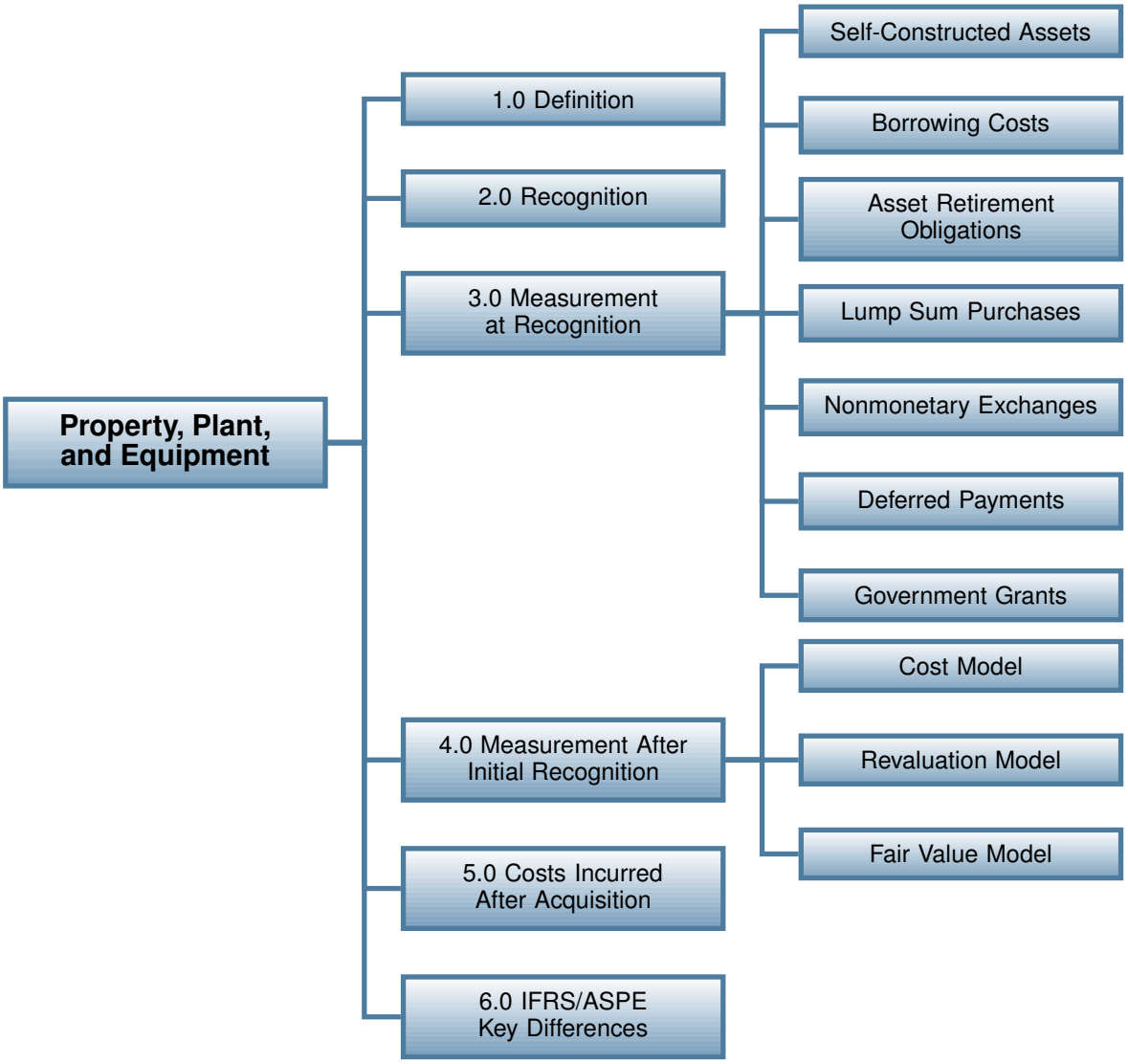
LO 11: Explain and apply the accounting treatment for post-acquisition costs related to property, plant, and equipment assets.

LO 12: Identify key differences between IFRS and ASPE.

Introduction

The rapid development of information technology in recent decades has highlighted the importance of intellectual capital. The future of commerce, we are told, lies in the development of ideas, processes, and brands. Yet, even with this change in focus from a traditional manufacturing economy, the importance of the physical assets of a business cannot be ignored. Even companies like Facebook and Google still need computers to run their applications, desks and chairs for staff to sit in, or buildings to house their operations. And even as the knowledge economy grows, there continues to be an increasing variety of consumer products being manufactured and sold. All of this activity requires capacity, and this capacity is provided by the property, plant, and equipment of a business.

Chapter Organization



9.1 Definition

The computers, furniture, buildings, land, factory equipment, and so forth that a business owns are called its **hard assets**, also sometimes referred to as **fixed assets** or **capital assets**. But the term that is consistently used in the IFRS publications is *property, plant, and equipment* (PPE).

According to IAS 16.6, under IFRS property, plant, and equipment are the tangible items that are:

- held for use in the production or supply of goods or services, for rental to others, or for administrative purposes
- expected to be used during more than one period (IAS, 2003a)

A key element of the definition is that the item be **tangible**. This means that it must have a physical substance; therefore, it does not include items of an intangible nature, such as a copyright. The intended use of the asset is also important, as it is expected that it be used for some productive purpose and not simply resold to a customer. This *distinction of intent* is important. An automobile held by a car dealership would be considered inventory, as the dealership intended to resell it; whereas, an automobile owned by a rental company would be considered PPE, as the intended use is earning revenue from rentals. The definition also suggests that the asset should be useful to the business for more than one accounting period. Although this means that a tangible, productive asset with a useful life of two years would be considered PPE, many PPE items have lives much longer than this. A property that includes land and a manufacturing facility could be useful to a business for thirty or forty years, or even longer. The long-term, productive assets of a business are sometimes referred to as bricks and mortar, suggesting something of the relatively permanent nature of these assets.

9.2 Recognition

According to IAS 16.7, a PPE item should be recognized when:

- It is probable that future economic benefits associated with the item will flow to the entity.
- The item's cost can be measured reliably (IAS 2003a).

Notice that these conditions are similar to our basic definition of an asset. Also notice that the definition is phrased in terms of economic benefits, rather than of the item itself. This means that some expenditures not directly incurred to purchase the asset, but necessary nonetheless to guarantee the continued productive use of the asset, may still be included in the asset's cost. For example, safety equipment mandated by legislation may not provide direct revenue to the business, but is necessary in order to continue operating the equipment legally. Thus, these costs should be capitalized as part of the asset's cost, and if significant, may even be identified as a separate component of the asset.

The definition of PPE does not contain any guidance on how to define an individual element of PPE. This means that the accountant will need to apply professional judgment to determine the segregation of various PPE components. If we consider a large, complex piece of equipment such as an airplane, the need for proper component accounting becomes clear. An airplane

contains several major elements: the fuselage, the engines, and the interior fixtures (seats, galley, and so on). As indicated in the opening story about WestJet, each of these elements may have a significantly different useful life, and may require maintenance and replacement at different intervals. Because we need to depreciate assets based on their useful lives, and because we need to consider the accounting treatment of subsequent expenditures, it is important to define the separate components of a PPE item properly at the time of **recognition**. Accountants will usually consider the value of the component relative to the whole asset, along with the useful life and other qualitative and practical factors when making these determinations.

IAS 16 also indicates that spare parts, stand-by equipment, and servicing equipment should be recognized as property, plant, and equipment if they meet the definition. If they don't meet the definition, then it is more appropriate to classify these items as inventory. This is an area where materiality and the accountant's professional judgment will come into play, as the capitalization of these items may not always be practical.

9.3 Measurement at Recognition

PPE assets are initially measured at their cost, which is the cash or fair value of other assets given to acquire the asset. A few key inclusions and exclusions need to be considered in this definition.

Any cost required to purchase the asset and bring it to its location of operation should be capitalized. As well, any further costs required to prepare the asset for its intended use should also be capitalized. The following is a list of some of the costs that should be included in the capitalized amount:

- Purchase price, including all non-recoverable tax and duties, net of discounts
- Delivery and handling
- Direct employee labour costs to construct or acquire the asset
- Site preparation
- Other installation costs
- Net material and labour costs required to test the asset for proper functionality
- Professional fees directly attributable to the purchase
- Estimates of decommissioning and site restoration costs

Costs that should *not* be included in the initial capitalized amount include:

- Initial operating losses
- Training costs for employees
- Costs of opening a new facility
- Costs of introducing a new product or service
- Costs of reorganization and operation at a new location
- Administration and general overhead costs
- Other revenue or expenses that are incidental to the development of the PPE

9.3.1 Self-Constructed Assets

When a company chooses to build its own PPE, further accounting problems may arise. Without a transaction with an external party, the cost of the asset may not be clear. Although the direct materials and labour needed to construct the asset are usually easy to identify, the costs of overheads and other indirect elements may be more difficult to apply. The general rule to apply here is that only costs directly attributable to the construction of the asset should be capitalized. This means that any allocation of general overheads or other indirect costs is not appropriate. As well, any internal profits or abnormal costs, such as material wastage, are excluded from the capitalized amount.

9.3.2 Borrowing Costs

One particular problem that arises when a company constructs its own PPE is how to treat any interest incurred during the construction phase. IAS 23 (IAS, 2007) requires that any interest that is directly attributable to the construction of a qualifying asset be capitalized. A qualifying asset is any asset that takes a substantial amount of time to be prepared for its intended use. This definition could thus include inventories as well as PPE, although the standard does not require capitalization of interest for inventory items that are produced in large quantities on a regular basis.

If a PPE asset is qualified under this definition, then a further question arises as to how much interest should be capitalized. The general rule is that any interest that could have been avoided by not constructing the asset should be capitalized. If the company has obtained specific financing for the project, then the direct interest costs should be easy to identify.

However, note that any interest revenue earned on excess funds that are invested during the construction process should be deducted from the total amount capitalized.

If the project is financed from general borrowings and not a specific loan, identification of the capitalized interest is more complicated. The general approach here is to apply a weighted average cost of borrowing to the total project cost and capitalize this amount. Some judgment will be required to determine this weighted average cost in large, complex organizations.

Interest capitalization should commence when the company first incurs expenditures for the asset, first incurs borrowing costs, and first undertakes activities necessary to prepare the asset for its intended use. Interest capitalization should cease once substantially all of the activities necessary to get the asset ready for its intended use are complete. Interest capitalization should also be stopped if active development of the project is suspended for an extended period of time.

Many aspects of the accounting standards for interest capitalization require professional judgment, and accountants will need to be careful in applying this standard.

9.3.3 Asset Retirement Obligations

For certain types of PPE assets, the company may have an obligation to dismantle, clean up, or restore the site of the asset once its useful life has been consumed. An example would be a drilling site for an oil exploration company. Once the well has finished extracting the oil from the reserve, local authorities may require the company to remove the asset and restore the site to a natural state. Even if there is no legal requirement to do so, the company may still have created an expectation that it will do so through its own policies and previous conduct. This type of non-legally binding commitment is referred to as a **constructive obligation**. Where these types of legal and constructive obligations exist, the company is required to report a liability on the balance sheet equal to the present value of these future costs, with the offsetting debit being record as part of the capital cost of the asset. This topic will be covered in more detail in Chapter 10, but for now, just be aware that this type of cost will be capitalized as part of the PPE asset cost.

9.3.4 Lump Sum Purchases

There are instances where a business may purchase a group of PPE assets for a single price. This is referred to as a lump sum, or basket, purchase. When this occurs, the accounting issue is how to allocate the purchase price to the individual components purchased. The normal practice is to allocate the purchase price based on the relative fair value of each component. Of course, this requires that information about the assets' fair values be available and reliable. Often, insurance appraisals, property tax assessments, depreciated replacement costs, and

other appraisals can be used. The reliability and suitability of the source used will be a matter of judgment on the part of the accountant.

Consider the following example. A company purchases land and building together for a total price of $850,000. The most recent property tax assessment from the local government indicated that the building's assessed value was $600,000 and the land's assessed value was $150,000. The total purchase price of the components would be allocated as follows:

$$\begin{array}{lll} \text{Land} & \frac{150{,}000 \times 850{,}000}{(150{,}000+600{,}000)} & = \$170{,}000 \\ \text{Building} & \frac{600{,}000 \times 850{,}000}{(150{,}000+600{,}000)} & = \$680{,}000 \\ \text{Total} & & = \$850{,}000 \end{array}$$

9.3.5 Non-monetary Exchanges

When PPE assets are acquired through payments other than cash, the question that arises is how to value the transaction. Two particular types of transactions can occur: 1) a company can acquire a PPE asset by issuing its own shares, or 2) a company can acquire a PPE asset by exchanging it with another asset the company currently owns.

Asset Acquired by Issuing Shares

When a company issues its own shares to acquire an asset, the transaction should be recorded at the fair value of the asset acquired. IFRS presumes that this fair value should normally be obtainable. This makes sense, as it unlikely that a company would acquire an asset without having a reasonable estimate of its value. If the fair value of the asset acquired is not determinable, then the asset should be reported at the fair value of the shares given up. This value is relatively easy to determine for an actively traded public company. In cases where neither the value of the asset nor the value of the shares can be reliably determined, the asset could not be recorded.

Asset Acquired in Exchange for Other Assets

When assets are acquired though exchange with other non-monetary assets or a combination of monetary and non-monetary assets, the asset acquired should be valued at the fair value of the assets given up. If this value cannot be reliably determined, then the fair value of the asset received should be used. Notice how this differs from the rule for share-based payments. The presumption is that the fair values of assets are generally more reliable than the fair values of shares.

The implication of this general rule is that when non-monetary assets are exchanged, there will likely be a gain or loss recorded on the transaction, as fair values and carrying values are

usually not the same. The recognition of a gain or loss suggests that the earnings process is complete for this asset. This seems reasonable, as each company involved in the transaction would normally expect to receive some economic benefit from the exchange.

There are two instances, however, where the general rule does not apply. These two situations occur when:

- The fair values of both assets are not reliably measurable.
- The transaction lacks commercial substance.

Although it is an unusual situation, it is possible that the fair value of neither asset can be reliably determined. In this case, the asset acquired would be recorded at the book value of the asset given up. This means that no gain or loss would be recorded on the transaction.

A more likely situation occurs when the transaction lacks commercial substance. This means that after the exchange of the assets, the company's economic position has not been altered significantly. This condition can usually be determined by considering the future cash flows resulting from the exchange. If the business is not expected to realize any difference in the amount, timing, or risk of future cash flows, either directly or indirectly, then there is no real change in its economic position. In this case, it would be unreasonable to recognize a gain, as there has been no completion of the earnings process. This type of situation could occur, for example, when two companies want to change their strategic directions, so they swap similar assets that may be located in different markets. There may be no significant difference in cash flows, but the assets received by each company are more suitable to their long-term plans. In this case, the asset acquired is reported at the carrying value of the asset given up.

One instance where accountants need to be careful occurs when an asset exchange lacks commercial substance and the carrying amount of the asset given up is greater than the fair value of the asset acquired. If we apply the principle for non-commercial exchanges by recording the asset acquired at the carrying value of the asset given up, the result will be an asset reported at an amount greater than its fair value. This result would create a misleading statement of financial position, so in this case, the asset acquired should be reported at its fair value, even though there is no commercial substance. This will result in a loss on the exchange.

Consider the following illustrations of asset exchanges.

Commercial Substance

ComLink Ltd. decides to change its manufacturing process in order to accommodate a new product that will be introduced next year. They have decided to trade a factory machine that is no longer used in their production for a new machine that will be used to make the new product.

The machine that is being disposed of had an original cost of $78,000 and accumulated depreciation of $60,000. The fair value of the old machine at the time of exchange was $22,000. The new machine being obtained has a list price of $61,000. After a period of negotiation, the seller finally agreed to sell the new machine to ComLink Ltd. for cash of $33,000 plus the trade-in of the old machine. As the new machine will be used to manufacture a new product for the company, and the old machine was essentially obsolete, we can reasonably conclude that this transaction has commercial substance. In this case, the journal entry to record the exchange will be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New machine		55,000	
	Accumulated depreciation – old machine		60,000	
	Old machine			78,000
	Cash			33,000
	Gain on disposal of machine			4,000
	For New machine: ($22,000 + $33,000)			

Note that the new machine is reported at the fair value of the assets given up in the exchange ($33,000 cash + $22,000 machine). Also note that the gain on the disposal is equal to the fair value of the old machine ($22,000) less the carrying value of the machine at disposal ($78,000 − $60,000 = $18,000).

 A video is available on the Lyryx site. Click here to watch the video.

No Commercial Substance

Assume that ComLink Ltd. has a delivery truck that it purchased one year ago for $32,000. Depreciation of $5,000 has been recorded to date on this asset. The company decides to trade this for a new delivery truck in a different colour. The new truck has the same functionality and expected life as the old truck. The only difference is the colour, which the company feels ties in better with its corporate branding efforts. No identifiable cash flows can be associated with the effect of this branding. The fair value of the old truck at the time of the trade was $28,000. The seller of the new truck agrees to take the old truck in trade, but requires ComLink Ltd. to pay an additional $5,000 in cash. In this instance, because there is no discernible effect on future cash flows, we would reasonably conclude that the transaction lacks commercial substance. The journal entry to record this transaction would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New truck		32,000	
	Accumulated depreciation – old truck		5,000	
	Old truck			32,000
	Cash			5,000
	For New truck: ($27,000 + $5,000)			

Note that the new truck is reported at the book value of the assets given up ($5,000 cash + ($32,000 − $5,000) = $27,000 truck). Also note that the implied fair value of the new truck ($28,000 + $5,000 = $33,000) is not reported, and no gain on the transaction is realized.

If the same exchange occurred, but we were able to ascertain that the fair value of the asset acquired was only $30,000, it would be inappropriate to record the new asset at a value of $32,000, as this would exceed the fair value. The journal entry would thus be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New truck		30,000	
	Accumulated depreciation – old truck		5,000	
	Old truck			32,000
	Cash			5,000
	Loss on disposal of truck		2,000	

Note that the new truck is recorded at the lesser of its fair value and the book value of the asset given up. This results in a loss on the transaction, even though the transaction lacks commercial substance.

 A video is available on the Lyryx site. Click here to watch the video.

9.3.6 Deferred Payments

When a PPE asset is purchased through the use of long-term financing arrangements, the asset should initially be recorded at the present value of the obligation. This technique essentially removes the interest component from the ultimate payment, resulting in a recorded amount that should be equivalent to the fair value of the asset. (Note, however, that interest on self-constructed assets, covered in IAS 23 and discussed previously in this chapter, is included in the cost of the asset.) Normally, the present value would be discounted using the interest rate stated in the loan agreement. However, some contracts may not state an interest rate or may use an unreasonably low interest rate. In these cases, we need to estimate an interest rate that would be charged by arm's length parties in similar circumstances. This rate would be based on current market conditions, the credit-worthiness of the customer, and other relevant factors.

Consider the following example. ComLink Ltd. purchases a new machine for its factory. The supplier agrees to terms that allow ComLink Ltd. to pay for the asset in four annual instalments of $7,500 each, to be paid at the end of each year. ComLink Ltd. issues a $30,000, non-interest bearing note to the supplier. The market rate of interest for similar arrangements between arm's length parties is 8%. ComLink Ltd. will record the initial purchase of the asset as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Factory machine		24,841	
	Note payable.....			24,841

The capitalized amount of $24,841 represents the present value of an ordinary annuity of $7,500 for four years at an interest rate of 8%. The difference between the capitalized amount and the total payments of $30,000 represents the amount of interest expense that will be recognized over the term of the note.

9.3.7 Government Grants

Governments will at times create programs that provide direct assistance to businesses. These programs may be designed to create employment in a certain geographic area, to develop research and economic growth in a certain industry sector, or other reasons that promote the policies of the government. When governments provide direct grants to businesses, there are a number of accounting issues that need to be considered.

IAS 20 states that government grants should be "recognized in profit or loss on a systematic basis over the periods in which the entity recognizes as expenses the related costs for which the grants are intended to compensate" (IAS 20-12, IAS, 1983). This type of accounting is referred to as the *income approach* to government grants, and is considered the appropriate treatment because the contribution is coming from an entity other than the owner of the business.

If the grant is received in respect of current operating expenses, then the accounting is quite straightforward. The grant would either be reported as other income on the statement of profit or loss, or the grant would be offset against the expenses for which the grant is intended to compensate. When the grant is received to assist in the purchase of PPE assets, the accounting is slightly more complicated. In this case, the company can defer the grant income, reporting it as a liability, and then recognize the income on a systematic basis over the useful life of the asset. Alternately, the company could simply use the grant funds received to offset the initial cost of the asset. In this method, the grant is implicitly recognized through the reduced depreciation charge over the life of the asset.

Consider the following example. ComLink Ltd. purchases a new factory machine for $100,000. This machine will help the company manufacture a new, energy-saving product. The company receives a government grant of $20,000 to help offset the cost of the machine. The machine is expected to have a five-year useful life with no residual value. The accounting entries for this machine would look like this:

	Deferral Method		Offset Method	
	Debit	Credit	Debit	Credit
Machine	100,000		80,000	
Deferred grant		20,000		-
Cash		80,00		80,000
Purchase of machine.				
Depreciation expense	20,000		16,000	
Accumulated depreciation		20,000		16,000
Deferred grant	4,000		-	
Grant income		4,000		-
First year depreciation and revenue recognition.				
For Depreciation expense, deferral method: ($100,000 ÷ 5 years = $20,000); offset method: ($80,000 ÷ 5 years = $16,000)				
For Deferred grant: ($20,000 ÷ 5 years = $4,000)				

The net effect on income of either method is the same. The difference is only in the presentation of the grant amount. Under the deferral method, the deferred grant amount presented on the balance sheet as a liability would need to be segregated between current and non-current portions.

Companies may choose either method to account for grant income. However, significant note disclosures of the terms and accounting methods used for grants are required to ensure comparability of financial statements.

9.4 Measurement After Initial Recognition

Once a PPE asset has been recognized and recorded, there are three choices in IFRS of how to deal with the asset in subsequent accounting periods. The asset may be accounted for using the **cost model**, **the revaluation model**, or the **fair value model**. Each of these models treats subsequent changes in the value of the asset differently. When a model is chosen, it must be applied consistently to all the assets in a particular class.

9.4.1 Cost Model

The cost model is considered the more established or traditional method of accounting for PPE assets. This model measures the asset after its acquisition at its cost, less any accumulated depreciation or accumulated impairment losses. The model, thus, does not attempt to adjust the asset to its current value, except in the case of impairment. This means that changes in the value of the asset are not recognized in income until that value is actually realized through

the sale of the asset. This model is widely used and is very easy to understand and apply. Depreciation and impairment will be discussed in a later chapter.

9.4.2 Revaluation Model

IFRS allows an alternative method for subsequent reporting of PPE assets. The revaluation model attempts to capture changes in an asset's value over its life. An essential condition of using this model is that the fair value of an asset be available and reliable at the reporting date. Fair values can often be determined through the use of qualified appraisers or other professionals who understand how to interpret market conditions. If appraisals are not available, other valuation techniques may be used to estimate the value. However, in some cases reliable fair values will not be available, so the model cannot be used.

The standard does not require that revaluations be performed at each reporting date, but it does require that the reported value not be materially different from the current fair value at the reporting date. If the property, plant, and equipment asset is expected to have volatile and significant changes in value, then annual revaluations are required. If the asset is only subject to insignificant changes in fair value each year, then revaluations every three to five years are recommended. The costs of obtaining valuation data or appraisals are likely one reason this method is not used by many companies. There is an additional cost in obtaining the reliable fair values, which many companies would compare to the marginal benefit of adjusting the PPE amounts on the balance sheet. In many cases, the fair values and depreciated costs of PPE assets would not be significantly different, so the model would not be applied. For some types of assets such as real estate, however, the revaluation model may provide significantly different results than the cost model. In these instances, the use of the revaluation model has a stronger justification.

In applying the revaluation model, adjustments are made to the PPE asset value by either adjusting the cost and accumulated depreciation proportionally, or by eliminating the accumulated depreciation and adjusting the asset cost to the new value. The second approach is simpler to apply, and will be used in the illustrations below.

When adjusting the value of the PPE asset, the obvious question is how to treat the offsetting side of the journal entry. The answer is to use an account called Revaluation Surplus, which is reported as part of other comprehensive income. However, there are some complicating factors in using this account.

If the adjustment increases the reported value, then report as part of revaluation surplus. If the adjustment decreases the reported value, then first reduce any existing revaluation surplus for that asset to zero, and record the remaining reduction as an expense in profit or loss. This expense may be reversed in future periods, if the value once again rises.

Consider the following example to illustrate this model. ComLink Ltd. purchases a factory

building on January 1, 2019, for $500,000. The building is expected to have a useful life of twenty years with no residual value. The company uses the revaluation model for this class of asset and will obtain current valuations every two years. The journal entries for the first two years would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2019	Building		500,000	
	Cash			500,000
Dec 31 2019	Depreciation expense		25,000	
	Accumulated depreciation			25,000
	(($500,000 − 0) ÷ 20 years)			
Dec 31 2020	Depreciation expense		25,000	
	Accumulated depreciation			25,000

On December 31, 2020, an appraisal on the building is conducted and its fair value is determined to be $490,000. The following adjustment, which eliminates accumulated depreciation and adjusts the asset's cost to its new value, will be required:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Accumulated depreciation		50,000	
	Building			50,000
	($25,000 × 2 years)			
Dec 31 2020	Building		40,000	
	Revaluation surplus (OCI)			40,000
	(($490,000 − ($500,000 − $50,000))			

The cost of the building is now $490,000 and the accumulated depreciation is $nil. Because the building has now been revalued, we need to revise the depreciation calculation. Assuming no change in the remaining useful life of the asset, the new depreciation rate will be $490,000 ÷ 18 years = $27,222. The journal entries for the next two years will be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2021	Depreciation expense		27,222	
	Accumulated depreciation			27,222
Dec 31 2022	Depreciation expense		27,222	
	Accumulated depreciation			27,222

On December 31, 2022, the building is again appraised, and this time the fair value is determined to be $390,000. The following journal entries will be required:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2022	Accumulated depreciation		54,444	
	Building			54,444
Dec 31 2022	Revaluation surplus (OCI)		40,000	
	Revaluation loss		5,556	
	Building			45,556
	For Building: $390,000 − ($490,000 − (2 yrs × $27,222))			

The revaluation loss of $5,556 will be reported on the income statement in the current year. In future years, if the value of the building increases again, a revaluation gain can be reported on the income statement up to this amount. Any further increases will once again increase the Revaluation Surplus account.

The Revaluation Surplus (OCI) account itself can be dealt with in two ways. It can simply continue to be reported as part of accumulated other comprehensive income for the life of the asset. Once the asset is disposed of, the balance of the account is transferred from Accumulated Other Comprehensive Income directly to retained earnings. Another option is to make an annual transfer from the revaluation surplus account to retained earnings. The amount that can be transferred is limited to the difference between the depreciation expense that is actually recorded (using the revalued carrying amount) and the amount that would have been recorded had the cost model been used instead.

 A video is available on the Lyryx site. Click here to watch the video.

9.4.3 Fair Value Model

The fair value model is a specialized type of optional accounting treatment that may be applied to only one type of asset: investment properties. IAS 40 (IAS, 2003b) considers investment properties to be land or buildings that are held primarily for the purpose of earning rental income or capital appreciation, are not used for production or administrative purposes of the business, and are not held for resale in the ordinary course of business. This definition suggests that the asset will earn cash flows that are largely independent of the regular operations of the business, which is why a different accounting standard can be applied. The fair value model requires adjustment of the carrying value of the investment property to its fair value every reporting period. As well, no depreciation is recorded for investment properties under the fair value model. The key feature that differentiates this model from the revaluation model is that gains and losses in value with investment properties are reported directly on the income statement, rather than using a Revaluation Surplus (OCI) account. This can be illustrated with the following example.

ComLink Ltd. purchases a vacant piece of land that it feels will appreciate in value over the next ten years as a result of suburban expansion. The land is initially purchased for $5 million on January 1, 2019. The company has classified this land as an investment property and has chosen to use the fair value model. The appraised values of the land over the next three years are:

Appraisal Date	Appraised Value
December 31, 2019	$5,200,000
December 31, 2020	$4,600,000
December 31, 2021	$4,850,000

The adjustments will be recorded each year as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2019	Investment property		200,000	
	Gain in value of investment property			200,000
	($5.2M − $5M)			
Dec 31 2020	Loss in value of investment property		600,000	
	Investment property			600,000
	($4.6M − $5.2M)			
Dec 31 2021	Investment property		250,000	
	Gain in value of investment property			250,000
	($4.85M − $4.6M)			

It should be noted that this model is optional for reporting purposes. A company may choose to use the cost model for its investment properties. However, if the fair value model is chosen, all investment properties must be reported this way. As well, there are significant disclosure requirements under this model.

9.5 Costs Incurred After Acquisition

Costs to operate and maintain a PPE asset are rarely ever captured completely by the initial purchase price. After a PPE asset is acquired, it is quite likely that there will be additional costs incurred over time to maintain or improve the asset. The essential accounting question that needs to be answered here is whether these costs should be recognized immediately as an expense, or whether they should be capitalized and depreciated in future periods. IAS 16 indicates that costs incurred in the day-to-day servicing of a PPE asset should not be capitalized, as they do not meet the recognition criteria (i.e., they do not provide future economic benefits). The types of costs discussed in the standard include labour, consumables, and small parts. Immediately expensing these types of costs recognizes the fact that normal

repair and maintenance activities do not significantly extend the useful life of an asset, nor do they improve the function of the asset. Rather, they simply maintain the existing capacity. As such, they should be recognized as period costs.

Sometimes, a major component of a PPE asset may require periodic replacement. For example, the motor of a transport truck may need replacement after operating for a certain number of hours. Or, a restaurant may choose to knock down its existing walls to reconfigure and redecorate the space to create a fresher image. If the business managers think these changes create the potential for future economic benefits, then capitalization would be appropriate.

When these types of items are capitalized, they are actually replacing an existing component of a PPE asset. In these cases, the old component needs to be removed from the carrying value of the asset before the new addition is capitalized. This procedure is required, even if the part being replaced was not actually recorded as a separate component. If this is the case, the standard allows for a reasonable estimate to be made of the asset's carrying value.

Consider the following example. LeCorre, a Michelin-starred restaurant, has recently decided to update its image through a complete renovation of the dining room. This process involved tearing out all the existing fixtures and relocating several walls. None of the fixtures or walls were reported as separate components, as they were merely included as part of the original building cost when it was purchased five years ago. The building has been depreciated on a straight-line basis over an estimated useful life of thirty years. The total cost of the renovation was $87,000, and the company received an additional $2,000 from the sale of the old fixtures. It was also determined that construction costs in this area have increased by approximately 30% over the last five years.

The journal entries to record this renovation will be separated into two parts: the disposal of the old assets and the purchase of the new assets.

1. Disposal of old assets

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accumulated depreciation – building		11,154	
	Building			66,923
	Cash		2,000	
	Loss on disposal		53,769	

   If we assume that the old fixtures and decorations are of a similar quality as the new ones, then the construction cost of the new renovations can be used to estimate the cost of the assets that have been removed. With an increase in construction costs of 30% over five years, the original cost can be estimated to be $\$87{,}000 \times 1 \div (1 + .3) = \$66{,}923$. If the asset has been depreciated for five years, then the accumulated depreciation would be $(\$66{,}923 \div 30) \times 5 = \$11{,}154$. The loss on disposal equals the difference between the calculated, net carrying value and the proceeds received.

2. Purchase of the new assets

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Building improvements		87,000	
	Cash			87,000

If the management of LeCorre believes that these types of interior renovations will continue in the future at similar intervals, it should record the cost as a separate component, as the useful life would clearly differ from the building itself.

Note that if the original renovations had already been recorded as a separate component, the journal entries would take the same form, but there would be no need to estimate the cost and book value of the original assets, as they would be evident from the accounting records.

9.6 IFRS/ASPE Key Differences

IFRS	ASPE
Component accounting is required. An item of PPE is defined by the economic benefits that are derived from it, not the physical nature of the item.	Significant and separable component parts should be recorded as individual assets where practicable. In practice, this definition has led to less components being reported under ASPE than IFRS.
Any revenue and expense incurred prior to the PPE asset being ready to use is taken to profit or loss, as this is considered incidental to the construction of the asset.	Any revenue or expense from using an item of PPE prior to its substantial completion is included in the asset's cost. Expenses are added to the asset cost while revenues are deducted from the asset cost.
Borrowing costs directly attributable to PPE acquisition, construction, or development must be capitalized.	Directly attributable Interest costs may be capitalized if this is the company's chosen accounting policy.
The cost of legal and constructive obligations for asset retirement must be capitalized.	Only legal obligations for asset retirement need to be capitalized.
PPE items can be accounted for using the cost or the revaluation models.	Only the cost model may be used for PPE.
Investment properties can be accounted for using the cost or fair value models.	No separate standard for investment properties. They fall under the same general rule (i.e., the cost model) as other types of PPE.
IAS 16.19 (IAS, 2003a) prohibits the inclusion of general overhead costs in the capital cost of a property, plant, and equipment asset.	S 3061.08 allows directly attributable overhead costs to be included in the capital cost of self-constructed property, plant, and equipment assets.

The general capitalization criterion requires the presence of future economic benefits flowing to the entity. However, IAS 16.20 (IAS, 2003a) prohibits the capitalization of redeployment, relocation, or reorganization costs. This excludes the capitalization of some of the items that could be classified as betterments under ASPE.	S 3061.14 allows for the capitalization of betterments. Betterments are costs incurred to improve the service capacity, extend the useful life, improve the quantity or quality of output, or reduce the operating costs of a property, plant, and equipment asset.

Chapter Summary

LO 1: Describe the characteristics of property, plant, and equipment assets that distinguish them from other assets.

PPE assets are tangible items that are held for use in the production or supply of goods and services, for rental to others, or for administrative purposes. It is presumed that they are expected to be used for more than one period. The distinguishing features are in their nature (they are tangible) and in their use (production, rather than resale).

LO 2: Identify the criteria for recognizing property, plant, and equipment assets.

PPE assets should be recognized when it is probable that future economic benefits associated with the item will flow to the entity and the item's cost can be measured reliably. As the definition of PPE does not identify what specific, physical element should be measured, it is important for accountants to apply good judgment in identifying the specific components of an asset that need to be reported separately.

LO 3: Determine the costs to include in the measurement of property, plant, and equipment at acquisition.

PPE costs should include any cost required to purchase the asset and bring it to its intended location of use. As well, any further costs incurred to prepare the asset for its intended use should also be capitalized.

LO 4: Determine the cost of a property, plant, and equipment asset when the asset is acquired through a lump-sum purchase, a deferred payment, or a non-monetary exchange.

When an asset is acquired through a lump-sum exchange, the purchase price should be allocated based on the relative fair value of each asset acquired. When an asset is acquired through a deferred payment, the asset cost should be recorded at the present value of the future payments, discounted at either the interest rate implicit in the contract, or at a reasonable market rate if the contract does not include a reasonable interest rate. When a PPE asset is obtained through the issuance of the company's own shares, the asset should be recorded at its fair value. When a PPE asset is obtained by exchange with another, non-monetary asset of the company, the new asset should be reported at the fair value of the assets given up. However, if the fair values are not reliably measurable, or if the transaction lacks commercial substance, then the new asset should be recorded at the carrying value of the assets given up. The only exception to this occurs when a transaction lacks commercial substance, but the fair value of the asset acquired is less than the carrying value of the asset given up. In this case, the transaction should be reported at the fair value of the asset acquired, in order to avoid overstating the value of the new asset.

LO 5: Identify the effect of government grants in determining the cost of a property, plant, and equipment asset.

IAS 20 says that, "Government grants [should be recognized] in profit or loss on a systematic basis over the periods in which the entity recognizes as expenses the related costs for which the grants are intended to compensate." In the case of grants received to assist in the purchase of PPE assets, the grant can either be deducted from the initial cost of the asset, which will reduce future depreciation, or the grant can be deferred and amortized into income on the same basis as the asset's depreciation. The net effect on income of these two methods will be exactly the same.

LO 6: Determine the cost of a self-constructed asset, including treatment of related interest charges.

For self-constructed assets reported under IFRS, only direct costs, and not overheads, should be allocated to the PPE asset. When borrowing is incurred to construct an asset over a substantial amount of time, any interest that is directly attributable to the construction should be included in the asset cost.

LO 7: Identify the accounting treatment for asset retirement obligation.

When the company has a legal or constructive obligation to dismantle, clean up, or restore the asset site at the end of its useful life, the present value of those asset retirement costs should be included in the capital cost of the asset.

LO 8: Apply the cost model.

Under this model, PPE assets are reported at their acquisition cost, less any accumulated depreciation. No attempt is made to adjust the value to reflect current market conditions.

LO 9: Apply the revaluation model.

Under this model, PPE assets may be adjusted to their fair values on a periodic basis, assuming the fair values are both available and reliable. Increases in value are credited to the other comprehensive income account titled revaluation surplus. If the increase reverses a previous decrease that was expensed, the increase should be reported as part of profit or loss. Decreases in value are applied to first reduce any existing revaluation surplus, and then reported as expense, if any balance remains. Adjustments to the asset value can be made either by eliminating the accumulated depreciation and adjusting the asset cost, or by adjusting the asset cost and accumulated depreciation proportionally.

LO 10: Apply the fair value model.

This model can only be used for investment properties, which are land and buildings held primarily for the purpose of earning rental income or capital appreciation. With this model, the carrying value of the investment property is adjusted to its fair value every reporting period. Any gains and losses resulting from the revaluation are reported directly in profit or loss. As well, no depreciation is reported on investment properties under this model.

LO 11: Explain and apply the accounting treatment for post-acquisition costs related to property, plant, and equipment assets.

Costs incurred after acquisition can either be expensed immediately or added to the carrying value of the PPE asset. Costs incurred for the normal, day-to-day maintenance of PPE asset are usually expensed, as these costs do not add to the service life or capacity of the asset.

Costs that improve the asset by increasing future economic benefits, either by extending the useful life or improving the efficiency of operation, are usually capitalized. When a significant component of the asset is replaced, the cost and accumulated depreciation of the old asset should be removed and the cost of the new asset should be capitalized.

LO 12: Identify key differences between IFRS and ASPE.

The concept of component accounting is not as explicitly articulated in ASPE. ASPE requires revenues or expenses incurred prior to asset completion to be included in the asset cost, whereas IFRS takes these items to profit or loss. IFRS requires capitalization of borrowing costs, whereas ASPE leaves the choice to management. ASPE only requires capitalization of legal obligations for asset retirement, whereas IFRS also includes constructive obligations as well. ASPE does not allow the use of the revaluation model or the fair value model.

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Exercises

EXERCISE 9–1

Dixon Ltd. has recently purchased a piece of specialized manufacturing equipment. The following costs were incurred when this equipment was installed in the company's factory facilities in 2020.

Cash price paid, net of $1,600 discount, including $3,900 of recoverable tax	$82,300
Freight cost to ship equipment to factory	3,300
Direct employee wages to install equipment	5,600
External specialist technician needed to complete final installation	4,100
Repair costs during the first year of operations	1,700
Materials consumed in the testing process	2,200
Direct employee wages to test equipment	1,300
Costs of training employees to use the equipment	1,400
Overhead costs charged to the machine	5,300
Legal fees to draft the equipment purchase contract	2,400
Government grant received on purchase of the equipment	(8,000)
Insurance costs during first year of operations	900

Required: Determine the total cost of the equipment purchased. If an item is not capitalized, describe how it would be reported.

EXERCISE 9–2

Argyris Mining Inc. completed construction of a new silver mine in 2020. The cost of direct materials for the construction was $2,200,000 and direct labour was $1,600,000. In addition, the company allocated $250,000 of general overhead costs to the project. To finance the project, the company obtained a loan of $3,000,000 from its bank. The loan funds were drawn on February 1, 2020, and the mine was completed on November 1, 2020. The interest rate on the loan was 8% p.a. During construction, excess funds from the loan were invested and earned interest income of $30,000. The remainder of the funds needed for construction was drawn from internal cash reserves in the company. The company has also publicly made a commitment to clean up the site of the mine when the extraction operation is complete. It is estimated that the mining of this particular seam will be completed in ten years, at which time restoration costs of $100,000 will be incurred. The appropriate discount rate for this type of expenditure is 10%.

Required: Determine the cost of the silver mine to be capitalized in 2020.

EXERCISE 9–3

Cheng Manufacturing Ltd. recently purchased a group of assets from a bankrupt company during a liquidation auction. The total proceeds paid for the assets were $220,000 and included a specialized lathe, a robotic assembly machine, a laser guided cutting machine, and a delivery truck. To make the bid at the auction, the company hired a qualified equipment appraiser who provided the following estimates of the fair value of the assets, based on their conditions, productive capacities, and intended uses:

Specialized lathe	$ 30,000
Robotic assembly machine	$ 90,000
Laser guided cutting machine	$110,000
Delivery truck	$ 20,000

Required: Determine the cost of each asset to be capitalized on Cheng Manufacturing Ltd.'s books.

EXERCISE 9–4

Prabhu Industries Ltd. recently exchanged a piece of manufacturing equipment for another piece of equipment owned by Zhang Inc. Prabhu Industries was required to pay an amount of cash to finalize the exchange. The following information is obtained regarding the exchange:

	Prabhu	Zhang
Equipment, at cost	25,000	21,000
Accumulated depreciation	10,000	8,000
Fair value of equipment	17,000	19,000
Cash paid	2,000	

Required:

a. Prepare the journal entries required by each company to record the exchange, assuming the exchange is considered to have commercial substance.

b. Repeat part (a) assuming the exchange does not have commercial substance.

c. Repeat part (b) assuming the accumulated depreciation recorded by Prabhu is only $5,000 instead of $10,000.

EXERCISE 9–5

Lo-Dun Inc. is a publicly traded financial services company. The company recently acquired two assets in the following transactions:

Transaction 1: Lo-Dun acquired a new computer system to assist with its programmed trading activities. The computer system had a list price of $85,000, but the salesperson indicated that the price could likely be negotiated down to $80,000. After further negotiation, the company acquired the asset by issuing 15,000 of its own common shares. At the time of the transaction, the shares were actively trading at $5.25 per share.

Transaction 2: Lo-Dun acquired new office furniture by making a down payment of $5,000 and issuing a non-interest bearing note with a face amount of $45,000. The note is due in one year. The market rate of interest for similar transactions is 9%.

Required: Prepare the journal entries for Lo-Dun Inc. to record the transactions. Provide a rationale for the amount recorded for each item.

EXERCISE 9–6

Pei Properties recently purchased a vacant office condo where it plans to operate an employment-training centre. The total purchase price of the condo was $625,000 with an expected useful life of 30 years with no residual value. The local government in this municipality was very interested in this project, providing a grant of $90,000 for the purchase of the condo. The only condition of the grant was that the employment-training centre be operated for a period of at least five years. Pei Properties believes that this target can be achieved with the business plan it has prepared.

Required:

a. Prepare the journal entry to record the purchase of the condo, assuming the company uses the deferral method to record the government grant.

b. Repeat part (a) assuming the company uses the offset method to record the government grant.

c. Determine the annual effect on the income statement for each of the above methods.

EXERCISE 9–7

Finucane Manufacturing Inc. owns a large factory building that it purchased in 2016. At the time of purchase, the company decided to apply the revaluation model to the property; the first revaluation occurred on December 31, 2018. On January 1, 2019, the recorded cost of the building was $1,200,000, and the accumulated depreciation was nil, as the company applies the revaluation model by eliminating accumulated depreciation. The balance in the revaluation surplus account on January 1, 2019, was $150,000. As well, the company decided on this

date to obtain annual appraisals of the property in order to revalue it at every reporting period. The appraised values obtained over the next three years were as follows:

Date	Appraised Value
December 31, 2019	$1,250,000
December 31, 2020	$1,000,000
December 31, 2021	$1,150,000

Required: Prepare all the required journal entries for this property for the years ended December 31, 2019 to 2021. Assume that the building is depreciated on a straight-line basis over 30 years with no residual value. Also assume that the company does not make annual transfers from the revaluation surplus account to retained earnings.

EXERCISE 9–8

Kappi Capital Inc. holds a number of investment properties that it accounts for under IAS 40 using the fair value method. The company purchased a new rental property on January 1, 2020, for $1,500,000. The appraised value on December 31, 2020, was $1,450,000 and the appraised value on December 31, 2021, was $1,625,000.

Required: Prepare the adjusting journal entries for this property on December 31, 2020, and December 31, 2021.

EXERCISE 9–9

Sun Systems Ltd. operates a manufacturing facility where specialized electronic components are assembled for use in consumer products. The facility was purchased in 2014 for a cost of $800,000, excluding the land component. At the time of purchase, it was believed that the building would have a useful life of 40 years with no residual value. The company follows the policy of recording a full year of depreciation in the year of an asset's acquisition and no depreciation in the year of an asset's disposal. During 2020, the following transactions with respect to the building occurred:

- Regular repairs to exterior stucco and mechanical systems were incurred at a total cost of $32,000.
- In the middle of the year, the existing boiler system failed and required replacement. The replacement cost of the new unit was $125,000. Management considers this to be a major component of the building, but had not separately recorded the cost of the original boiler, as it was included in the building purchase price. It is estimated inflation has increased the cost of these types of units by 15% since 2014.

- The entire building was repainted at a cost of $15,000 during the year. This did not extend the useful life of the building, but improved its overall appearance.
- A major structural repair to the foundation was undertaken during the year. This repair cost $87,000 and was expected to extend the useful life of the building by ten years over the original estimate.
- A small fire in the staff kitchen caused damage that cost $5,000 to repair.

Required: Prepare the journal entries to record the transactions that occurred in 2020. Assume all transactions were settled in cash.

Chapter 10

Depreciation, Impairment, and Derecognition of Property, Plant, and Equipment

The Limping Kangaroo

The year 2014 was tough for Qantas Airways Ltd. On August 28, the iconic Australian airline announced that it would be reporting a net loss of AUD $2,843 million for the year ended June 30, 2014. The most significant components included in this loss were two asset-impairment charges: AUD $387 million for impairment of specific assets and AUD $2.6 billion for impairment of the Qantas International cash-generating unit. The CEO, in his annual report to shareholders, indicated that these write-downs were "required by accounting standards." The chairman of the board of directors indicated in his report that the year was "challenging" and "unsatisfactory" but made no mention of the asset write-downs. These non-cash, asset-impairment charges, which were charged primarily to the aircraft and engines category, clearly had a significant impact on the company's financial results. The impairment of the cash-generating unit, in particular, was almost solely responsible for the company's net loss.

This asset-impairment charge arose as part of a restructuring plan within the business. The company assessed the value in use of a particular group of assets, Qantas International, and determined that the current carrying value of these assets was overstated. The value in use was determined by projecting future cash flows for this asset group and then discounting these cash flows at a 10.5 percent interest rate. In projecting the cash flows, assumptions were made about the growth rate of future revenues, fuel charges, currency exchange rates, and many other factors.

The annual report explained that the impairment loss resulted from a situation where wide-body aircraft were purchased at a time when the Australian dollar was weaker than the US dollar. Although this may explain why the initial recorded value of these assets was higher, it obscures reasons behind the current decline in the value in use.

Clearly, the economic benefits to be derived from these assets were no longer justified by the initial purchase price. Companies purchase property, plant, and equipment assets with the expectation of realizing economic benefits at least equal to the price paid. Accounting standards need to be able to allocate these capital costs in a rational way so that they are reflected in the accounting periods where the economic benefits are created. When these estimates of benefit consumption are incorrect, write-downs such as those experienced by Qantas are necessary. The CEO was correct in stating that accounting standards require this treatment. (Qantas, 2014).

In this chapter, we will examine the details of the accounting treatment of the use and consumption of property, plant, and equipment assets.

Chapter 10 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Identify the purpose of depreciation, and discuss the elements that are required to calculate depreciation.

LO 2: Calculate depreciation using straight-line, diminishing-balance, and units-of-production methods.

LO 3: Discuss the reasons for separate component accounting and the accounting problems that may arise from this approach.

LO 4: Calculate depreciation when partial periods or changes in estimates are required.

LO 5: Discuss indicators of impairment and calculate the amount of impairment.

LO 6: Identify the criteria required to classify an asset as held for sale.

LO 7: Prepare journal entries for assets held for sale.

LO 8: Discuss other derecognition issues.

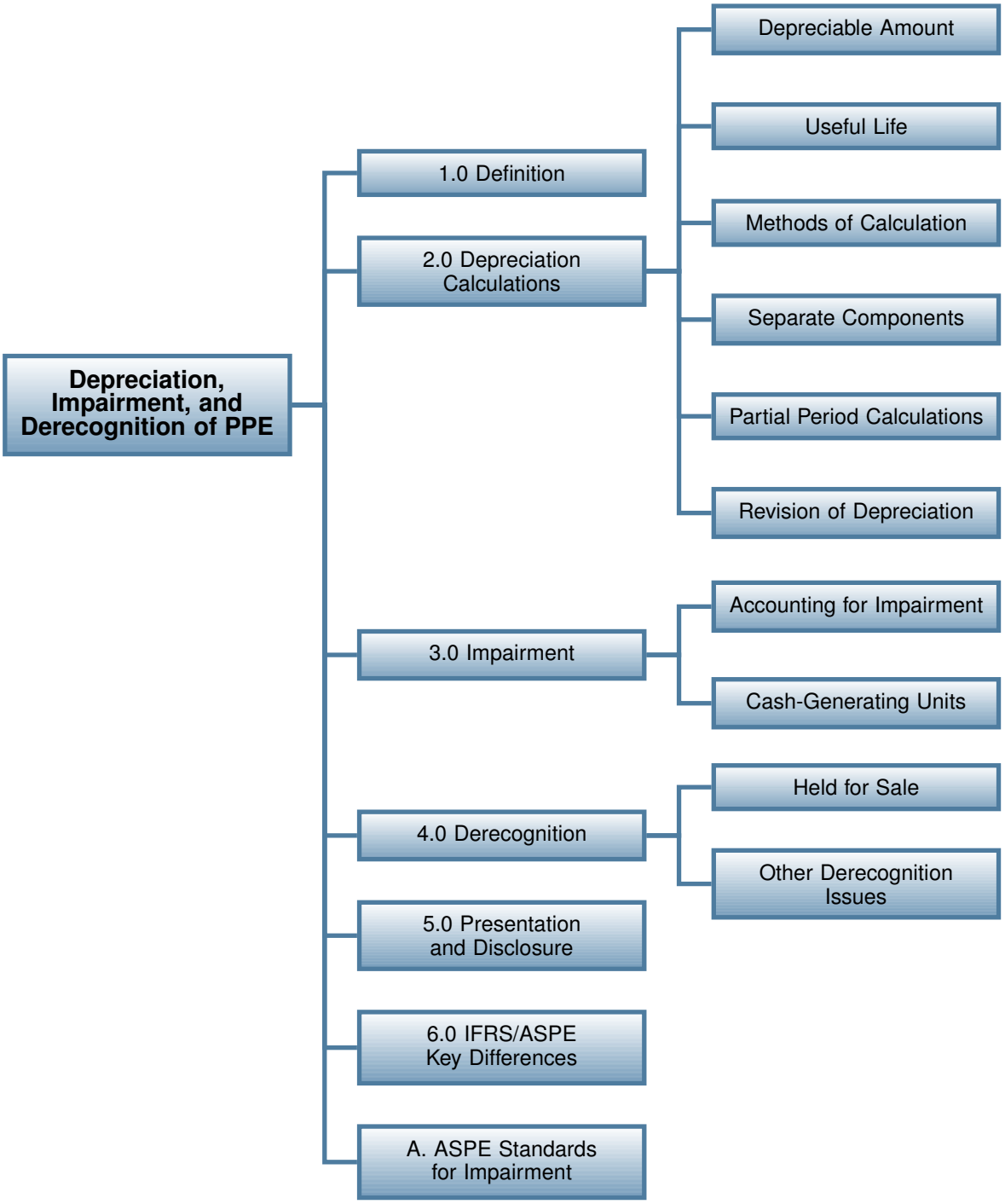
LO 9: Identify the presentation and disclosure requirements for property, plant, and equipment.

LO 10: Identify key differences between IFRS and ASPE.

Introduction

As we saw in the previous chapter, companies invest significant amounts of capital in property, plant, and equipment (PPE) assets. The purpose of these investments is to gain productive capacity that will further the goals of the business. The success of these investments in PPE will be evaluated based on the productive capacity attained relative to the costs incurred. We have already learned how to determine the costs to record for PPE assets. In this chapter, we will examine how to record the use of PPE assets and how to deal with the eventual disposal of these assets.

Chapter Organization



10.1 Definition

IAS 16.50 indicates that the depreciable amount of an asset should be allocated on a systematic basis over its useful life. This description captures one of the key elements of depreciation concept: it is an allocation of the asset's cost.

Many people often associate the idea of depreciation with a decline in value of the asset. Although it is possible that the depreciation calculated approximates the loss in value of the asset as it is used, there is no guarantee that this will be true. It is important to appreciate that the purpose of accounting depreciation is to match the initial cost of the PPE asset to the periods that benefit from its use. Depreciation does not provide an estimate of the change in an asset's fair value. Rather, it simply provides a way to allocate asset costs to the correct accounting periods.

The description above also identifies three key concepts:

- The depreciable amount
- The useful life of the asset
- The basis (method) used to calculate depreciation.

A further requirement of the standard is that significant components be depreciated separately. We will deal with each of these elements separately.

10.2 Depreciation Calculations

10.2.1 Depreciable Amount

The first element that needs to be determined for a depreciation calculation is the depreciable amount. It represents the cost that will be allocated to future periods through the depreciation process. This amount is determined by taking the asset's cost and deducting the residual value. (Note: if the company uses the revaluation method, the cost is replaced by the revalued amount in this calculation.) The residual value is the estimated net amount that the company would be able to sell the asset for at the end of its useful life, based on current conditions. Thus, the estimate does not try to anticipate future changes in market or economic conditions; it merely considers the nature of the asset itself. The residual value is, of course, an estimate and is thus subject to possible error. As a result, IFRS requires an annual review of residual amounts used in depreciation calculations. If the residual amount needs to be changed, it

should be accounted for prospectively as a change in estimate. Many assets will have a residual value of zero or close to zero, and this amount will thus be ignored in the calculation. If the revised residual value were to exceed the carrying value of the asset, then depreciation would cease until the residual value dropped back below the carrying value.

10.2.2 Useful Life

The useful life of an asset is determined by its utility to the company. This means that estimates need to be made about how long the company plans to use the asset. For certain types of assets, companies may have a policy of timed replacement, even if the asset is still functioning. This means the useful life may be less than the physical life of the asset. IFRS (International Accounting Standards, n.d., 16.56) identifies the following factors that need to be considered in determining useful life to the company:

- The expected usage of the asset, as assessed by reference to the asset's expected capacity or physical output.
- The expected physical wear and tear, which depends on operational factors, such as the number of shifts for which the asset is to be used, the repair and maintenance program, and the care and maintenance of the asset while idle.
- The technical or commercial obsolescence of the asset arising from changes or improvements in production or from a change in the market demand for the product or service output of the asset. Expected future reductions in the selling price of an item that was produced using an asset could indicate the expectation of technical or commercial obsolescence of the asset, which, in turn, might reflect a reduction of the future economic benefits embodied in the asset.
- The legal or similar limits on the use of the asset, such as the expiry dates of related leases.

It should be apparent that a substantial amount of judgment is required in determining the useful life of an asset. Although management may have significant experience in working with these assets, the estimation process can still result in errors. The process of annual review and estimation changes for useful lives is the same as described above, in 10.2.1: Depreciable Amount, for residual values.

Another question that needs to addressed when determining the useful life of an asset is when to start and stop depreciating it. Depreciation of the asset should commence when the asset is available for use. This means that the asset is in place and ready for productive function, even if it is not actually being used yet. Depreciation should stop at the earlier date when the asset is either reclassified as held for sale or derecognized. These situations will be covered later in the chapter.

10.2.3 Methods of Calculation

The IFRS requirement of allocation of cost on a systematic basis is a deliberately vague description of the techniques used to calculate depreciation. Companies are given the freedom to choose the method used, as long as the method makes sense in relation to the consumption of future economic benefits realized by use of the asset. The standard does identify three broad techniques that can be used: straight line, diminishing balance, and units of production. However, other techniques could be justified if they provide a more systematic and reasonable allocation of cost. The standard also indicates that depreciation methods based on revenue should not be used, as revenue may be affected by factors, such as inflation, that are not directly related to the consumption of economic benefits.

Straight-Line Method

This is the simplest and most commonly used depreciation method. This method simply allocates cost in equal proportions to the time periods of an asset's useful life. The formula to determine the depreciation charge is as follows:

$$\frac{\text{Cost} - \text{Residual value}}{\text{Useful life}} = \text{Depreciation charge}$$

For example, consider an automated packaging machine purchased for $100,000 that is used in a factory. It is estimated that this machine will have a useful life of ten years and will have a residual value of $5,000. The calculation of the annual depreciation charge is as follows:

$$\frac{\$100{,}000 - \$5{,}000}{10 \text{ years}} = \$9{,}500 \text{ per year}$$

The benefit of this method is its simplicity for both the preparer and reader of the financial statement. No special knowledge is required to understand the logic of the calculation. As well, the method is appropriate if we assume that economic benefits are delivered in roughly equal proportions over the life of the asset. However, there are arguments that are contrary to this assumption. For certain assets, it may be reasonable to assume that the economic benefits decline with the age of the asset, as there is more downtime due to repairs or other operational inefficiencies that result from age. If these inefficiencies are significant, then the straight-line method may not be the most appropriate method.

Diminishing-Balance Method

The diminishing-balance method results in more depreciation in the early years of an asset's life and less depreciation in later years. The justification for this method is that an asset will offer its greatest service potential when it is relatively new. Once an asset ages and

starts to require more repairs, it will be less productive to the business. This reasoning is quite consistent with the experience many companies have with assets that have mechanical components. This method will also result in an overall expense to the company that is fairly consistent over the life of the asset. In early years, depreciation charges are high, but repairs are low; in later years, this situation will reverse.

A number of different calculations can be used when applying the diminishing-balance method. The common feature of all the methods is that a constant percentage is applied to the closing net book value of the asset each year to determine the depreciation charge. The percentage that is used can be derived in a number of ways. The most accurate way would be to apply a formula to determine the exact percentage needed to depreciate the asset down to its residual value. Although this can be done, this approach is not often used, because it requires a more complex calculation. A simpler, more commonly used approach is to simply use a multiple based on the asset's useful life. For example, a technique referred to as **double-declining balance** would convert the useful life to a percentage and multiply the result by two. In our previous example, the calculation would be as follows:

$$\frac{1}{\text{Useful life}} \times 2 = \text{Depreciation rate}$$

$$\frac{1}{10 \text{ years}} \times 2 = 20\%$$

Depreciation would thus be calculated as follows:

Year	Book Value, Opening	Rate	Depreciation Expense	Accumulated Depreciation	Book Value, Closing
1	100,000	20%	20,000	20,000	80,000
2	80,000	20%	16,000	36,000	64,000
3	64,000	20%	12,800	48,800	51,200
4	51,200	20%	10,240	59,040	40,960
5	40,960	20%	8.192	67,232	32,768
6	32,768	20%	6,554	73,786	26,214
7	26,214	20%	5,243	79,029	20,971
8	20,971	20%	4,194	83,223	16,777
9	16,777	20%	3,355	86,578	13,422
10	13,422	20%	8,422*	95,000	5,000

*Note: In the final year, depreciation does not equal the calculated amount of net book value multiplied by depreciation percentage ($13,422 $\times$ 20% = $2,684). In the final year, the asset needs to be depreciated down to its residual value. The double-declining balance method will not result in precisely the right amount of depreciation being taken over the asset's useful life. This means that the final year's depreciation will need to be adjusted to bring the net book value to the residual value. Depending on the useful life of the asset, this final-year

depreciation amount may by higher or lower than the amount calculated by simply applying the percentage. Because depreciation is an estimate based on a number of assumptions, this type of adjustment in the final year is considered appropriate.

Also note that in the calculations above, unlike other methods, the residual value is not deducted when determining the depreciation expense each year. The residual value is considered only when adjusting the final year's depreciation expense.

Units-of-Production Method

This method is the most theoretically supportable method for certain types of assets. The method charges depreciation on the basis of some measure of activity related to the asset. The measures are often output based, such as units produced. They can also be input based, such as machine hours used. Although output-based measures are the most accurate way to reflect the consumption of economic benefits, input-based measures are also commonly used. The benefit of this method is that it clearly links the actual usage of the asset to the expense being charged, rather than simply reflect the passage of time. Returning to our example, if the machine were expected to be able to package 1,000,000 boxes before requiring replacement, our depreciation rate would be calculated as follows:

$$\frac{\$100{,}000 - \$5{,}000}{1{,}000{,}000 \text{ boxes}} = \$0.095 \text{ per box}$$

Thus, if in a given year, the machine actually processed 102,000 boxes, the depreciation charge for that year would be as follows:

$$102{,}000 \times \$0.095 = \$9{,}690$$

In years of high production, depreciation will increase; in years of low production, depreciation will decrease. This is a reasonable result, as the costs are being matched to the benefits being generated. However, this method is appropriate only where measures of usage are meaningful. In some cases, assets cannot be easily measured by their use. An office building that houses the corporate headquarters cannot be easily defined in terms of productive capacity. For this type of asset, a time-based measure would make more sense.

10.2.4 Separate Components

As noted in Chapter 9, IFRS requires PPE assets be segregated into significant components. One of the reasons for doing this is that a significant component of the asset may have a different useful life than other parts of the asset. An airplane's engine does not have the

same useful life as the fuselage. It makes sense to segregate these components and charge depreciation separately, as this will provide a more accurate picture of the consumption of economic benefits from the use of the asset.

The process of determining what comprises a component requires some judgment from managers. A reasonable approach would be to first determine what constitutes a significant component of the whole and then determine which components have similar characteristics and patterns of use. Practical considerations, the availability of information, and cost versus benefit analyses (related to accounting costs) may all be relevant in determining how finely the components are defined. The goal is to create information that is meaningful for decision-making purposes without being overly burdensome to the company.

10.2.5 Partial Period Calculations

In the year of acquisition or disposal of a PPE asset, an additional calculation complication arises—namely, how to deal with depreciation for only part of a year. If the units-of-production method is being used, this isn't really a problem, as the depreciation will be based on the actual production in the partial period. However, for time-based methods, like straight line or diminishing balance, an adjustment to the calculation will be required.

Because accounting standards do not specify how to deal with this problem, companies have adopted a number of different practices. Although depreciation could be prorated on a daily basis, it is more usual to see companies prorate the calculation based on the nearest whole month that the asset was being used in the accounting period. Some companies will charge a full year of depreciation in the year of acquisition and none in the year of disposal, while other companies will reverse this pattern. Some companies charge half the normal rate in the years of acquisition and disposal. Whatever method is used, the total amount of depreciation charged over the life of the asset will be the same. As long as the method is applied consistently, there shouldn't be material differences in the reported results.

10.2.6 Revision of Depreciation

As noted previously, many elements of the depreciation calculation are based on estimates. IFRS requires that these estimates be reviewed on an annual basis for their reasonableness. If it turns out that the original estimate is no longer appropriate, how should the depreciation calculation be revised? The treatment of estimate changes requires prospective adjustment, which means that current and future periods are adjusted for the effect of the change. No adjustments should be made to depreciation amounts reported in prior periods. The reasoning behind this treatment is that estimates, by their nature, are subject to inaccuracies. As well, conditions may change; the asset may be used in a different fashion than originally intended, or the asset may lose function quicker or slower than originally anticipated. As long as the

original estimate was reasonable in relation to the information available at the time, there is no need to adjust prior periods once conditions change.

Consider our original example of straight-line depreciation. The initial calculation resulted in an annual depreciation charge of $9,500. After two years of use, the company's management noticed that the asset's condition was deteriorating quicker than expected. The useful life of the asset was revised to seven years, and the residual value was reduced to $2,000. The revision to the depreciation charge would be calculated as follows:

$$\frac{\text{Remaining book value} - \text{Revised residual value}}{\text{Remaining useful life}}$$

Thus, the calculation would be as follows:

$$\frac{\$100{,}000 - (\$9{,}500 \times 2) - \$2{,}000}{7 - 2 = 5 \text{ years remaining}} = \$15{,}800 \text{ per year}$$

The company would begin charging this amount in the third year and would not revise the previous depreciation that was recorded. This technique is also applied if the company changes its method of depreciation, because it believes the new method better reflects the pattern of use or benefits derived from the asset, or if improvements are made to the asset that add to its capital cost.

10.3 Impairment

For a variety of reasons, a PPE asset may sometimes become fully or partially obsolete to the business. If the value of the asset declines below its carrying value, the accounting question is whether this decline in value should be recorded or not. For current assets such as inventory, these types of declines in value are recorded so that a financial-statement reader is not misled into thinking the current asset will generate more cash than is actually realizable. This treatment is reasonable for a current asset, but should the same approach be used for PPE assets?

Impairment of PPE asset values can result from many different circumstances. IAS 36 discusses the following possible signs of impairment:

External indicators

- include observable indications of decline in value;

- include technological, market, economic, or legal changes that affect the asset or entity;
- include increases in interest rates that reduce the discounted value in use of the asset; and
- mean that the carrying value of the entity's net assets is greater than its market capitalization.

Internal indicators

- include obsolescence or physical damage;
- include significant changes in how the asset is used, such as excess capacity or plans for early disposal of the asset; and
- mean that economic performance of asset is worse than expected, including the cash needed to acquire and/or operate and maintain the asset.

These factors and other information will need to be considered carefully when reviewing for impairment; judgment will need to be applied. The company should assess whether there is any indication of asset impairment on an annual basis. If there is evidence of impairment, then the company will need to determine the amount of the impairment and account for this condition.

10.3.1 Accounting for Impairment

There is an assumption in the IFRS standards that an entity will act in a rational manner. This means that if selling the asset rather using it can generate more economic benefit, it would make sense to do so. To determine impairment, we need to compare the carrying value of the asset with its recoverable amount.

The **recoverable amount** of an asset is defined as the greater of the asset's value in use and its fair value, less costs of disposal. The asset's value in use is calculated as the present value of all future cash flows related to the asset, assuming that it continues to be used. The fair value less costs of disposal refers to the actual net amount that the asset could be sold for based on current market conditions.

Consider the following example. During the annual review of asset impairment conditions, a company's management team decides that there is evidence of impairment of a particular asset. This asset is recorded on the books with a cost of $30,000 and accumulated depreciation of $10,000. Management estimates and discounts future cash flows related to the asset and determines the value in use to be $15,000. The company also seeks the advice of an

equipment appraiser who indicates that the asset would likely sell at an auction for $14,000, less a 10 percent commission.

The recoverable amount of the asset is $15,000, as this value in use is greater than the fair value less costs of disposal ($14,000 − $1,400 = $12,600). The carrying value is $20,000 ($30,000 − $10,000). As the recoverable amount is less than the carrying value, the asset is impaired. The following journal entry must be recorded to account for this condition:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		5,000	
	Accumulated impairment loss			5,000

Although a separate accumulated impairment loss account has been credited here, it is common in practice to simply credit accumulated depreciation. The net result of these two approaches will be exactly the same. Also note that if the asset were accounted for using the revaluation method, the impairment loss would first reduce any existing revaluation surplus (OCI), with the remaining loss being charged to the income statement.

If, in the future, the recoverable amount increases so that the asset is no longer impaired, the accumulated impairment loss can be reversed. However, the impairment loss can be reversed only to the extent that the new carrying value does not exceed the depreciated carrying value that would have existed had the impairment never occurred. Also note that in subsequent years, depreciation calculations will be based on the revised carrying value.

A different method is used to determine impairment under ASPE. This method is described in 10.7 Appendix A.

10.3.2 Cash-Generating Units

The usual situation when applying an impairment test would be to make the assessments on an asset-by-asset basis. However, in some circumstances, it may be impossible to determine the impairment of an individual asset. Some assets may have a value in use only when used in combination with other assets. Consider, for example, a petrochemical-processing plant. The plant is engineered with many customized components that work together to process and produce a final product. If any part of the plant were removed, the process could not be completed. In this case, the cash flows derived from the use of the group of assets are considered a single economic event. The cash flows from an individual asset component within the group cannot be determined separately. In these cases, IAS 36 allows the impairment test to be performed at the level of the cash-generating unit, rather than at the individual asset level.

IAS 36 defines a cash-generating unit as “the smallest identifiable group of assets that gener-

ates cash inflows that are largely independent of the cash inflows from other assets or groups of assets" (International Accounting Standards, n.d., 36.68). The definition of cash-generating units should be applied consistently from year to year. Obviously, significant judgment is required in making these determinations.

The impairment test is applied the same way to cash-generating units as with individual assets. The only difference is that any resulting impairment loss is allocated on a pro-rata basis to the individual assets within the cash-generating unit, based on the relative carrying amounts of those assets within the group. However, in this process, no individual asset should be reduced below the greater of its recoverable amount or zero.

Consider the following example. A petrochemical-processing plant is composed of a number of different assets, including the following:

	Cost ($)	Accumulated Depreciation ($)	Carrying Amount ($)
Pumps, tanks, and drums	390,000	210,000	180,000
Reactors	1,100,000	650,000	450,000
Pipes and fittings	275,000	155,000	120,000
Distillation column	850,000	465,000	385,000
	2,615,000	1,480,000	1,135,000

Management considers this plant to be a cash-generating unit. Due to recent declines in commodity prices, management believes the plant may be impaired. After some investigation, management determines that the distillation column could be sold for net proceeds of $435,000. All the other assets, however, are integrated into the plant structure and could not be sold separately. As well, due to local regulations, the plant cannot be sold in its entirety. Management has projected that by operating the plant for the next three years, cash flows of $1,200,000 could be generated. The present value of these cash flows is $950,000.

Impairment here is determined by comparing the carrying amount of $1,135,000 with the recoverable amount of $950,000. The value in use is the appropriate measure here, as the fair value less costs to sell of $435,000 is lower. In this case, there is an impairment of $185,000 ($1,135,000−$950,000). None of the impairment should be allocated to the distillation column, as the carrying value of $385,000 is already less than the recoverable amount of $435,000. For the remaining components, we cannot determine the recoverable amount, so the impairment loss will be allocated to these assets on a pro-rata basis.

	Carrying Amount ($)	Proportion	Impairment Loss ($)
Pumps, tanks, and drums	180,000	180/750	44,400
Reactors	450,000	450/750	111,000
Pipes and fittings	120,000	120/750	29,600
	750,000		185,000

The journal entry would record separate accumulated-impairment loss amounts for each of the above components.

 A video is available on the Lyryx site. Click here to watch the video.

 A video is available on the Lyryx site. Click here to watch the video.

10.4 Derecognition

At some point in a PPE asset's life, it will be sold, disposed, abandoned, or otherwise removed from use. The accounting treatment for these events will depend on the timing and nature of the transactions.

10.4.1 Held for Sale

When management first makes the decision to sell a noncurrent asset rather than continue to use it in operations, it should be reclassified as an asset that is **held for sale**. This is a class of current assets that is disclosed separately from other assets. For an asset to be classified as held for sale, the following conditions must be met:

- The asset must be available for immediate sale in its present condition, subject only to terms that are usual and customary for sales of such assets.
- The sale must be highly probable.
- Management must be committed to a plan to sell the asset.
- There must be the initiation of an active program to locate a buyer and complete the plan.
- The asking price must be reasonable in relation to the asset's current fair value.
- The sale should be expected within one year of the decision, unless circumstances beyond the entity's control delay the sale.
- It is unlikely that the plan will be withdrawn.

There are a number of accounting issues with held-for-sale assets. First, the asset needs to be revalued to the lower of its carrying value, or its fair value, less costs to sell. Because the

company expects to sell these assets in a short period of time, it is reasonable to report them at an amount that is no greater than the amount of cash that can be realized from their sale. Second, assets that are held for sale are no longer depreciated. This is reasonable, as these assets by definition are available for immediate sale. This means that they are no longer being used for productive purposes, so depreciating them would not be appropriate.

The result of the revaluation described above means that an impairment loss will occur if the expected proceeds (fair value less costs to sell) are less than the carrying value. This loss will be reported in the year that management makes the decision to sell the asset, even if the asset is not actually sold by the year-end. The impairment loss will be reported in a manner consistent with other impairment losses, as described in IAS 36. When the asset is actually sold, the difference between the actual proceeds and the amount expected will be treated as a gain or loss in that year, not as an increase or reversal of the previous impairment loss.

If, at the time of classification as held for sale, the expected proceeds are greater than the carrying amount, this gain will not be reported until the asset is actually sold. This gain will simply be reported as a gain consistent with the treatment of other gains.

Consider this example. A company purchases an asset for $100,000 in 2015 and decides in late 2020 to sell the asset immediately. The accumulated depreciation at the time the decision is made is $40,000. Management estimates that the asset can be sold for $50,000, less disposal costs of $2,000. In 2020, when the decision to sell the asset is made, the following journal entry will be required.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Asset held for sale		48,000	
	Accumulated depreciation		40,000	
	PPE asset			100,000
	Loss on impairment		12,000	
	For Asset HFS: ($50,000 − $2,000)			

In 2021, the asset is actually sold for net proceeds of $49,000. The journal entry to record this transaction is as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		49,000	
	Asset held for sale			48,000
	Gain on sale of asset			1,000

Now, if in 2020, the amount management estimates the sales proceeds to be $65,000 instead of $50,000, less costs to sell of $2,000, the journal entry would be as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Asset held for sale		60,000	
	Accumulated depreciation		40,000	
	PPE asset			100,000

Note that we do not report the asset held for sale at its estimated realizable value ($65,000 − $2,000 = $63,000), as this is greater than the carrying value. When the sale occurs in 2021, the following journal entry would be required:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		49,000	
	Asset held for sale			60,000
	Loss on sale of asset		11,000	

As a practical matter, many companies may not immediately reclassify the asset as held for sale, as they expect to sell it within the same accounting period, or they do not meet the strict criteria for classification. If this occurs, then the disposal journal entry will simply remove the carrying value of the asset, report the net proceeds received, and report a gain or loss on disposal. This gain or loss will be reported on the income statement, but gains cannot be classified as revenues.

10.4.2 Other Derecognition Issues

There are times when assets may be disposed of in ways other than by direct sale. For example, an asset can be expropriated by a government agency that has the authority to do so, with compensation being paid. Insurance proceeds may be received for an asset destroyed in a fire. These types of transactions would be recorded much as a simple sale would be, with a resulting gain or loss (the difference between the compensation received and the carrying value of the assets) being reported on the income statement.

In other instances, a company may choose to simply abandon or scrap an asset for no proceeds. If this occurs, the asset should be derecognized, and a loss equal to the carrying value of the asset at the time of abandonment should be recognized.

A less common situation may occur when a business agrees to donate an asset to some other entity. For example, a land-development company may donate a piece of land to a municipality for use as a recreational space. The company may believe that this will help develop a positive business relationship with the municipality and its citizens. With this type of transaction, the fair value of the property needs to be determined. The disposal will then be recorded at this value, which will result in expense being recorded equal to this fair value. The carrying value

of the asset will also be derecognized, which will result in a gain or loss if the carrying value differs from the fair value.

 A video is available on the Lyryx site. Click here to watch the video.

10.5 Presentation and Disclosure Requirements

IAS 16 details a number of required disclosures for property, plant, and equipment assets. Some of these disclosures are as follows:

- The measurement bases used
- Depreciation methods used
- Useful life or depreciation rates used
- A reconciliation of the gross carrying amount and accumulated depreciation at the beginning of the period to the amount at the end of the period, including
  - details of revaluations and impairment losses, including an indication of whether an independent appraiser was used;
  - details of additions and disposals, including assets held for sale;
  - the depreciation charged during the year; and
  - the effect on PPE of exchange rate differences
- Restrictions on the use of the assets pledged as security for liabilities
- Commitments to purchase assets
- Any compensation received from third parties when assets are impaired or abandoned
- Details of the effects of changes in estimates.

The scope and scale of these disclosure requirements reflect the fact that property, plant, and equipment assets are often a significant portion of a company's total asset base. As well, they reflect the variety of different methods and estimates required in accounting for PPE assets. The significant disclosures should help readers better understand how a company uses its assets to generate returns.

10.6 IFRS/ASPE Key Differences

IFRS	ASPE
The depreciable amount is calculated using the asset's residual value.	The depreciable amount is calculated using the lesser of salvage value or residual value. Salvage value is the estimated value of the asset at the end of its physical life, rather than its useful life.
The term used is *depreciation*.	The term used is *amortization*.
Cost, revaluation, and fair-value models can be used.	Only the cost model is allowed.
Assessment for indications of impairment should occur at least annually.	Impairment is tested only when circumstances indicate impairment may exist.
A one-step process to determine impairment, based on comparing recoverable amount with carrying amount, is used. Recoverable amount is the greater of value in use or fair value less costs to sell.	A two-step process is used. Impairment is tested first by comparing carrying value with undiscounted cash flows. If impaired, the loss is determined by subtracting the fair value from the carrying amount. See 10.7 Appendix A for details.
Impairment loss can be reversed when estimates change. However, amount of reversal may be limited.	Impairment loss cannot be reversed.
Assets that meet the criteria of held for sale are classified as current.	Assets held for sale can be classified as current only if the asset is sold before financial statements are completed.
More extensive disclosure requirements must be met.	Fewer disclosure requirements must be met.

10.7 Appendix A: ASPE Standards for Impairment

Under ASPE 3063, a different set of standards is applied to the issue of PPE impairment. The basic premise underlying these principles is that an asset is impaired if its carrying value cannot be recovered. Unlike IFRS, which requires annual impairment testing, the ASPE standard requires only impairment testing when events or changes in circumstances indicate that impairment may be present. Some of the possible indicators of an asset's impairment include the following:

- A significant decrease in its market price
- A significant adverse change in the extent or manner in which it is being used or in its physical condition

- A significant adverse change in legal factors or in the business climate that could affect its value, including an adverse action or assessment by a regulator
- An accumulation of costs significantly in excess of the amount originally expected for its acquisition or construction
- A current-period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with its use
- A current expectation that, more likely than not, it will be sold or otherwise disposed of significantly before the end of its previously estimated useful life ("more likely than not" means a level of likelihood that is more than 50 percent) (CPA Canada, 2016, 3063.10).

The accountant will need to apply judgment in assessing these criteria. Other factors could be present that could indicate impairment.

Once the determination is made that impairment may be present, the accountant must follow a two-step process:

1. Determine if the asset is, in fact, impaired.
2. Calculate and record the impairment loss.

Step 1 involves the application of a recoverability test. This test is applied by comparing the predicted, *undiscounted* future cash flows from the asset's use and ultimate disposal with the carrying value of the asset. If the undiscounted future cash flows are less than the asset's carrying value, the asset is impaired. The calculation of the predicted, undiscounted cash flows will be based primarily on the company's own assessment of the possible uses of the asset. However, the accountant will need to apply diligence in assessing the reasonableness of these cash flow assumptions.

Step 2 involves a different calculation to then determine the impairment loss. The impairment loss is the difference between the asset's carrying value and its fair value. The fair value is defined as "the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act" (CPA Canada, 2016 3063.03b). Note that, unlike the IFRS calculation, disposal costs are not considered. The fair value should always be less than the undiscounted cash flows, as any knowledgeable party would discount the cash flows when determining an appropriate value. The best evidence of fair value would be obtained from transactions conducted in active markets. However, for some types of assets, active market data may not be available. In these cases, other techniques and evidence will be required to determine the fair value.

The application of this standard can be best illustrated with an example. Consider a company that believes a particular asset may be impaired, based on its current physical condition. Management has estimated the future undiscounted cash flows from the use and eventual sale of this asset to be $125,000. Recent market sales of similar assets have indicated a fair value of $90,000. The asset is carried on the books at a cost of $200,000 less accumulated depreciation of $85,000. In applying step 1, the recoverability test, management will compare the undiscounted cash flows ($125,000) with the carrying value ($115,000). In this case, because the undiscounted cash flows exceed the carrying value, no impairment is present, and no further action is required.

If, however, the future, undiscounted cash flows were $110,000 instead of $125,000, the result would be different:

Step 1:	Future undiscounted cash flows	$110,000
	Carrying value	$115,000
	Difference	$ (5,000)

Because this result is less than zero, the asset is impaired. The impairment loss must then be calculated.

Step 2:	Fair value	$ 90,000
	Carrying value	$115,000
	Impairment loss	$(25,000)

This loss would be recorded as follows:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		25,000	
	Accumulated impairment loss			25,000

Although a separate accumulated impairment loss account has been credited here, it is common in practice to simply credit accumulated depreciation. The net result of these two approaches will be the same.

The new carrying value for the asset after the impairment loss is recorded becomes the new cost base for the asset. This result has two effects. First, the asset's depreciation rate will need to be recalculated to take into account the new cost base and any other changes that may be relevant. Second, any subsequent change in circumstances that results in the asset no longer being impaired cannot be recorded. Future impairment reversals are not allowed, because we are creating a new cost base for the asset.

One conceptual problem with this approach is that the carrying value of the asset may not always reflect the underlying economic value to the company. By not testing for impairment every year, it is possible that an asset that is becoming impaired incrementally may not be properly adjusted until the impairment is quite severe. Once the impairment is recorded, the inability to reverse this amount if future circumstances improve means the asset's economic potential is not properly reflected on the balance sheet. Although there are problems with this approach, it can be argued that annual impairment testing for all assets is a time-consuming and costly exercise. Thus, the standard results in a trade-off between theoretical and practical considerations. This is considered a reasonable trade-off for private enterprises, as they usually have a much smaller group of potential financial-statement readers, as well as fewer resources available to dedicate to accounting and reporting matters.

Chapter Summary

LO 1: Identify the purpose of depreciation, and discuss the elements that are required to calculate depreciation.

Depreciation is a systematic allocation of an asset's cost to the accounting periods in which the benefits of the asset are consumed. Depreciation is not an attempt to revalue the asset. To calculate depreciation, one needs to determine the depreciable amount, the useful life, and method of calculation. The depreciable amount is the cost less the residual value. The useful life of an asset will not necessarily be the same as the physical life of the asset. The method should systematically allocate the cost in a manner that reflects the consumption of economic benefits. Significant judgment will be required when applying these three elements.

LO 2: Calculate depreciation using straight-line, diminishing-balance, and units-of-production methods.

Straight-line depreciation assumes that benefits are derived from the asset in equal proportions over the asset's life. The calculation divides the depreciable amount by the useful life and then allocates this equal charge over the life of the asset. The diminishing-balance approach assumes that greater benefits are derived earlier in an asset's life. This approach charges a constant percentage of the asset's carrying value each year to depreciation. The units-of-production method charges varying amounts of depreciation based on the asset's activity. Using output measures is more theoretically correct, but input measures may also be used. The calculation requires dividing the depreciable amount by the expected amount of productive output over the asset's life and then applying the resulting rate to the actual production in the reporting period.

LO 3: Discuss the reasons for separate component accounting and the accounting problems that may arise from this approach.

Component accounting is required because significant asset components may have different useful lives and different economic consumption patterns. By recording components separately, accountants are able to create more meaningful depreciation calculations. Problems that arise in this approach include the inability to measure component costs accurately, the judgment required in identifying significant components, and the additional accounting costs in maintaining component records.

LO 4: Calculate depreciation when partial periods or changes in estimates are required.

The depreciation charge in the period in which an asset is purchased or sold will need to be prorated based on time, except when using the units-of-production method. This proration can be calculated a number of ways but should be consistent from period to period. When changes in estimates regarding useful life, residual value, or pattern of consumption (method) are determined, these changes should be treated prospectively. The new estimate is applied to the current carrying amount, resulting a new depreciation charge for current and future periods. No adjustments are made to past period-depreciation charges.

LO 5: Discuss indicators of impairment and calculate the amount of impairment.

Impairment is indicated when external factors related to the environment in which the business operates or internal factors related to the asset itself indicate that the carrying value may not be ultimately realized. External factors include observable indications of loss of value; technological, market, or legal changes; increases in interest rates; and declines in market capitalization. Internal factors include physical damage, changes in the use of the asset, and declining productivity of the asset. Impairment is calculated as the difference between the carrying amount and the recoverable amount. The recoverable amount is the greater of the value in use or fair value, less costs of disposal. Impairment tests may sometimes be applied to cash-generating units if the effects on individual assets cannot be determined.

LO 6: Identify the criteria required to classify an asset as held for sale.

For an asset to be classified as held for sale, a number of conditions must be present. The asset must be available for immediate sale, and the sale must be highly probable. Management must be committed to the sale and must have an active program to locate a buyer. The asking

price must be reasonable in relation to the market. The sale should be expected within one year, and it should be unlikely that the plan will be withdrawn.

LO 7: Prepare journal entries for assets held for sale.

When an asset is classified as held for sale, it must be revalued to the lower of its carrying value or fair value less costs to sell. As well, depreciation of the asset will cease once it is classified as held for sale. This treatment means that either no change in value will occur, or an impairment loss will be reported in the year when the classification occurs. When the asset is subsequently sold in a future period, the resulting gain or loss is not treated as an impairment loss or reversal.

LO 8: Discuss other derecognition issues.

If an asset is expropriated or otherwise disposed, and proceeds are received, this transaction is treated the same as any other asset disposal, with the resulting gain or loss being reported on the income statement. If an asset is simply abandoned or scrapped, then that asset needs to be derecognized, and a loss will be reported equal to the carrying value of the asset. When an asset is donated, the asset needs to be derecognized, and an expense is recognized equal to the fair value of the asset. This means a gain or loss will likely result on this transaction.

LO 9 Identify the presentation and disclosure requirements for property, plant, and equipment.

IFRS requires a significant amount of disclosure regarding PPE assets. Some of these disclosures include details of methods and assumptions that are used in depreciation calculations, the measurement base used, reconciliation of changes during the period, restrictions on and commitments for assets, details of any revaluations, details of changes in estimates, and other factors.

LO 10: Identify key differences between IFRS and ASPE.

IFRS and ASPE share many similarities in the treatment of PPE assets. Some differences include the absence of fair value and revaluation methods under ASPE, a different test and criteria for impairment, different classification rules for held-for-sale assets, different methods of determining the depreciable amount, and greater disclosure requirements under IFRS.

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Exercises

EXERCISE 10–1

Machado Inc. purchased a new robotic drill for its assembly line operation. The total cost of the asset was $125,000, including shipping, installation, and testing. The asset is expected to have a useful life of five years and a residual value of $10,000. The total service life, expressed in hours of operation, is 10,000 hours. The total output the machine is expected to produce over its life is 1,000,000 units.

The asset was purchased on January 1, 2020, and it is now December 31, 2021. In 2021, the asset was used for 2,150 hours and it produced 207,000 units.

Required: Calculate the 2021 depreciation charge using the following methods:

a. Straight-line
b. Activity, based on units of input
c. Activity, based on units of production
d. Double declining balance

EXERCISE 10–2

Cortazar Ltd. purchased a used delivery van for $10,000 on June 23, 2020. The van is expected to last for three years and have a residual value of $1,000. The company's year-end is December 31, and it follows the policy of charging depreciation in partial periods to the nearest whole month of use.

Required: Calculate the annual depreciation charge and ending carrying value of the asset for each of the following fiscal years using the straight-line method:

a. December 31, 2020

b. December 31, 2021

c. December 31, 2022

d. December 31, 2023

EXERCISE 10–3

Equipment purchased for $39,000 by Escarpit Inc. on January 1, 2018 was originally estimated to have a five-year useful life with a residual value of $4,000. Depreciation has been recorded for the last three years based on these factors. In 2021, the asset's condition was reviewed, and it was determined that the total useful life will likely be seven years and the residual value $5,000. The company uses straight-line depreciation.

Required:

a. Prepare the journal entry to correct the prior years' depreciation.

b. Prepare the journal entry to record the 2021 depreciation.

EXERCISE 10–4

Michaux Ltd. purchased an office building on January 1, 2006, for $450,000. At that time, it was estimated that the building would last for 30 years and would have a residual value of $90,000. Early in 2012, a significant modification was made to the roof of the building at a cost of $30,000. This modification could not be identified as a separate component, but it was believed that it would add an additional ten years to the useful life. As well, it was estimated the residual value would be reduced to $50,000 at the end of the revised useful life. In 2020, due to a collapse in the local property market, the residual value was revised to nil. The useful life, however, was expected to remain as estimated in 2012. The company uses the straight-line method of depreciation.

Required:

a. Calculate the annual depreciation that was charged from 2006 to 2011.

b. Calculate the annual depreciation that was charged from 2012 to 2019.

c. Calculate the annual depreciation that will be charged from 2020 onwards.

EXERCISE 10–5

In December 2020, the management of Bombal Inc. reviewed its property, plant, and equipment and determined that one machine showed evidence of impairment. The following information pertains to this machine:

Cost	$325,000
Accumulated depreciation to date	$175,000
Estimated future cash flows, undiscounted	$140,000
Present value of estimated future cash flows	$110,000
Fair value	$125,000
Costs of disposal	$ 9,000

Bombal Inc. intends to continue using the asset for the next three years, with no expected residual value at the end of that period. Bombal uses straight-line depreciation.

Required:

a. Determine if the asset is impaired under IAS 36.

b. If impairment is indicated in part (a), prepare the necessary journal entry at December 31, 2020, to record the impairment.

c. Prepare the journal entry to record depreciation for 2021.

d. After recording the depreciation for 2021, management reassesses the asset and determines that the fair value is now $120,000, the undiscounted future cash flows are $110,000, and the present value of the estimated future cash flows is $90,000. There was no change to the costs of disposal. Prepare the journal entry, if any, to record the reversal of impairment.

EXERCISE 10–6

Repeat the requirements of the previous question, assuming the company reports under ASPE 3063.

EXERCISE 10–7

Reyes Technologies Ltd. has defined its computer repair division as a cash-generating unit under IFRS. The company reported the following carrying amounts for this division at December 31, 2020:

Computers	$55,000
Furniture	$27,000
Equipment	$13,000

The computer repair division is being assessed for impairment. At December 31, 2020, the division's value in use is $80,000.

Required:

a. Determine if the computer repair division is impaired, assuming that none of the individual assets has a determinable recoverable amount.

b. Prepare the journal to record the impairment from part (a), if any.

c. Determine if the computer repair division is impaired, assuming that the computers have a fair value less cost to sell of $60,000, but that none of the other assets have a determinable recoverable amount.

d. Repeat part (c) assuming that the computers' fair value less cost to sell is $50,000.

EXERCISE 10–8

Landolfi Inc. owns a property that has a carrying value on December 31, 2021, of $520,000 (cost $950,000, accumulated depreciation $430,000).

Required:

For each of the following independent situations, prepare the journal entry to record the transaction. Assume that at no time prior to the transaction did the asset qualify as a held for sale asset. All transactions occur on December 31, 2021.

a. The property was sold to Paz Inc. for $450,000.

b. The local government expropriated the property to provide land for an expansion of the rapid rail transit line. Compensation of $750,000 was paid to Landolfi Inc.

c. Due to a toxic mould problem, the property was deemed unsafe for use and was abandoned. Management does not believe there is any possibility of selling the property or recovering any amount from it.

d. Landolfi Inc. donated the property to the local government for use as a future school site. At the time of the donation, the fair value of the property was $600,000.

EXERCISE 10–9

Schulz Ltd. purchased a machine in 2017 for $65,000. In late 2020, the company made a plan to dispose of the machine. At that time, the accumulated depreciation was $25,000 and the estimated fair value was $35,000. Estimated selling costs were $1,000. Assume that the asset qualifies as a held for sale asset at December 31, 2020.

Required:

a. Prepare the journal entry required at December 31, 2020.

b. On March 3, 2021, the asset is sold for $37,000. Prepare the journal entry to record the sale.

c. Repeat parts (a) and (b) assuming that the estimated fair value on December 31, 2020, was $45,000 instead of $35,000.

Chapter 11

Intangible Assets and Goodwill

Tesla Patents to be Shared With Competitors

In an unprecedented move, Tesla announced in 2014 that it intended to share its significant number of patents with all other companies making electric cars. This is a radical departure from its previous strategy to apply for as many patents as possible considering its concern that the big car companies would copy Tesla's technology. Tesla would be no match for these companies with their huge scale manufacturing facilities and their big budget sales and marketing. As it turned out, Tesla's fears about the big car companies copying Tesla's technology did not materialize because the electric vehicle market was not big enough to make the effort.

Since then, a new movement called "open source" has been gaining prominence in today's business world. Since the focus of Tesla Motors was to accelerate the growth of sustainable transport—including electric cars—it follows that they would change their philosophy from holding patents to sharing their technology with other electric car companies. Moreover, the global vehicle market has now reached about two billion cars, increasing the carbon crises concern held by many. This environmental concern creates an opportunity for the electric car industry sector to take a bigger slice of the car market, especially if like-minded companies such as Tesla band together and share their technologies. This could result in the development of a common technology platform that would further the sustainable transport sector as a better environmental alternative compared to hydrocarbon-based transportation, currently the focus of most big car companies.

(Source: Musk, 2014)

Chapter 11 Learning Objectives

After completing this chapter, you should be able to:

LO 1: Describe intangible assets and goodwill and their role in accounting and business.

LO 2: Describe intangible assets and explain how they are recognized and measured.

- LO 2.1: Describe purchased intangibles and explain how they are initially measured.
- LO 2.2: Describe internally developed intangibles and explain how they are initially measured.

LO 2.3: Describe how intangible assets are subsequently measured.

LO 2.4: Describe how intangible assets are evaluated for impairment and derecognized.

LO 3: Describe goodwill and explain how it is recognized and measured.

LO 4: Identify the disclosure requirements for intangible assets and goodwill.

LO 5: Describe how intangible assets and goodwill affect the analysis of company performance.

LO 6: Explain the similarities and differences between ASPE and IFRS for recognition, measurement, and reporting for intangible assets and goodwill.

Introduction

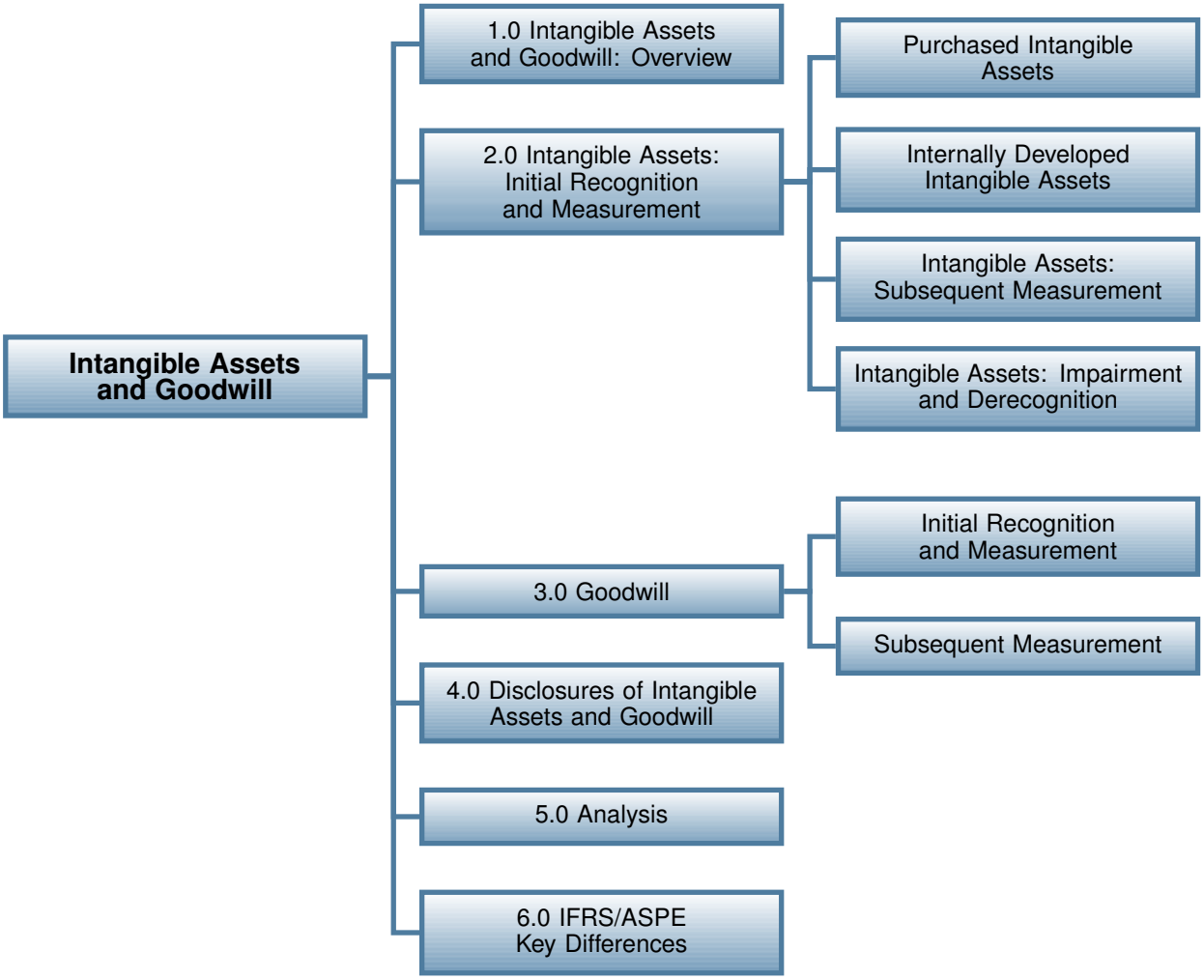
Why did Tesla purposely share its valuable and closely guarded patent secrets with its competitor electric car manufacturers? As the covering story explains, their largest competition does not come from within their own electric vehicle industry sector—it comes from the massive hydrocarbon-operated (i.e., gasoline, diesel) car market. If Tesla shares its critical intellectual property, such as its patents, with other electric car manufacturers at no cost, the electric car industry sector could strengthen enough to cause a shift in consumers from hydrocarbon vehicles to electric. In short, it is all about increasing the market share for electric cars. By sharing these valuable intangible assets within their industry sector, it increases these odds significantly.

Tesla thinks they can use their patents, which are some of Tesla's intangible assets, to make a difference and create a shift in demand from hydrocarbon to electric-powered vehicles. This must mean that there is a tremendous value regarding Tesla's patents. As intangibles assets, how might Tesla account for these patents? This chapter look at intangible assets and goodwill and how they impact business.

Chapter Organization

Like property, plant, and equipment (PPE) assets, intangible assets are long-lived, non-monetary assets whose costs are capitalized and reported as long-term assets on the statement of financial position/balance sheet (SFP/BS). But unlike PPE, intangible assets have no physical presence. Patents and copyrights have often become the subject of news headlines when competitor companies attempt to infringe upon them. Many costly and prolonged court battles have occurred as a result. Significant value is associated with these intangible assets, so it is critical that they be accounted for as realistically as possible.

This chapter will focus on the various kinds of intangible assets and goodwill in terms of their use in business, as well as their recognition, measurement, reporting, and analysis.



11.1 Intangible Assets and Goodwill: Overview

Consider how important video game developers such as BioWare, the creators of Dragon Age, have become in this decade with their mass-market appeal for gaming software. Their major long-term assets are not physical assets as is the case with other companies that own mainly property, plant, and equipment. Instead, their assets are the software and the unique software development teams who are inspired and talented enough to create gaming products that are successfully marketed to millions of people around the world. Software gaming programs are copyrighted, just like published books. The copyright may have no physical presence but it has value, as will now be discussed.

In terms of accounting for intangible assets, IFRS, IAS 38 *Intangible Assets* (IFRS, 2014)

defines these as meeting *three conditions*:

- **identifiable**, **non-monetary** asset **without physical substance**
- **controllable by the business** (by purchase or internally created)
- from which **future benefits** are expected to occur.

Identifiable, in this case, means either being **separable** (can be sold, transferred, rented, or exchanged) or arising from **contractual or other legally enforceable rights**. Intangible assets are **non-monetary assets** because they have inherent values based on their use in business. Cash, on the other hand, is a **monetary asset** because its value is based on what it represents since the paper the cash is printed on has very little value by itself, as was discussed in the cash and receivables chapter.

Intangible assets are not to be confused with goodwill. If BioWare was to sell their entire business to a third party for more than the sum of the **fair values** of their identifiable assets net of liabilities (**net identifiable assets**), then the excess amount of the fair value of the consideration paid over the net identifiable assets by the purchaser would be classified as **goodwill**. The additional amount that the purchaser is willing to pay may be due to a brilliantly creative software development team with extraordinary talents that has value to the purchaser. Even though goodwill is inherently part of the purchase and has no physical presence, it is not classified as an intangible asset. This is because it is not *separately identifiable* from the other assets, nor does it have any contractual or other legally *enforceable rights*. For this reason, it does not meet the definition of an intangible asset and is therefore classified separately as goodwill, which is discussed later in the chapter.

Some types of intangible assets are listed below.

- Patents, copyrights, databases, software, and website development costs
- Trademarks and trade names
- Franchise agreements' initial fees and closing costs
- Purchased-only customer lists, brands, or publishing titles

In a Canadian context, intangible assets have the following characteristics:

- Patents are sole rights granted by the Canadian Patent Office to exclude others from making, using, or selling an invention. They expire after twenty years. Patents limit competition and therefore they provide incentive for companies or individuals to continue

developing innovative new products or services. For example, pharmaceutical companies spend large sums on research and development, so patents are essential to earning a profit.

- Copyrights grant exclusive legal right to the author to copy, publish, perform, film, or record literary, artistic, or musical material. A copyright protects authors during their lifetimes and for fifty years after that. A recent example of copyright infringement involves Michael Robertson, CEO of the now-bankrupt MP3.com. The former chief executive of the online music storage firm MP3Tunes was found liable in March 2014 for infringing copyrights for sound recordings, compositions, and cover art associated with artists including the Beatles, Coldplay, and David Bowie (Raymond, 2014).
- Trademarks are a symbol, logo, brand, emblem, word, or words legally registered or established by use as representing a company or product. Coca Cola is an example. Trademarks are renewable after fifteen years, so they can have an indefinite life.
- Industrial design (ID) creates and develops concepts and specifications that improve the function, value, and appearance of products and systems. Registration of the design results in exclusive rights being granted for ten years.

11.2 Intangible Assets: Initial Recognition and Measurement

Recognition as an intangible asset is based on both criteria being met:

1. the **probability that benefits will flow** to the business and
2. the asset cost can be **reliably measured**.

If these are **not** met, then the item is expensed when it is incurred.

If the three conditions of an intangible asset and the two recognition criteria above **are met**, then the intangible asset is:

- initially measured at cost
- subsequently measured at cost (or measured using the revaluation model for IFRS)
- amortized on a systematic basis over its useful life (unless the asset has an indefinite useful life, in which case it is not amortized). For IFRS, the intangible asset is tested annually for impairment.

Intangible assets can be acquired:

- as a separate purchase
- as part of a business combination (either through the purchase of the business's assets or acquiring the controlling shares of the business)
- by an exchange of assets
- by a government grant
- by self-creation (internally developed)

11.2.1 Purchased Intangible Assets

Costs are capitalized to intangible assets the same way as is done for property, plant, and equipment. As a basic review, capital costs include the acquisition cost, legal fees, and any direct costs required to get the intangible asset ready for use. If intangible assets are purchased with other assets, the cost is then allocated to each asset based on relative fair values (basket purchase). Other costs, such as training to use the asset, marketing, administration or general overhead, interest charges due to late payment for the asset purchase, and any costs incurred **after** the asset is put into its intended use, are expensed as incurred.

Like property, plant, and equipment, intangible assets that are purchased in exchange for other monetary and/or non-monetary assets are measured at either the fair value of the assets given up or the fair value of the intangible asset received, whichever is the most reliable measure, if there is commercial substance. When an exchange lacks commercial substance, the assets received are measured at *the lessor of* the carrying amount or the fair value of the assets given up.

If a company receives an intangible asset at no cost or for a nominal cost in the form of a government grant such as a grant of timber rights, then the fair value of the intangible asset acquired is typically the amount recorded.

11.2.2 Internally Developed Intangible Assets

All company activities to create new products or substantially improve existing products are to be separated into a **research phase** and a **development phase** for the various costs incurred. Below is a summary of the two phases and their accounting treatment (IFRS, 2014; IAS 38 Intangible Assets):

<table>
<tr><th>Research Phase:</th><th colspan="2">Development Phase:</th></tr>
<tr><td>All original and planned investigation activities including evaluating and selecting products or processes from several possible alternatives. If there is any uncertainty about which phase is appropriate for an activity, then the research phase is used.</td><td colspan="2">This is where the application of research findings before commercial production begins. It includes designing, testing and constructing prototypes, models, pilot plants chosen from the alternatives identified in the research phase, as well as costs for any new tools, templates, or castings.</td></tr>
<tr><td rowspan="6">All costs are expensed as incurred because the activities do not relate to an identifiable product or process.</td><td rowspan="5">IAS 38: the six criteria must ALL be met to be capitalized, otherwise costs are expensed as incurred.</td><td>1) Technical feasibility of completing the intangible asset must be proven.</td></tr>
<tr><td>2) Management intention exists to complete it for use or for sale.</td></tr>
<tr><td>3) The entity must be able to use or sell it.</td></tr>
<tr><td>4) Adequate resources to complete the development and to use or sell the intangible asset are available.</td></tr>
<tr><td>5) Probability of future economic benefits is clearly established and are reasonably certain, such as the existence of a market or the usefulness of the intangible asset to the entity.</td></tr>
<tr><td>6) Costs can be reliably measured</td></tr>
<tr><td>Costs that are initially expensed because they do not meet the six criteria above cannot be capitalized later.</td><td></td></tr>
</table>

	Typical ineligible costs for capitalization:	Business start-up costs, training, advertising and promotion, relocation, reorganization costs or any costs after the asset is ready for use/sale. Internally generated branding or customer lists are also excluded from capitalization because they are indistinguishable from other business costs.
	Once the six criteria are met, direct costs that are eligible:	Any external or internal costs **directly attributable** to the specific asset such as direct materials and direct labour (i.e., salaries and benefits), as well as other direct costs such as engineering costs, and any **directly attributable** overhead costs.
	Once the intangible asset is ready for its intended use, then any subsequent costs are expensed and no longer capitalized.	

For ASPE, CPA Handbook, Sec. 3064, Goodwill and Intangible Assets (CPA Canada, 2016), allows a choice between expensing the costs for internally developed intangibles or recognizing the intangible asset when certain criteria (similar to the criteria above) are met.

 A video is available on the Lyryx site. Click here to watch the video.

11.2.3 Intangible Assets: Subsequent Measurement

After the initial recognition and measurement, subsequent measurement is as follows:

- ASPE–Cost model only
- IFRS–Cost model. If the intangible asset has its fair values determined in an active

market, then the Revaluation model can be used. The Revaluation model is not widely used in actual practice since an active market for intangible assets usually does not exist.

The accounting treatment under both models is applied the same way as is applied to property, plant, and equipment. Since intangible assets rarely have an active market to provide readily available fair values, discussions in this chapter will focus on the cost model.

Cost Model

- Asset is initially recorded upon acquisition at its cost.
- Subsequently, its carrying value will be at cost less accumulated amortization and accumulated impairment losses since acquisition, if any.
- On disposal, its carrying value is removed from the accounts and any gain or loss (sales proceeds minus the carrying value) is reported in net income.

An intangible asset with a limited useful life will be amortized over its estimated useful life, like plant and equipment, as follows:

- Amortization can be calculated using the units of production or straight-line methods, but usually assuming a residual value of zero (unless it can be sold to a third party). The method to use is determined using similar criteria as plant and equipment. Nearly all intangible assets are amortized using the straight-line method with no residual value unless there is compelling evidence to prove otherwise.
- Estimating useful life considers criteria such as expected use of the assets, any limits imposed by law, statute, or contract, and the impact on value from obsolescence and technology advances. If a patent has a legal life of twenty years but expects a competing product to emerge in fifteen years, then the useful life would be the lesser of the two, or fifteen years.
- Amortization begins and ends according to when the asset is ready for use and when it is to be disposed of or sold.
- Amortization policy is reviewed in terms of the asset's useful life, amortization method, and residual value, if any.
- Changes in useful life, residual value (if any), and amortization method are changes in accounting estimates and accounted for prospectively.
- Intangible assets are reviewed for impairment at the end of each reporting period (IFRS), or whenever circumstances indicate that the carrying value of the asset may not be recoverable (ASPE).

If the intangible asset has an indefinite life, no amortization is recorded, but it will be subject to review at the end of each reporting period. Should this status change to a definite life, it is treated as a change in estimate and accounted for prospectively. Indefinite life assets are also subject to impairment reviews and adjustments.

11.2.4 Intangible Assets: Impairment and Derecognition

The process of impairment and derecognition of intangible assets is like that of property, plant, and equipment. Below is a summary of two models used for definite-life and indefinite-life intangible assets.

<table>
<tr><th colspan="2">ASPE Cost Recovery Impairment Model</th><th colspan="2">IFRS: Rational Entity Impairment Model</th></tr>
<tr><td colspan="2">Assumes that the asset will continue to be used. The asset is impaired only if the carrying value of the asset is more than the sum of the net future undiscounted cash flows from both the use and eventual disposal of the asset.</td><td colspan="2">Assumes that the asset will either continue to be used or disposed of, depending upon which results in a higher return. The asset is impaired only if the carrying value of the asset is more than the asset's recoverable amount (a discounted cash flow concept), being the higher of its value in use and its fair value less costs to sell.</td></tr>
<tr><td colspan="4">Definite-Life Intangible Assets</td></tr>
<tr><td>Impairment recognition</td><td>Only when events and circumstances indicate that the carrying value may not be recoverable, as determined by a recoverability test.</td><td>Impairment recognition</td><td>An assessment is made at the end of each reporting period as to whether there is any indication that the asset is impaired.</td></tr>
<tr><td>Recoverability test</td><td>If the carrying value is greater than the undiscounted future cash flows, then the asset is impaired, and the impairment loss is calculated.</td><td>Recoverability test</td><td>None</td></tr>
</table>

Impairment loss	The asset carrying value less fair value.	Impairment loss	1) Calculate the recoverable amount as the **higher** of the value in use and the fair value less costs to sell. 2) If the asset carrying value is more than the recoverable amount, then the asset is impaired by the difference between these two amounts.
Impairment reversal	Not permitted	Impairment reversal	If the recoverable amount has increased, then a reversal is allowed, but it cannot exceed the asset's carrying value excluding any impairments.
Indefinite-Life Intangible Assets			
Impairment recognition	Only when events and circumstances indicate impairment is possible as determined by a fair value test.	Impairment recognition	Tested for impairment annually.
Fair value test	If the carrying value is greater than the fair value, then the asset is impaired, and the loss is calculated.	Fair value test	None
Impairment loss	Equal to the difference resulting from the fair value test.	Impairment loss	Same as for definite-life intangible assets above.
Impairment reversal	Not permitted.	Impairment reversal	Same as for definite-life intangible assets above.

The entry for impairment for both ASPE and IFRS is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		$$	
	Accumulated impairment losses, intangible asset			$$
	Accumulated impairment losses is a contra asset account.			

Amortization calculation after impairment for both ASPE and IFRS is based on the adjusted carrying value after impairment, the revised residual value (if any), and the asset's estimated remaining useful life.

$$\text{Revised amortization} = \frac{\text{carrying value after impairment} - \text{revised residual value (if any)}}{\text{Estimated remaining useful life}}$$

When an intangible asset is disposed of, the difference between the net proceeds and the asset's carrying value is the gain or loss reported in net income. The asset and its accumulated amortization are removed from the accounts.

 A video is available on the Lyryx site. Click here to watch the video.

 A video is available on the Lyryx site. Click here to watch the video.

11.3 Goodwill

11.3.1 Initial Recognition and Measurement

Goodwill arises when one company purchases another business and pays more than the fair value of its net identifiable assets (total identifiable assets – identifiable liabilities). This excess amount of consideration paid by the purchaser is classified as goodwill. As discussed at the beginning of this chapter, since goodwill is not a separately identifiable asset and has no contractual or other legally enforceable rights, it does not meet the definition of an intangible asset. It is therefore classified separately as goodwill on the SFP/BS. Also, a third-party purchase is the only circumstance where goodwill can be recognized. This is due to the complexities of recognizing and measuring internally generated goodwill, which lacks any arm's-length third-party associations.

All the identifiable assets and identifiable liabilities received are initially recorded by the purchaser *at their fair values at the date of purchase*. The difference between the sum of the fair values and the purchase price (or the fair value of any consideration given up) is classified and recorded as goodwill. Consideration can be cash or other assets, notes payable, shares, or other equity instruments.

For example, on January 1, Otis Equipment Ltd. purchases the net identifiable assets of Waverly Corp. for $40M cash and a short-term promissory note for $12M. Waverly's unclassified year-end balance sheet as at December 31 is shown below.

Waverly Corp.
Balance Sheet
December 31, 2019
(in $000s)

Assets		**Liabilities and shareholders' equity**	
Cash	$ 50,000	Accounts payable	$ 85,000
Accounts receivable (net)	15,000	Mortgage payable due Dec 31, 2029	100,000
Inventory	35,000	Share capital	40,000
Building (net)	100,000	Retained earnings	5,000
Equipment (net)	25,000		
Patent (net)	5,000		
Total assets	$230,000	Total liabilities and equity	$230,000

To determine the amount of consideration (cash and short-term promissory note) to offer Waverly, Otis completed a detailed fair value analysis of the net identifiable assets, as shown below.

Fair Values
December 31, 2019
(in $000s)

Cash	$ 50,000
Accounts receivable	12,000
Inventory	33,000
Building	125,000
Equipment	15,000
Patent	0
Accounts payable	(85,000)
Mortgage payable, due Dec 31, 2029	(100,000)
Total fair value of net identifiable assets	$ 50,000

Differences between fair values and the carrying values of the net identifiable assets are common. For example, the accounts receivable may be adjusted because the bad debt

estimate was not sufficient. Inventory may be adjusted due to obsolescence or due to a recent decline in prices from the supplier. Long-term assets values for property, plant, and equipment are usually determined either by independent appraisals or from published pricing guides such as those used for vehicles. Vehicles will lose value as they age, but land and buildings can appreciate over time. The patent may have been assessed a zero value because it was almost fully amortized and was due to expire the next year. Fair values for current liabilities such as accounts payable are usually the same as their book values. Long-term liabilities may require adjustments if interest rates have significantly changed.

The total consideration given up by Otis is $52M combined cash and short-term promissory note compared to the fair value of the net identifiable assets of $50M. The $2M difference will be classified as goodwill. As previously stated, goodwill is not an identifiable asset on its own but simply that portion of the purchase price not specifically accounted for by the net identifiable assets. In other words, **goodwill represents the future economic benefits arising from other assets acquired in the business acquisition that cannot be identified separately**.

Otis would make a journal entry as shown below.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Cash		50,000	
	Accounts receivable		12,000	
	Inventory		33,000	
	Building		125,000	
	Equipment		15,000	
	Goodwill		2,000	
	Accounts payable			85,000
	Short-term promissory note payable			12,000
	Mortgage payable			100,000
	Cash			40,000

Any transaction costs incurred by Otis associated with the purchase would be expensed as incurred.

There are many reasons why Otis was willing to pay an additional $2M to purchase Waverly. Waverly may possess a top credit rating with its creditors, an excellent reputation for quality products and service, a highly competent management team, or highly skilled employees. These factors will positively affect the total future earning power and hence the value of the business entity.

If Waverly accepted an offer from Otis of $49M and the fair values of the net identifiable assets of $50M were re-examined and considered accurate, then the $1M difference would be recorded by Otis as a gain (credit) from the acquisition of assets in net income. This is referred to as a bargain purchase.

A video is available on the Lyryx site. Click here to watch the video.

11.3.2 Subsequent Measurement of Goodwill

Once purchased, goodwill is deemed to have an indefinite life and not amortized, but it is evaluated for impairment. Under IFRS, this is done annually and whenever there is an indication that impairment exists. For ASPE this is done whenever circumstances indicate that an impairment exists.

Since goodwill is not a separately identifiable asset, it is allocated to reporting (ASPE) or cash generating units (CGUs; IFRS) expected to benefit from the business acquisition on the acquisition date.

For ASPE, after testing and adjusting the individual assets of the CGU as required, impairment is then applied to the whole reporting unit the same as for intangible assets with an indefinite life. If the carrying value of the reporting unit is greater than its fair value, this difference is the impairment amount.

For IFRS, if the carrying value of the CGU is greater than the recoverable amount (which is the higher of the CGU's value in use or fair value less costs to sell) then this difference is the impairment amount. Impairment is allocated first to goodwill (accumulated impairment losses, goodwill account), with any further excess allocated to the remaining assets' carrying values in the CGU on a proportional basis.

Goodwill impairment reversals are not permitted for ASPE or IFRS.

For example, assume that Calter Ltd. purchased Turnton Inc. and identified it as a reporting unit (CGU). The goodwill amount that was recorded at acquisition was $40,000 and the carrying amount of the whole unit, including goodwill was $360,000. One year later, due to an economic downturn in that industry sector, management is assessing whether the unit has incurred an impairment of its net identifiable assets. The fair value of the unit was evaluated to be $330,000. The direct costs to sell would be $9,300 and the unit's value in use is $340,000.

Under ASPE:

After testing and adjusting the individual assets within the unit, the whole unit was evaluated at a fair value of $330,000 as stated in the scenario above.

Carrying amount of whole unit, including goodwill	$360,000
Fair value of the unit	330,000
Goodwill impairment loss	$ 30,000

The entry to record the loss is shown below.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		30,000	
	Accumulated impairment losses, goodwill ..			30,000
	Accumulated impairment losses is a contra asset account.			

The net carrying value for goodwill will be $10,000 ($40,000 − 30,000). Since individual asset testing and adjustments within the unit was done prior to the evaluation of the whole unit, the impairment amount would not exceed goodwill.

Under IFRS:

Carrying amount of CGU as a unit, including goodwill	$360,000
Recoverable amount of unit	340,000
(Higher of value in use of $340,000 and fair value less costs to sell 330,000 − 9,300 = $320,700)	
Goodwill impairment loss	$ 20,000

Entry to record the loss is shown below.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		20,000	
	Accumulated impairment losses, goodwill ..			20,000
	Accumulated impairment losses is a contra asset account.			

The net carrying value for goodwill after the impairment is $20,000 ($40,000 − 20,000). Had the impairment amount exceeded the $40,000 goodwill carrying value, the amount of the difference would be allocated to the remaining net identifiable assets on a prorated basis, since there had been no impairment testing of individual assets as was done for ASPE above.


A video is available on the Lyryx site. Click here to watch the video.

11.4 Disclosures of Intangible Assets and Goodwill

For reporting purposes, intangible assets are grouped together with similar other intangible assets. Some examples of these classes are patents, copyrights, computer software, or

industrial designs. Most of the disclosures will be in the notes to the financial statements. Disclosures for ASPE are simpler than IFRS. For each class, some of the most important disclosures are listed below.

- Identify if the intangible assets have a definite or indefinite life, or were purchased or internally developed.
- Identify useful life, amortization policy and rate, the accumulated amortization for definite-life assets, and carrying amount for both definite- and indefinite-life assets.
- Disclose amortization amounts included in the line items of the statement of income or comprehensive income.
- Disclose the amount of research and development costs expensed through net income.
- Reconcile the beginning and ending balances of each class of intangibles, including acquisitions, increases in internally generated intangibles, amortizations, and impairments.
- Goodwill is reported as a separate line item with its carrying value and impairments amounts disclosed.
- Disclose capitalization policies.

11.5 Analysis

Analysis of financial statements will be affected by how intangible assets are accounted for. For example, companies that follow ASPE can either capitalize or expense their internally developed intangibles, depending upon company policy. More flexibility means less comparability when evaluating performance with other companies within the industry sector. Policy changes regarding intangible assets are treated prospectively within a company. This can also impact comparability within the company when analyzing performance trends over time. For IFRS companies, once the six conditions and criteria are met for internally developed intangibles, they are capitalized as assets. This results in greater comparability when analyzing performance.

Another issue involves company valuations. The SFP/BS does not always capture the company's true value. This in turn will affect performance evaluation within the company and within its industry sector. Recall the discussion at the beginning of this chapter regarding BioWare, whereby the company's total value can increase due to the development of creative software development teams with extraordinary talents or perhaps a superior management team. Since these cannot be measured reliably, they are not reported in any of the financial statements. There is no doubt that these attributes are relevant and will positively affect the company's total value, but without quantification within the financial statements, they will likely have little impact

on decision-making such as what a creditor would be willing to loan the company to expand their markets, or what additional monies a purchaser might be willing to pay to purchase the company.

11.6 IFRS/ASPE Key Differences

Item	ASPE (Sec. 3064)	IFRS (IAS 38)
Intangible assets: internally developed	Those development costs meeting ALL the six criteria in the development phase **may be capitalized or expensed**.	Costs are separated into research and development. All research costs are expensed. Those development costs meeting ALL the six criteria in the development phase are to be capitalized: 1) technical feasibility 2) management intention to complete 3) ability to use or sell 4) adequate resources 5) future economic benefits and existence of a **market** or **usefulness** of the intangible asset to the entity 6) costs are reliably measurable.
Intangible assets: subsequent measurement	Cost model: measured at cost less accumulated amortization (definite-life assets only) and impairment losses since acquisition.	Policy choice to use either cost model (usually) or revaluation model (only if an active market exists).
Intangible assets: impairment	For definite-life intangible assets: if the carrying value is greater than the *undiscounted* future cash flows, then asset is impaired. The impairment loss is calculated as the difference between the carrying value and fair value.	For both definite-life and indefinite-life intangible assets: 1) Calculate the recoverable amount as the **higher** of the value in use and the fair value less costs to sell.

	For indefinite-life intangible assets: if carrying value is greater than fair value then asset is impaired for that amount. Impairment is not reversible.	2) If the asset carrying value is more than the recoverable amount, then the asset is impaired by the difference between these two amounts. Impairment is reversible but the amount is limited to the asset's carrying value had no impairment occurred.
Disclosure of intangible assets and goodwill	Basic disclosures are required such as reporting intangible assets by class with details about amortization policy and impairment losses. Goodwill impairment details also disclosed.	Detailed disclosures are required for intangibles and goodwill. For each class, identify amortization policy, impairment losses, reconciliation of opening to closing balances details, and capitalization policies. Disclose research and development costs that were expensed.

(Sources: CPA Canada, 2016; IFRS, 2014)

Chapter Summary

LO 1: Describe intangible assets and goodwill and their role in accounting and business.

Intangible assets and goodwill can have significant balances reported in a company's SFP/BS. To be classified as an intangible asset, it must be identifiable, non-monetary, without physical substance, be controllable by business, and with expected future benefits. Some examples of intangible assets are patents, copyrights, trademarks, and purchased customer lists. Goodwill, on the other hand, can only occur because of a purchase of another company's net identifiable assets. Any excess proceeds paid over the total fair value of these net identifiable assets will be classified and reported separately as goodwill.

LO 2: Describe intangible assets and explain how they are recognized and measured.

To be recognized as an intangible asset for accounting purposes, there must be a probability that future benefits will accrue to the business and that they can be reliably measured. If not, the item is expensed as incurred. Intangible assets can be acquired as a separate purchase or as part of a business combination, in exchange for other assets, as part of a government grant or as internally developed. Intangible assets are initially measured at cost. Initial costs that can be capitalized to the asset are any direct costs required to get the asset ready for use. Any costs incurred after the asset is put into use are expensed.

Intangible assets that are internally developed are subject to more stringent criteria and are separated into research and development phases. Research phase costs are expensed as incurred because there is no identifiable product or process yet. Development phase costs meeting all six criteria can be capitalized. Initial costs that can be capitalized are any direct costs required to get the asset ready for use. All other costs are expensed and cannot be capitalized at later.

Once the asset is in use, it is usually subsequently measured at amortized cost or cost (ASPE or IFRS) or, less often, using the fair-value based revaluation model (IFRS only). Definite-life intangible assets are amortized on a systematic basis the same as property, plant, and equipment. Indefinite-life assets are not amortized but the indefinite-life status is subject to review.

Evaluation for impairment is undertaken at certain points over time for all intangible assets the same as is done for property, plant, and equipment. For definite life intangibles, ASPE evaluates for indicators of impairment only when circumstances indicate impairment is a possibility as determined by a recoverability test that compares the carrying value with the *undiscounted* future cash flows. If impaired, the asset's carrying value is reduced to equal the fair value at that date and the loss on impairment is reported in net income. Impairment reversals are not permitted.

IFRS evaluates for indicators of impairment at the end of each year. There is no impairment test. If impaired, the asset carrying value is reduced to equal the recoverable amount (the higher of the value in use and the fair value less costs to sell). Impairment reversals are limited and cannot exceed the asset's carrying value without any impairment adjustments.

For indefinite intangible assets, ASPE evaluates for indicators of impairment only when circumstances indicate impairment is a possibility as determined by a fair value test that compares the carrying value with the fair value. If impaired, the asset's carrying value is reduced to equal the fair value at that date and the loss on impairment is reported in net income. As was the case for definite-life intangibles, impairment reversal is not permitted.

For IFRS, indefinite-life intangibles are treated the same as definite-life intangibles regarding

impairment evaluation and measurement.

Amortization is based on the adjusted carrying value after impairment, the revised residual value, and the estimated remaining useful life.

On disposal, the asset is removed from the accounts and any gain or loss reported in net income.

LO 3: Describe goodwill and explain how it is recognized and measured.

Goodwill can only arise from a third-party purchase of another company's net identifiable assets. Goodwill is calculated as the difference between the consideration price (e.g., cash, other assets, notes payable, shares) and the fair value of the net identifiable assets; it is reported separately as a long-term asset on the SFP/BS. The purchaser records all the net identifiable assets at their fair values and any resulting goodwill on the SFP/BS as at the purchase date. If the purchase price were to be less than the fair value of the net identifiable assets, the difference would be credited as a gain from the acquisition of assets in net income.

Goodwill is considered to have an indefinite life, so it is not amortized. Goodwill is assigned as part of a reporting or cash-generating unit (CGU), and the whole unit is assessed for impairment using the same measurement criteria as for intangible assets with an indefinite life. The only difference is that goodwill impairment reversals are not allowed for either ASPE or IFRS.

LO 4: Identify the disclosure requirements for intangible assets and goodwill.

For reporting purposes, intangible assets are usually grouped with other intangibles with similar characteristics. For ASPE, the disclosures are simpler than for IFRS companies. Most of the disclosures are made in the notes to the financial statements. Disclosures include separate reporting into various classes for definite-life and indefinite-life intangibles, with goodwill being reported separately. Amortization and capitalization policies, amortization amounts, impairment assessments and amounts, and reconciliations of beginning to ending balances for each class of intangible asset disclosures are also required. Amounts expensed for amortization expense and research and development costs are also disclosed.

LO 5: Describe how intangible assets and goodwill affect the analysis of company performance.

Comparability is affected by the differences between how the accounting standards are applied for purchased assets versus internally developed intangibles and goodwill for both ASPE and IFRS companies. Any changes in accounting policies are treated prospectively, making comparability within a company or between companies over time more difficult. Valuation issues are significant regarding unreported intangible assets that have been expensed because the conditions and criteria identified in the ASPE and IFRS standards to qualify as an asset were not met. Since these are not reported on the SFP/BS, valuation of these companies becomes increasingly more difficult.

LO 6: Explain the similarities and differences between ASPE and IFRS for recognition, measurement, and reporting for intangible assets and goodwill.

The differences between ASPE and IFRS arise regarding the following.

1. There is a choice to capitalize or expense internally developed intangible assets for ASPE companies. For IFRS, there is no choice: if they meet the conditions and criteria, then these expenses are to be capitalized.
2. Evaluation and measurement of impairment losses.
3. The extent of the required disclosures in the financial statements.

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Exercises

EXERCISE 11–1

Indicate whether the items below are to be capitalized as an intangible asset or expensed. Which account(s) would each item be recorded to?

a. Salaries of research staff

b. Costs to test prototypes

c. Borrowing costs for development of a qualifying intangible asset

d. Executive salaries for time spent on development of an intangible asset

e. Costs to launch a new product

f. Purchase cost of a patent from a third party

g. Product research costs

h. Costs internally incurred to create goodwill

i. Legal costs to successfully defend a patent

j. Purchase price of new software

k. Training costs for new software

l. Direct costs of special programming needed when purchasing new software

m. Costs incurred in forming a corporation for purposes of commercializing a new product

n. Operating losses incurred in the start-up of a business to manufacture a patented produce

o. The purchase cost of a franchise

p. The cost of developing a patent

q. The cost of purchasing a patent from an inventor

r. Legal costs incurred in securing a patent

s. The cost of purchasing a copyright

t. Product development costs

u. Consulting fees paid to a third party for advice on a research project

v. The cost of an annual update on payroll software

w. Interest or borrowing costs specifically identifiable with an internally developed intangible asset

x. Materials consumed in the development of a product at the manufacturing stage for an IFRS company

y. Materials consumed in research projects

z. General borrowing costs on the company's line of credit

aa. Indirect costs allocated to research and development projects

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EXERCISE 11–2

Harman Beauty Products Ltd. produces organic aromatherapy hand soaps and bath oils to retail health stores across North America. The company purchased the trademark and patented recipes for this unique line of soaps and oils, called Aromatica Organica, five years ago for $150,000. Each type of soap or oil is made from a secret recipe only known to the head "chef" at Harman who distributes the ingredients for each type of soap or oil to small groups of "cooks" who then combine the unknown ingredients into a small batch of a particular type of soap or oil. These are then packaged and shipped to fill each order placed by the retail stores through the colourful and user-friendly website developed by Harman.

Required:

a. Identify any intangible assets that may appear on the company's SFP/BS.

b. Discuss the importance of the intangible assets to the company's business.

c. Why it is important to record intangible assets on a company's SFP/BS?

EXERCISE 11–3

On January 1, 2020, a patent with a book value of $288,000 and a remaining useful life of fourteen years was reported on the December 31, 2019 post-closing trial balance. In 2020, a further $140,000 of research costs was incurred during the research phase. A lawsuit was also brought against a competitor company regarding the use of a patented process for which legal costs of $42,000 were spent. On September 1, 2020, the lawsuit was concluded successfully, and the courts upheld the patent as valid, so the competitor would not be able to continue using the patented process. The company year-end is December 31 and follows IFRS.

Required: What amount should be reported on the SFP at December 31, 2020, assuming straight-line amortization?

EXERCISE 11–4

Indicate how the items below are to be reported as assets in the SFP/BS as at December 31, 2020:

a. January 1, copyright obtained for a book developed internally for $25,000, which is estimated to have a useful life of five years. Assume the straight-line method for amortization and that all costs were incurred on January 1.

b. January 1, copyright obtained for a book purchased from Athabasca University for $35,000 cash with an indefinite useful life.

c. On January 1, 2020, an Internet domain name with an indefinite life was purchased in exchange for a three-year, note. The market rate at that time was 8%. The note is repayable in three annual principal and interest payments of $14,500 each December 31.

EXERCISE 11–5

Trembeld Ltd. was developing a new product, and the following timeline occurred during 2020:

January 1 to March 31, 2020 incurred the following costs:	
Materials	$180,000
Direct labour	64,000
April 1, criteria to capitalize costs were met	
May 1 to July 31, 2020, incurred the following costs:	
Materials	270,000
Direct labour	86,000
Directly related legal fees	25,400
Borrowing costs	8,600

Required:

a. How would Trembeld account for the costs above if the company followed ASPE?

b. How would Trembeld account for the costs above if the company followed IFRS?

EXERCISE 11–6

Crellerin Ltd. has a trademark with a carrying value of $100,500 that has an expected life of fifteen years. At December 31, 2020 year-end, an evaluation of the trademark was completed. The following estimates follow:

Fair value	$ 55,000
Fair value less costs to sell	$ 50,000
Value in use	$115,000
Undiscounted cash flows	$152,000

Required:

a. Determine if the trademark is impaired as at December 31, 2020, if Crellerin follows ASPE and indicators of an impairment exist.

b. Determine if the trademark is impaired as at December 31, 2020, if Crellerin follows IFRS and trademark has been assessed for positive conditions of impairment.

c. How would the answers to part (a) and (b) change if the trademark had an unlimited expected life?

EXERCISE 11–7

Fredickson Ltd. purchased a trade name, a patented process and a customer list for $1.2 million cash. The fair values of these are:

Trade name	$380,000
Patented process	$400,000
Customer list	$450,000

Required: Prepare the journal entry for the purchase.

EXERCISE 11–8

Below are three independent situations that occurred for Bartek Corporation during 2020. Bartek's year-end is December 31, 2020.

i. On January 1, 2017, Bartek purchased a patent from Apex Co. for $800,000. The patent expires on the same date in 2025 and Bartek has been amortizing the patent over the eight years. During 2020, management reviewed the patent and determined that its economic benefits will last seven years from the date it was acquired.

ii. On January 1, 2020, Bartek bought a perpetual franchise from Amoot Inc. for $500,000. On this date, the carrying value of the franchise on Amoot's accounts was $600,000. Assume that Bartek can only provide evidence of clearly identifiable cash flows for twenty years but estimates that the franchise could provide economic benefits for up to sixty years.

iii. On January 1, 2017, Bartek incurred development costs of $250,000. These costs meet the six criteria, and Bartek is amortizing these costs over five years.

Required:

a. For situation (i), how would the patent be reported on the SFP/BS as at December 31, 2020?

b. For situation (ii), what would be the amortization expense for December 31, 2020?

c. For situation (iii), how would these development costs be reported as at December 31, 2020?

EXERCISE 11–9

On September 1, 2020, Verstag Co. acquired the net identifiable assets of Ace Ltd. for a cash payment of $863,000. At the time of the purchase, Ace's SFP/BS showed assets of $900,000, liabilities of $460,000, and shareholders' equity of $440,000. The fair value of Ace's assets is estimated at $1,160,000 and liabilities have a fair value equal to their carrying value.

Required:

a. Calculate the amount of goodwill and record the entry for the purchase.

b. Three years later, determine if there is an impairment, and calculate the impairment loss assuming that Verstag follows IFRS and that goodwill was allocated to one cash-generating unit (CGU). The carrying value of the unit was $1,925,000, the fair value was $1,700,000, the costs to sell were $100,000, and the value in use was $1,850,000.

c. How would the answer for part b) be different if Verstag follows ASPE? Fair value is $1,860,000.

EXERCISE 11–10

Indicate how each of the following items would be classified:

a. Excess of purchase price over the fair value of net identifiable assets of another business
b. Research costs
c. Annual franchise fee paid
d. Organizations costs
e. Cash
f. Accounts receivable
g. Prepaid expenses
h. Notes receivable
i. Research and development acquired in a business combination
j. Leasehold improvements
k. Brand names
l. Music copyrights
m. Investments in affiliated companies
n. Film contract rights
o. Discount on notes payable
p. Property, plant, and equipment
q. Land
r. Development phase activities (meets the 6 criteria for development phase)
s. Purchased trademarks
t. Excess of cost over fair value of net assets of acquired subsidiary
u. Costs of researching a secret formula for a product that is expected to be marketed for at least fifteen years

EXERCISE 11–11

On January 1, 2019, Josey Corp. received approval for a patent from the Patent Office. Legal costs incurred were $25,000. On June 30, 2020, Josey incurred further legal costs of $35,000 to defend its patent against a competitor trying to sell a knock-off product. The court action was successful. The patent has a life of twenty years.

Required:

a. What are the variables to consider in determining the useful life of a patent?

b. Calculate the carrying value of the patent as at December 31, 2019, and December 31, 2020.

c. Calculate the carrying value of the patent as at December 31, 2020, if management decides on January 1, 2020 that the patent's life is only fifteen years from the approval date.

d. What are the accounting treatment and the issues if the patent was assessed to have an indefinite life?

EXERCISE 11–12

Below is select information for the following independent transactions for Hilde Co., an ASPE company:

i. On January 1, 2020, a patent was purchased from another company for $900,000. The useful life is estimated to be fifteen years. At the time of the sale, the patent had a carrying value on the seller's books of $915,000. A year later, Hilde re-assessed the patent to have only ten years' useful life at that time.

ii. During 2020, Hilde incurred $350,000 in costs to develop a new electronic product. Of this amount, $180,000 was incurred before the product was deemed to be technologically and financially feasible. By December 31, 2020, the project was completed. The company estimates that the useful life of the product to be ten years, and earnings are estimated to be $3.6 million over its useful life. Hilde's policy is to capitalize any costs meeting the ASPE criteria.

iii. On January 1, 2020, a franchise was purchased for $1.8 million. In addition, Hilde must also pay 2% of revenue from operations to the franchisor. For the year ended 2020, the revenue from the franchise was $5.6 million. Hilde estimates that the useful life of the franchise is forty years.

iv. During 2020, the following research costs were incurred; materials and equipment of $25,000; salaries and benefits of $250,000; and indirect overhead costs of $15,000. (Assume a single entry in 2020 for these costs.)

Required:

a. For each independent situation above, prepare all relevant journal entries including any adjusting entries for 2020 (and 2021 for situation i) for Hilde Co. Hilde's year-end is December 31 and follows ASPE.

b. Prepare a partial income statement and balance sheet for 2020, including all required disclosures. Income tax rate is 27%.

c. Explain how the accounting treatment for each of the situations above would differ if Hilde was a public company that followed IFRS.

d. Explain how limited-life intangibles are tested for impairment for ASPE and IFRS companies. How is the impairment calculated for each standard?

EXERCISE 11–13

On January 1, 2020, Nickleback Ltd. purchased a patent from Soriato Corp. for $50,000 plus a $60,000, five-year note bearing interest at 8% payable annually. Upon maturity a single lump sum amount of $60,000 will be payable. The market-rate for a note of a similar risk and characteristics is 9%. Nickleback estimates that the patent will have a future life of twenty years. Nickleback follows ASPE.

Required: Prepare the journal entry for the patent purchase. (Hint: refer to chapter on long-term notes receivable.)

EXERCISE 11–14

On January 4, 2020, a research project undertaken by Nasja Ltd. was completed and a patent was approved. The research phase of the project incurred costs of $150,000, and legal costs incurred to obtain the patent approval were $20,000. The patent is assessed to have a useful life to 2030, or for ten years. Early in 2021, Nasja successfully defended the patent against a competitor, incurring a legal cost of $22,000. This set a precedent for Nasja who was able to reassess the patent's useful life to 2035. During 2022, Nasja was able to create a product design that was feasible for commercialization, but no more certainty was known at that time. Costs to get the product design to this stage were $250,000. Additional engineering and consulting fees of $50,000 were incurred to advance the design to the manufacturing stage. Nasja follows IFRS.

Required:

a. Prepare all the relevant journal entries for the project for 2020 to 2022, inclusive.

b. What is the accounting treatment for the engineering and consulting fees of $50,000?

EXERCISE 11–15

On December 31, 2020, a franchise that is owned by Horten Holdings Ltd. has a remaining life of thirty-two years and a carrying amount of $1,000,000. Management estimates the following information about the franchise:

Fair value	1,000,000
Disposal costs	45,000
Discounted cash flows (value in use)	1,100,000
Undiscounted future cash flows	1,200,000

Required:

a. Determine if the franchise was impaired at the end of 2020 and prepare the journal entry, if any, if Horten follows IFRS.

b. Assume now that the recoverable amount was $950,000. Prepare the journal entry for the impairment, if any (IFRS).

c. How would your answer in part (a) change if the fair value at the end of 2020 was $1.35M?

d. Assume the amounts used for part (a). How would your answers change for parts (a) to (c), if the franchise was estimated to have an indefinite life and last into perpetuity (IFRS)?

e. How would your answers change for parts (a) to (c), if the company followed ASPE and an indication of impairment existed?

f. How would your answer change for part (d) if the franchise was estimated to have an indefinite life and last into perpetuity (ASPE)?

EXERCISE 11–16

On January 1, 2020, Boxlight Inc. purchased the net assets from Candelabra Ltd. for $230,000 cash and a note for $50,000. On that date, Candelabra's list of balance sheet accounts was:

	Carrying value	Fair value – if different than carrying value
Cash	$ 55,000	
Accounts receivable (net)	125,000	
Inventory	200,000	
Land	15,000	$35,000
Buildings (net)	125,000	95,000
Equipment (net)	15,000	5,000
Patent (net)	25,000	0
Customer list (net)	5,000	0
Accounts payable	300,000	
Common shares	100,000	
Retained earnings	165,000	

Accounts receivable is shown net of estimated bad debt of $10,000. Buildings, equipment, patent, and customer list are shown net of depreciation/amortization of $75,000, 15,000, 5,000, and 1,000, respectively.

Required:

a. Prepare the journal entry to record the purchase.

b. What would Boxlight have considered when determining the purchase price for $280,000?

c. On December 15, 2020, Boxlight suspected a possible impairment of the reporting entity so it assessed the net assets that had a carrying value of $200,000 on that date. Management determined that the fair value of the net assets, including goodwill, was $180,000. Determine if there was any impairment of the reporting entity and record the journal entry, if any. Boxlight follows ASPE.

d. Assume now that Boxlight follows IFRS and assesses the cash-generating unit annually for impairment. How would the answer in part (c) change, given the CGU's values as follows:

Carrying amount	$180,000
Fair value	160,000
Disposal costs	10,000
Value in use	170,000

e. How would your answer in (c) and (d) change if, one year later, there was an increase in the fair value and recoverable amount to $190,000?

Solutions To Exercises

Chapter 2 Solutions

EXERCISE 2–1

Information asymmetry simply means that one party to a business transaction has more information than the other party. This problem is demonstrated by the situation where business managers know more about the business's operations than outside parties (e.g., investors and lenders). The information asymmetry problem can take two forms—adverse selection and moral hazard. With adverse selection, a manager may choose to act on inside knowledge of the business in a way that harms outside parties. Insider trading by managers using non-public knowledge may distort market prices of securities and create distrust in investors. Accounting attempts to deal with the problem by providing as much timely information to the market as possible. Moral hazard occurs when a manager shirks or otherwise performs in a substandard fashion, knowing that his or her performance as an agent is not directly observable by the principal (owner). Accounting tries to deal with this problem by providing information to business owners that can help assess management's level of performance. Although the field of accounting does attempt to solve these problems through the provision of high quality information, information asymmetry can never be completely eliminated, so the accounting profession will always seek ways to improve the usefulness of accounting information.

EXERCISE 2–2

Canada allows privately-owned businesses to use Accounting Standards for Private Enterprise (ASPE) or International Financial Reporting Standards (IFRS), while requiring publicly accountable enterprises to use IFRS. IFRS is partially or fully recognized in over 125 countries as the appropriate accounting standard for companies that trade shares in public markets. The main advantage of using a consistent standard around the world is that investors can understand and compare investment opportunities in different countries without having to make conversions or adjustments to reported results. This is an important feature as markets have become more globalized and capital more mobile. By requiring IFRS for publicly-traded companies, Canada has attempted to maintain the competitiveness of these companies in international financial markets. By allowing private companies the option to report under

ASPE instead, standard setters have created an environment that could be more responsive to local needs and unique, Canadian business circumstances. As well, many features of ASPE are simpler to apply than IFRS, which may reduce accounting costs for small, non-public businesses.

The major disadvantage of maintaining two sets of standards is cost. The burden of standard setters is increased, and these costs will ultimately be passed on to businesses that are required to report. As well, having two sets of standards may create confusion among investors and lenders, as public and private company financial statements may not be directly comparable.

EXERCISE 2–3

The conceptual framework is a high-level structure of concepts established by accounting standard setters to help facilitate the consistent and logical formulation of standards, and provide a basis for the use of judgment in resolving accounting issues. This framework is essential to standard setters as they develop new accounting standards in response to changes in the economic environment. The framework gives the standard setters a basis and set of defining principles from which to develop new standards. The framework is also useful to practicing accountants, as it can provide guidance to them when interpreting unusual or new business transactions. The framework gives practicing accountants the tools and support to critically evaluate accounting treatments of specific transactions that may not appear to fit into standard definitions or norms. Without a proper conceptual framework, accounting standards may become inconsistent and ad-hoc, and their application may result in financial statements that are not comparable, resulting in less confidence in capital markets.

EXERCISE 2–4

The two fundamental characteristics of good accounting information are relevance and faithful representation. Relevance means that the piece of information has the ability to influence one's decisions. This characteristic exists if the information helps predict future events or confirm predictions made in the past. Some relevant information may have both predictive and confirmatory value, or it may only meet one of these needs. Faithful representation means that the information being presented represents the true economic state or condition of the item being reported on. Faithful representation is achieved if the information is complete, neutral, and free from error. Complete information reports all the factors necessary for the reader to fully understand the underlying nature of the economic event. This may mean that additional narrative disclosures are required as well as the quantitative value. Neutral information is unbiased and does not favour one particular outcome or prediction over another. Freedom from error means that the reported information is correct, but it does not have to be 100% error free. The concept of materiality allows for insignificant errors to still be present in the information, as

long as those errors have no influence on a reader's decisions. Although both relevance and faithful representation need to be present for information to be considered useful, accountants face difficulties in achieving maximum levels of both characteristics simultaneously. As a result, trade-offs are often required, which may lead to imperfect information. Accountants are also often faced with a trade-off between costs and benefits. It may be too costly to guarantee 100% accuracy, so a little faithful representation may need to be given up to maintain the relevance of the information. This means that the accountant will need to apply good judgment in balancing the trade-offs in a way that maximizes the usefulness of the information.

EXERCISE 2–5

The four enhancing qualitative characteristics are comparability, verifiability, timeliness, and understandability. Comparability means information from two or more different businesses or from the same business over different time periods can be compared. Verifiability means two independent and knowledgeable observers could come to the same conclusion about the information being presented. Timeliness means that information needs to be current and not out of date. The older the information, the less useful it becomes for decision-making purposes. Understandability means that a reader with a reasonable understanding of business transactions should be able to understand the meaning of the accounting information being disclosed. Timeliness is often in conflict with verifiability, as verification of information takes time. Financial statements are almost always issued under deadlines; the optimal level of verification may not be achieved. Likewise, understandability may be enhanced with more careful drafting of the supplemental disclosures, but time constraints may interfere with this function. Understandability and comparability may both be influenced by the company's need to keep certain information confidential in order to avoid giving away a competitive advantage. All of these characteristics may be influenced by matters of cost. Businesses will make rational decisions by weighing the costs of certain actions against the benefits received. Cost considerations may result in accounting information not achieving the maximum levels of all of the qualitative characteristics. Balancing the trade-offs of these characteristics with the cost considerations is one of the largest challenges faced by practicing accountants.

EXERCISE 2–6

a. A reduction of both assets and equity

b. An exchange of equal value assets

c. An exchange of assets of unequal value resulting in income and expense and a resulting increase in equity (assumes goods are sold for an amount greater than cost)

d. Recognition of an expense, resulting in a decrease in equity and a liability

e. An asset is received and an equal value liability is recognized

f. Recognition of an expense, resulting in a decrease in equity and a liability

g. An equal increase in an asset and equity

h. An equal increase in an asset and a liability

i. An exchange of assets of unequal value, resulting in income and an increase in equity

j. A recognition of an expense, resulting in a decrease in equity, and a contra-asset

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EXERCISE 2–7

An item is recognized in the financial statements if it: (a) meets the definition of an element, (b) can result in probable future economic benefits to or from the entity, and (c) can be measured reliably. These criteria can be applied as follows.

a. The company has received an asset, but the company has not yet achieved substantial performance of the contract. The contract will be performed as issues of the magazines are delivered. Thus, the appropriate offsetting element to the asset is a liability, as a future obligation is created. As each issue is delivered, the liability is reduced and income can be recognized. The amount can be measured reliably, as the cash has already been received and the price of each magazine issue has already been determined.

b. The appropriate element here is the liability that is being created by the lawsuit. Because the lawsuit results from a past event that creates a present obligation to pay an amount in the future, the definition of a liability is met. It also appears that the outflow of economic benefits is probable, based on the lawyer's evaluation. However, if there really is no way to reliably measure the amount, then the liability should not be recognized. However, the lawyers should make a reasonable effort based on prior case law, the facts of the case, and so forth, to see if an amount can be reliably estimated. Even if the amount is not recognized, the lawsuit should still be disclosed in the notes to the financial statements as this information is likely relevant to those reading the financial statement.

c. An asset is normally created and income recognized when the invoice is issued. The future economic benefit exists, is the result of a past event, and can be measured reliably, based on the terms of the contract. In this case, however, there is some issue regarding the probability of realizing the future economic benefits. A careful analysis of the situation is required to determine if recognition of an asset is appropriate. Only the amount whose collection can be deemed probable should be recognized. Even if the amount is not recognized, the contract should still be disclosed in the supplemental information, as this information is likely relevant to financial statement readers.

d. The question of whether this meets the definition of an asset needs to be addressed. Is the goodwill being recorded a "resource controlled by the entity"? Goodwill, by definition, is intangible, but it is not clear what exactly is generating the goodwill in this case. It is difficult to say that this even meets the definition of an asset. If this definitional argument is stretched, it would still be difficult to recognize the element, as it is unlikely to pass the reliable measurement test. An asset based on the current share price is not reliably measured, as share prices are volatile and transitory. No recognition of the asset and corresponding equity amount is warranted in this case.

e. This does appear to meet the definition of a liability, as the past event (the drilling) results in a present obligation (the requirement to clean up the site) in the future. This type of liability should normally be recorded at the present value of the expected outflow of resources in 10 years time, as this outflow is probable. The company may have some difficulty measuring the amount, as they have no experience with this type of operation. However, an estimate should be able to be made using engineering estimates, industry data, and so forth. The other item that needs to be estimated is the appropriate discount rate for the present value calculation. Again, the company can use its cost of capital or other appropriate measure for this purpose. This liability and an expense should be recognized, although estimation will be required. Additional details of the method of estimation would also need to be disclosed.

EXERCISE 2–8

The four measurement bases are historical cost, current cost, realizable (settlement) value, and present value. Historical cost represents the actual transaction cost of an element. This is normally very reliably measured, but may not be particularly relevant for current decision making purposes. Current cost represents the amount required to replace the current capacity of the particular asset being considered, or the amount of undiscounted cash currently required to settle the liability. This base is considered more relevant than historical cost, as it attempts to use current market information to value the item. However, many items, particularly special purpose assets, do not have active markets and are, thus, not reliably measured by this approach. Realizable value represents the amount that an asset can currently be sold for in an orderly fashion (i.e., not a "fire-sale" price) or the amount required to settle a liability in the normal course of business. Again, this has the advantage of using current market conditions, making it more relevant than historical cost. However, as with current cost, active disposal markets for the asset may not exist. As well, realizable value is criticized as being irrelevant in cases where the company has no intention of disposing of the asset for many years. Present value is, perhaps, the most theoretically justified measurement base. In this case, all assets and liabilities are measured at the present value of the related future cash flows. This measure is highly relevant, as it represents the value in use to the organization. The problem with this approach is that it is difficult to reliably estimate the timing and probability of the future cash flows. As well, determinations need to be made regarding the appropriate discount rate, which may not always have a clear answer.

EXERCISE 2–9

Capital maintenance refers to the amount of capital that investors would want to be maintained within the business. This concept is important to investors, as the level of capital maintenance required may influence an investor's choice as to which company to invest in. The measurement of an investor's capital can be defined in terms of financial capital or physical capital.

Financial capital maintenance simply looks at the amount of money in a business, measured by changes in the owners' equity. This can be measured simply by looking at monetary amounts reported in the financial statements. The problem with this approach is that it doesn't take into account purchasing power changes over time. The constant purchasing power model attempts to get around this problem by adjusting capital requirements for inflation by using a broadly based index, such as the Consumer Price Index. The problem with this approach is that the index chosen may not accurately reflect the actual level of inflation experienced by the company. Physical capital maintenance tries to get around this problem by measuring the physical capacity of the business, rather than the financial capacity. The advantage of this approach is that it measures the actual productivity of the business and is not affected by inflation. The disadvantage of this method is that it is not easy or cost-effective to measure the productive capacity of each asset within the business.

Because each capital maintenance model involves trade-offs, the conceptual framework does not draw a conclusion on which approach is the best. Rather, it suggests that end needs of the financial statement users be considered when determining to apply capital maintenance concepts to specific accounting standards.

EXERCISE 2–10

Principles-based standards present a series of basic concepts that professional accountants can use to make decisions about the appropriate accounting treatment of individual transactions. Rules-based standards, on the other hand, are more prescriptive and detailed. These standards attempt to create a rule for any situation the accountant may encounter. The main advantage of principles-based systems is their flexibility. They allow the accountant the latitude to apply judgment to deal with new situations or unusual circumstances. This flexibility, however, can also cause problems for the accountant, as there could be pressure to stretch the professional judgment in a way that creates misleading financial statements. As well, the application of judgment in the preparation of financial statement could result in reports that are not comparable, as other accountants may arrive at different conclusions for similar transactions. This suggests that the verifiability characteristic may also be compromised. The main advantage of rules-based approaches is the certainty and comparability offered by detailed rules. Readers can have confidence that similar transactions are reported in similar ways. As well, this may reduce the accountant's professional liability, as long as the rules have

been applied correctly. The main disadvantage of the rules-based systems is their inflexibility. Prescription of specific accounting treatments can result in financial engineering, wherein new transactions are designed solely for the purpose of circumventing the rules. This can create misleading financial reports, where the true nature of the transactions is not reflected correctly. As well, overly detailed rules can create a problem of understandability, not only for the readers, but even for the professional accountants themselves. As a practical matter, all systems of accounting regulation contain both broad principles and detailed rules. The challenge for accounting standard setters is to find the right balance of rules and principles.

EXERCISE 2–11

Managers may attempt to influence the outcome of financial reporting for a number of reasons. Managers may have bonus or other compensation schemes that are directly tied to reported results. Managers are rational in attempting to influence their own compensation, as they understand that compensation earned now is more valuable than compensation that is deferred to future periods. Even if the manager's compensation is not directly tied to financial results, the manager may still have an incentive to make the company's results look as good as possible, as this would enhance the manager's reputation and future employment prospects. Managers will also feel pressure from shareholders to maintain a certain level of financial performance, as public securities markets can be very punitive to a company's share price when earnings targets are not reached. Shareholders do not like to see the price of the share fall drastically. On the other hand, shareholders also want to have a realistic assessment of the company's earning potential. These conflicting goals may create a complicated dynamic for the manager's behaviour in crafting the financial statements. Managers are also influenced by the conditions of certain contracts, such as loan agreements. Loan covenants may require the maintenance of certain financial ratios, which clearly puts pressure on managers to influence the financial reports in a certain fashion. Managers may also feel pressure to keep earnings low where there are political consequences of being too profitable. This may occur when a company has disproportionate power over the market, or where there is a public interest in the operations of the business. The company does not want to demonstrate earnings that are too high, as it risks attracting additional taxation, penalties, or other actions that may restrict future business.

The pressures that managers feel to influence financial results will eventually find their way to the accountant, as the accountant is ultimately responsible for creating the financial statements. Whether the accountant is internal or external to the business, his or her work must be performed ethically and professionally. The accountant must always act with integrity and objectivity, and must avoid being influenced by the pressures that may be exerted by managers or other parties. The accountant must demonstrate professional competence and must keep client information confidential. The accountant should not engage in any work that falls outside of the scope of that accountant's professional capabilities. As well, the accountant must not engage in any behaviour that discredits the profession. Although it is easy to describe the accountant's professional responsibilities, it is not always easy to put

these concepts into practice. The accountant needs to be aware of the pressures faced in the reporting environment, and may need to seek outside advice when faced with ethical or professional problems. Ultimately, the accountant is a key player in establishing the overall credibility of financial reporting, and financial markets rely on this credibility to function in an efficient manner.

EXERCISE 2–12

The vice-president finance's comments hint at a threat to my objectivity as financial controller. The potential reward of the vice-president finance position should not influence how I perform my professional duties. The specific issues identified by the vice-president finance can be addressed as follows.

a. This lawsuit appears to meet the definition of a liability, as it is a present obligation that results from a past transaction and will require a future outflow of economic resources. As well, it appears to have satisfied the recognition criteria, as the payment is probable and the amount can be estimated. This amount should be accrued this year, although prior years' financial statements do not need to be adjusted. Further consultation with the lawyers is required to determine the most reasonable amount to accrue within the range provided. Also, IFRS and ASPE use different approaches to accounting for provisions based on a range of values.

b. A change in accounting policy should be disclosed in the notes to the financial statements. However, the change should also be accounted for in a retrospective fashion, where prior years' results are restated to show the effect of the change on those years. This retrospective treatment may result in a change in the effect on the current year's income. This treatment is necessary to maintain comparability with prior years' results.

c. Prepayments from customers appear to meet the definition of a liability, as they represent a present obligation to deliver future resources to the customers (in this case, products to be manufactured). The recognition criteria also appear to have been met, so these amounts should be disclosed as liabilities. It is generally not appropriate to net assets and liabilities together, as this distorts the underlying nature of the individual financial statement elements.

d. It is unlikely that this even meets the definition of an asset, as it cannot be said that we control the resource. Although we pay the research and development director's salary and likely have proprietary rights to his inventions, we cannot really say that the resource, his knowledge, is controlled by the company. Even if we stretch the definition of an asset here to include this knowledge, it still doesn't meet the recognition criteria, as there is no demonstration that the future flow of economic resources is either probable or measurable.

e. The vice-president finance is indicating that year-end accounting adjustments need to be considered for their effects on the debt-to-equity ratio. All of the accounting treatments proposed by the vice-president finance would improve this ratio. However, all of the proposed accounting treatments are likely unsupportable under the conceptual framework. It appears that the vice-president finance's objectivity may have been impaired by his requirement to prevent a debt covenant violation. It is likely that the vice-president finance's proposed accounting treatments will be challenged by the company's external auditors, which may create delays and other problems in issuing the financial statements. This could also cause problems with the bank. In performing my duties as the financial controller, I need to be aware of the threats to my objectivity. Although there is no evidence of any ethical conflict yet, I will need to perform my duties with integrity. If my actions do result in a conflict with the vice-president finance, I will need to carefully consider my actions. I may need to seek outside advice from my professional association and others, if necessary. Ultimately, I must ensure that I do not prepare financial statements that are false or misleading in any way.

Chapter 3 Solutions

EXERCISE 3–1

a. Income from continuing operations = Income from operations + Gain on sale of FNVI investments – Income tax on income from continuing operations = $\$125{,}000 + \$1{,}500 - \$34{,}155^{*} = \$92{,}345$

   * $(125{,}000 + 1{,}500) \times 27\% = 34{,}155$

   Net income = Income from continuing operations – Loss from operation of discontinued division (net of tax) – Loss from disposal of discontinued division (net of tax) = $\$92{,}345 - \$2{,}500 - \$3{,}500 = \$86{,}345$

   Other comprehensive income = Unrealized holding gain – OCI (net of tax) = $12,000

   Total comprehensive income = Net income + other comprehensive income = $\$86{,}345 + \$12{,}000 = \$98{,}345$

b. Under ASPE, other comprehensive income and comprehensive income do not apply.

EXERCISE 3–2

Quality of Earnings: In terms of earnings quality, there are issues. The company's net income includes a significant gain on sale of idle assets, which means that a sizeable portion of earnings were not generated from ongoing core business activities. Wozzie also changed their inventory policy from FIFO to weighted average, which is contrary to the method used within their industry sector. This is cause for concern as it raises questions about whether management is purposely trying to manipulate income. A change in accounting policy is only allowed as a result of changes in a primary source of GAAP or may be applied voluntarily by management to enhance the relevance and reliability of information contained in the financial statements for IFRS. Unless Wozzie's inventory pricing is better reflected by the weighted average method, contrary to the other companies in their industry sector, the measurement of inventory and cost of goods sold may be biased.

Investing in the Company: Investors and analysts will review the financial statements and see that part of the company's net income results from a significant gain generated from non-core business activities (the sale of idle assets) and will also detect the lower cost of goods sold resulting from the change in inventory pricing policy disclosed in the notes to the financial statements. As a result, investors will assess the earnings reported as lower quality, and the capital markets will discount the earnings reported to compensate for the biased information. Had Wozzie not fully disclosed the accounting policy change for inventory, the market may have taken a bit longer to discount that portion of the company's net income due to lower quality information.

EXERCISE 3–3

Eastern Cycles' sale of the corporate-owned stores to a franchisee would not qualify for discontinued operations treatment because the corporate-owned stores are not a separate major line of business. Under IFRS, a component of an entity comprises operations, cash flows, and financial elements that can be clearly distinguished from the rest of the enterprise, which is not the case as stated in the question information.

Under ASPE, selling the corporate-owned stores would also not qualify for discontinued operations treatment. The corporate-owned stores are likely a component of the company, but the franchisor is still involved with the franchisees because Eastern Cycles continues to provide product to them as well as advertising, training, and support. The cash flows of Eastern Cycles (the franchisor) are still affected by those of the franchisee since Eastern Cycles collects monthly fees based on revenues.

EXERCISE 3–4

a.

Bunsheim Ltd.
Statement of Changes in Equity
For the Year Ended December 31, 2020

	Total	Common Shares	Comprehensive Income	Retained Earnings	Accumulated Other Comprehensive Income
Beginning balance as reported	$707,000	$480,000		$ 50,000	$177,000
Correction of understatement in travel expenses from 2019 of $80,000 (net of tax of $21,600)	(58,400)			(58,400)	
Beginning balance as adjusted	$648,600	$480,000		$ (8,400)	$177,000
Comprehensive income:					
Net income	130,853		$130,853	130,853	
Other comprehensive Income:					
Unrealized gain – FVOCI investments**	25,000		25,000		25,000
Dividends declared	(45,000)			(45,000)	
Comprehensive income			$155,853		
Ending balance	$759,453	$480,000		$ 77,453	$202,000

** net of tax of $5,000. May be reclassified subsequently to net income or loss

$$\text{Net income} = (\$680{,}000 - \$425{,}750 - \$75{,}000) = 179{,}250 \times (1 - 27\%) = \$130{,}853$$

Disclosures – prior period adjustments are to be reported net of tax with the tax amount disclosed. Unrealized gain on FVOCI investments is to be disclosed net of tax with tax amount disclosed and that it may be reclassified subsequently to net income or loss.

b.

Bunsheim Ltd.
Statement of Retained Earnings
For the Year Ended December 31, 2020

Balance, January 1, as reported	$ 50,000
Correction for understatement in travel expenses from 2019 of $80,000 (net of tax of $21,600)	(58,400)
Balance, January 1, as adjusted	(8,400)
Add: Net income	130,853
	122,453
Less: Dividends	45,000
Balance, December 31	$ 77,453

EXERCISE 3–5

a.

Patsy Inc.
Partial Statement of Comprehensive Income
For the Year Ended December 31, 2020

Income from continuing operations		$1,500,000
Discontinued operations		
Loss from operation of discontinued Calgary division (net of tax of $52,500)	$(122,500)	
Loss from disposal of Calgary division (net of tax of $37,500)	(87,500)	(210,000)
Net income		1,290,000
Other comprehensive income		
Items that may be reclassified subsequently to net income or loss:		
Unrealized gain on FVOCI investments (net of tax of $11,786*)		27,500
Total comprehensive income		$1,317,500
Earnings per share		
Income from continuing operations**		$ 30.00
Discontinued operations		(4.20)
Net income		$ 25.80

* $(27{,}500 \div (1 - 0.3) = \$39{,}286$ before tax. $\$39{,}286 - 27{,}500 = \$11{,}786$ tax)

**Continuing operations $1,500,000 ÷ 50,000; discontinued operations ($210,000 ÷ 50,000)

Required disclosures: Items reported at their net of tax amounts must also disclose the tax amount. Earnings per share information related to income from continuing operations and discontinued operations are required under IFRS but earnings per share information related to comprehensive income are not required under IFRS.

b. Had Patsy followed ASPE, other comprehensive income and total comprehensive income do not apply. Investments that are not quoted in an active market are accounted for at cost. This also assumes that the discontinued operations meet the definition of a discontinued operation under ASPE.

EXERCISE 3–6

Calculation of increase or (decrease) in shareholders' equity:

Increase in assets:	$\$41{,}670 + \$15{,}800 + \$218{,}400 - \$46{,}500 + 14{,}000$	=	$243,370
Increase in liabilities:	$(\$23{,}400) + 45{,}200 + \$46{,}500$	=	68,300
Increase in shareholders' equity:			$175,070

Breakdown of shareholders' equity account:

Net increase		$175,070
Increase in common shares	$ 87,000	
Increase in contributed surplus	18,600	
Decrease in retained earnings due to dividend declaration	(44,000)	61,600
Increase in retained earnings due to net income		$113,470

To solve algebraically use the basic accounting equation:

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Restated:

$$\text{Change in assets} = \text{change in liabilities} + \text{change in equity}$$
$$243{,}370 = 68{,}300 + X(\text{equity})$$

$$X = 243{,}370 - 68{,}300 = \$175{,}070 \text{ change in equity}$$

Since equity is made up of common shares+contributed surplus+retained earnings = $175,070 then:

Change in equity − change in common shares − change in contributed surplus + dividends = change in retained earnings due to net income

$$175{,}070 - 87{,}000 - 18{,}600 + 44{,}000 = \$113{,}470$$

EXERCISE 3–7

$$\frac{\$575{,}000 - \$75{,}000}{66{,}000} = \underline{\underline{\$7.58}} \text{ per share}$$

EXERCISE 3–8

a.

Opi Co.
Income Statement
For the Year Ended December 31, 2020

Revenues	
Net sales revenue*	$1,778,400
Gain on sale of land	39,000
Rent revenue	23,400
Total revenues	1,840,800
Expenses	
Cost of goods sold	1,020,500
Selling expenses**	587,600
Administrative expenses***	130,260
Total expenses	1,738,360
Income before income tax	102,440
Income tax	30,732
Income from continuing operations	71,708
Discontinued operations	
Gain on disposal of discontinued operations – South Division (net of tax of $8,268)	19,292
Net income	$ 91,000

* $\$1{,}820{,}000 - \$18{,}850 - \$22{,}750 = \$1{,}778{,}400$

** $\$561{,}600 + \$26{,}000 = \$587{,}600$

*** $\$128{,}700 + \$1{,}560 = \$130{,}260$

Disclosure notes – COGS and most Other Revenue and Expense items are to be disclosed separately. Discontinued operations items are to be separately disclosed, net of tax, with tax amount disclosed.

Opi Co.
Statement of Retained Earnings
For the Year Ended December 31, 2020

Retained earnings, January 1 as reported	$338,000
Less error correction (net of tax of $4,050)	9,450
Retained earnings, January 1, as adjusted	328,550
Add: net income	91,000
	419,550
Less: dividends	58,500
Retained earnings, December 31	$361,050

Prior period adjustments reported in retained earnings must be separately reported, net of tax with tax amount disclosed.

b.

Opi Co.
Income Statement
For the Year Ended December 31, 2020

Revenues	
Net sales revenue*	$1,778,400
Gain on sale of land	39,000
Rent revenue	23,400
Total revenues	1,840,800
Expenses	
Cost of goods sold	1,020,500
Selling expenses**	587,600
Administrative expenses***	130,260
Total expenses	1,738,360
Income before income tax	102,440
Income tax	30,732
Income from continuing operations	71,708
Discontinued operations:	
Gain on disposal of discontinued operations – South Division (net of tax of $8,268)	19,292
Net income	91,000
Retained earnings, January 1 as reported	338,000
Less error correction (net of tax of $4,050)	9,450
Retained earnings, January 1, as adjusted	328,550
	419,550
Less dividends	58,500
Retained earnings, December 31	$ 361,050

* $\$1{,}820{,}000 - \$18{,}850 - \$22{,}750 = \$1{,}778{,}400$

** $\$561{,}600 + \$26{,}000 = \$587{,}600$

*** $\$128{,}700 + \$1{,}560 = \$130{,}260$

Disclosure notes – COGS and most Other Revenue and Expense items are to be disclosed separately. Discontinued operations items are to be separately disclosed, net of tax, with tax amount disclosed. Prior period adjustments reported in retained earnings must be separately reported, net of tax with tax amount disclosed.

EXERCISE 3–9

a.

Ace Retailing Ltd.
Statement of Income
For the Year Ended December 31, 2020

Sales revenue		$1,500,000
Less cost of goods sold		750,000
Gross profit		750,000
Less selling and administrative expenses		245,000
Income from operations		505,000
Other revenues and gains		
Interest income	$ 15,000	
Gain on sale of FFNI investments	45,000	60,000
		565,000
Other expenses and losses		
Loss on impairment of goodwill	12,000	
Loss on disposal of equipment	82,000	
Loss from warehouse fire	175,000	269,000
Income from continuing operations before income tax		296,000
Income tax expense		79,920
Income from continuing operations		216,080
Discontinued operations		
Loss from operations, net of income tax recovery of $76,950	208,050	
Gain from disposal, net of income taxes of $31,050	83,950	124,100
Net income		$ 91,980
Earnings per share		
Income from continuing operations*		$ 0.34
Discontinued operations**		(0.31)
Net income		$ 0.03
		(rounded)

* $(\$216{,}080 - \$82{,}000) \div 400{,}000 = 0.34$

** $(\$124{,}100) \div 400{,}000 \text{ shares} = (0.31)$

b.

Ace Retailing Ltd.
Statement of Income and Comprehensive Income
For the Year Ended December 31, 2020

Sales revenue		$1,500,000
Less cost of goods sold		750,000
Gross profit		750,000
Less selling and administrative expenses		245,000
Income from operations		505,000
Other revenues and gains		
Interest income	$ 15,000	
Gain on sale of FVNI investments	45,000	60,000
		565,000
Other expenses and losses		
Loss on impairment of goodwill	12,000	
Loss on disposal of equipment	82,000	
Loss from warehouse fire	175,000	269,000
Income from continuing operations before income tax		296,000
Income tax expense		79,920
Income from continuing operations		216,080
Discontinued operations		
Loss from operations, net of tax recovery of $76,950	208,050	
Gain from disposal, net of tax of $31,050	83,950	124,100
Net income		$ 91,980
Other comprehensive income		
Items that may be reclassified subsequently to net income or loss:		
Unrealized gain on FVOCI investments, net of income tax of $5,022		13,578
Total comprehensive income		$ 105,558
Earnings per share		
Income from continuing operations*		$ 0.34
Discontinued operations**		(0.31)
Net income		$ 0.03
		(rounded)

* $(\$216{,}080 - \$82{,}000) \div 400{,}000 = 0.34$

** $(\$124{,}100) \div 400{,}000 \text{ shares} = (0.31)$

c.

Ace Retailing Ltd.
Statement of Comprehensive Income
For the Year Ended December 31, 2020

Net income	$ 91,980
Other comprehensive income	
Items that may be reclassified subsequently to net income or loss:	
Unrealized gain on FVOCI investments, net of income tax of $5,022	13,578
Total comprehensive income	$105,558

d.

Ace Retailing Ltd.
Income Statement
For the Year Ended December 31, 2020

Revenues	
Sales revenue	$1,500,000
Interest income	15,000
Gain on sale of FVNI investments	45,000
Total revenues	1,560,000
Expenses	
Cost of goods sold	750,000
Selling and administrative expenses	245,000
Loss on impairment of goodwill	12,000
Loss on disposal of equipment	82,000
Loss from warehouse fire	175,000
Total expenses	1,264,000
Income from continuing operations before income tax	296,000
Income tax	79,920
Income from continuing operations	216,080
Discontinued operations	
Loss from operations, net of income tax recovery of $76,950	208,050
Gain from disposal, net of income taxes of $31,050	83,950
	124,100
Net income	$ 91,980
Earnings per share	
Income from continuing operations*	$ 0.34
Discontinued operations**	(0.31)
Net income	$ 0.03
	(rounded)

* $(\$216{,}080 - \$82{,}000) \div 400{,}000 = 0.34$

** $(\$124{,}100) \div 400{,}000 \text{ shares} = (0.31)$

e. Items are to be reported as Other Revenue and Expenses when using the multiple-step format for the statement of income. These are revenues, expenses, gains, and losses that are not realized or incurred as part of ongoing operations (for a retail business in this case). Examples of items that do not normally recur in a retail business are:

- Dividend revenue (from investments)
- Gain or loss on sale or disposal of current or long-term assets (i.e., investments, property, plant, equipment, and certain intangible assets such as patents and copyrights)
- Interest income or expense from receivables or investments
- Impairment losses on various assets not recorded through OCI
- Loss from fire, flood, and storm damages in areas not known for this activity

- Loss on inventory due to decline in NRV
- Rent revenue or other revenues not normally associated with the usual business of the company
- Unrealized gains or losses on investments not recorded to OCI

Note that as a rule, if the item is unusual *and material*, (consider size, nature, and frequency), the item is presented separately but included in income from continuing operations. If the item is unusual but *immaterial*, the item is combined with other items in income from continuing operations. So, there is a trade-off between additional disclosures of relevant information and too much disclosure resulting in information overload. Moreover, IFRS and ASPE reporting requirements vary and the standards change over time, so different items may need to be separately reported in one standard but not necessarily in the other standard. It is important to check the standards periodically to ensure that the latest reporting requirements are known.

EXERCISE 3–10

Vivando Ltd.
Income Statement (Partial)
For the Year Ended December 31, 2020

Income from continuing operations before income tax		$1,891,000*
Income tax		472,750
Income from continuing operations		1,418,250
Discontinued operations		
Loss from operation of discontinued subsidiary (net of tax of $17,000)	$(51,000)	
Loss from disposal of subsidiary (net of tax of $28,150)	(84,450)	135,450
Net income		$ 1,282,800
Earnings per share		
Income from continuing operations		$ 6.30
Discontinued operations		(0.60)
Net income		$ 5.70
*Income from continuing operations before income tax:		
As previously stated		$ 1,820,000
Gain on sale of equipment (92,000 − 33,400 − 75,000)		16,400
Settlement of lawsuit		180,200
Write-off of accounts receivable		(125,600)
Restated		$ 1,891,000

Note: The prior year error related to the intangible asset was correctly charged to opening retained earnings.

EXERCISE 3–11

a.

Spyder Inc.
Income Statement
For the Year Ended September 30, 2020

Sales Revenue			
Sales revenue			$2,699,900
Less: Sales discounts		$ 21,000	
Sales returns and allowances		87,220	108,220
Net sales revenue			2,591,680
Cost of goods sold			1,500,478
Gross profit			1,091,202
Operating Expenses			
Selling expenses:			
Sales commissions expenses	$136,640		
Entertainment expenses	20,748		
Freight-out	40,502		
Telephone and Internet expenses	12,642		
Depreciation expense	6,972	217,504	
Administrative expenses:			
Salaries and wages expenses	78,764		
Depreciation expense	10,150		
Supplies expense	4,830		
Telephone and Internet expense	3,948		
Miscellaneous expense	6,601	104,293	321,797
Income from operations			769,405
Other Revenues			
Gain on sale of land			78,400
Dividend revenue			53,200
			901,005
Other Expenses			
Interest expense			25,200
Income from continuing operations before income tax			875,805
Income tax			262,742
Income from continuing operations			613,063
Discontinued operations			
Loss on disposal of discontinued operations – Aphfflek Division (net of taxes of $14,700)			34,300
Net income			$ 578,763
Earnings per share from continuing operations			$ 4.94*
from discontinued operations			(0.28)**
Net income			$ 4.66

* $613,063 ÷ 124,000 common shares

** $34,300 ÷ 124,000

b.

Spyder Inc.
Statement of Changes in Shareholders' Equity
For the Year Ended September 30, 2020

	Common Shares	Retained Earnings	Accumulated Other Comprehensive Income	Total
Beginning balance as reported	$454,000	$215,600	$162,000	$831,600
Correction of error for depreciation expense from 2019 (net of tax recovery of $7,434)		(17,346)		(17,346)
Beginning balance as restated	454,000	198,254	162,000	814,254
Comprehensive income:				
Net income		578,763		578,763
Total comprehensive income		578,763		578,763
Dividends – common shares		(12,600)		(12,600)
Ending balance	$454,000	$764,417	$162,000	$1,380,417

c.

Spyder Inc.
Income Statement
For the Year Ended September 30, 2020

Revenues	
Net sales revenue	$2,591,680
Gain on sale of land	78,400
Dividend revenue	53,200
Total revenues	2,723,280
Expenses	
Cost of goods sold	1,500,478
Sales commissions expense	136,640
Entertainment expense	20,748
Freight-out	40,502
Telephone and Internet expense*	16,590
Depreciation expense**	17,122
Salaries and wages expense	78,764
Supplies expense	4,830
Miscellaneous operating expense	6,601
Interest expense	25,200
Total expenses	1,847,475
Net income from continuing operations before income tax	875,805
Income tax	262,742
Income from continuing operations	613,063
Discontinued operations	
Loss on disposal of discontinued operations – Aphfflek Division (net of taxes of $14,700)	34,300
Net income	$ 578,763
Earnings per share from continuing operations	4.84***
from discontinued operations	(0.28)****
Net income	$ 4.56

* $12,642 + $3,948
** $6,972 + $10,150
*** ($613,063 − $12,600) ÷ 124,000 common shares
**** $34,300 ÷ 124,000

d.

Spyder Inc.
Statement of Comprehensive Income
For the Year Ended September 30, 2020

Net income	$578,763
Other Comprehensive Income:	
Items that may be reclassified subsequently to net income or loss:	
Unrealized gain on FVOCI investments (net of tax of $7,500)	17,500
Comprehensive Income	$596,263

Chapter 4 Solutions

EXERCISE 4–1

Account name	Classification
Preferred shares	Cap
Franchise agreement	IA
Salaries and wages payable	CL
Accounts payable	CL
Buildings (net)	PPE
Investment – Held for Trading	CA
Current portion of long-term debt	CL
Allowance for doubtful accounts	CA
Accounts receivable	CA
Bond payable (maturing in 10 years)	NCL
Notes payable (due next year)	CL
Office supplies	CA
Mortgage payable (maturing next year)	CL
Land	PPE
Bond sinking fund	LI
Inventory	CA
Prepaid insurance	CA
Income tax payable	CL
Cumulative unrealized gain or loss from an OCI investment	AOCI
Investment in associate	LI
Unearned subscriptions revenue	CL
Advances to suppliers	CA
Unearned rent revenue	CL
Copyrights	IA
Petty cash	CA
Foreign currency bank account or cash	CA

EXERCISE 4–2

a.

Aztec Artworks Ltd.
Statement of Financial Position
As at December 31, 2021

Assets			
Current assets			
Cash			$ 143,000
Investments (held for trading at fair value)			135,000
Accounts receivable		$ 332,000	
Allowance for doubtful accounts		(12,000)	320,000
Inventory (at lower of FIFO cost and NRV)		$ 960,000	
Inventory on consignment		20,000	980,000
Prepaid expenses			30,000
Total current assets			1,608,000
Long-term investments:			
Investment in bonds (held to maturity at amortized cost)			200,000
Bond sinking fund			100,000
Land held for investment (at cost)			200,000
			500,000
Property, plant, and equipment			
Building under construction	$ 220,000		
Land (at cost)	220,000	440,000	
Building (at cost)	$1,950,000		
Accumulated depreciation	(450,000)	1,500,000	
Equipment (at cost)	500,000		
Accumulated depreciation	(120,000)	380,000	2,320,000
Intangible assets:			
Patents (net of accumulated amortization for $9,000)			21,000
Total assets			$4,449,000
Liabilities and Shareholders' Equity			
Current liabilities			
Bank indebtedness		$ 18,000	
Accounts payable		370,000	
Rent payable		120,000	
Notes payable		300,000	
Other payables		35,000	
Income tax payable		80,000	
Total current liabilities			$ 923,000
Long-term liabilities:			
Bonds payable (20-year 5% bonds, due August 31, 2025)		800,000	
Pension obligation		210,000	1,010,000
Total liabilities			1,933,000
Shareholders' equity			
Paid in capital			
Preferred, ($2, non-cumulative,participating–authorized 50,000, issued and outstanding, 20,000 shares)	$ 900,000		
Common (authorized, 900,000 shares; issued and outstanding 700,000 shares)	700,000		
Contributed surplus	430,000	2,030,000	
Retained earnings		326,000	
Accumulated other comprehensive income		160,000	2,516,000
Total liabilities and shareholders' equity			$4,449,000

1	Cash balance, Dec 31	$ 225,000	
	Plus bank overdraft	18,000	
	Less bond sinking fund	(100,000)	
	Adjusted cash balance, December 31	$ 143,000	
2	Account receivable, Dec 31	$ 285,000	
	Plus AFDA	12,000	
	Plus credit balances to be separately reported	35,000	
	Adjusted balance, Dec 31	$ 332,000	
3	Inventory, Dec 31	$ 960,000	
	Plus inventory on consignment	20,000	
	Adjusted balance, Dec 31	$ 980,000	
	Inventory, net realizable value, Dec 31	985,000	
4	Land, Dec 31	$ 420,000	
	Less land held for investment	(200,000)	
	Adjusted land, Dec 31	$ 220,000	
5		Building	Equipment
	Balance, Dec 31	$1,500,000	$ 380,000
	Plus accumulated depreciation	450,000	120,000
	Adjusted balance, Dec 31	$1,950,000	$ 500,000
6	Goodwill, Dec 31	$ 190,000	
	Removed – internally generated goodwill cannot be recognized	(190,000)	
	Adjust balance, Dec 31	$ –	
7	Patents, Dec 31	$ 21,000	
	Accum. amortization for 3 years ($30,000 ÷ 10 × 3 yrs)	$ 9,000	

Retained earnings = ($501,000 + $20,000 consignment inventory − $190,000 goodwill adjustment − $5,000 unrealized holding loss for trading investments = $326,000
OR ($4,449,000 − 1,933,000 − 2,030,000 − 160,000) = $326,000

b. Liquidity ratios:

$$\text{Current ratio} = 1{,}608{,}000 \div 923{,}000 = 1.74$$

$$\text{Quick ratio} = (143{,}000 + 135{,}000 + 320{,}000 = 598{,}000) \div 923{,}000 = 0.65$$

Activity ratios:

$$\begin{aligned}
\text{Accounts receivable turnover} &= 3{,}000{,}000 \div 320{,}000 \\
&= 9.38 \text{ times per year or every } 38.9 \text{ days } (365 \div 9.38) \\
\text{Days' sales uncollected} &= 332{,}000 \div 3{,}000{,}000 \times 365 \\
&= 40.4 \text{ days} \\
\text{Inventory turnover} &= (3{,}000{,}000 \times 60\%) \div 980{,}000 \\
&= 1.84 \text{ times per year or every } 198.4 \text{ days } (365 \div 1.84) \\
\text{Asset turnover} &= 3{,}000{,}000 \div 4{,}449{,}000 \\
&= 0.67 \text{ times}
\end{aligned}$$

Comments:

In terms of liquidity, Aztec's current ratio of 1.74 suggests at first glance that it can meet its short-term obligations. However, when inventory and prepaid expenses are removed, the ratio drops to .65, which is short of the general rule of 1:1 for quick ratios. This may mean that inventory levels are too high. The inventory turnover ratio below will confirm if this is the case or not.

Activity ratios, such as the accounts receivable turnover, measure how quickly accounts are converted into cash. For Aztec, accounts receivable are collected every 38.9 days on average. Looking at days' sales uncollected, if a guideline of 30–40 days to collect is considered reasonable, then Aztec is close to the top end of the 40-day benchmark. Management would be wise to take steps to improve its receivables collections somewhat.

Inventory turnover of every 200 days or so appears to be very low, which could mean that too much cash is being tied up in inventory or there is too much obsolete inventory that cannot be sold. A turnover ratio that is too high can signal inventory shortages that may result in lost sales. A turnover ratio for each major inventory category will help to determine if the situation is wide-spread or limited to a particular inventory category.

Asset turnover for .67 times appears low but without industry standard ratios to use as a comparison benchmark, ratios become less meaningful.

EXERCISE 4–3

a.

Johnson Berthgate Corp.
Statement of Financial Position
As at December 31, 2021

Assets			
Current assets			
Cash			$ 131,000
Investments (held for trading at fair value)			120,000
Accounts receivable		$330,000	
Allowance for doubtful accounts		(15,000)	315,000
Inventory (at lower of FIFO cost and NRV)			430,000
Prepaid expenses			6,000
Total current assets			1,002,000
Long-term investments:			
Investment in bonds (held to maturity at amortized cost)		190,000	
Investment, FVOCI		180,000	370,000
Property, plant, and equipment			
Land (at cost)		170,000	
Building (at cost)	$ 660,000		
Accumulated depreciation	(110,000)	550,000	
Equipment (at cost)	390,000		
Accumulated depreciation	(50,000)	340,000	1,060,000
Intangible assets:			
Patents (net of accum. amort. of $80,000 on a straight-line basis)		125,000	
Franchise (net of accum. amort. of $45,000 on a straight-line basis)		115,000	240,000
Goodwill			30,000
Total assets			$2,702,000
Liabilities and Shareholders' Equity			
Current liabilities			
Accounts payable		$350,000	
Accrued liabilities		70,000	
Commissions payable		90,000	
Notes payable		60,000	
Unearned consulting fees		13,000	
Total current liabilities			583,000
Long-term liabilities:			
Bonds payable (20-year 5% bonds, due December 31, 2025)		655,684	
Note payable (3%, 5-year, due December 31, 2024)		571,875	1,227,559
Total liabilities			1,810,559
Shareholders' equity			
Paid in capital			
Preferred, ($3, non-cumulative, authorized 1200, issued and outstanding, 800 shares)	$ 80,000		
Common (unlimited authorized, issued and outstanding 260,000 shares)	520,000	600,000	
Retained earnings*		236,441	
Accumulated other comprehensive income		55,000	891,441
Total liabilities and shareholders' equity			$2,702,000

* 290,941 − 90,000 + 20,000 investment trading adj − 10,000 inventory adj + NI of $25,500 = $236,441

$$\text{Net income} = (4{,}858{,}000 + 40{,}000 + 102{,}000 - 3{,}050{,}000 - 11{,}000 - 8{,}500 - 135{,}000 -$$

$1{,}190{,}000 - 580{,}000) = \$25{,}500$

b.

$$\text{Debt ratio} = 1{,}810{,}559 \div 2{,}702{,}000 = 67.01\%$$
$$\text{Equity ratio} = 891{,}441 \div 2{,}702{,}000 = 32.99\%$$

Nearly 70% of all assets are provided by creditors, which is significant. Digging deeper and looking at the current ratio for 1.72 (1,002,000 ÷ 583,000), it appears that the current assets will adequately cover the current liabilities. It follows that the $1.2M in long-term obligations is the true risk for this company. The company may have to re-finance the note payable when comes due in 3 more years, or sell off any assets not currently contributing to profit. Selling off long-term assets is a reasonable step provided that the assets are idle and will not be used in the foreseeable future to earn profits. This company's debt ratio is high, so it has very little financial flexibility.

c. The credit balances in accounts receivable represent amounts owing to specific customers. IFRS requires that significant credit balances be separated and reported as a current liability.

> Current ratio without separation of the credit $1{,}002{,}000 \div 583{,}000 = 1.72$
> Current ratio with separation of the credit $(1{,}002{,}000 + 250{,}000) \div (583{,}000 + 250{,}000) = 1.50$

Managers may not be aware of the impact that the reporting requirement (to classify credit receivables as current liabilities) can have on the current ratio. In this case, this ratio has weakened significantly once the credit amount of $250,000 is reclassified from a current asset to a current liability. If the company had a restrictive covenant to maintain a current ratio of 1.7 times, this could spell disaster for the company in two ways. First, creditors expect a restrictive covenant ratio to be maintained *at all times*. If this ratio slips below that threshold, any short-term notes owing to the creditor would become payable immediately as a demand loan. This would create significant pressure to raise enough cash in a short period of time to make the single, large payment. Second, if the debt owing to that creditor also includes any long-term debt, the creditor could also force the company to reclassify the long-term balances to *current liabilities, driving the current ratio even lower*. This might be all that it takes to drive a marginally performing company into bankruptcy, which is a no-win for either the company or its creditors.

The following are possible conditions or situations that would give rise to a credit balance in accounts receivable customer accounts.

- Customers returned goods after the account was paid.
- A customer has overpaid an account in error.
- The company policy may be no cash refunds. Any returns would therefore be credited to the customer account to be used later for a future purchase.

- Most of the accounting software applications apply customer prepayments (unearned revenues) as a credit balance in accounts receivable, since eventually the actual amounts when owed by the customer at the time the goods and services provided will be debited to the accounts receivable sub-ledger when the invoice is prepared.
- On the basis of materiality, the credit balances, if insignificant, will likely remain with the existing accounts receivable as small credit balances.

EXERCISE 4–4

a.

Hughey Ltd.
Statement of Financial Position
As at December 31, 2021

Assets			
Current assets			
Cash		$ 250,000	
Accounts receivable	$ 1,015,000		
Less allowance for doubtful accounts	(55,000)	960,000	
Inventory–at lower of FIFO cost and NRV		1,300,000	
Prepaid insurance		40,000	
Total current assets			$2,550,000
Long-term investments			
Investments, FVOCI, of which investments costing $800,000 have been pledged as security for notes payable to bank			2,250,000
Property, plant, and equipment			
Land		530,000	
Building	770,000		
Accumulated depreciation	(300,000)	470,000	
Equipment	2,500,000		
Accumulated depreciation	(1,200,000)	1,300,000	2,300,000
Intangible assets			
Patents (net of accumulated amortization of $35,000)			25,000
Total assets			$7,125,000
Liabilities and Shareholders' Equity			
Current liabilities			
7% notes payable to bank, secured by investments which cost $800,000;		$ 600,000	
Accounts payable		900,000	
Accrued liabilities		300,000	
Total current liabilities			1,800,000
Long-term liabilities			
Bonds payable, 25-yr, 8%, due December 31, 2030, at amortized cost			1,100,000
Total liabilities			2,900,000
Shareholders' equity			
Paid-in capital			
Common shares; 100,000 shares authorized, 80,000 shares issued and outstanding		2,500,000	
Retained earnings		1,330,000	
Accumulated other comprehensive income		395,000*	4,225,000
Total liabilities and shareholders' equity			$7,125,000

* Opening balance of $245,000 + $150,000($2,250,000 − 2,100,000) for unrealized holding gain – OCI on FVOCI investments.

b. Patent annual amortization:

60,000 − 25,000 = 35,000 total amortization for the period January 1, 2015 to December 31, 2021 or 7 years amortized since its purchase.

$35,000 ÷ 7 years = $5,000 per year

c. This company follows IFRS because it has classified and reported some of its investments as available for sale (OCI) which is a classification only permitted by IFRS companies. ASPE does not have this classification.

EXERCISE 4–5

Description	Section	Amount
Issue of bonds payable of $500 cash	Financing	500
Sale of land and building of $60,000 cash	Investing	60,000
Retirement of bonds payable of $20,000 cash	Financing	(20,000)
Current portion of long-term debt changed from $56,000 to $50,000	Financing	*
Repurchase of company's own shares of $120,000 cash	Financing	(120,000)
Issuance of common shares of $80,000 cash	Financing	80,000
Payment of cash dividend of $25,000 recorded to retained earnings	Financing	(25,000)
Purchase of land of $60,000 cash and a $100,000 note	Investing	(60,000)
Cash dividends received from a trading investment of $5,000	Operating	5,000
Interest income received in cash from an investment of $2,000	Operating	2,000
Interest and finance charges paid of $15,000	Operating	(15,000)
Purchase of equipment for $32,000	Investing	(32,000)
Increase in accounts receivable of $75,000	Operating	(75,000)
Decrease in a short-term note payable of $10,000	Operating	(10,000)
Increase in income taxes payable of $3,000	Operating	3,000
Purchase of equipment in exchange for a $14,000 long-term note	None: non-cash	-

* The current portion of long-term debt for both years would be added to their respective long-term debt payable accounts and reported as a single line item in the financing section.

EXERCISE 4–6

a.

Carmel Corp.
Balance Sheet
As at December 31, 2021

Assets		
Current assets		
Cash		$ 247,600
Accounts receivable (net) *		109,040
Total current assets		356,640
Investment in land (at cost)		220,000
Property, plant, and equipment		
Land	$200,000	
Building (net)	87,200	
Equipment (net)	198,000	485,200
Total assets		$1,061,840
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable		$ 55,200
Current portion of long-term debt		32,000
Total current liabilities		87,200
Long-term liabilities		
Mortgage payable		110,200
Total liabilities		197,400
Shareholders' equity		
Common shares	$470,000	
Retained earnings	394,440	864,440
Total liabilities and shareholders' equity		$1,061,840

The required disclosures discussed in Chapter 3 that were missed were the AFDA, the accumulated depreciation for the building and equipment, the interest rate, securitization and due date for the mortgage payable classified as a long-term liability, and the authorized and issued common shares in the equity section.

Calculations Worksheet:

		Adjustments			
		Dr	Cr	Dr	Cr
Cash	$ 84,000	1,356,600[1]	1,193,000[2]	247,600	
Accounts receivable (net)	89,040	1,000,000	980,000	109,040	
Investments – trading	134,400		134,400	-	
Buildings (net)	340,200		225,000		
			28,000	87,200	
Equipment (net)	168,000	50,000	20,000	198,000	
Land	200,000	220,000		420,000	
	$1,015,640			$1,061,840	
Accounts payable	$146,000	900,000	809,200		55,200
Mortgage payable	172,200	30,000			142,200
Common shares	400,000		70,000		470,000
Retained earnings	297,440	8,000	105,000		394,440
	$1,015,640			2,123,680	$1,061,840
Revenues	$1,000,000	A/R	1,000,000		
Gain	2,200		2,200		
Total revenue	1,002,200				
Expenses					
Operating expenses	809,200	809,200			
Interest expenses	35,000	35,000			
Depreciation	48,000	48,000			
Loss	5,000	5,000			
	897,200				
Net Income	$ 105,000	4,461,800	4,566,800		
			−105,000	net income	
		4,461,800	4,461,800	to retained earnings	

b.

[1]Cash increases due to 980,000 A/R collections, 136,600 proceeds from the sale of the trading investments, 220,000 from the sale of the building and 20,000 from the issuance of additional common shares = 1,356,600

[2]Cash decreases due to 900,000 payments of accounts payable, 8,000 payment of cash dividends, 220,000 for additional land, and 65,000 for payments for the mortgage payable = 1,193,000

Carmel Corp.
Statement of Cash Flows
For the Year Ended December 31, 2021

Cash flows from operating activities		
Net income		$105,000
Adjustments for non-cash revenue and expense items in the income statement:		
Depreciation expense	$ 48,000	
Gain on sale of investments	(2,200)	
Loss on sale of building	5,000	
Decrease in investments – trading	136,600	
Increase in accounts receivable ($109,040 − $89,040)	(20,000)	
Decrease in accounts payable ($146,000 − $55,200)	(90,800)	76,600
Net cash from operating activities		181,600
Cash flows from investing activities		
Proceeds from sale of building ($225,000 − $5,000)	220,000	
Purchase of land	(220,000)	
Net cash from investing activities		0
Cash flows from financing activities		
Reduction in long-term mortgage principal	(30,000)	
Issuance of common shares	20,000	
Payment of cash dividends	(8,000)	
Net cash from financing activities		(18,000)
Net increase in cash		163,600
Cash at beginning of year		84,000
Cash at end of year		$247,600

Note:

- The purchase of equipment through the issuance of $50,000 of common shares is a significant non-cash financing transaction that would be disclosed in the notes to the financial statements.
- Cash paid interest $35,000
  Had there been cash paid income taxes, this would also be disclosed.

c. Free cash flow:

Net cash provided by operating activities	$ 181,600
Capital purchases – land	(220,000)
Cash paid dividends	(8,000)
Free cash flow	$(46,400)

An analysis of Carmel's free cash flow indicates it is negative as shown above. Including dividends paid is optional, but it would not have made a difference in this case. What does make the difference in this case is that the capital expenditures are those needed

to sustain the current level of operations. In Carmel's case, the land was purchased for investment purposes and not to meet operational requirements. The free cash flow would more accurately be:

Net cash from operating activities	$ 181,600
Capital purchases	0
Cash paid dividends	(8,000)
Free cash flow	$ 173,600

This makes intuitive sense and is supported by the results from one of the coverage ratios.

The current cash debt coverage provides information about how well Carmel can cover its current liabilities from its net cash flows from operations:

$$\frac{\text{Net cash from operating activities}}{\text{Average current liabilities}}$$

Carmel's current cash debt coverage is $(\$181{,}600 \div ((87{,}200 + 176{,}000) \times 50\%) = 1.38$. The company has adequate cash flows to cover its current liabilities as they come due and so overall, its financial flexibility looks positive.

In terms of cash flow patterns, Carmel has managed to more than triple its cash balance in the year mainly from cash generated from operating activities, which is a good trend. Carmel was able to pay $8,000 in dividends, or a 1.7% return. If dividends are paid several times throughout the year, the return is more than adequate to investors. Carmel also sold off its traded investments for a profit and some idle buildings at a small loss to obtain sufficient internal funding for some land that it wants as an investment. Carmel also managed to lower its accounts payable levels by close to 60%. All this supports the assessment that Carmel's financial flexibility looks reasonable.

d. The information reported in the statement of cash flows is useful for assessing the amount, timing, and uncertainty of future cash flows. The statement identifies the specific cash inflows and outflows from operating activities, investing activities, and financing activities. This gives stakeholders a better understanding of the liquidity and financial flexibility of the enterprise. Some stakeholders have concerns about the quality of the earnings because of the various bases that can be used to record accruals and estimates, which can vary widely and be subjective. As a result, the higher the ratio of cash provided by operating activities to net income, the more stakeholders can rely on the earnings reported.

EXERCISE 4–7

Lambrinetta Industries Ltd.
Statement of Cash Flows
Year Ended December 31, 2021

Cash flows from operating activities		
Net income		$ 161,500
Adjustments		
Depreciation expense*	$ 25,500	
Change in A/R	27,200	
Change in A/P	11,900	
Unrealized loss on investments–trading**	5,200	
Investments purchased	(12,000)	
		57,800
Net cash from operating activities		219,300
Cash flows from investing activities		
Sold plant assets	37,400	
Purchase plant assets***	(130,900)	
Net cash from investing activities		(93,500)
Cash flows from financing activities		
Note issued****	42,500	
Shares issued for cash (81,600+37,400 in exch for land – 130,900 ending balance)	11,900	
Cash dividends paid*****	(188,700)	
Net cash from financing activities		(134,300)
Net decrease in cash		(8,500)
Cash at beginning of year		40,800
Cash at end of year		$ 32,300

* $136,000 − 13,600 − 147,900
** $81,600 + 12,000 − 88,400
*** $345,100 − 51,000 − 425,000
**** $75,000 + 10,000 − 119,500 − 8,000
***** $314,500 + 161,500 − 287,300

Disclosures:

Additional land for $37,400 was acquired in exchange for issuing additional common shares.

EXERCISE 4–8

a.

Egglestone Vibe Inc.
Statement of Cash Flows
For the Year Ended December 31, 2021

Cash flows from operating activities		
Net income		$ 24,700
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense (Note 1)	$ 55,900	
Loss on sale of equipment (Note 2)	10,100	
Gain on sale of land (Note 3)	(38,200)	
Impairment loss–goodwill	63,700	
Increase in accounts receivable	(36,400)	
Increase in inventory	(67,600)	
Decrease in accounts payable	(28,200)	(40,700)
Net cash used by operating activities		(16,000)
Cash flows from investing activities		
Purchase of investments (FVOCI)	(20,000)	
Proceeds from sale of equipment	27,300	
Purchase of land (Note 4)	62,400	
Proceeds from sale of land	150,000	
Net cash provided by investing activities		94,900
Cash flows used by financing activities		
Payment of cash dividends (Note 5)	(42,600)	
Issuance of notes payable	10,500	
Net cash used by financing activities		(32,100)
Net increase in cash		46,800
Cash at beginning of year		37,700
Cash at end of year		$ 84,500

Note: During the year, $160,000 in notes payable were retired by issuing common shares.

Notes:

1. $\$111{,}800 - \$15{,}600 + X = \$152{,}100$; $X = 55{,}900$
2. $\$27{,}300 - (\$53{,}000 - \$15{,}600)$
3. $\$150{,}000 - \$111{,}800$
4. $\$133{,}900 - 111{,}800 + X = \$84{,}500$
5. Retained earnings account: $\$370{,}200 + 24{,}700 - X = \$374{,}400$; Dividend declared but not paid = $20,500
   Dividends payable account: $41,600 + 20,500 - 19,500 = $42,600 cash paid dividends

b. Negative cash flows from operating activities may signal trouble ahead with regard to Egglestone's daily operations, including profitability of operations and management of its current assets such as accounts receivable, inventory and accounts payable. All three of these increased the cash outflows over the year. In fact, net cash provided by

investing activities funded the net cash used by both operating and financing activities. Specifically, proceeds from sale of equipment and land were used to fund operating and financing activities, which may be cause for concern if the assets sold were used to generate significant revenue. Shareholders did receive cash dividends, but investors may wonder if these payments will be sustainable over the long term. Consider that dividends declared was $20,500, which was quite high compared to the net income for $24,700. In addition, the dividends payable account still had a balance payable for $41,600 from prior dividend declarations not yet paid. All this adds up to increasing the pressure on the company to find enough funds to catch up with the cash payments to investors. Egglestone may not be able to sustain payment of cash dividends of this size in the long term if improvement regarding its profitability and management of receivables, payables and inventory are not implemented quickly.

Chapter 5 Solutions

EXERCISE 5–1

Scenario 1: Amount to be received = $80 $\times$ 36 months $=$ $2,880

Allocate using relative fair values:

$$\begin{aligned} \text{Phone:} \quad & [500 \div (500 + (600 \times 3))] \times 2{,}880 = 626 \\ \text{Air-time:} \quad & [(600 \times 3) \div (500 + (600 \times 3))] \times 2{,}880 = 2{,}254 \end{aligned}$$

Therefore, $626 will be recognized immediately and $2,254 will be deferred and recognized over the 3-year term of the contract.

Scenario 2: Amount to be received = ($100 $\times$ 24 months) $+$ $300 $=$ $2,700

Allocate using relative fair values:

$$\begin{aligned} \text{Phone:} \quad & [500 \div (500 + (600 \times 2))] \times 2{,}700 = 794 \\ \text{Air-time:} \quad & [(600 \times 2) \div (500 + (600 \times 2))] \times 2{,}700 = 1{,}906 \end{aligned}$$

Therefore, $794 will be recognized immediately and $1,906 will be deferred and recognized over the 2-year term of the contract.

EXERCISE 5–2

Scenario 1: Allocate using residual values:

$$\begin{aligned} \text{Phone:} \quad & 2{,}880 - (600 \times 3) = 1{,}080 \\ \text{Air-time:} \quad & 600 \times 3 = 1{,}800 \end{aligned}$$

Therefore, $1,080 will be recognized immediately and $1,800 will be deferred and recognized over the 3-year term of the contract.

Scenario 2: Allocate using residual values:

$$\begin{aligned} \text{Phone:} \quad & 2{,}700 - (600 \times 2) = 1{,}500 \\ \text{Air-time:} \quad & 600 \times 2 = 1{,}200 \end{aligned}$$

Therefore, $1,500 will be recognized immediately and $1,200 will be deferred and recognized over the 2-year term of the contract.

EXERCISE 5–3

Art Attack Ltd. (consignor)

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory on consignment		58,000	
	Finished goods inventory			58,000
	To segregate consignment goods.			
	Inventory on consignment		2,200	
	Cash			2,200
	To record freight.			
	Cash		67,700	
	Advertising expense		3,400	
	Commission expense		7,900	
	Consignment revenue			79,000
	To record receipt of net sales.			
	Cost of goods sold		48,160	
	Inventory on consignment			48,160
	To record COGS: [(58,000 + 2,200) x 80%]			

The Print Haus. (consignee)

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Account receivable		3,400	
	Cash			3,400
	To record payment of advertising.			
	Cash		79,000	
	Accounts payable			79,000
	To record sales of consigned goods.			
	Accounts payable		79,000	
	Accounts receivable			3,400
	Revenue from consignment sales			7,900
	Cash			67,700
	To record payment to consignor.			

EXERCISE 5–4

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash (800 × $3,000)		2,400,000	
	Sales revenue (800 × $3,000 × 99.5%)			2,388,000
	Refund liability (800 × $3,000 × 0.5%)			12,000
	Cost of goods sold (800 × $2,000 × 99.5%)		1,592,000	
	Refund asset (800 × $2,000 × 0.5%)		8,000	
	Inventory (800 × $2,000)			1,600,000

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Refund liability (1 × $3,000)		3,000	
	Inventory (1 × $2,000)		2,000	
	Cash			3,000
	Refund asset			2,000

At the time of sale, it was estimated that 4 desks would be returned during the refund period ($800 \times 0.5\% = 4$). If a further 3 desks are returned before the refund period ends, journal entries similar to the one above would be made. If the refund period expires and the number of desks returned differs from the original estimate, the refund asset and

refund liability account will need to be adjusted through net income. As a practical matter, the company will likely review the balances of the refund asset and liability accounts as part of the year-end adjustment process.

EXERCISE 5–5

October journal entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Computer equipment		3,000	
	Unearned revenue			3,000
	Unearned revenue		250	
	Service revenue			250

November journal entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unearned revenue		250	
	Service revenue			250

December journal entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unearned revenue		250	
	Service revenue			250

EXERCISE 5–6

a. Construction Contract

	2020	2021
Costs to date (A)	$20,000,000	$ 31,000,000
Estimated costs to complete project	10,000,000	0
Total estimated project costs (B)	30,000,000	31,000,000
Percent complete (C = A ÷ B)	66.67%	100.00%
Total contract price (D)	35,000,000	35,000,000
Revenue to date (C × D)	23,333,333	35,000,000
Less previously recognized revenue	-	(23,333,333)
Revenue to recognize in the year	23,333,333	11,666,667
Costs incurred the year	20,000,000	11,000,000
Gross profit for the year	$ 3,333,333	$ 666,667

b. 2020 Journal Entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Construction in progress		20,000,000	
	Materials, payables, cash, etc.			20,000,000
	To record construction costs.			
	Accounts receivable		18,000,000	
	Billings on construction			18,000,000
	To record billings.			
	Cash		17,000,000	
	Accounts receivable			17,000,000
	To record collections.			
	Construction in progress		3,333,333	
	Construction expenses		20,000,000	
	Revenue			23,333,333
	To recognize revenue.			

2021 Journal Entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Construction in progress		11,000,000	
	Materials, payables, cash, etc.			11,000,000
	To record construction costs.			
	Accounts receivable		17,000,000	
	Billings on construction			17,000,000
	To record billings.			
	Cash		15,000,000	
	Accounts receivable			15,000,000
	To record collections.			
	Construction in progress		666,667	
	Construction expenses		11,000,000	
	Revenue			11,666,667
	To recognize revenue.			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Billings on construction		35,000,000	
	Construction in progress			35,000,000
	To record completion.			

EXERCISE 5–7

a. Construction Contract

	2021	2022	2023
Costs to date (A)	$1,100,000	$ 3,400,000	$ 4,500,000
Estimated costs to complete project	3,200,000	1,000,000	-
Total estimated project costs (B)	4,300,000	4,400,000	4,500,000
Percent complete (C = A ÷ B)	25.58%	77.27%	100.00%
Total contract price (D)	5,200,000	5,200,000	5,200,000
Revenue to date (C × D)	1,330,160	4,018,040	5,200,000
Less previously recognized revenue	-	(1,330,160)	(4,018,040)
Revenue to recognize in the year	1,330,160	2,687,880	1,181,960
Costs incurred the year	1,100,000	2,300,000	1,100,000
Gross profit for the year	$ 230,160	$ 387,880	$ 81,960

b. Balance Sheet

Current assets	
Accounts receivable	300,000*
Recognized contract revenues in excess of billings	718,040**

* calculated as $3{,}300{,}000 - 3{,}000{,}000 = 300{,}000$

** calculated as $(3{,}400{,}000 + 230{,}160 + 387{,}880) - 3{,}300{,}000 = 718{,}040$

Income Statement

Contract revenues	2,687,880
Contract costs	2,300,000
Gross profit	387,880

EXERCISE 5–8

a. Construction Contract

	2020	2021	2022
Costs to date (A)	$ 800,000	$2,400,000	$ 3,900,000
Estimated costs to complete project	2,100,000	1,600,000	-
Total estimated project costs (B)	2,900,000	4,000,000	3,900,000
Percent complete (C = A ÷ B)	27.59%	60.00%	100.00%
Total contract price (D)	3,500,000	3,800,000	3,800,000
Revenue to date (C × D)	965,650	2,280,000	3,800,000
Less previously recognized revenue	-	(965,650)	(2,280,000)
Revenue to recognize in the year	965,650	1,314,350	1,520,000
Costs incurred the year	800,000	1,600,000	1,500,000
Gross profit (loss) for the year	$ 165,650	(285,650)	20,000
Additional loss to recognize (NOTE)		(80,000)	80,000
Gross profit (loss) for the year		$ (365,650)	$ 100,000

NOTE: Additional loss represents the expected loss on work not yet completed $(3{,}800{,}000 - 4{,}000{,}000) \times 40\% = 80{,}000$

b. Journal Entries

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Construction in progress		1,600,000	
	Materials, payables, cash, etc.			1,600,000
	To record construction costs.			
	Accounts receivable		1,100,000	
	Billings on construction			1,100,000
	To record billings.			
	Cash		1,000,000	
	Accounts receivable			1,000,000
	To record collections.			
	Construction expenses*		1,680,000	
	Construction in progress			365,650
	Revenue			1,314,350
	To recognize revenue.			

* includes actual costs incurred plus additional loss to recognize

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EXERCISE 5–9

a. Zero Profit Method

	2020	2021	2022
Revenues recognized	800,000	1,600,000	1,400,000
Expenses	800,000	1,800,000	1,300,000
Gross profit		(200,000)	100,000

b. Completed Contract Method

	2020	2021	2022
Revenues recognized	0	0	3,800,000
Expenses	0	0	3,700,000
Gross profit	0	0	100,000
Loss on unprofitable contract		(200,000)	

Chapter 6 Solutions

EXERCISE 6–1

a. Cash $600,000

b. Cash equivalent $22,000

c. Cash advance received from customer of $2,670 should be included as a debit to cash and a credit to a liability account

d. Cash advance of $5,000 to company executive should be reported as a receivable

e. Refundable deposit of $13,000 to developer should be reported as a receivable or a prepaid expense

f. Cash restricted for future plant expansion of $545,000 should be reported as restricted cash in noncurrent assets

g. The certificate of deposit of $575,000 matures in nine months so it should be reported as a temporary investment

h. The utility deposit of $500 should be identified as a receivable or prepaid expense from the utility company

i. The cash advance to subsidiary of $100,000 should be reported as a receivable

j. The post-dated cheque of $30,000 should be reported as a payment of receivable when the post-date occurs; until the post-date, the $30,000 is classified as a receivable

k. Details of the $115,000 cash restriction are to be separately disclosed in the balance sheet with further disclosures in the notes to the financial statements indicating the type of arrangement and amounts

l. Cash $13,000

m. Postage stamps on hand are reported as part of supplies or prepaid expenses

n. Cash $520,000

o. Cash held in a bond sinking fund is restricted; since the bonds are noncurrent, the restricted cash is also reported as noncurrent

p. Cash $1,200

q. Cash $13,000

r. Cash equivalent $75,400

s. The NSF cheque of $8,000 should be reported as a receivable

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EXERCISE 6–2

a. (Partial SFP):

Current assets	
Cash and cash equivalent*	$3,385,750
Restricted cash balance	175,000
Non-current assets	
Cash restricted for retirement of long-term debt	2,000,000
Current liabilities	
Bank indebtedness**	150,000

For Cash and cash equivalent*:

Commercial savings account – First Royal Bank ($575,000 − 175,000)	$ 400,000
Commercial chequing account – First Royal Bank	450,000
Money market fund – Commercial Bank of British Columbia	2,500,000
Petty cash	1,500
Cash floats (5 × $250)	1,250
60-day treasury bill**	18,000
Currency and coin on hand	15,000
Cash reported on December 31, 2020 balance sheet as a current asset	$3,385,750

** The treasury bill for $18,000 is to be classified as a cash equivalent because the original maturity is less than 90 days.

*** The bank overdraft at the Lemon Bank for $150,000 is to be reported separately as a current liability because there are no other accounts at Lemon Bank available for offset.

b. Other items classified as follows:

ii. The minimum balance at First Royal Bank of $175,000 is reported separately as a restricted cash balance as a current asset cash balance. In addition, a description of the details of the arrangement should be disclosed in the notes.

vii. The post-dated cheque for $25,000 is for a payment on accounts receivable and should not be recognized until the cheque is deposited on January 18. It will be held in a secure location until then.

viii. The post-dated cheque for $1,800 is for unearned revenue and will not be recorded as unearned revenue until the cheque can be deposited on January 12. It will be held in a secure location until then. Revenue will be recorded and unearned revenue offset when legal title to the goods passes to the customer on January 20.

ix. Travel advances for $15,000 are to be reported as prepaid travel.

x. The $2,300 amount paid to the employee is to be reported as a receivable from the employee. It will be offset when collected from salary in January.

xi. The treasury bill for $50,000 should be classified as a temporary investment (current asset). It cannot be reported as a cash equivalent because the original maturity exceeds 90 days.

xiv. Commercial paper should be reported as temporary investments (current asset).

xv. Investments in shares should be classified with trading securities (current asset) at their fair value of $4,060 ($4.06 × 1,000 shares).

EXERCISE 6–3

Partial classified balance sheet:

Current assets		
Accounts receivable		
Customer Accounts (of which accounts in the amount of $30,000 have been pledged as security for a bank loan)	$275,000	
Other* ($2,500 + $6,000)	8,500	$283,500
Non-Current Assets		
Accounts Receivable		
Advance to related company**		30,000
Instalment accounts receivable due after December 31, 2021		50,000

* These items could be separately classified, if considered material.

** This classification assumes that these receivables are not collectible in the near term based on the fact that they were advanced in 2015 and remain outstanding.

EXERCISE 6–4

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Accounts receivable		120,000	
	Freight-out (operating expense)		3,200	
	Cost of goods sold		60,000	
	Sales revenue			120,000
	Inventory			60,000
	Cash			3,200
July 5	Sales returns and allowances		9,000	
	Accounts receivable			9,000
	($3 \times \$3{,}000$)			
July 10	Cash		109,890	
	Sales discounts		1,110	
	Accounts receivable			111,000
	For Sales discounts: $((\$120{,}000 - 9{,}000) \times 1\%)$			
July 14	Merchandise inventory		79,000	
	Accounts payable			79,000
	($\$1{,}500 \times 50 + 4{,}000$)			
July 17	Accounts receivable		224,000	
	Cost of goods sold		112,000	
	Inventory			112,000
	Sales revenue			224,000
July 26	Cash		110,320	
	Sales discounts		1,680	
	Accounts receivable			112,000
	For Sales discounts: ($\$224{,}000 \times 1.5\% \times 50\%$), for Accounts receivable: ($\$224{,}000 \times 50\%$)			
Aug 30	Cash		112,000	
	Accounts receivable			112,000

b. The implied interest rate on accounts receivable paid to Busy Beaver from Heintoch within the 15-day discount period = $1\% \div [(30 - 15) \div 365] = 24.33\%$. This means that Heintoch would be using funds from the bank at a lower rate of 8% to save 24.33% interest on early payment of amounts owing to Busy Beaver. It is worthwhile to take advantage of the early payment discount terms in this case.

c.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Accounts receivable		118,800	
	Freight-out (operating expense)		3,200	
	Cost of goods sold		60,000	
	Sales revenue			118,800
	Inventory			60,000
	Cash			3,200
	For Accounts receivable and Sales revenue: $120,000 × 99%			
July 5	Refund liability		8,910	
	Accounts receivable			8,910
	($9,000 × 99%)			
July 10	Cash		109,890	
	Accounts receivable			109,890
	($118,000 − 8,910)			
July 14	Merchandise inventory		79,000	
	Accounts payable			79,000
	($1,500 × 50 + 4,000)			
July 17	Accounts receivable		220,640	
	Cost of goods sold		112,000	
	Inventory			112,000
	Sales revenue			220,640
	For Accounts receivable and Sales revenue: $224,000 × 98.5%			
July 26	Cash		110,320	
	Accounts receivable			110,320
Aug 30	Cash		112,000	
	Accounts receivable			110,320
	Sales discounts forfeited			1,680
Aug 30	Sales revenue		29,910	
	Refund liability			29,910
	($23,000 − 8,910 − 44,000)			

EXERCISE 6–5

a.

Calculation of cost of goods sold:	
Opening inventory	$ 35,000
Merchandise purchased	600,000
Less: Ending inventory	225,000
Cost of goods sold	$410,000
Sales on account ($410,000 × 1.35)	553,500
Less collections deposited in bank	420,000
Uncollected balance	133,500
Balance per ledger	85,000
Unaccounted for shortage	$ 48,500

b. Accounts receivable balance per ledger of $85,000 is less than estimated accounts receivable of $133,500, suggesting that some accounts receivable collections may have been received but not actually deposited to the company's bank account.

Controls to help prevent theft include proper segregation of duties among the person initially in receipt of the cheque, the person depositing it, and the person recording the collection. Customers should be encouraged to pay by cheque so an audit trail is maintained. A timely completion of the monthly bank reconciliation would help detect if any cash was recorded as collected, but not actually deposited to the company's bank account.

EXERCISE 6–6

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Bad debt expense		11,340	
	AFDA			11,340
	(($225,000 × 4%) + 2,340)			
	Bad debt expense		8,995	
	AFDA			8,995
	(141,000 × 1% + 53,500 × 3% + 10,500 × 8% + 20,000 × 14%) = 6,655 + 2,340			
	Bad debt expense		2,160	
	AFDA			2,160
	(($225,000 × 2%) − 2,340)			

b. An unadjusted debit balance in the AFDA at year-end is usually the result of write-offs during the year exceeding the total AFDA opening credit balance. The purpose of the AFDA is to ensure that the net accounts receivable is valued at net realizable value on the balance sheet.

EXERCISE 6–7

a.

Balance, January 1, 2020	$575,000
Bad debt expense accrual (1% × ($16,000,000 × 0.75))	120,000
	695,000
Uncollectible receivables written off	(40,000)
Balance, December 31, 2020, before adjustment	655,000
Allowance adjustment	155,000
Balance, December 31, 2020	$500,000

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Allowance for doubtful accounts		155,000	
	Bad debt expense			155,000

b. (Partial classified balance sheet as at December 31)

Current assets	
Accounts receivable	$50,950,000
Less allowance for doubtful accounts	500,000
Net accounts receivable	50,450,000

The net accounts receivable balance is intended to measure the *net realizable value* of the accounts receivable at December 31.

c. The direct write-off approach is not in compliance with GAAP unless the amount of the write-off is immaterial. Direct write-off does not match (bad debt) expense with revenues of the period, nor does it result in receivables being stated at estimated net realizable value on the balance sheet.

EXERCISE 6–8

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
May 1 2020	Notes receivable		228,676	
	Services revenue			228,676
	PV = (0 PMT, 8 I/Y, 5 N, 336000 FV)			
Dec 31 2020	Notes receivable		12,196	
	Interest income			12,196
	($228,676 × 8% × 8 ÷ 12)			
Dec 31 2021	Notes receivable		19,270	
	Interest income			19,270
	([$228,676 + 12,196] × 8%)			
Dec 31 2022	Notes receivable		20,811	
	Interest income			20,811
	([$228,676 + 12,196 + 19,270] × 8%)			
Dec 31 2023	Notes receivable		22,476	
	Interest income			22,476
	([$228,676 + 12,196 + 19,270 + 20,811] × 8%)			
Dec 31 2024	Notes receivable		24,274	
	Interest income			24,274
	([$228,676 + 12,196 + 19,270 + 20,811 + 22,476] × 8%)			
May 1 2025	Cash		336,000	
	Notes receivable***		8,297	
	Notes receivable***			336,000
	Interest income**			8,297
	Interest = ([$228,676 + 12,196 + 19,270 + 20,811 + 22,476 + 24,274] × 8%) × 4 ÷ 12 (rounded)			

** rounded so that the carrying value was equal to $336,000 at maturity

*** can be netted together into one amount for $327,703 credit

b. Using a financial calculator input the following variables:

$$\begin{aligned}\text{Interest} &= \text{+/- 228676 PV, 0 PMT, 5 N, 336000 FV} \\ &= 7.99 \text{ or } 8\% \text{ rounded}\end{aligned}$$

c. (Partial balance sheet):

Non-current assets	
Notes receivable, no-interest-bearing, due May 1, 2025	$260,142*

* $228,676 + 12,196 + 19,270

Unamortized discount as at December 31, 2021, is \$336,000 − 260,142 = 75,858.

As at December 31, 2024, the note would be classified as a current asset on the SFP because the maturity date of May 1, 2025, is within the next fiscal year.

d. The fair value of the services provided can be used to value and record the transaction, instead of fair value of the note received.

EXERCISE 6–9

a.

Scenario i:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Note receivable		120,000	
	Accounts receivable			120,000
Dec 31	Interest receivable		3,000	
	Interest income			3,000
	(\$120,000 × 5% × 6 months)			

Scenario ii:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Note receivable		105,000	
	Accounts receivable			105,000
Dec 31	Note receivable		2,625	
	Interest income			2,625
	(\$105,000 × 5% × 6 ÷ 12))			

Scenario iii:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Note receivable		104,545	
	Accounts receivable			104,545
	PV = (1 N, 10 I/Y, 115000 FV)			
Dec 31	Note receivable		5,227	
	Interest income			5,227
	(\$104,545 × 10% × 6 months)			

b.

Calculate interest from January 1 to July 1:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Note receivable		5,228	
	Interest income			5,228
	($104,545 + $5,227 − $115,000)			

Calculate the loss from impairment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 1	Cash		86,250	
	Loss on impairment of notes receivable		33,750	
	Note receivable			115,000
	For Cash: (115,000 × 75%)			

EXERCISE 6–10

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Notes receivable		13,478	
	Accumulated depreciation – equipment		65,400	
	Equipment			78,000
	Gain on sale of equipment			878
	For Accum. dep.: ($78,000 − $12,600)			

PV = (0 PMT, 4 N, 7.5 I/Y, 18000 FV) = $13,478

Fair value of equipment (present value of note)	$13,478
Carrying amount	12,600
Gain on sale of equipment	$ 878

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Note receivable		1,011	
	Interest revenue			1,011
	First year interest: ($13,478 × 7.5%)			
Dec 31	Cash		18,000	
	Note receivable			18,000
	Collection at maturity.			

b. Since Harrison uses ASPE, either straight-line or the effective interest method can be used for recognizing interest income. Below is the calculation using the straight-line method. Interest income for $1,131 for each of the next four consecutive years will be recorded.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Notes Receivable		1,131	
	Interest Income			1,131
	First year interest: ($18,000 − 13,478 = $4,522 ÷ 4 yrs = 1,131)			

EXERCISE 6–11

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		472,000	
	Finance expense		28,000	
	Notes payable			500,000
	For a. (800,000 × 3.5%)			
	Cash		750,000	
	Accounts receivable			750,000
	For b.			
	Notes payable		500,000	
	Interest expense		9,375	
	Cash			509,375
	For c. ($500,000 × 7.5% × 3 ÷ 12)			

d. To be recorded as a sale under IFRS, both of the following conditions must be met:

i. The transferred assets risks and rewards of ownership have been transferred to the transferee. This is evidenced by transferring the rights to receive the cash flows from the receivables. Where the transferor continues to receive the cash flows, there must be a contractual obligation to pay these cash flows to the transferee without material delay.

ii. The transferee has obtained the right to pledge or to sell the transferred assets to an unrelated party (concept of control).

To be recorded as a sale under ASPE, the *control over the receivables has been surrendered* as evidenced by **all of the following three conditions** being met:

i. The transferred assets have been isolated from the transferor.

ii. The transferee has obtained the right to pledge or to sell the transferred assets.

iii. The transferor does not maintain effective control of the transferred assets through a repurchase agreement.

e. Management would likely prefer the receivables transfer transaction to be treated as a sale and derecognized from the accounts rather than a secured borrowing because the company would not have to record and report the additional debt in the SFP.

EXERCISE 6–12

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		1,500,000	
	Loss on sale of receivables		200,000	
	Accounts receivable			1,450,000
	Recourse liability			250,000
	For Loss on sale: ($250,000 − $50,000)			

EXERCISE 6–13

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Feb 1 2020	Cash*		748,000	
	Due from Factor**		32,000	
	Loss on sale of receivables		30,000	
	Recourse liability			10,000
	Accounts receivable			800,000

* $\$800{,}000 \times (100\% - 2.5\% + 4\%)$

** $\$800{,}000 \times 4\%$

b. Factoring the accounts receivable will improve the accounts receivable turnover ratio immediately after recording the entry on February 1 because the average accounts receivable amount in the denominator will decrease, making the ratio larger. For example, if sales were $3.2M and accounts receivable before the sale was $1.8M, the turnover ratio would be 1.78 (3.2M ÷ 1.8M) compared to 3.2 (3.2M ÷ 1M). If the calculation is made at the December 31 fiscal year-end, the balances of sales and average accounts receivable would no longer be affected by this transaction, and the accounts receivable

turnover ratio would not be affected. This is because time has passed and many of the accounts would have been collected by year-end, had the company not sold them to a factor.

EXERCISE 6–14

a. i. Land in exchange for a note:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Notes Receivable		387,531	
	Land			250,000
	Gain on sale of land			137,531

PV = (0 PMT, 3 N, 11 I/Y, 530,000 FV) = $387,531

ii. Services in exchange for a note:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Notes Receivable		330,778	
	Service Revenue			330,778

Interest payment = $500,000 $\times$ 3% $=$ $15,000
PV = (15000 PMT, 6 N, 11 I/Y, 500,000 FV) = $330,778

iii. Partial settlement of account in exchange for a note:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Notes receivable		43,257	
	Accounts receivable			43,257

PV = (12000 PMT, 5 N, 12 I/Y, 0 FV) = $43,257

b.

Instalment Note Receivable
Effective Interest Method

	Cash Payment	Interest @ 12%	Amortization	Carrying Amount of Note	
				$43,257	$6,809 reduction in principal
Oct 1 – Dec 31		1,298*			
Jan 1 – Oct 1	$12,000	3,893**	6,809	36,448	
Oct 1 – Dec 31		1,094			
Jan 1 – Oct 1	12,000	3,280	7,626	28,822	
Oct 1 – Dec 31		865			
Jan 1 – Oct 1	12,000	2,594	8,541	20,281	
Oct 1 – Dec 31		609			
Jan 1 – Oct 1	12,000	1,825	9,566	10,715	
Oct 1 – Dec 31		322			
Jan 1 – Oct 1	12,000	964	10,715	–	

* $43,257 × 12% × 3 ÷ 12
** $43,257 × 12% × 9 ÷ 12
Note – Some rounding differences will occur when calculating interest.

General Journal

Date	Account/Explanation	PR	Debit	Credit
Dec 31	Interest receivable		1,298	
	Interest income			1,298
Oct 1	Cash		12,000	
	Note receivable			6,809*
	Interest income			3,893
	Interest receivable			1,298

* See schedule above for the reduction in the principal amount after the first payment was made for $12,000.

c. From the perspective of Brew It Again, an instalment note reduces the risk of non-collection when compared to a non-interest-bearing note. In the case of the non-interest-bearing note, the full amount is due at the maturity of the note. The instalment note provides a regular reduction of the principal balance in every payment received annually. This is demonstrated in the effective interest table illustrated above for the instalment note.

EXERCISE 6–15

a.

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Credit Sales}}{\text{Average Trade Receivables (net)}}$$

$$\text{(Using credit sales)} = \frac{\$1{,}022{,}020^{*}}{(\$123{,}000 + \$281{,}760^{**}) \div 2}$$

$$= 5.05 \text{ times or about 72 days}$$

* $\$1{,}865{,}000 \times 54.8\% = 1{,}022{,}020$

** Opening balance $\$123{,}000 + 1{,}022{,}020 - 863{,}260 = 281{,}760$ closing balance. Note that the write-off of $12,500 does not affect net accounts receivable.

The average receivable is therefore about 72 days old ($365 \div 5.05$).

b. Credit sales are a better measure in the calculation of accounts receivable turnover ratio since cash sales do not affect accounts receivable balances. On this basis, Petervale Corporation's accounts receivable turnover ratio has declined from the previous year. The average number of days to collect the accounts was 62 days ($365 \div 5.85$) compared to 72 days for 2020. This could be an unfavourable trend for future liquidity, if customers continue to pay slowly. Petervale Corporation may want to consider offering discounts for early payments of accounts or tighten their credit policy.

It should be noted that credit sales are not always available when performing analysis and calculating the accounts receivables turnover ratio. When not available, the figure of net sales should be used. As long as the calculation is done consistently between years, or between businesses, the comparison will remain relevant.

EXERCISE 6–16

a.

Jersey Shores:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		1,143,750	
	Due from factor		62,500	
	Loss on sale of receivables		43,750	
	Accounts Receivable			1,250,000
	For Due from factor: ($1,250,000 × 5%), for Loss on sale: ($1,250,000 × 3.5%)			

Fast factors:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts receivable		1,250,000	
	Due to customer			62,500
	Financing revenue			43,750
	Cash			1,142,750
	For Due to customer: ($1,250,000 × 5%), for Financing revenue: ($1,250,000 × 3.5%)			

b.

Jersey Shores:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		1,143,750	
	Due from factor		62,500	
	Loss on sale of receivables		51,150	
	Accounts receivable			1,250,000
	Recourse liability			7,400
	For Loss on sale: ($43,750 + $7,400)			

EXERCISE 6–17

General Journal				
Date	Account/Explanation	PR	Debit	Credit
July 11	Cash*		380,000	
	Loss on sale of receivables**		46,000	
	Recourse liability			12,000
	Accrued liabilities			14,000
	Accounts receivable			400,000

* $400,000 × 95%

** $400,000×95%−$14,000−$12,000 = $354,000−$400,000 carrying value of accounts receivable = $46,000

Chapter 7 Solutions

EXERCISE 7–1

Inventory would normally include the following items:

- Salaries of assembly line workers
- Raw materials
- Salary of factory foreman
- Heating cost for the factory
- Miscellaneous supplies used in production process
- Costs to ship raw materials from the supplier to the factory
- Electricity cost for the factory
- Depreciation of factory machines
- Property taxes on factory building
- Discounts for early payment of raw material purchases
- Salaries of the factory's janitorial staff

All of these costs can be considered either direct costs or attributable overhead costs. The CEO's and sales team salaries would not be considered costs directly attributable to the purchase and conversion of inventory.

EXERCISE 7–2

	FOB Shipping	FOB Destination
Owns the goods while in transit	P	S
Is responsible for the loss if goods are damaged in transit	P	S
Pays for the shipping costs	P	S

EXERCISE 7–3

a. The company would allocate $150,000 of overhead at the rate of $150,000 ÷ 105,000 = $1.4286 per unit. As a practical matter, the company may choose to simply allocate based on the standard rate of $1.50 per unit and record a small overhead recovery through cost of sales. This would be reasonable as the volume produced is close to the standard volume used to determine the rate.

b. The company would allocate $45,000 of overhead, using the standard rate of $1.50 per unit. The remaining overhead would need to be expensed. This is necessary to avoid over-valuing the inventory.

c. The company would allocate $150,000 of overhead at the rate of $150,000 ÷ 160,000 = $0.9375 per unit. The standard rate cannot be used here, as it would over-absorb the overhead cost into inventory.

EXERCISE 7–4

Date	Purchase	Sale	Balance	Balance of Units
May 1			8 × $550.00 = **$4,400**	8
May 5	50 × $560.00		(8 × $550.00) + (50 × $560.00) = **$32,400**	58
May 8	10 × $575.00		(8 × $550.00) + (50 × $560.00) + (10 × $575.00) = **$38,150**	68
May 15		(8 × $550.00)+ (7 × $560.00) = **$8,320**	(43 × $560.00) + (10 × $575.00) = **$29,830**	53
May 22	12 × $572.00		(43 × $560.00) + (10 × $575.00) + (12 × $572) = **$36,694**	65
May 25		(23 × $560.00) = **$12,880**	(20 × $560.00) + (10 × $575.00) + (12 × $572) = **$23,814**	**42**

Cost of Goods Sold for May = (8,320 + 12,880) = $21,200

Ending Inventory on May 31 = $23,814

EXERCISE 7–5

Date	Purchase	Sale	Balance	Average Cost	Balance of Units
May 1			8 × $550.00 = **$4,400**		8
May 5	50 × $560.00		(8 × $550.00) + (50 × $560.00) = **$32,400**		58
May 8	10 × $575.00		(8 × $550.00) + (50 × $560.00) + (10 × $575.00) = **$38,150**	$561.03	68
May 15		15 × ($38,150 ÷ 68) = **$8,415.45**	(53 × $561.03) = **$29,734.55**	$561.03	53
May 22	12 × $572.00		(53 × $561.03) + (12 × $572.00) = **$36,598.55**	$563.05	65
May 25		23 × ($36,598.55 ÷ 65) = **$12,950.15**	(42 × $563.05) = **$23,648.40**	**$563.05**	**42**

Cost of Goods Sold for May = (8,415.45 + 12,950.15) = $21,365.60

Ending Inventory on May 31 = $23,648.40

EXERCISE 7–6

a. No grouping

Description	Category	Cost ($)	Selling Price ($)	LCNRV
Brake pad #1	Brake pads	159	140	140
Brake pad #2	Brake pads	175	180	175
Total brake pads		334	320	315
Soft tire	Tires	325	337	325
Hard tire	Tires	312	303	303
Total tires		637	640	628

Total LCNRV = (315 + 628) = 943
Current carrying value = ($334 + 637) = 971
Adjustment required = (943 − 971) = (28)

Journal entry required:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss due to decline in inventory value		28	
	Inventory			28

b. With grouping

Description	Category	Cost ($)	Selling Price ($)	LCNRV
Brake pad #1	Brake pads	159	140	
Brake pad #2	Brake pads	175	180	
Total brake pads		334	320	320
Soft tire	Tires	325	337	
Hard tire	Tires	312	303	
Total tires		637	640	637

Only the brake pad category needs to be written down. Total adjustment required = (320 − 334) = 14

Journal entry required:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss due to decline in inventory value		14	
	Inventory			14

EXERCISE 7–7

NOTE: Positive amounts represent overstatements and negative amounts represent understatements.

Item	Inventory	A/R	A/P	Net Income
A	(82,000)	-		(82,000)
B	(4,000)	-	(6,000)	2,000
C	(27,000)	-	-	(27,000)
D	(2,000)	3,500	-	1,500
Total	(115,000)	3,500	(6,000)	(105,500)

EXERCISE 7–8

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		82,000	
	Cost of goods sold			82,000

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		4,000	
	Cost of goods sold		2,000	
	Accounts payable			6,000

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		27,000	
	Cost of goods sold			27,000

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Inventory		2,000	
	Cost of goods sold			2,000
	Sales returns and allowances		3,500	
	Accounts receivable			3,500

b. The journal entries would be the same, except any income statement accounts (cost of goods sold and sales returns) would be replaced with an adjustment to retained earnings.

EXERCISE 7–9

Inventory on January 1		$275,000
Purchases (net of returns)		634,000
Goods available for sale		909,000
Sales	$955,000	
Less gross profit (35% × $955,000)	334,250	
Estimated cost of goods sold		620,750
Estimated inventory on March 4		288,250
Less undamaged goods (90,000 × (1 − 0.35))		(58,500)
Inventory damaged by fire		$229,750

EXERCISE 7–10

Gross profit margin, by year:

2020: $3{,}058 \div 20{,}222 = 15.12\%$
2019: $2{,}831 \div 13{,}972 = 20.26\%$

The company's sales increased significantly between 2019 and 2020. This appears to be a positive result. The company's gross profit also increased. However, the gross profit margin decreased by 5.14%, which represents potential loss profits of approximately $1 billion on the current sales volume. To investigate further, one should look at budgets and other management plans, as well as industry averages and competitor information. It would also be useful to look at longer trends to see if this decline in profitability is unique to this year or the sign of a longer term trend. Management explanations of the declining margin percentage, contained in the annual report, should also be evaluated to determine if the causes relate to slashing sales prices to increase volumes, increasing cost structures, or some combination of the two. Other macroeconomic data may also be useful in explaining the change.

Inventory Turnover Period, by year:

2020: $[(2{,}982 + 1{,}564) \div 2 \div 17{,}164] \times 365 = 48.34$ days
2019: $[(1{,}564 + 1{,}239) \div 2 \div 11{,}141] \times 365 = 45.91$ days

Inventory turnover has slowed from the previous year, indicating that goods are being held longer. This is also indicated by the build up of inventory over the three year period. Although the increased inventory may be reasonable as sales increase, the increase in the turnover period could create cash flow problems if the trend continues. Again, other comparative data is needed, such as budgets and industry averages, to evaluate the meaning of this result.

Chapter 8 Solutions

EXERCISE 8–1

a. This investment will be classified as equity investments at cost less any reduction for impairment, because these are equity investments that are not publicly traded. They would be reported as either current or long-term, depending upon the intention of management to hold or sell within one year.

b. Journal entries

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Other investments		50,500	
	Cash			50,500
	(50,000 + (500,000 × 1%))			
	Cash		1,125	
	Dividend revenue			1,125
	(500 shares × $2.25)			
	Cash		56,430	
	Gain of sale of investments (net income)			5,930
	Other investments			50,50
	For Cash: (57,000 − (1% × 57,000))			

c. To purchase the investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investments in shares – FVNI		50,000	
	Brokerage fee expense		500	
	Cash			50,500
	For Brokerage fee expense: (500,000 × 1%)			

To receive the cash dividends:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		1,125	
	Dividend revenue			1,125
	(500 shares × $2.25)			

Year-end adjusting entry to fair value for FVNI investments:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in shares – FVNI		4,000	
	Unrealized gain on investments (NI)			4,000
	($108 − $100 × 500 shares)			

For sale of investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		56,430	
	Brokerage fee expense		570	
	Gain on sale of investments (to net income)			3,000
	Investment in shares – FVNI			54,000
	For Cash: ($57,000 − 570), for Brokerage fee expense: (57,000 × 1%), for Investment in shares: (50,000 + 4,000)			

No year-end adjustments are needed under the cost method.

d. Under ASPE, if the shares traded on an active market, they would be classified as a short-term trading investment at FVNI. The entries would be identical to the ones in part (c) above, including the adjustment to fair values at year end.

EXERCISE 8–2

a. Using a business calculator present value functions, solve for interest I/Y when the present value, payment, number of periods and future values are given:

PV = (PMT, I/Y, N, FV)
+/- 25,523PV = 1000 PMT, unknown I/Y, 10 N, 25000 FV = 3.745% (rounded)

b.

Face value of the bond	$25,000
Present value of the bond	25,523
Bond premium	$ 523

c. Journal entries for a AC investment using amortized cost:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Investment in bonds – at amortized cost		25,523	
	Cash			25,523
Dec 31 2020	Interest receivable		1,000	
	Investment in bonds – at amortized cost			44
	Interest income			956
	For Investment in bonds: (1,000 − (25,523 × 3.75%))			
Jan 1 2021	Cash		1,000	
	Interest receivable			1,000
Jan 1 2028	Cash		25,250	
	Investment in bonds – at amortized cost (see schedule below or alternative PC calculation) ..			25,121
	Gain on sale of investment			129
	For Cash: ($25,000 × 101)			

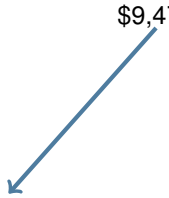
Alternative calculation to the effective interest rate schedule below using a business calculator and present value functions:

PV = 1000 PMT, 2 N, 3.745 I/Y, 25000 FV = 25,120.68 where N is 2 years left to maturity.

EFFECTIVE INTEREST RATE SCHEDULE

Date	Cash Received (4%)	Interest Income (3.745%)	Bond Premium Amortization	Carrying Value	
Jan 1/20				25,523	
Jan 1/21	1,000	956*	44	25,479	
Jan 1/22	1,000	954	46	25,433	
Jan 1/23	1,000	953	47	25,386	
Jan 1/24	1,000	951	49	25,337	
Jan 1/25	1,000	949	51	25,286	
Jan 1/26	1,000	947	53	25,233	
Jan 1/27	1,000	945	55	25,178	
Jan 1/28	1,000	943	57	25,121	← Date of sale
Jan 1/29	1,000	941	59	25,062	
Jan 1/30	1,000	938	62**	25,000	
Total	$10,000	$9,477	$523	25,000	

* 25,523 × 3.745%
** rounding



d. Total interest income is $9,477 − 941 − 938 = $7,598 after holding the investment for eight out of ten years.

Total net cash flows for Smythe is (25,523) cash paid + ($1,000 × 8 years) + 25,250 cash received upon sale = $7,727 over the life of the investment.

The difference of $129.48 (7,597.52 − 7,727) is the *gain on the sale of the investment of $130* at the end of eight years. (The small difference is due to rounding.)

e. If Smythe followed ASPE, then the investment would be accounted for using amortized cost. However, in this case, there would be a choice regarding the method used to amortize the bond premium of $523 calculated in part (b). The choices are straight-line amortization over the bond's life or the effective interest rate method shown in part (c). If the straight-line method was used, then the yearly amortization amount would have been $523 ÷ 10 years or $52.30 per year for 8 years until the bonds were sold in 2028. The interest income would be the same over the 8 years.

EXERCISE 8–3

a.

Face value of bond	$100,000
Amount paid	88,580
Discount amount	$ 11,420

The market value of an existing bond will fluctuate with changes in the market interest rates and with changes in the financial condition of the corporation that issued the bond. For example, a 9% bond will become more valuable if market interest rates decrease to 8% because the interest payment is at a higher rate than what investors would receive if they invested in a market that yielded only 8%.

In this case, the issued bond promises to pay 4% interest for the next 10 years in a marketplace where interest has now risen to 5.5% for bonds with similar characteristics and risks. This bond will now become less valuable because the market interest rate has risen, and investors would receive a higher return in the market than with the 4% bond. When the financial condition of the issuing corporation deteriorates, the market value of the bond is likely to decline as well.

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 2	Investment in bonds – at amortized cost		88,580	
	Cash			88,580
Jul 1	Cash		2,000	
	Investment in bonds – at amortized cost		436	
	Interest income			2,436
	For Cash: (100,000 × 4% × 6 ÷ 12), for Interest income: (88,580 × 5.5% × 6 ÷ 12)			
Dec 31	Interest receivable		2,000	
	Investment in bonds – at amortized cost		448	
	Interest income			2,448
	For Interest income: ([$88,580+$436] × 5.5% × 6 ÷ 12)			
Jan 1	Cash		2,000	
	Interest receivable			2,000

c.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 2	Investment in bonds – at amortized cost		88,580	
	Cash			88,580
Jul 1	Cash		2,000	
	Investment in bonds – at amortized cost (11,420 ÷ 20 time periods for interest paid)		571	
	Interest income			2,571
	For Cash: (100,000 × 4% × 6 ÷ 12)			
Dec 31	Interest receivable		2,000	
	Investment in bonds at amortized cost		571	
	Interest income			2,571
Jan 1	Cash		2,000	
	Interest receivable			2,000

EXERCISE 8–4

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jul 1	Cash		2,000	
	Investment in bonds – at amortized cost		436	
	Interest income			2,436
	For Cash: (100,000 × 4% × 6 ÷ 12), for Interest income: (88,580 × 5.5% × 6 ÷ 12)			
Sept 30	Interest receivable		1,000	
	Investment in bonds – at amortized cost		224	
	Interest income			1,224
	For Interest receivable: (100,000 × 4% × 3 ÷ 12), for Interest income: ([$88,580 + $436] × 5.5% × 3 ÷ 12)			
Jan 1	Cash		2,000	
	Investment in bonds – at amortized cost		224	
	Interest receivable			1,000
	Interest income			1,224
	([$88,580 + $436] × 5.5% × 3 ÷ 12)			

EXERCISE 8–5

a. Imperial Mark will classify this investment as an investment in bonds – FVNI and will report the investment as a current asset.

b. Investment purchase:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Mar 1	Investment in bonds – FVNI		20,200	
	Interest receivable		667	
	Cash			20,867
	For Investment in bonds: (20,000 × 101), for Interest receivable: ((20,000 × 5%) × 8 ÷ 12), for Cash: (20,000 × 101) + unearned interest from July 1 to Feb 28			

Payment of interest using the effective interest rate (IFRS):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jul 1	Cash		1,000	
	Investment in bonds – FVNI			5
	Interest income			328
	Interest receivable			667
	For Cash: (20,000 × 5%), For Interest income: (20,200 × 4.87% × 4 ÷ 12)			

Interest accrual using the effective interest rate (IFRS):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Interest receivable		500	
	Investment in bonds – FVNI			8
	Interest income			492
	For Interest receivable: (20,000 × 5% × 6 ÷ 12), for Interest income: ((20,200 − 5) × 4.87% × 6 ÷ 12)			

Fair value adjustment at year-end:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Investment in bonds – FVNI		813	
	Unrealized holding gain in FVNI bonds			813
	For Investment in bonds: (21,000 − (20,200 − 5 − 8))			

c. If Imperial Mark follows ASPE, it would classify the investment in bonds as Short-Term Trading Investments, FVNI, and report it as a current investment since management intends to sell it. The alternate method to amortize the premium is using straight-line method. The premium to amortize is the face value minus the investment cost over the life of the bond or $(20{,}000 - 20{,}200) = 200 \div 112$ months $= 1.79$ per month. The

interest income at year-end would be the investment amount at the face rate of interest minus the premium amortized using SL for that reporting period.

Investment purchase:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Mar 1	Investment in bonds – FVNI		20,200	
	Interest receivable		667	
	Cash			20,867
	For Investment in bonds: (20,000 × 101), for Interest receivable: ((20,000 × 5%) × 8 ÷ 12), for Cash: (20,000 × 101) + unearned interest from July 1 to Feb 28			

Interest payment using straight-line amortization of premium:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jul 1	Cash		1,000	
	Investment in bonds – FVNI			7
	Interest income			326
	Interest receivable			667
	For Cash: (20,000 × 5%), for Investment in bonds: ($1.79 × 4 months), for Interest income: ((20,000 × 5%) − 7 − 667)			

Interest accrual using straight-line method (ASPE):

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Interest receivable		500	
	Investment in bonds – FVNI			11
	Interest income			489
	For Interest receivable: (20,000 × 5% × 6 ÷ 12), for Investment in bonds: ($1.79 × 6 months), for Interest income: (500 − 11)			

Fair value adjustment at year-end:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Investment in bonds – FVNI		818	
	Unrealized holding gain in FVNI bonds			818
	(21,000 − (20,200 − 7 − 11))			

EXERCISE 8–6

a. Halberton would classify this as an investment in shares – FVOCI equities, without recycling, which is a special irrevocable election. Even though it may be for sale, there is no specific intention as to exactly when it will be sold, so it does not fit the business model for shares that are being actively traded. The investment will be reported as a long-term asset because it is unknown when it will be sold.

b. Purchase of investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in shares – FVOCI		52,800	
	Cash			52,800

Dividend payment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		2,500	
	Dividend revenue			2,500
	(1,000 × $2.50)			

Fair-value adjustment through OCI:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unrealized loss on FVOCI investments – OCI		2,800	
	Investment in shares – FVOCI			2,800
	((1,000 × $50) − 52,800)			

The drop in price is not due to investment impairments, it is due to market fluctuations. For this reason, it is a fair value adjustment through OCI. Had the credit risk for this investment increased due to increased expected defaults, management would have revised the ECL and adjusted the investment and loss accounts (to net income due to impairment) accordingly.

c. Sale entries – step 1 – first, record the fair value change to the investment and OCI:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in shares – FVOCI		4,200	
	Unrealized gain on FVOCI investments – OCI			4,200
	(54,200 − 50,000)			

Step 2 – record the cash proceeds and remove the investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		54,200	
	Investment in shares – FVOCI			54,200

NOTE – steps 1 and 2 can be combined as shown in the chapter illustrations. They have been separated here for illustration purposes. Either method is acceptable.

Step 3 – remove the OCI amount that related to the investment sold:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	AOCI		1,400	
	Retained earnings			1,400
	(54,200 − 52,800)			
	To reclassify investment sold from AOCI to retained earnings.			

d. If Halberton followed ASPE, this investment would likely be classified as a short-term trading investment with fair value adjustments at each reporting date, since the investment for shares appears to have active market prices and the investment is for sale (though no specific intention to sell exists at the moment). If the shares were not publicly traded, then the investment would likely be classified as an *Other Investment* – at cost, with no fair value adjustments.

EXERCISE 8–7

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Feb 1	Investment – FVNI – Xtra bonds		532,500	
	Interest receivable		20,000	
	Cash			552,500
	a. For Interest receivable: (500,000 × 12% × 4 ÷ 12), for Cash: (532,500 + accrued interest 20,000)			
Apr 1	Cash		30,000	
	Interest receivable			20,000
	Investment – Xtra bonds			1,125
	Interest income			8,875
	b. For Cash: (500,000 × 12% × 6 ÷ 12), for Interest income: (532,500 × 10% × 2 ÷ 12)			
Jul 1	Investments – FVNI – Vericon bonds		202,000	
	Interest receivable		1,500	
	Cash			203,500
	c. For Investments in Vericon bonds: (200,000 × 101), for Interest receivable: ($200,000 × 9% × 1 ÷ 12)			
Aug 12	Investments – FVNI – Bretin ACT shares		177,000	
	Brokerage fee expense		1,770	
	Cash			178,770
	d. For Investments in Bretin ACT shares: (3,000 × $59)			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Sept 1	Cash		109,000	
	Loss on sale of investment		1,703	
	Interest income			4,428
	Investments – FVNI – Xtra Corp. bonds			106,275
	e. For Cash: (($100,000 × 104) + (100,000 × 12% × 5 ÷ 12)), for Investments in Xtra Corp. bonds: (532,500−1,125×(100,000÷500,000)), for Loss on sale: ((532,500 − 1,125) × 20% = 106,275 carrying value to Apr 1 − (5,000 − 4,428)), for Interest income: (532,500 − 1,125 amort = 531,375 CV × 5% semi-annual market rate × 20% × 5/6 months from Apr 1 to Sept 1 = 4,428)			
Sept 28	Cash		1,500	
	Dividend revenue			1,500
	f. For Cash: (3,000 × $0.50)			
Oct 1	Cash		24,000	
	Interest income			21,255
	Investment – Xtra bonds			2,745
	g. For Cash: ($400,000 × 12% × 6 ÷ 12), for Interest income: ((532,500−1,125−106,275)× 10% × 6.12)			
Dec 1	Cash		9,000	
	Investment – Vericon bonds			346
	Interest receivable			1,500
	Interest income			7,154
	h. For Cash: ($200,000 × 9% × 6 ÷ 12), for Investment in Vericon bonds: (9,000 − 1,500 − 7,154), for Interest income: (202,000 × 8.5% × 5 ÷ 12)			
Dec 28	Cash		1,560	
	Dividend revenue			1,560
	i. (3,000 × $0.52)			
Dec 31	Investments – Bretin ACT shares		4,500	
	Unrealized gain on FVNI investments (net income)			4,500
	j. ($181,500 FV − $177,000)			
Dec 31	Interest receivable*		12,000	
	Investments – Xtra bonds			1,441
	Interest income**			10,559
	j. To accrue interest income to Dec 31 * (400,000 × 12% × 3 ÷ 12) ** (532,500 − 1,125 − 106,275 − 2,745 = 422,355 × 10% × 3 ÷ 12)			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Unrealized loss in Xtra bonds.....		13,914	
	Investments – Xtra bonds.....			13,914
	j. To adjust to fair value ($422{,}355 - 1{,}441 = 420{,}914$ CV $-$ ($400{,}000 \times 1.0175$))			
Dec 31	Interest receivable*.....		1,500	
	Investments – Vericon bonds.....			72
	Interest income**.....			1,428
	j. To accrue interest income to Dec 31			
	* ($200{,}000 \times 9\% \times 1 \div 12$)			
	** $(202{,}000 - 346) = 201{,}654 \times 8.5\% \times 1 \div 12$			
Dec 31	Unrealized loss in Vericon bonds.....		7,582	
	Investments – Vericon bonds.....			7,582
	j. To adjust to fair value ($202{,}000 - 346 - 72$) $=$ 201,582 CV $-$ ($200{,}000 \times 0.97$)			

NOTE – An alternative treatment is to debit *interest income* at the date of purchase of the bonds instead of interest receivable. This procedure is correct, assuming that when the cash is received for the interest, an appropriate credit to interest income is recorded. Consistency is key.

EXERCISE 8–8

a. Verex follows IFRS because only IFRS companies can account for investments using the FVOCI classification. In this case, the FVOCI is without recycling because these are equities.

b. Purchase of investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1	Investment in shares – FVOCI.....		136,750	
	Cash.....			136,750
	(135,000 + 1,750)			

Cash dividend declared:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Oct	Cash.....		15,400	
	Dividend revenue.....			15,400
	($140{,}000 \times 10\% \times \$1.10$)			

Year-end fair value adjusting entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31	Investment in shares – FVOCI		450	
	Unrealized gain in FVOCI investment – OCI			450
	(137,200 − 136,750)			

Sale entries – step 1 – first, record the fair value change to the investment and OCI:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Feb 1	Investment in shares – FVOCI		14,820	
	Unrealized gain on FVOCI investments – OCI			14,820
	$(7{,}000 \times \$12 - \$580) - (7{,}000 \times 9.80)$			

Step 2 – record the cash proceeds and remove the investment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Feb 1	Cash		83,420	
	Investment in shares – FVOCI			83,420
	$(7{,}000 \times \$12) - \$580$			

Step 3 – reclassify the OCI amount related to the investment sold from AOCI to OCI:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Feb 1	AOCI		15,045	
	Retained earnings			15,045
	$((450 \times 50\%) + 14{,}820)$			

NOTE – steps 1 and 2 are combined in the chapter illustrations. They have been separated here for illustration purposes.

EXERCISE 8–9

Other Comprehensive Income (OCI) = unrealized holding gain in FVOCI investments = $350,000 − 320,000 = $30,000

Comprehensive Income (CI) = net income + OCI = $250,000 + 30,000 = $280,000

Accumulated Other Comprehensive Income (AOCI) = AOCI opening balance + OCI = $15,000+ 30,000 = $45,000

EXERCISE 8–10

Entry for impairment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 4 2021	Loss on impairment		5,000	
	Investment in bonds – at amortized cost....			5,000
	($200,000 − 195,000)			

Note: For ASPE, the impaired value is the higher of the discounted cash flow using the current *market* interest rate and the net realizable value (NRV) either through sale or by exercising the company's rights to collateral. Since the NRV information is not available, the discounted cash flow using the current market interest rate is the measure used to determine impairment.

Entry for impairment recovery:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jun 30 2021	Investment in bonds – at amortized cost		5,000	
	Recovery of loss on impairment			5,000

EXERCISE 8–11

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in shares – FVNI.....		5,900	
	Unrealized gain on shares			5,900
	(15,000+24,300+75,000)−(17,500+22,500+ 80,200)			

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
2021	Cash		65,000	
	Gain on the sale of shares			2,400
	Investment in shares – Warbler			22,500
	Investment in shares – Shickter – 50%			40,100
	For Cash: (23,000 + 42,000)			

c.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2021	Investment in shares – FVNI		2,600	
	Unrealized gain on shares			2,600
	(17,500 + 40,100) − (19,200 + 41,000)			

d. If Camille followed ASPE, these equity investments would be classified as FVNI since there appears to be an active market for these shares. The entries would be the same as those shown for parts (a), (b), and (c). No impairment measurements are required since the investments are already accounted for using fair values.

EXERCISE 8–12

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Sept 30 2019	Investments in bonds – FVNI		225,000	
	Interest receivable		8,250	
	Cash			233,250
	For Interest receivable: ($225,000 × 4% × 11 ÷ 12)			
Oct 31 2019	Cash		9,000	
	Interest receivable			8,250
	Interest income			750
	For Cash: (225,000 × 4%)			
Dec 31 2019	Interest receivable		1,500	
	Interest income			1,500
	Investments in bonds – FVNI		5,850	
	Unrealized gain on investments (net income)			5,850
	For Interest receivable: ($225,000 × 4% × 2 ÷ 12), for Unrealized gain: ((225,000 × 102.6) − 225,000)			
Mar 1 2020	Cash		234,300	
	Interest receivable			1,500
	Interest income			1,500
	Investment in bonds – FVNI			230,850
	Gain on sale of bonds			450
	For Cash: (225,000 × 102.8 + 3,000), for Interest income: (225,000 × 4% × 2 ÷ 12), for Investment in bonds: ($225,000 + 5,850)			

b.

Partial balance sheet
As at December 31, 2019

Current assets	
Interest receivable	$ 1,500
Investments in bonds – FVNI (225,000 + 5,850)	230,850

Partial income statement
For the Year Ended December 31, 2019

Other income	
Interest income (750 + 1,500)	$2,250
Unrealized gain on FVNI investments	5,850

c. ASPE requires separate reporting of interest income from net gains or losses recognized on financial instruments (*CPA Canada Handbook, Part II, Accounting Standards for Private Enterprises*, Section 3856.52) whereas IFRS can choose to disclose whether the net gains or losses on financial assets measured at fair value and reported on the income

statement include interest and gains or losses, but it is not mandatory. (For purposes of this text, the preferred treatment for either standard is to separate unrealized gains/loss, interest income and dividend income separately since some of the information is required when completing the corporate tax returns for either ASPE or IFRS companies.)

d. The overall returns generated from the bond investment was $10,050, calculated as follows:

Interest Oct 31, 2019	$ 750
Interest accrued Dec 31, 2019	1,500
Unrealized gain to Dec 31, 2019	5,850
Interest accrued Mar 1, 2020	1,500
Gain on sale of bonds Mar 1, 2020	450
Total investment returns (income and gains)	10,050

This return represents a 10.72% annual return on the investment [($10,050 ÷ 5 months × 12) ÷ $225,000]. This return is more than anything the company might be able to earn in a typical savings account.

EXERCISE 8–13

a. December 31, 2020 entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		22,000	
	Bond investment at amortized cost			22,000
	($422,000 − $400,000)			

Under ASPE, the carrying amount is reduced to the higher of the discounted cash flow using a current market rate or the bond's net realizable value NRV. Impairment reversals are permitted under ASPE for both debt and equity instruments.

b. December 31, 2020 entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		22,000	
	Allowance for bond investment impairment .			22,000
	($422,000 − $400,000)			

The investment account remains at its current carrying amount and it is offset by the credit balance in the asset valuation allowance account.

EXERCISE 8–14

a.

Purchase of bonds:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Investment in bonds – FVNI		236,163	
	Cash			236,163
	Present value calculation: PV = (20000 PMT, 8 N, 9 I/Y, 250000 FV) = $236,163			

Interest payment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Cash		20,000	
	Investment in bonds – FVNI		1,255	
	Interest income			21,255
	(236,163 × 9%)			

Fair value adjustment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Investment in bonds – FVNI		2,582	
	Unrealized gain on investment (net income)			2,582
	(236,163 + 1,255) = 237,418 carrying value − 240,000 fair value = 2,582			

Interest payment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2021	Cash		20,000	
	Investment in bonds – FVNI		1,368	
	Interest income			21,368
	(236,163 + 1,255 = 237,418 × 9%)			

Fair value adjustment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2021	Unrealized loss on investment (net income)		23,118	
	Investment in bonds – FVNI			23,118
	(236,163 + 1,255 + 2,582 + 1,368 = 241,368 carrying value − (250,000 × 87.3) market value = 23,118			

Interest payment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2022	Cash		20,000	
	Investment in bonds – FVNI		1,491	
	Interest income			21,491
	(236,163 + 1,255 + 1,368 = 238,786 × 9%)			

Fair value adjustment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2022	Investment in bonds – FVNI		11,009	
	Unrealized gain on investment			11,009
	(236,163 + 1,255 + 2,582 + 1,368 − 23,118 + 1,491) = 219,741 carrying value − (250,000 × 92.3) market value = 11,009			

Interest payment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2023	Cash		20,000	
	Investment in bonds – FVNI		1,625	
	Interest income			21,625
	(236,163+1,255+1,368+1,491 = 240,277 × 9%)			

Fair value adjustment:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2023	Investment in bonds – FVNI		15,875	
	Unrealized gain on investment			15,875
	(236,163 + 1,255 + 2,582 + 1,368 − 23,118 + 1,491 + 11,009 + 1,625) = 232,375 carrying value − (250,000 × 99.3) market value = 15,875			

b. Part (a) uses a fair values to measures for FVNI investments and are re-measured to their FV at each year-end. No, separate impairment measurement if required because they are already at their fair values. If Helsinky had accounted for this investment at amortized cost, the impairment model would change to an incurred loss model. When there is objective evidence that the expected future cash flows have been significantly reduced, an impairment loss is measured and recognized as follows:

The loss is measured as the difference between the carrying amount and higher of the present value of the revised expected cash flows, discounted at the current market discount rate and the estimated net realizable value of the investment.

The impairment losses can be reversed if the investment values increase.

EXERCISE 8–15

a. Dec 31, 2019: No entry as there was no trigger or loss event in 2019.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Loss on impairment		37,500	
	Other investments			37,500
	($87,500 − 50,000)			

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2019	Unrealized Gain or Loss (net income).....		5,000	
	Investments – FVNI.....			5,000
	($34 − $32) × 2,500 shares			
Dec 31 2020	Unrealized Gain or Loss (net income).....		17,500	
	Investments – FVNI.....			17,500
	($32 − $25) × 2,500 shares			

c. For in investment in equities classified as FVOCI, there are no impairment evaluations required because the investment is remeasured to its fair value each reporting date and the gains/losses upon sale are reclassified from AOCI to retained earnings. Had the investment been a debt investment and classified as FVOCI, such as bonds, an impairment evaluation would be required initially upon acquisition and based on either a 12-month or lifetime ECL valuation. This is because the gains/losses are recycled through net income upon sale. Any impairment loss would be immediately recorded to net income in this case and not to OCI.

EXERCISE 8–16

a. Since Yarder's shares were quoted in an active market, Sandar is required to apply the FVNI classification to account for its investment. If the shares were not quoted in an active market, the cost method would have been required.

FVNI – where the shares are traded in an active market:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Investments – FVNI		400,000	
	Cash			400,000
	$(50{,}000 \times 32\%) = 16{,}000$ shares $\times$ \$25			
Jun 30 2020	Cash		19,200	
	Dividend revenue			19,200
	(\$60,000 $\times$ 32%)			
Dec 31 2020	Unrealized gain or loss		32,000	
	Investments – FVNI			32,000
	$(\$25 - 23) \times 16{,}000$ shares			

b. Cost method – where there is no active market for the shares:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Other investments – at cost		400,000	
	Cash			400,000
	$(50{,}000 \times 32\%) = 16{,}000$ shares $\times$ \$25			
Jun 30 2020	Cash		19,200	
	Dividend revenue			19,200
	(\$60,000 $\times$ 32%)			

Dec 31, 2020: No entry required.

c. Equity method:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Significant influence investments		400,000	
	Cash			400,000
	$(50{,}000 \times 32\%) = 16{,}000$ shares $\times$ \$25			
Jun 30 2020	Cash		19,200	
	Significant influence investments			19,200
	(\$60,000 $\times$ 32%)			
Dec 31 2020	Significant influence investments		38,400	
	Investment income or loss			38,400
	(\$120,000 $\times$ 32%)			

NOTE: Even though Sandar has significant influence over the operations of Outlander, companies that follow ASPE have a choice between the equity method and the held-for-trading (active market), or the equity method and the cost method (no active markets).

EXERCISE 8–17

a. Investee's total net income = \$60,000 ÷ 30% = \$200,000

b. Investee's total dividend payout = \$200,000 × 15% = \$30,000

c. Investor's share of net income = \$200,000 × 30% = \$60,000

d. Investor's annual depreciation of the excess payment for net capital assets is the only other credit amount recorded in the T-account for \$1,500

e. Goodwill = \$900,000 × 30% = 270,000 − 290,000 = 20,000 − (1,500 × 10 years) = 5,000 to goodwill

f. Investor's share of dividends = \$30,000 × 30% = \$9,000

EXERCISE 8–18

a. 2019:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investments – FVNI		380,000	
	Cash			380,000
	Cash		7,500	
	Dividend Revenue (net income) ($25,000 × 0.30)			7,500
	Investments – FVNI		20,000	
	Unrealized Gain or Loss (net income) ($400,000 − $380,000)			20,000

2020:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unrealized Gain or Loss (net income)		40,000	
	Investments – FVNI ($400,000 − 360,000)			40,000

b. Recall that comprehensive income is:

Net income + Other Comprehensive Income (i.e., unrealized fair value gains/losses from FVOCI investments) = Comprehensive Income

With this in mind, comprehensive income will be the same amount as net income because there is no Other Comprehensive Income (OCI) amount to report as the investment is classified as FVNI with unrealized gains and losses due to fair value adjustments being recorded to net income. Had the investment been classified as FVOCI, then the $20,000 fair value change would have been reported as OCI and not in net income, thus increasing comprehensive income by $20,000 more than net income in 2019, and by $40,000 in 2020.

c. 2019:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in associate		380,000	
	Cash			380,000
	Cash		7,500	
	Investment in associate			7,500
	($25,000 × 0.30)			
	Investment in associate		15,000	
	Investment income or loss			15,000
	($50,000 × 0.30)			
	Investment income or loss		2,000	
	Investment in associate			2,000
	($380,000 − 360,000 = 20,000 ÷ 10 years)			

NOTE: there is no entry to adjust the investment to its fair value under the equity method.

2020:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment income or loss		4,500	
	Investment in associate			4,500
	($15,000 × 0.30)			
	Investment income or loss		2,000	
	Investment in associate			2,000

NOTE: there is no entry to adjust the investment to its fair value under the equity method.

d. Carrying amount of the investment:

Cost	$380,000
Dividend received in 2019	(7,500)
Income earned in 2019 (15,000 – 2,000)	13,000
Loss incurred in 2020 (4,500 + 2,000)	(6,500)
Carrying amount at December 31, 2020	$379,000
Fair value of investment at December 31, 2020	$360,000

e. For part (c), if the investee had reported a loss from discontinued operations, all entries would stay the same except for the entry recording the 2019 share of income. This entry would change to reflect the investor's share of the loss from discontinued operations separately from its share of the loss from continuing operations because separate reporting of discontinued operations is a reporting requirement for IFRS and ASPE.

2019:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Investment in associate		15,000	
	Investment loss – loss on discontinued operations		4,500	
	Investment income or loss			19,500
	For Investment in associate: (50,000 × 30%), for Investment loss: (15,000 × 30%)			

Income Statement details:

Income from continuing operations	$ 65,000
Loss from discontinued operations	(15,000)
Net income	$ 50,000

EXERCISE 8–19

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Significant influence investment		600,000	
	Cash			600,000

Cost of 35% investment		$600,000
Carrying values:		
Assets ($900,000 + 780,000)	$1,680,000	
Liabilities	225,000	
	1,455,000	
	× 35%	509,250
Excess paid over share of carrying value		$ 90,750

Excess of $90,750 allocated to:

Assets subject to amortization [($1,050,000 − $900,000) × 35%]	52,500
Residual to goodwill	38,250
	$90,750

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		35,000	
	Significant influence investment			35,000
	($100,000 × 0.35)			
	Significant influence investment		78,750	
	Investment income or loss			78,750
	($225,000 × 0.35)			
	Investment income or loss		5,250	
	Significant influence investment			5,250
	($52,500 ÷ 10)			

EXERCISE 8–20

	a) ASPE	b) IFRS
i.	FVNI since an active market exists. No separate impairment evaluation needed since investment is adjusted to fair value.	FVOCI without recycling, with unrealized gain/loss through OCI since there is no specific intention to sell for trading purposes. No separate impairment evaluation needed since investment is adjusted to fair value and not recycled through net income.
ii.	Other investment in equities at cost, since no active market exists. No fair value adjustments are done. Impairment adjustment is possible if a trigger event occurs. Impairment reversal is possible. When 30% is obtained, management will need to re-measure.	FVOCI without recycling, with unrealized gain/loss through OCI since there is a long-term strategy regarding this investment. No separate impairment evaluation needed since investment is adjusted to fair value and not recycled through net income. When 30% is obtained, management will need to reclassify to investment in associates, if significant influence exists.
iii.	Other investment at amortized cost since the intention was to originally hold to maturity. No fair value adjustments are done. Impairment adjustment is possible if a trigger event occurs. Impairment reversal is possible.	Amortized cost since this investment has been accounted for since the initial purchase at amortized cost. Impairment evaluation is done based on an assessment of probability-based estimated default scenarios and +/- adjustments going forward until bond has matured.
iv.	Other investment in equities at cost. The FV of the shares is not a factor as they are being held to improve business relations. No fair value adjustments are done. Impairment adjustment is possible if a trigger event occurs. Impairment reversal is possible.	Likely FVOCI without recycling with unrealized gain/loss through OCI since there is no intention to actively trade them. No separate impairment evaluation needed since investment is adjusted to fair value and not recycled through net income.
v.	FVNI since the bonds trade on the market. Management intent is to sell as soon as the market price increases. No separate impairment evaluation needed since investment is adjusted to fair value.	FVNI. No separate impairment evaluation needed since investment is adjusted to fair value.
vi.	Other investments at amortized since the intention is to hold to maturity. No fair value adjustments are done. Impairment adjustment is possible if a trigger event occurs. Impairment reversal is possible.	At amortized cost since this investment will be held until maturity. Impairment evaluation is done based on an assessment of probability-based estimated default scenarios and +/- adjustments going forward until bond has matured.

	a) ASPE	b) IFRS
vii.	FVNI since management intends to sell them within one year. No separate impairment evaluation needed since investment is adjusted to fair value.	FVNI since management intent is to sell within one year. No separate impairment evaluation needed since investment is adjusted to fair value.

EXERCISE 8–21

The intent is to hold the investment and to collect interest and principal until maturity, so the classification should be amortized cost.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment (NI)		1,725	
	Investment in bonds, amortized cost			1,725

(1,150,000 $\times$ 0.01 $\times$ 0.15) = 1,725 ECL over the next 12 months

Carrying value of the investment in bonds is (1,150,000 $-$ 1,725) = $1,148,275

EXERCISE 8–22

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment (NI)		32,775	
	Investment in bonds, amortized cost			32,775

(1,150,000 $\times$ 0.06 $\times$ 0.50) = 34,500 ECL over the investment's lifetime
1,150,000 $-$ 34,500 $=$ 1,115,500 probability-based fair value $-$ 1,148,275 carrying value $=$ 32,775 impairment

Carrying value of the investment in bonds is therefore 1,115,500.

The ECL increase is deemed to be significant by management and as a result, the ECL has changed from a 12-month ECL to the investment's lifetime (Lifetime ECL).

EXERCISE 8–23

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment (NI)		1,725	
	Unrealized gain/loss (OCI)		4,025	
	Investment in bonds, amortized cost			5,750
	For Unrealized gain/loss: (1,150,000 × (1 − 0.995) = 5,750 − 1,725)			

Chapter 9 Solutions

EXERCISE 9–1

The following costs should be capitalized with respect to this equipment:

Cash price paid, net of $1,600 discount, excluding $3,900 of recoverable tax	$78,400
Freight cost to ship equipment to factory	3,300
Direct employee wages to install equipment	5,600
External specialist technician needed to complete final installation	4,100
Materials consumed in the testing process	2,200
Direct employee wages to test equipment	1,300
Legal fees to draft the equipment purchase contract	2,400
Government grant received on purchase of the equipment	(8,000)
Total cost capitalized	89,300

The recoverable tax should be disclosed as an amount receivable on the balance sheet.

The repair costs, costs of training employees, overhead costs, and insurance cost would all be expensed as regular operating expenses on the income statement.

An alternative treatment for the government grant would be to defer it as an unearned revenue liability and then amortize it on the same basis as the equipment depreciation.

EXERCISE 9–2

The following costs would be capitalized with respect to the mine:

Direct material	$2,200,000
Direct labour	1,600,000
Interest (3,000,000 × 8% × 9 ÷ 12)	180,000
Less interest on excess funds	(30,000)
Present value of restoration costs (FV=100,000, I=10, N=10)	38,554
Total cost capitalized	3,988,554

EXERCISE 9–3

With a lump sum purchase, the cost of each asset should be determined based on the relative fair value of that component. The total fair value of the asset bundle is $250,000. Therefore, the allocation of the purchase price would be as follows:

Specialized lathe	(30,000 ÷ 250,000) × 220,000	=	26,400
Robotic assembly machine	(90,000 ÷ 250,000) × 220,000	=	79,200
Laser guided cutting machine	(110,000 ÷ 250,000) × 220,000	=	96,800
Delivery truck	(20,000 ÷ 250,000) × 220,000	=	17,600
Total			220,000

EXERCISE 9–4

a.

Prabhu

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		19,000	
	Accumulated depreciation – old equip.		10,000	
	Old equipment			25,000
	Cash			2,000
	Gain on disposal of equipment			2,000

Zhang

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		17,000	
	Accumulated depreciation – old equip.		8,000	
	Old equipment			21,000
	Cash		2,000	
	Gain on disposal of equipment			6,000

b.

Prabhu

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		17,000	
	Accumulated depreciation – old equip.		10,000	
	Old equipment			25,000
	Cash			2,000

Zhang

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		11,000	
	Accumulated depreciation – old equip.		8,000	
	Old equipment			21,000
	Cash		2,000	

c.

Prabhu

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		19,000	
	Accumulated depreciation – old equip.		5,000	
	Old equipment			25,000
	Cash			2,000
	Loss on disposal of equipment		3,000	

NOTE: Loss must be recorded, as the asset acquired cannot be recorded at an amount greater than its fair value.

Zhang

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	New equipment		11,000	
	Accumulated depreciation – old equip.		8,000	
	Old equipment			21,000
	Cash		2,000	

EXERCISE 9–5

Transaction 1:

IFRS requires assets acquired in exchange for the company's shares to be reported at the fair value of the asset acquired. The list price is not relevant, as the salesman has already indicated that this can be negotiated downward. If the $80,000 negotiated price is considered a reliable representation of the fair value of the asset, this amount should be used:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Computer		80,000	
	Common shares			80,000

If the $80,000 price is not considered a reliable fair value, then the fair value of the shares given up ($78,750) should be used, as the shares are actively traded.

Transaction 2:

The asset acquired by issuing a non-interest bearing note needs to be reported at its fair value. As the interest rate of zero is not reasonable, based on market conditions, the payments for the asset need to be adjusted to their present value to properly reflect the current fair value of the asset.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Office furniture		46,284	
	Note payable			41,284
	Cash			5,000

The note payable amount represents the present value of a $45,000 payment due in one year, discounted at 9%.

EXERCISE 9–6

a. Deferral Method

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Office condo		625,000	
	Deferred grant			90,000
	Cash			535,000

b. Offset Method

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Office condo		535,000	
	Cash			535,000

c. The deferral method will result in annual depreciation expense of $625,000 ÷ 30 years = $20,833, with an offsetting annual grant income amount recognized = $90,000 ÷ 30 years = $ 3,000 per year.

The offset method will result in an annual depreciation expense of $535,000 ÷ 30 years = $17,833 with no grant income being recognized.

The net difference in net income between the two methods is zero.

EXERCISE 9–7

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2019	Depreciation expense		44,444	
	Accumulated depreciation.....			44,444
Dec 31 2019	Accumulated depreciation		44,444	
	Building.....			44,444
Dec 31 2019	Building		94,444	
	Revaluation surplus (OCI).....			94,444
	(1,250,000 − (1,200,000 − 44,444))			

NOTE: Depreciation expense = $1,200,000 ÷ 27 years remaining = $44,444

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Depreciation expense		48,077	
	Accumulated depreciation.....			48,077
Dec 31 2020	Accumulated depreciation		48,077	
	Building.....			48,077
Dec 31 2020	Revaluation surplus (OCI)		201,923	
	Building.....			201,923
	(1,000,000 − (1,250,000 − 48,077))			

NOTE: Depreciation expense = $1,250,000 ÷ 26 years = $48,077

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2021	Depreciation expense		40,000	
	Accumulated depreciation			40,000
Dec 31 2021	Accumulated depreciation		40,000	
	Building			40,000
Dec 31 2021	Building		190,000	
	Revaluation surplus (OCI)			190,000
	(1,150,000 − (1,000,000 − 40,000))			

NOTE: Depreciation expense = $1,000,000 ÷ 25 years = $40,000

EXERCISE 9–8

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Dec 31 2020	Loss in value of investment property		50,000	
	Investment property			50,000
Dec 31 2021	Investment property		175,000	
	Gain in value of investment property			175,000

EXERCISE 9–9

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Repairs and maintenance		32,000	
	Cash			32,000
	Accumulated depreciation – building		16,302	
	Building			108,696
	Loss on disposal		92,394	

The replacement of the boiler should be treated as the disposal of a separate component. The original cost of the old boiler can be estimated as follows:

$$\$125{,}000 \div (1 + 0.15) = 108{,}696$$

The old boiler would have been depreciated as part of the building as follows:

108,696 ÷ 40 years = 2,717 per year
2,717 × 6 years (2014–2019) = 16,302

(NOTE: per company policy, no depreciation is taken in the year of disposal)

The purchase of the new boiler should be treated as a separate component:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Boiler		125,000	
	Cash			125,000
	Repairs and maintenance		15,000	
	Cash			15,000
	Building		87,000	
	Cash			87,000

This cannot be identified as a separate component, but it does extend the useful life of the asset, so capitalization is warranted.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Repairs and maintenance		5,000	
	Cash			5,000
	Depreciation expense		15,332	
	Accumulated depreciation – building			15,332

Original depreciation: $800,000 ÷ 40 years = $20,000 per year
Up to the end of 2019 = $120,000 (6 years)

Based on the journal entries above, revised depreciation is calculated as follows:

$$\frac{800{,}000 - 120{,}000 - 108{,}696 + 16{,}302 + 87{,}000}{40 - 6 + 10 = 44 \text{ years}} = 15{,}332$$

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Depreciation expense		2,841	
	Accumulated depreciation – boiler (125,000 ÷ 44)			2,841

NOTE: the boiler has been depreciated over the same useful life as the building (44 years). As this is a separate component, a different useful life could be determined by management and used instead. Per company policy a full year of depreciation is taken in the year of acquisition.

Chapter 10 Solutions

EXERCISE 10–1

a. Straight line:

$$\frac{125{,}000 - 10{,}000}{5 \text{ years}} = \underline{\underline{\$23{,}000}} \text{ per year (same for all years)}$$

b. Activity based on input:

$$\frac{125{,}000 - 10{,}000}{10{,}000 \text{ hours}} = \$11.50 \text{ per hour of use}$$

2021 depreciation = $11.50 × 2,150 hours = $\underline{\underline{\$24{,}725}}$

c. Activity based on output:

$$\frac{125{,}000 - 10{,}000}{1{,}000{,}000 \text{ units}} = \$0.115 \text{ per unit produced}$$

2021 depreciation = $0.115 × 207,000 units = $\underline{\underline{\$23{,}805}}$

d. Double declining balance:

$$\text{Rate} = \frac{100}{5 \text{ years}} \times 2 = 40\%$$

$$\text{2020 Depreciation: } \$125{,}000 \times 40\% = \$50{,}000$$
$$\text{2021 Depreciation:} (\$125{,}000 - \$50{,}000) \times 40\% = \underline{\underline{\$30{,}000}}$$

EXERCISE 10–2

Depreciation rate (assume straight-line unless otherwise indicated):

$$\frac{10{,}000 - 1{,}000}{3 \text{ years}} = \$3{,}000 \text{ per year}$$

Depreciation per year calculated as follows:

2020:	$3,000 × 6 ÷ 12	$1,500
2021:	Full year	$3,000
2022:	Full year	$3,000
2023:	$3,000 × 6 ÷ 12	$1,500
Total depreciation:		$9,000

(Note: in 2023, only 6 months depreciation can be recorded, as the asset has reached the end of its useful life.)

EXERCISE 10–3

a. No journal entry is required as this is considered a change in estimate. Depreciation will be adjusted prospectively only, with no adjustment made to prior years.

b. Original depreciation:

$$\frac{\$39{,}000 - \$4{,}000}{5 \text{ years}} = \$7{,}000 \text{ per year}$$

Depreciation taken 2018–2020 = $7,000 × 3 years = $21,000

Revised depreciation for 2021 and future years:

$$\frac{\$39{,}000 - \$21{,}000 - \$5{,}000}{7 \text{ years} - 3 \text{ years} = 4} = \underline{\$3{,}250} \text{ per year}$$

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Depreciation expense		3,250	
	Accumulated depreciation.....			3,250

EXERCISE 10–4

a. Depreciation from 2006–2011:

$$\frac{\$450{,}000 - \$90{,}000}{30 \text{ years}} = \underline{\$12{,}000} \text{ per year}$$

Total depreciation taken = $12,000 × 6 years = $72,000

b. Depreciation from 2012–2019:

$$\frac{\$450{,}000 - \$72{,}000 + \$30{,}000 - \$50{,}000}{30 - 6 + 10 \text{ years} = 34} = \underline{\underline{\$10{,}529}} \text{ per year}$$

Total depreciation taken = $10,529 × 8 years = $84,232

c. Depreciation for 2020 and future years:

$$\frac{\$450{,}000 + \$30{,}000 - \$72{,}000 - \$84{,}232}{34 - 8 = 26 \text{ years}} = \underline{\underline{\$12{,}453}} \text{ per year}$$

EXERCISE 10–5

a. Determine the recoverable amount:

Value in use	=	$110,000
Fair value less costs of disposal	=	$116,000

The recoverable amount is the greater amount: $116,000

Carrying value = $325,000 − $175,000 = $150,000

As the carrying value exceeds the recoverable amount, the asset is impaired by $150,000− $116,000 = $34,000

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		34,000	
	Accumulated impairment loss			34,000

c. New carrying value = $150,000 − $34,000 = $116,000

$$\text{Depreciation} = \frac{\$116{,}000 - 0}{3 \text{ years}} = \$38{,}667$$

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Depreciation expense		38,667	
	Accumulated depreciation.....			38,667

d. Determine the recoverable amount:

Value in use	$ 90,000
Fair value less costs to sell	$111,000

The recoverable amount is the greater amount: $111,000

The carrying value is now $116,000 − $38,667 = $77,333

The asset is no longer impaired. However, the reversal of the impairment loss is limited. If the impairment had never occurred, the carrying value of the asset would have been:

Unimpaired carrying value on Jan 1, 2021	$150,000
Depreciation for 2021 (150,000 ÷ 3)	(50,000)
Unimpaired carrying value at Dec 31, 2021	100,000

Therefore, the reversal of the impairment loss is limited to: $100,000 − $77,333 = $22,667

The journal entry will be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accumulated impairment loss		22,667	
	Recovery of previous impairment loss.....			22,667

EXERCISE 10–6

a.

b. ASPE 3063 uses a two-step process for determining impairment losses. The first step is to determine if the asset is impaired by comparing the undiscounted future cash flows to the carrying value:

Undiscounted future cash flows:	$140,000
Carrying value	$150,000

Therefore, the asset is impaired.

The second step is to determine the amount of the impairment. This amount is the difference between the carrying value and the fair value of the asset:

Carrying value	$150,000
Fair value	$125,000
Impairment loss	$ 25,000

Thus, the journal entry will be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		25,000	
	Accumulated impairment loss			25,000

c. Depreciation will now be based on the new carrying value:

$$\$150{,}000 - \$25{,}000 = \$125{,}000$$
$$\$125{,}000 \div 3 \text{ years} = \$41{,}667 \text{ per year}$$

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Depreciation expense		41,667	
	Accumulated depreciation			41,667

d. The carrying value is now $125,000 − $41,667 = $83,333. As this is less than the undiscounted future cash flows, the asset is no longer impaired. However, under ASPE 3063, reversals of impairment losses are not allowed, so no adjustment can be made in this case.

EXERCISE 10–7

a. The total carrying value of the division is $95,000. The fair values of the individual assets cannot be determined, so the value in use is the appropriate measure. In this case, the value in use is $80,000, which means the division is impaired by $15,000. This impairment will be allocated on a pro-rata basis to the individual assets:

	Carrying Amount	Proportion	Impairment Loss
Computers	$55,000	55/95	$8,684
Furniture	27,000	27/95	4,263
Equipment	13,000	13/95	2,053
	95,000		15,000

b. The journal entry would be:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		15,000	
	Accumulated impairment loss – computers			8,684
	Accumulated impairment loss – furniture			4,263
	Accumulated impairment loss – equipment			2,053

c. The value in use ($80,000) is greater than the fair value less costs to sell ($60,000) so the calculation of impairment loss is the same as in part (a) (i.e., $15,000). However, none of the impairment loss should be allocated to the computers, as their carrying value ($55,000) is less than their recoverable amount ($60,000). The impairment loss would therefore be allocated as follows:

	Carrying Amount	Proportion	Impairment Loss
Furniture	$27,000	27/40	$10,125
Equipment	13,000	13/40	4,875
	40,000		15,000

d. The impairment loss is still calculated as $15,000. However, this time the computers are also impaired, as their carrying value ($55,000) is greater than their recoverable amount ($50,000). In this case, the computers are reduced to their recoverable amount and the remaining impairment loss ($15,000 − $5,000 = $10,000) is allocated to the furniture and equipment on a pro-rata basis:

	Carrying Amount	Proportion	Impairment Loss
Computers	$55,000		$5,000
Furniture	27,000	27/40	6,750
Equipment	13,000	13/40	3,250
	95,000		15,000

EXERCISE 10–8

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		450,000	
	Accumulated depreciation		430,000	
	Property			950,000
	Loss on sale of asset		70,000	

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		750,000	
	Accumulated depreciation		430,000	
	Property			950,000
	Gain on disposal of asset			230,000

c.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accumulated depreciation		430,000	
	Property			950,000
	Loss on abandonment of asset		520,000	

d.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Donation expense		600,000	
	Accumulated depreciation		430,000	
	Property			950,000
	Gain on donation of asset			80,000

EXERCISE 10–9

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Asset held for sale		34,000	
	Accumulated depreciation		25,000	
	Machine			65,000
	Loss on impairment		6,000	

b.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		37,000	
	Asset held for sale			34,000
	Gain on sale of asset			3,000

c.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Asset held for sale		40,000	
	Accumulated depreciation		25,000	
	Machine			65,000

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		37,000	
	Asset held for sale			40,000
	Loss on sale of asset		3,000	

Chapter 11 Solutions

EXERCISE 11–1

The items below are identified as capitalized as an intangible asset or expensed, with the account each item would be recorded to.

a. Expense as research and development expense

b. Capitalize if the development phase criteria for capitalization are all met; else expense

c. If reporting under IFRS, then capitalize the borrowing costs if the development phase criteria for capitalization are all met; else expense; if reporting under ASPE, then a policy choice exists for both borrowing costs and research and development costs

d. Expense as salaries and wages expense

e. Expense as marketing expenses

f. Capitalize as part of the patent asset amount

g. Expense as research expenses

h. Expense to salaries, travel etc. as incurred

i. Capitalize as part of the patent asset amount

j. Capitalize as part of the software asset amount

k. Expense as training expenses

l. Capitalize as part of the software asset amount

m. Organization expense

n. Operating expense

o. Capitalized to the franchise asset

p. Under IFRS, will be capitalized only if the development costs meet all six development-phase criteria for capitalization; under ASPE, may be capitalized or expensed, depending on company's policy when it meets the six criteria in the development stage

q. Capitalized to the patent asset

r. Capitalized to the patent asset

s. Capitalized to the copyright

t. Capitalized as development costs only if they meet all six development phase criteria for capitalization.

u. Expensed to research and development expenses

v. Expensed on the income statement

w. Under IFRS, borrowing costs that are directly attributable to project that meet the six development phase criteria are capitalized; under ASPE, interest costs directly attributable to the project that meet the six development phase capitalization criteria can be either capitalized or expensed as set by the company's policies

x. Under IFRS, will be capitalized to the intangible asset only if the development costs meet all six development-phase criteria for capitalization

y. Expensed to research and development expenses

z. Expensed to interest expenses

aa. Expensed to research and development expenses

EXERCISE 11–2

a. Intangible assets likely include:

- purchased trademark Aromatica Organica and its related internet domain name

- purchased patented soap recipes
- expenditures related to infrastructure and graphical design development of Harman's unique website through which the retailers review the product offerings and place their orders.

b. The majority of Harman's assets are intangible. They include the Aromatica Organica trademark, the patented soap and oil recipes, and the company's own product and ordering website. The intangible assets help to protect the revenues from competitor companies, so Harman can sell a unique product with a specific brand name that customers recognize for its fine quality and through a unique website developed by Harman.

c. The intangible assets meet the definition of an asset because they involve past and present economic resources for which there are probable future economic benefits that are obtained and controlled by Harman. Recording intangible assets on the company's SFP/BS provides users with relevant and faithfully representative information about the company's expected future economic benefits, as well as financial statements that are complete and free from error or bias.

EXERCISE 11–3

				Amortization
Jan 1 Carrying value	288,000	÷ 14 years	=	20,571
Sept 1 Legal fees	42,000	÷ (4 months ÷ 160 months)*	=	1,050
Total amortization for 2020	330,000			21,621

* September 1 was the date that the patent was legally upheld thus meeting the definition of an asset subject to amortization. There are 4 months remaining in 2020 starting September 1. If on January 1, 2020 there were 14 years remaining, then as at September 1, 2020, there would be 13 years + 4 months remaining. Converting this to months is $13 \times 12 = 156$ months $+ 4$ months $= 160$ months. For 2020, there are 4 months to year-end to amortize the legal fees, so 4 ÷ 160 months would be the prorated amount of the legal fees capitalized for 2020.

Carrying amount as at Dec 31, 2020: $330{,}000 - 21{,}621 = \$308{,}379$

The accounting for the research expense of $140,000 is to be expensed when incurred because it can only be recognized from the development phase of an internal project when the six criteria for capitalization are met.

EXERCISE 11–4

(Partial SFP/BS):

Intangible assets	
Copyright – definite life, 5 years (net of amortization for $5,000)	$20,000
Copyright – indefinite life	35,000
Internet domain name* – indefinite life	37,368
Liabilities	
Current liabilities	
Current portion of long-term note payable**	$12,431
Long-term liabilities	
Note payable, due January 1, 2022	$13,426

* PV (14500 PMT, 8 I/Y, 3 N)

** Amortization schedule:

	Cash Payment	Interest 8%	Amortization	Balance
				37,368.00
Dec 31, 2020	14,500	2989.44	11,510.56	25,857.44
Dec 31, 2021	14,500	2068.60	12,431.40	13,426.04
Dec 31, 2022	14,500	1,073.96 (rounding)	13,426.04	0

(Partial income statement):

Amortization expense ($25,000 ÷ 5 years)	$5,000

Note – item (b), purchased copyright and item (c), purchased Internet domain name have indefinite useful lives so they would not be amortized.

EXERCISE 11–5

a. Under ASPE, Trembeld has the option either to expense all costs as incurred or to recognize the costs as an internally generated intangible asset when the six development phase criteria for capitalization are met. If Trembeld expenses all costs as incurred, they will be expensed as research and development expenses.

Research and development expense*	634,000

*$180,000 + 64,000 + 270,000 + 86,000 + 25,400 + 8,600

If Trembeld chooses, it can capitalize all costs incurred after April 1. The costs incurred prior to April 1 must be expensed as research and development expenses.

Intangible assets – development costs*	390,000
Research and development expense ($180,000 + $64,000)	244,000

* $270,000 + 86,000 + 25,400 + 8,600 = $390,000

Note: Under ASPE, once interest costs directly attributable to the acquisition, construction, or development of an intangible asset meet the six criteria to be capitalized, they may be capitalized *or expensed* depending on the company's accounting policy for borrowing costs.

b. If Trembeld followed IFRS, all costs associated with the development of internally generated intangible assets would be capitalized when the six development phase criteria for capitalization are met. The costs incurred prior to the date the required criteria were met would be expensed as research and development expense.

Intangible assets – development costs*	390,000
Research and development expense ($180,000 + $64,000)	244,000

* $270,000 + 86,000 + 25,400 + 8,600 = $390,000

EXERCISE 11–6

a. Under ASPE

Recoverability test:

The undiscounted future cash flows of $152,000 < the carrying amount $100,500, therefore the asset is impaired.

The impairment loss is calculated as the difference between the asset's carrying amount $100,500 and fair value $55,000.

In this case, the undiscounted future cash flows ($152,000) > Carrying amount ($100,500), therefore the asset is not impaired.

b. Under IFRS

If carrying amount $100,500 > recoverable amount $115,000 (where recoverable amount is the higher of value in use $115,000 and fair value less costs to sell $50,000), the asset is impaired.

The impairment loss is calculated as the difference between carrying amount $100,500 and recoverable amount $115,000.

In this case, the carrying amount $100,500 is < the recoverable amount of $115,000 so there is no impairment loss.

c. Under ASPE, for indefinite-life intangible assets:

If the carrying amount \$100,500 $>$ the asset's fair value \$55,000, then the asset is impaired.

The impairment loss is calculated as \$45,500 (\$100,500 $-$ \$55,000).

Under IFRS, there is no impairment loss as the carrying amount of \$100,500 $<$ the recoverable amount of \$115,000 (where recoverable amount is the higher of value in use and fair value less costs to sell).

EXERCISE 11–7

	Fair Value	**% of Total**	**$\times$ Cost =**	**Recorded Amount (rounded)**
Trade name	\$380,000	30.89%	\$1.2 million	\$370,680
Patented process	400,000	32.52%	\$1.2 million	390,240
Customer list	450,000	36.59%	\$1.2 million	439,080
	\$1,230,000			\$1.2 million

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Intangible assets – trade names		370,680	
	Intangible assets – patented process		390,240	
	Intangible assets – customer list		439,080	
	Cash			1,200,000

Note: The asset purchase is to be capitalized using the relative fair value method and assets separately reported so that the amortization expense can be separately determined for each based on their respective useful life.

EXERCISE 11–8

a. At December 31, 2020, Bartek reports the patent:

Intangible assets	
Patent	\$800,000
Accumulated amortization*	425,000
	\$375,000

* Amortization 2017 to 2019: \$800,000 ÷ 8 × 3 years = \$300,000

Amortization for 2020:

$$\frac{(\text{Remaining carrying value} - \text{revised residual value})}{\text{Remaining useful life}}$$

$$\frac{(800{,}000 - 300{,}000) - 0 \text{ residual value}}{(7 - 3)} = 125{,}000$$

Accumulated amortization 2017 to 2020: (300,000 + 125,000) = \$425,000

b. The amount of amortization of the franchise for the year ended December 31, 2019, is \$25,000: (\$500,000 ÷ 20 years). Reason: Bartek should amortize the franchise over 20 years which is the period of the identifiable cash flows. Even though the franchise is considered as "perpetual," the company believes it will generate future economic benefits for only the next 20 years.

c. Unamortized development costs would be reported as \$50,000 (\$250,000 net of \$200,000 accumulated amortization) at December 31, 2020 on the SFP/BS.

Amortization for 2017 to 2020: \$250,000 ÷ 5 years × 4 years = \$200,000

EXERCISE 11–9

a.

Cash purchase price		
		\$863,000
Fair value of assets	\$1,160,000	
Less liabilities (carrying value = fair value)	(460,000)	
Fair value of net assets		700,000
Value assigned to goodwill		\$163,000

b. Under IFRS, the recoverable amount of the CGU of \$1,850,000 (which is the greater of the fair value, less costs to sell \$1,600,000, and the value in use \$1,850,000) is compared with its carrying amount \$1,925,000 to determine if there is any impairment.

The goodwill is impaired because carrying amount of the CGU \$1,925,000 > recoverable amount of the CGU \$1,850,000. The goodwill impairment loss is \$75,000 (\$1,925,000 − \$1,850,000). A reversal of an impairment loss on goodwill is not permitted.

c. Under ASPE, goodwill is assigned to a reporting unit at the acquisition date. Goodwill is tested for impairment when events or changes in circumstances indicate impairment may exist. An impairment exists if the carrying amount of the reporting unit $1,925,000 exceeds the fair value of the reporting unit $1,860,000. In this case there is an impairment loss of $65,000 ($1,925,000 − $1,860,000). A reversal of an impairment loss on goodwill is not permitted.

EXERCISE 11–10

a.	Goodwill as a separate line item on the SFP/BS
b., c., d.	Research costs, organization cost, and the annual franchise fee would be classified as operating expenses
e., f., g., h.	Cash, accounts receivable, notes receivable due within one year from balance sheet date and prepaid expenses would be classified as current assets
i.	Intangible assets, if development criteria met at the acquisition date
j.	Non-current assets in the tangible property, plant, and equipment section. (Some accountants classify them as intangible assets on the basis that the improvements revert to the lessor at the end of the lease and therefore are more of a right than a tangible asset.)
k.	Intangible assets
l.	Intangible assets
m.	Investments section on the SFP/BS
n.	Intangible assets
o.	Discount on notes payable is shown as a deduction from the related notes payable on the SFP/BS as a liability
p., q.	Long-term assets in the tangible property, under plant, and equipment section
r.	Intangible asset
s.	Intangible asset
t.	Goodwill as a separate line item on the SFP/BS
u.	Expensed as part of research and development expense. (Development expenses are expensed unless all six criteria for capitalization are met.)

EXERCISE 11–11

a. The determination of useful life by management can have a material effect on the balance sheet as well as on the income statement. The following are the variables to consider when determining the appropriate useful life for a limited-life intangible.

- The legal life for a patent in Canada is twenty years but management can deem a shorter useful life based on
  - the expected use of the patent
  - economic factors such as demand and competition
  - the period over which its benefits are expected to be provided.
- The estimated useful life of the patent should be based on neutral and unbiased consideration of the factors above, which requires a degree of professional judgment.

b. December 31, 2019:

Amortization: $\$25{,}000 \div 20 = \$1{,}250$

Carrying amount: $\$25{,}000 - \$1{,}250 = \$23{,}750$

December 31, 2020:

Amortization: $\$1{,}250 + (\$35{,}000 \div 18.5 \times (6 \div 12)) = \$2{,}196$ (rounded)

Carrying amount: $\$23{,}750 + \$35{,}000 - \$2{,}196 = \$56{,}554$

c. Dec 31, 2019 carrying amount from (b): $23,750

2020 amortization: $(\$23{,}750 \div (15 - 1)) + (\$35{,}000 \div (15 - 1.5)) \times (6 \div 12) = \$2{,}993$ (rounded)

Carrying amount: $\$23{,}750 + \$35{,}000 - \$2{,}993 = \$55{,}757$

d. If it has an indefinite life, then do not amortize. If classified as indefinite life, management must review useful life annually to ensure that conditions and circumstances continue to support the indefinite life assessment. Any change in useful life is to be accounted as a change in estimate, which is accounted for prospectively. Also, management would have to test annually for impairment or whenever indicators of such a possibility exist.

EXERCISE 11–12

a. Situation (i) Journal Entries:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Intangible assets – patents		900,000	
	Cash, accounts payable, etc.			900,000
Dec 31 2020	Amortization expense		60,000	
	Accumulated amortization, patents			60,000
	(900,000 ÷ 15)			
Dec 31 2021	Amortization expense		84,000	
	Accumulated amortization, patents			84,000
	((900,000 − 60,000) ÷ 10)			

Situation (ii) Journal Entries:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
2020	Research and development expenses		180,000	
	Cash, accounts payable, etc.....			180,000
2020	Intangible assets – electronic product.....		170,000	
	Cash, accounts payable, etc.....			170,000
Dec 31 2020	Amortization expense		17,000	
	Accumulated amortization, electronic product ..... (170,000 ÷ 10)			17,000

Situation (iii) Journal Entries:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 1 2020	Intangible assets – franchise		1,800,000	
	Cash, accounts payable, etc.....			1,800,000
Dec 31 2020	Amortization expense		45,000	
	Accumulated amortization – franchise..... (1,800,000 ÷ 40)			45,000
Dec 31 2020	Franchise fee expense		112,000	
	Cash, accounts payable, etc..... ($5.6 million × 2%)			112,000

Situation (iv) Journal Entries:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
2020	Research and development expenses		290,000	
	Cash, accounts payable, etc..... ($25,000 + 250,000 + 15,000)			290,000

b. Partial income statement:

Hilde Co.
Statement of Income (partial)
For the Year Ending December 31, 2020

Revenue from franchise		$5,600,000
Expenses		
Research and development expenses*	$470,000	
Franchise fee expense	112,000	
Amortization expense**	122,000	704,000
Income from operations before taxes		4,896,000
Income tax expense		1,321,920
Net income		$3,574,080

* ($180,000 + 290,000)

** ($60,000 + 17,000 + 45,000)

Partial balance sheet:

Hilde Co.
Balance Sheet (partial)
As at December 31, 2020

Intangible assets:		
Intangible assets – patents	$ 900,000	
Accumulated amortization	60,000	$ 840,000
Intangible assets – electronic product	170,000	
Accumulated amortization	17,000	153,000
Intangible assets – franchise	1,800,000	
Accumulated amortization	45,000	1,755,000
Total intangible assets		$2,748,000

Note: The balance sheet reporting requirement is to disclose the net amount for each intangible asset separately, its related accumulated amortization, any accumulated impairment losses, and a total for net intangible assets. With these requirements in mind, an alternative reporting format for the balance sheet would be to report the net amounts for each intangible asset as shown in the right-hand column with disclosure of the accumulated amortization, any accumulated impairment losses and the net amount for each intangible asset in an additional schedule in the notes to the financial statements.

c. Under IFRS, if the costs meet the six development phase criteria for capitalization, then they are to be capitalized. Under ASPE, costs that meet the six development phase criteria for capitalization may either be capitalized or expensed, depending on the entity's accounting policy. In this case, Hilde's policy is to capitalize costs that meet the criteria; therefore, the accounting entries would be the same as the solution above.

   Under IFRS there is an option to use the revaluation model for subsequent measurement of intangible assets after acquisition if there is an active market for the intangible assets. Refer to the chapter on property, plant, and equipment for details about this model. In addition, under IFRS, an assessment of estimated useful life is required at each reporting date.

d. Impairment testing for limited-life assets under ASPE:

   Limited-life intangible assets would be tested for possible impairment whenever events and circumstances indicate the carrying amount may not be recoverable. The carrying amount of the asset is compared to undiscounted future net cash flows of the asset, to determine if the asset is impaired. If impaired, the difference between the asset's carrying amount and its fair value will be the impairment amount. Under ASPE, an impairment loss for intangible assets may not be reversed.

   Impairment testing for limited-life intangibles under IFRS:

   At the end of each reporting period, the asset is to be assessed for possible impairment. If impairment is suspected, and the carrying amount is higher than the recoverable

amount (which is the higher of the value in use, and the fair value less costs to sell), the asset is impaired. The impairment loss is the difference between the asset's carrying amount and its recoverable amount. Under IFRS, an impairment loss may be reversed in the future, although the reversal is limited to what the asset's carrying amount would have been had there been no impairment.

EXERCISE 11–13

Entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Intangible asset – patent		107,666	
	Cash			50,000
	Note payable.....			57,666*
	For Intangible asset: ($50,000 + $57,666)			

* Present value calculation:

PV = (4,800** PMT, 9 I/Y***, 5 N, 60,000 FV)
PV = $57,666 (rounded)

** $60,000 × 8%

*** PV calculations use the market rate while the interest payment of $4,800 uses the stated rate.

EXERCISE 11–14

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
2020	Research and development expense		150,000	
	Cash, accounts payable, etc.....			150,000
	Intangible assets – patents		20,000	
	Cash, accounts payable, etc.....			20,000
	Amortization expense		2,000	
	Accumulated amortization.....			2,000
	(20,000 ÷ 10 years (2020–2030))			
2021	Intangible assets – patents		22,000	
	Cash, accounts payable, etc.....			22,000
	Amortization expense		2,857	
	Accumulated amortization.....			2,857
	$((20{,}000 + 22{,}000 - 2{,}000) \div 14)$			
2022	Research and development expense		250,000	
	Cash, accounts payable, etc.....			250,000
	Intangible assets – development costs.....		50,000	
	Cash, accounts payable, etc.....			50,000

b. Under IFRS, costs associated with the development of internally generated intangible assets are capitalized when the six specific criteria for capitalization are met in the development stage. The $250,000 must be expensed as it was incurred *before* the future benefits were reasonably certain. Costs incurred *after* the six specific criteria for capitalization are met, are capitalized. The $50,000 costs incurred indicates the company's intention and ability to generate future economic benefits. As a result, the $50,000 would be capitalized as development costs. The $50,000 capitalized costs would be amortized over periods benefiting after manufacturing begins.

EXERCISE 11–15

a. Impairment for limited-life under IFRS:

Carrying value: 1,000,000

Recoverable amount: higher of value in use and fair value less costs to sell

= higher of [$1,100,000 and ($1,000,000 − 45,000 = 955,000)] = 1,100,000

Carrying value is less than 1,100,000, therefore the franchise is not impaired.

b. Carrying value: 1,000,000

Recoverable amount: 950,000

Carrying value is more than the recoverable amount therefore the franchise is impaired by $50,000.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		50,000	
	Accumulated impairment losses – franchise			50,000

c. Carrying value: 1,000,000

Recoverable amount: higher of value in use and fair value less costs to sell

= higher of [$1,100,000 and ($1,350,000 − 45,000 = 1,305,000)] = 1,305,000

Carrying value is less than 1,305,000, therefore the franchise is not impaired.

d. Under IFRS, indefinite-life intangible assets are tested for impairment annually (even if there is no indication of impairment), which is the same as was done for limited-life intangible assets. So the answers in parts (a) to (c) will not change because the franchise has an unlimited life.

e. Under ASPE for limited-life intangibles, if there is reason to suspect impairment, then management can complete an assessment of the franchise. If the carrying value is greater than the undiscounted cash flows then it is impaired. The impairment amount is the difference between the carrying value and the fair value.

Part (a) Carrying value: 1,000,000

Undiscounted future cash flow = 1,200,000

Carrying value is less than 1,200,000, therefore the franchise is not impaired.

Part (b) Carrying value: 1,000,000

Recoverable amount (discounted future cash flows) = 950,000

Carrying value is more than the recoverable amount therefore the franchise is impaired by $50,000.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		50,000	
	Accumulated impairment losses – franchise			50,000

Part (c) Fair value changed to $1.35 million. Fair value is not relevant for ASPE to assess recoverability, so the answer does not change from part (b).

f. Part (a) Under ASPE, indefinite-life intangible assets are tested for impairment when circumstances indicate that the asset may be impaired same as with limited-life intangibles. However, the test differs from the test for limited-life assets. Here, a fair value test is used, and an impairment loss is recorded when the carrying amount exceeds the fair value of the intangible asset.

Carrying value: 1,000,000

Fair value: 1,000,000

Carrying value is equal to the fair value for 1,000,000; therefore, the franchise is not impaired.

Part (b) Under ASPE, the recoverable amount refers to undiscounted future cash flows, which does not affect the impairment test for indefinite-life intangible assets, which compares the carrying value to the fair value of the asset. The fair value remains at 1,000,000, therefore the asset is not impaired.

Part (c) Carrying value: 1,000,000

Fair value: 1,350,000

Carrying value is less than the fair value for 1,350,000, therefore the franchise is not impaired under ASPE for an indefinite-life asset.

EXERCISE 11–16

a.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		55,000	
	Accounts receivable		125,000	
	Inventory		200,000	
	Land		35,000	
	Buildings		95,000	
	Equipment		5,000	
	Goodwill		65,000	
	Accounts payable			300,000
	Note payable			50,000
	Cash			230,000

b. Payment of total consideration of $280,000 for Candelabra resulted in payment for goodwill of $65,000. Goodwill is defined as an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified or separately recognized. In paying for goodwill of $65,000, Boxlight may have considered the value of Candelabra's established customers for repeat business, the company's reputation, the competence and ability of its management team to strategize effectively, its credit rating with its suppliers, and whether the company has highly qualified and motivated employees. Together, these could make the value of the business greater than the sum of the fair value of its net identifiable assets.

c.

Carrying value	$200,000
Fair value	180,000
Impairment amount	20,000

Entry:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		20,000	
	Accumulated impairment losses – goodwill			20,000

d.

Carrying value: 180,000

Recoverable amount: higher of value in use and fair value less costs to sell

= higher of [$170,000 and ($160,000 − 10,000 = 150,000)] = 170,000

Carrying value is greater than 170,000; therefore, the franchise is impaired by $10,000 (180,000 − 170,000).

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Loss on impairment		10,000	
	Accumulated impairment losses – goodwill			10,000

Note: Had the impairment amount exceeded the $65,000 goodwill carrying value, the amount of the difference would be allocated to the remaining net identifiable assets on a prorated basis.

e. For part (c), reversal of goodwill if impairment losses exist is not permitted under ASPE. For part (d), reversal of goodwill impairment losses is not permitted under IFRS.



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