CHAPTER 1

INTRODUCTION

1.1 The Objective of This Book

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LEARNING OBJECTIVES AND SUGGESTED TEACHING APPROACHES

1. The Broad Outline of the Book

I use Figure 1.1 as a template to describe the broad outline of the book. Since the students typically have not had a chance to read Chapter 1 in the first course session, I stick fairly closely to the chapter material.

The major points I discuss are:

- Accounting in an ideal setting. Here, present-value-based accounting is natural. I go over the ideal conditions needed for such a basis of accounting to be feasible, but do not go into much detail because this topic is covered in greater depth in Chapter 2.

- An introduction to the concept of information asymmetry and resulting problems of adverse selection and moral hazard. These problems are basic to the book and I feel it is desirable for the students to have a "first go" at them at this point. I concentrate on the intuition underlying the two problems. For example, adverse selection can be illustrated by asking who would be first in line to purchase life insurance if there was no medical examination, or what quality of used cars are likely to be brought to market. For moral hazard I try to pin them down on how hard they would work in this course if there were no exams.

- The environment in which financial accounting and reporting operates. My main goal at this point is that the students do not take this environment for granted. I discuss the procedures of standard setting briefly and point out that this is really a process of regulation. In the past, there have been well-known cases of deregulation, such as airlines, trucking, financial institutions, power generation. However, regulation of financial institutions increased following the 2007-2008 market meltdowns (Section 1.3). Currently, at least in the United States, some of these regulations are being rolled back. Instructors may wish to anticipate briefly the pros and cons of

markets v. regulation now since this topic becomes important in Chapters 12 and 13.

2. The Concept of Information

By now, I will have referred to the term "information" several times. I suggest that it is easy to take this term for granted, and call for definitions. This usually generates considerable hesitation by the students. The purpose at this point is simply to get them to realize that information is a complex commodity. Indeed, I make an analogy between the financial accounting and reporting industry and a stereotypical manufacturing industry such as agriculture or automobiles, and ask what is the product of the accounting industry, why is it valuable, how is it quantified? I do not go deeply into the answers to questions like these, since some decision-theoretic machinery needs to be developed (Section 3.3) before a precise definition of information can be given. Nevertheless, I try to end up with the conclusions that information has something to do with improving the process of decision-making, and that it is crucial to the operation of securities markets.

3. Relevance to Accounting Practice

My undergraduate accounting theory classes usually consist of a majority of students who are heading for a professional accounting designation. There are usually also some students heading for careers in management.

Since students who are facing professional accounting exams can be quite focused in their learning objectives, it is essential that the nature of the course in relation to these objectives be discussed up front.

I begin by pointing out that the book is intended to give the student an appreciation and understanding of the financial reporting environment, which should help with breadth questions on professional exams. I also argue that one's career continues well beyond attainment of a professional accounting designation, and that the nature of the textbook is longer-run and designed to foster a critical awareness of the financial accounting environment, which is needed if one is to become a thoughtful professional.

Arguments such as these can only be pushed so far. Nevertheless, I think it is important to make them. I also point out that the text includes coverage of major accounting standards such as financial instruments, impairment, consolidations, and de-recognition; and that they will have the opportunity to learn the broad outlines of these standards on the way through.

I also refer the students to Section 1.13, and emphasize that the text recognizes an obligation to convince them that the material is relevant to their careers. To do this, the text explains theoretical concepts in intuitive terms, and illustrates and motivates the concepts based on a series of Theory in Practice vignettes, and problem material based frequently on articles from the financial press and relevant research findings.

For the management students in the class, and for the professional accounting students who may some day be managers, I emphasize that the text does not ignore them. Chapters 8 to 11 inclusive (the bottom branch of Figure 1.1) deal with topics of interest to managers, including economic consequences, conflict resolution, executive compensation and earnings management. All of these topics demonstrate that management has a legitimate interest in financial reporting. I also argue that Chapters 2 to 7 inclusive (the top branch of Figure 1.1) are relevant to managers since they give insights into how financial accounting information is used by investors. Finally, since management is a major constituency in standard setting, a critical awareness of the need for standard setting and the standard-setting process (Chapters 12 and 13) is useful for any manager.

I have not had problems with student course evaluations as a result of using the material in this book. In fact, I have constantly been surprised at how far one can push the students in a theoretical direction providing that I rely on the textbook material to give the students an intuitive understanding, and concentrate in class on illustrating, motivating and discussing the application of the concepts. For this, I find that the financial media are helpful sources of current articles which I bring to class to serve as a basis for discussion. Numerous such articles form the basis of most "Theory in Practice" vignettes scattered throughout the text.

4. The Structure of Standard-Setting Bodies

This edition continues to orient itself to International Accounting Standards Board (IASB) standards, although attention is also given to several U.S. standards. Instructors may wish to briefly discuss the structure of standard-setting bodies at this point.

5. Social Issues Underlying Regulation

Instructors who wish to dig more deeply into social issues underlying financial reporting and standard setting can usefully spend some class time on the 1982 Merino and Neimark paper (in Section 1.2). This paper raises fundamental issues about the role of financial reporting in society, which go well beyond the textbook coverage of this topic. The textbook confines itself, for the period that Merino and Neimark consider, to a brief description of reporting problems leading up to the great stock market crash of 1929 and the creation of the SEC. The topic provides food for thought both for those who do and do not favour the present financial reporting environment. For a contrasting view from that of Merino and Neimark, Benston's 1973 article is also worth discussing.

This edition continues its discussion of the Enron and WorldCom financial reporting disasters, since these are still relevant to accounting theory and practice. I continue to include (Section 1.3) a description of the 2007-2008 market meltdowns surrounding financial assets and institutions, since these events are driving many new accounting standards and changes in executive compensation discussed later in the text. In spite of the bewildering collection of acronyms, instructors may wish to discuss these market meltdowns early in the course, since they pervade the book and continue to have major implications for financial accounting.

Section 1.5 introduces the topic of ethics. With the extent of accountant and auditor involvement in numerous financial reporting disasters that have come to light since 2000, such as Enron and WorldCom, and more recent criticisms of fair value accounting and off-balance sheet entities, the importance of ethical behaviour is very much apparent. Indeed, ethical behaviour underlies the distinction between rules-based and principles-based

accounting standards (Section 1.6). This distinction is important since the IASB constitution commits the IASB to principles-based standards.

I emphasize, however, that ethics tends to produce similar behaviour as a longer-run maximization of one's own interests (although the mind sets are different). Thus, a longer–run view of ethical behaviour quickly turns into questions of full disclosure, usefulness, reputation, and cooperative behaviour. The text tends to emphasize these latter components of professional responsibility. Some instructors may wish to introduce and discuss ethical issues more broadly.

6. Some influential accounting academics are critical of the moves by standard-setting bodies towards current value accounting. Chapter 8 is devoted to an alternative view, namely efficient contract theory (also called positive accounting theory). A brief introduction to this topic is given in Section 1.4. Instructors who wish to introduce this topic now may wish to discuss why accountants are generally regarded as conservative, whether financial accounting can help to attain strong corporate governance, and whether managers like current value accounting.

7. I have not prepared any questions and problems for this chapter. One reason is that I usually like to let the first week of classes pass before giving formal assignments. More fundamentally, I use this first week to describe and motivate the text material, as outlined above, and most of the material in Chapter 1 is covered in greater detail later. However, extensive problem material is provided for the remaining chapters of the book.

CHAPTER 2

ACCOUNTING UNDER IDEAL CONDITIONS

LEARNING OBJECTIVES AND SUGGESTED TEACHING APPROACHES

1. To Appreciate the Concept of Ideal Conditions

This concept is drawn on throughout the book. Roughly speaking, by ideal conditions I mean conditions where future firm cash flows and interest rates are known with certainty or, if not known with certainty, where there is a complete and publicly known set of states

of nature and associated objective probabilities which enables a completely relevant and reliable expected present value of the firm to be calculated.

I assume risk-neutral investors in this Chapter, so that valuation of the firm is on the basis of expected present value, that is, no adjustment for risk is needed. The concept of a risk-averse investor is introduced in Section 3.4, and a capital asset pricing model of the firm's shares is described in Section 4.5.

2. To Use the Present Value Model Under Ideal Conditions to Prepare an Articulated Set of Financial Statements for a Simple Firm

The text limits itself to financial statements for the first year of operations. The problem material extends the accounting to a subsequent year (see problems 1, 2, 3, 5, 15, and 19). In subsequent years, the firm earns interest on opening cash balance. This is picked up by the accretion of discount calculation, since cash is included in opening net assets. Interest earned on cash balances leads naturally to the role of dividends in present-value accounting and the concept of dividend irrelevance.

3. To Critically Evaluate Reserve Recognition Accounting (RRA) as an Application of the Present Value Model

I usually allow some class time to criticize the assumptions of ideal conditions. Some students want to "blow off steam" because they perceive these assumptions as quite strong. I find that RRA is an excellent vehicle both to motivate and critique present value-based accounting. The fact that it is on line encourages students to take the present value model seriously, which I emphasize by basing class discussion on an example of RRA disclosure for a Canadian oil and gas firm that also reports to the SEC. Such disclosures are usually in SEC Form 40-F, not in the annual report (which says something about management's view of RRA).

I also emphasize the point that present value-based accounting products run into severe implementation problems when the ideal conditions they need do not hold.

I sometimes receive comments that the text over-emphasizes RRA. I find RRA so helpful to illustrate numerous course concepts that I have resisted such comments. However, instructors may wish to emphasize that RRA, based on a United States accounting standard, is relevant to Canadian oil and gas firms whose shares are traded in the United States. In this regard, it is worth noting that Suncor Energy Inc., used as the text RRA illustration in Section 2.4.2, is a Canadian-based corporation.

4. Historical Cost Accounting in the Mixed Measurement Model

Instructors may wish to discuss historical cost accounting in relation to current value accounting, since historical cost is still an important component of the mixed measurement model. Section 2.5 compares these measurement bases in terms of relevance and reliability, timing of revenue recognition, recognition lag, and matching. This is a good place to emphasize the trade-off between relevance and reliability, and how different measurement bases imply different trade-offs.

This is also a good place to discuss the relative importance of the balance sheet and income statements under the two measurement bases. That is, historical cost accounting takes the view that the income statement is of greater importance because it gives the current installment of the firm's earning power, and provides a place to start to predict future firm performance. Under current value accounting, the balance sheet is of greater performance, the argument being that current values of assets and liabilities provides a better prediction of future firm performance.

5. To Question the Existence of Net Income as a Well-Defined Economic Construct

I use the reliability problems of RRA to question the existence of "true" economic income except under ideal conditions. With the text example, or some other example, of RRA disclosure in front of us, I ask the students if they would be willing to pay the RRA value for the proved reserves of an oil and gas company. Discussion usually brings out a negative response, for reasons such as difficulties in assessing expected quantities and prices,

disagreement with a 10% discount rate, possible inside information about costs, additional reserves, etc.

I then point out that there are numerous other assets and liabilities for which a quoted market price does not exist, and argue that information asymmetry is a major reason why market prices may not exist. The market for used cars and problems surrounding insurance markets in the presence of adverse selection and moral hazard provide other examples of "missing" markets.

Having established that there are not quoted market prices available for "everything," I point out that it is then impossible to fully value a firm on this basis and, as a result, it is also impossible to measure true economic income. I take a sort of perverse pleasure in asking those students who are heading for a professional accounting career if they really want to devote their lives to measuring something which does not exist. I am careful to end by pointing out that lack of a true measure of income means that a large amount of judgement is required to come up with a useful measure, and that judgement is the basis of a profession.

I usually do not go further than the above intuitive argument that incomplete markets are at the heart of problems of income measurement. However, instructors who wish to dig into incompleteness more deeply and precisely can assign Beaver & Demski's "The Nature of Income Measurement" (*The Accounting Review*, January, 1979).

SUGGESTED SOLUTIONS TO QUESTIONS AND PROBLEMS

1.

P.V. Ltd.

Income Statement

For Year 2

Accretion of discount (10% × 286.36)	$28.64

P.V. Ltd.

Balance Sheet

End of Year 2

Financial Asset		**Shareholders' Equity**	
Cash	$315.00	Opening balance	$286.36
		Net income	28.64
Capital Asset,			
At present value	0.00		
	$315.00		$315.00

Note that cash includes interest at 10% on opening cash balance of $150.

2. Suppose that P.V. Ltd. paid a dividend of $10 at the end of year 1 (any portion of year 1 net income would do). Then, its year 2 opening net assets are $276.36, and net income would be:

P.V. Ltd.

Income Statement

For Year 2

Accretion of discount (10% × 276.36)	$27.64

P.V.'s balance sheet at the end of year 2 would be:

P.V. Ltd.

Balance Sheet

End of Year 2

Financial Asset		**Shareholders' Equity**	
Cash: (140 + 14 + 150) $276.36	$304.00	Opening balance:	
		(286.36 - 10.00 dividend)	
Capital Asset, at		Net income	27.64
Present value	0.00		
	$304.00		$304.00

Thus, at end of year 2, the shareholders have:

Cash from dividend	$10.00
Interest at 10% on cash dividend, for year 2	1.00
Value of firm per balance sheet	304.00
$315.00	

This is the same as the value of the firm at the end of year 2, assuming P.V. Ltd. paid no dividends (see Question 1). Consequently, the firm's dividend policy does not matter to the shareholders under ideal conditions. Note that a crucial requirement here, following from ideal conditions, is that the investors and the firm

both earn interest on financial assets, including reinvested dividends, at the same rate of return.

Note also that if the investor spends the dividend rather than investing it, this must be because he/she values current consumption as preferable to investing. Thus, the investor is no worse off if the dividend is spent. Also, if the firm pays no dividend, and the investor wants to consume $10, he/she can borrow at 10%. This liability is offset by the additional $10 increase in firm value on the $10 additional retained earnings. Again, the investor is no worse off.

3. Expected net income is also called accretion of discount because the firm's expected future cash flows are one year closer at year end than at the beginning of the year. Consequently, the opening firm value is rolled forward or "accreted" at the discount rate used in the present value calculations.

4. The procedure here is similar to that used in Question 2. Assume that the good economy state is realized for year 1. Assume also that P.V. Ltd. pays a dividend of, say, $40 at the end of year 1. If the good economy state is also realized in year 2, P.V.'s year 2 net income will then be:

P.V. Ltd.

Income Statement

(good economy)

For Year 2

Accretion of discount [(336.36 – 40) ×.10]	$29.64
Add: Abnormal earnings, as a result of good-state realization: ($200 – $150)	50.00
Net income	$79.64

PV's balance sheet at the end of year 2 will then be:

P.V. Ltd.

Balance Sheet

(good economy)

End of Year 2

Financial Asset		**Shareholders' Equity**	
Cash (200 - 40 + 200 + 16)	$376.00	Opening balance	$336.36
		Less: Dividend end	
Capital Asset	0.00	of year 1	40.00
			$296.36
		Add: Net income	79.64
	$376.00		$376.00

Thus, at the end of year 2, shareholders have:

Cash from time 1 dividend	$40.00
Interest period 2 on time 1 dividend: $40 ×0.10	4.00
Value of firm per balance sheet, time 2	376.00
	$420.00

Note: cash balance of $376 assumes no dividend was paid for year 2.

If P.V. Ltd. paid no dividend at the end of year 1, the value of the firm at the end of year 2 would be:

Cash: 200 + 200 + 20	$420.00	
Capital asset	0.00	$420.00

Thus, the shareholders' wealth is the same at the end of year 2, whether the firm pays a year 1 dividend or not.

An identical analysis applies if the low state is realized in year 2. Shareholders' wealth is $320 at the end of year 2 regardless of whether P.V. Ltd. pays a dividend at the end of year 1.

A similar analysis applies if the low state is realized in year 1.

Therefore, regardless of the state that is realized, shareholders are indifferent to dividend policy. As long as ideal conditions hold, the introduction of uncertainty does not invalidate dividend irrelevancy.

5.

State realization	Probability	Cash at End of Year 1	Interest on opening cash balance	Sales in Year 2	Total
bad, bad	0.25	$100	$10	$100	$210
bad, good	0.25	$100	$10	$200	$310
good, bad	0.25	$200	$20	$100	$320
good, good	0.25	$200	$20	$200	$420
					$1,260

Thus, the liquidating dividend will be $210, $310, $320, or $420, each with a probability of 0.25. Thus, the present value, at time 0, of the expected liquidating dividend is:

$$PA_0 = \frac{1}{1.10^2}[0.25(210 + 310 + 320 + 420)]$$

$$= \frac{0.25}{1.10^2} \times 1{,}260 = \$260.33$$

Expected cash flow in each year is 0.5 × 100 + 0.5 × 200 = 50 +100 = $150

Assuming no dividends, the present value of future cash flows is thus:

$$PA_0 = \frac{1}{1.10^2}(150 + 15 + 150) = \frac{1}{1.10^2}(315) = \$260.33,$$

where $15 is the expected return on investing Year 1 cash.

Note: it is assumed that the state realizations in each year are independent.

6. a. The expected value of a single roll of a fair die is:

$$\bar{x} = \frac{1}{6} \times (1 + 2 + 3 + 4 + 5 + 6) = 3.5$$

b. First, you would have to write down a set of possible states of nature for the die. One simple possibility would be to define:

State 1: die is fair

State 2: die is not fair.

Then, subjective probabilities of each state need to be assessed based on any prior information you have. For example, if the person supplying you with the die looks suspicious, you might assess the probability of state 2 as 0.50, say.

A problem with this approach, however, is that to go on to calculate the expected value of a single roll when the die is not fair, you do not have probabilities for each possible outcome of the roll. That is, you do not know just how unfair the die is.

A more elaborate alternative would be to formally recognize that the probability of rolling a 1 can be anything from zero to one inclusive, and similarly for rolling a 2, 3, . . . , 6, subject to the requirement that the six probabilities sum to one. Formally, we can regard a state as a 1 × 6 vector

$$P = [\, p_1, p_2, \ldots, p_6],$$

subject to $p_i \geq 0$

$$i = 1, 2, \ldots, 6$$

$$\sum p_i = 1$$

Thus, the set of states consists of all vectors satisfying these requirements. All vectors except the one with all $p_i = 1/6$ represent a different possible bias.

Next, it is necessary to assess state probabilities. It is by no means obvious how to do this. You would have to bring to bear any information or subjective feelings that you may have. Lacking any objective information, one possibility is to assume that each possible state is equally likely. Then, the expected value of a single roll is 3.5.

This does not mean that you believe the die is fair, even though this is the same answer as in part a. Rather, it means that the various possible biases cancel each other out, since you feel that they are equally likely. Your uncertainty about the true state of the die suggests that you would be interested in any information that would help you refine your subjective probability assessment, which leads to part c.

c. It will never be known *with certainty* whether the die is fair or not because luck might influence the outcome of the rolls. However, after a few rolls you should be able to better predict future rolls. Yes, the four rolls should affect your belief that the die is fair because you can calculate the average roll, which is 1/4 (6 + 4 + 1 + 3) = 3.5 here. Since this is exactly the average roll that would be expected if the die was fair, you would probably increase your belief that it is fair.

Note: The main purpose of this question is to anticipate what happens when objective state probabilities are not available, in preparation for the introduction of decision making under uncertainty in Section 3.3. The analogy of this question is to the problem of subjectively assessing probabilities over the true state of the firm and of the role of financial statement information in refining these probabilities.

Questions 7, 8, and 9 of this chapter can usefully be assigned in conjunction with this question. Alternatively, this question could be assigned as part of Chapter 3.

7. Under ideal conditions of certainty, future cash flows are known by assumption. Thus, estimates are not applicable.

   Under ideal conditions of uncertainty, by assumption, there is a complete and publicly known set of states of nature, known cash flows conditional on each state, and *objective* probabilities of those states. Also, the interest rate to be used for discounting is given. Then, expected present value is a simple calculation that does not require estimates to prepare.

8. Under non-ideal conditions, it may be difficult to write down a complete set of states of nature and associated cash flows. Even if these can be written down, difficulties remain because objective state probabilities are not available. This is perhaps the most fundamental difficulty, since these probabilities must be subjectively estimated. Also, an interest rate is not necessarily given. All of these difficulties lead to reliability problems of lack of representational faithfulness and possible bias. The expected present value calculation can still be made, but it is an estimate because the probabilities and other values that go into it are estimates.

9. Market value will be affected if the RRA-based net income information affects investors' subjective probabilities of the states of nature concerning future firm performance. This could happen, for example, if the RRA statements show an increase or decrease in the present values of proved reserves and a resulting net income higher or lower than less timely historical cost-based net income from oil and gas operations. This evidence, while highly relevant, suffers from low reliability. Nevertheless, if the relevance of RRA outweighs its low reliability, investors will increase or decrease their subjective probabilities over the states of nature. This would affect their evaluations of future earnings and/or cash flows, their buy/sell decisions, hence the market value of the firm.

It can be argued that firm value will not be affected by pointing out that the RRA information may be perceived by investors as so unreliable that they ignore it.

10. Relevant information is information that enables investors to estimate the present value of future receipts from an asset (or payments under a liability). In an accounting context, relevant information helps investors to predict future firm performance, such as cash flows.

Reliable information is information that faithfully represents what it is supposed to represent.

Note: In this book, we use the term relevance to refer to what the Conceptual Framework now calls representational faithfulness. We do this because the term is shorter and familiar from past usage. Instructors who wish to expose students with the Framework terminology may wish to do so in this question. See Chapter 1, Note 14.

When conditions are not ideal, the estimation of the present value of future firm cash flows (i.e., relevant information) requires specification of a set of possible future cash flow amounts (i.e., states of nature). The probabilities of these states are subjective, which means that they must be estimated by the preparer. Also, an interest rate must be specified for the discounting calculations (i.e. to determine the present value). All of these procedures are subject to errors and possible bias, reducing reliability. Thus, like almost all predictions of the future, relevant information tends to be unreliable.

Conversely, reliable information, such as the historical cost of a capital asset or the face value of debt, tends to be low in relevance because this basis of valuation involves no direct estimates of future receipts or payments. Rather, cost is based on market transactions at the acquisition date. While, at time of acquisition, historical costs generally reflect estimates of future receipts or payments, they quickly lose relevance since market values, expected future receipts, and interest rates change over time. As such, over time, historical cost-based valuations lose relevance.

Therefore, the accountant who tries to secure greater relevance by predicting future events must cope with less reliability. Consequently, these two desirable characteristics of accounting information must be traded off, since an increase in one leads to a decrease in the other.

11. Several reasons can be suggested why oil company managers have reservations about RRA:

- The discount rate of 10% might not reflect the firm's cost of capital.
- **Low reliability:** RRA involves making a large number of assumptions and estimates. While RRA deals with low reliability, in part, by requiring average prices of oil and gas for the period to be used (rather than prices anticipated when the reserves are expected to be sold, which may be subject to error and bias). Furthermore, reserve quantities must be estimated, introducing further possibility of error or bias. Management may also be concerned about low reliability of other estimates, such as reserve quantities. Management may feel that future corrections to these various unreliable estimates will reflect unfavourably on their ability.

  Management will realize that if oil and gas prices should fall, RRA will recognize the decrease more quickly than under historical cost-based accounting. Under historical cost-based accounting, management has more time to offset a declining oil and gas income with counter measures, such as cost-cutting or new activities and products.
- **Investors may ignore the information:** Investors may not understand the RRA information. Even if they do, management may believe the RRA information is so unreliable that investors will ignore it. If so, why prepare it?

- **Legal liability:** Management may be concerned that if the RRA estimates are not realized, the firm will be subject to lawsuits from investors. Management's reservations may be an attempt to limit or avoid liability.

12. a. Most industrial and retail firms regard revenue as earned at the point of sale. Consistent with IAS 18, this is usually the point when the significant risks and rewards of ownership are transferred to the buyer, the seller loses lost control over the items, and the revenue and related costs can be measured with reasonable reliability.

Consistent with IFRS 15, the point of sale involves a contract. By delivering the contracted goods into the control of the customer, the firm has satisfied its performance obligation under the contract.

Thus, unless collection of the sale amount is not probable, revenue recognition at point of sale is consistent with both the old and new revenue recognition standards.

b. Under RRA, revenue is recognized when oil and gas reserves are proven. This point in the operating cycle does not meet the IFRS 15 criteria for revenue recognition. Since the oil and gas are still in the ground, and assuming the reserves have not been sold, there is no contract of sale and thus no performance obligation under IFRS 15. Without a sales contract, there is no probability of collecting anything under a contract. Thus, RRA does not meet the requirements of IFRS 15 for revenue recognition as reserves are proven.

Note: This question illustrates that the trade-off between relevance and reliability can be equivalently framed in terms of revenue recognition as well as balance sheet valuation. In effect, balance sheet valuation is in terms of the debit side of asset valuation whereas criteria for revenue recognition are in terms of the credit side. The basic trade-off is the same, however. In particular, it should be noted that early revenue recognition increases relevance, even though it may lose reliability.

13. a. From a balance sheet perspective under ideal conditions, inventory is valued at current value. This could be the present value of expected future cash receipts

from sale, that is, value-in-use. Alternatively, inventory could be valued at market value, that is, at fair value since under ideal conditions these 2 values would be the same).

Note: In the present value examples of this chapter, all production is assumed to be sold for cash. If all production is not sold, inventory would be valued at current value, and cash would be reduced by this amount.

Since the firm's balance sheet includes inventory at current value, it is included at current value in the accretion of discount calculation. Thus, in terms of revenue recognition, revenue on unsold production is recognized in income as the inventory is manufactured.

b. Cost basis accounting for inventory is due to the lack of ideal conditions. A current value calculation requires estimation, opening up inventory valuation to error and possible manager bias. Accountants must feel that this reduction in reliability outweighs the greater relevance of current inventory value.

Historical cost accounting for inventories is not completely reliable, since firm managers still have some room to manage (i.e., bias) their reported profitability through their choice of cost methods (FIFO, LIFO, etc.). Furthermore, even the cost of inventories is not always reliable. For example, overhead costs are usually allocated to the cost of manufactured inventory. These costs are affected by manager decisions about allocation rates and production volumes.

Note: it could also be mentioned that historical cost accounting for inventories is accompanied by the lower-of-cost-or-market rule. Then, reliability issues of estimating current valuation re-arise. Also, it is possible that the firm may attempt to hide obsolescence by not writing down obsolete inventory at all.

14. This practice implies that revenue is recognized as cash is collected. This basis of valuation might be used if the firm sells with little or no money down and a long collection period. Valuation of accounts receivable at the amount of the sale would require estimating credit losses. This estimate may be too unreliable under these

conditions, outweighing the greater relevance of recognizing revenue as a sale is made.

15. a. Present value of capital asset 2019, 2020, and 2021

$$PA_0 = \frac{725}{1.05} + \frac{725}{1.05^2} + \frac{725}{1.05^3} = 690.48 + 657.60 + 626.28 = \$1{,}974.35$$

$$PA_1 = 690.48 + 657.60 = \$1{,}348.07$$

$$PA_2 = \$690.48$$

Undoubtedly Corp.
Balance Sheet
As at December 31, 2019

Cash ($725 - $50)	$ 675.00	Shareholders' equity	
Capital asset, at PV	$1,348.07	Capital stock	$1,974.35
		Retained Earnings	
		Net income $ 98.72	
		Dividend -$ 50.00	$ 48.72
	$2,023.07		$2,023.07

Undoubtedly Corp.
Income Statement
For the year ended December 31, 2019

Accretion of discount (1,974.35 × .05)	$ 98.72

b.

Undoubtedly Corp.
Balance Sheet
As at December 31, 2020

Cash ($675 + 725 + 33.75 - 50)	$1,383.75	Shareholders' equity	
Capital asset, at PV	$ 690.48	Capital stock	$1,974.35
		Retained Earnings	$ 99.87
	$2,074.23		$2,074.23

Cash includes $675 × 0.05 = $33.75 interest on opening cash balance
Retained earnings calculated as $48.72 + 101.15 - 50 = 99.87

Undoubtedly Corp.
Income Statement
For the year ended December 31, 2020

Accretion of discount (2,023.07 × .05)	$101.15

c. Under ideal conditions, present value and market value are equal. This is because of arbitrage.

Under real conditions, market values provide only a partial implementation of fair value accounting. If reliable market values are available, fair values based on market prices provide a useful trade-off between relevance and reliability. However, because of incomplete markets, market values are not available for all assets and liabilities. Then, estimates of fair value, such as the market value of related assets and liabilities, value-in-use, or models, are needed. These problems complicate the implementation of fair value accounting due to possible low reliability.

d. The main reason for low reliability is the difficulty of estimating expected future cash flows, which would require a set of possible future cash flows (states of nature) and subjective probabilities of these states. Since under realistic conditions these estimates are subject to error and possible manager bias, reliability is reduced.