# Financial accounting theory ch partial solutions assignment

Business

ASSIGN
BUSTER

Year 1 At time O, you know that if the bad economy State is realized, ex post net income or year 1 will be a loss of $23. 37. Fifth good economy state is realized, ex post net income Will be $76. 03. Since the probability Of each State is 0. 50, expected net income for year 1, evaluated at time O, is: -11. 98 38. 01 = $26. 03. This agrees with the direct 0. 50 (-23. 97) 0. 50 (76. 03) = calculation of accretion of discount for year 1 in Example 2. 2. Year 2 Assume that you are at time l, after the state realization for year I has been observed, Suppose the year 1 state realization is bad economy.

Then expected net income for year 2 is accretion of discount on opening net asset value of $236. 36: 236. 36 x . 10 = 23. 4 Note that this amount includes $10 interest on opening cash balance Of $100. NOW suppose the State realization for year I is good economy. Expected net income for year 2 then is: 336. 36 x . 10 = 33. 64, Copyright @ 2012 Pearson Canada Inc including interest income of 520 on opening cash balance. Thus expected net income for year 2 is SIS. 54 or $33. 64, depending on which state is realized in period 1.

The above assumes the year 2 expected net income is calculated after year 1 state realization is observed, The question could also be interpreted as asking for expected year 2 net income before the state realization is observed t time 1, Then, expected year 2 net income would be, at time 1: 0. 50 (23. 64) 0. 50 (33. 64) – 1 1. 82 16. 82-$28. 64 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 Consequently, the opening firm value is rolled forward or " accreted" at the discount rate used in the present value calculations.

The amount of accretion of discount is driven by the principle of arbitrage, and risk-neutral valuation, Under these conditions, the market will force a beginning of year valuation of the firm such that the expected net income s of this value. To illustrate, the present value of the firm at time O is $260. 33 and expected net income is $26. 03 for year 1. Similarly, the present value of the firm at time I is $236. 36 or 5336. 36 depending on State realization, and expected net income for year 2 is $23. 64 or $33. 64. In each case the market expects the firm to earn on opening value. This Of opening value is accretion Of discount.

Copyright 2012 Pearson Canada Inc 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. 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 objectively 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.

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. Reliable information is information that faithfully represents what it is supposed to represent, When conditions are not ideal, the estimation to the present value to future firm receipts (i. E. , relevant intimation) requires specification of a set of 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, All of these procedures are subject to errors and possible bias, reducing reliability. Thus, relevant information tends to be unreliable, Copyright 2012 Pearson Canada 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. Since market values, expected future receipts and interest rates change over time. Historical cost. Based valuations lose relevance. Therefore, the accountant who tries to secure greater relevance must cope with a larger and more complex set of states of nature and associated subjective probabilities. However, this means sees 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. 2, Most industrial and retail firms regard revenue as earned at the point of sale. Since sale implies a contract with the buyer and change of ownership, this is usually the earliest point at which significant risks and rewards of ownerships to the buyer, the seller loses control of the items sold (e_g__, title passes to buyer) and at which the amount of revenue to be received can be determined with reasonable reliability. B. Ledger ERA, revenue is recognized hen oil and gas reserves are proven.

This point in the operating cycle does not meet the SIS 18 criteria for revenue recognition. Since the Oil and gas are still in the ground and the reserves are not sold, the significant risks and rewards of ownership have not been passed on and control remains With the producer. Also, the large number Of revisions to estimates under ERA casts doubt on the reliability of the amount of revenue recognized. Presumably, this is why ERA is presented as supplementary information only. Presumably, however, collection is reasonably assured since oil and gas have ready markets.

Note: This question illustrates that the tradeoff 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 Copyright 2012 Pearson Canada Inc side. The basic tradeoff is the same, however. In particular, it should be noted that early revenue recognition increases relevance, even though it may lose reliability.

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, if market value of the inventory is available, it could be valued at its market value, that is, its fair value (the 2 values would be the same if markets work reasonably well, as is the case under ideal conditions). From a revenue recognition perspective, revenue is recognized as the inventory is manufactured or acquired. B. Cost basis accounting for inventory is due to lack of ideal conditions, Then, inventory markets may not work well. If so, Samuelsson (1965) demonstration does not apply.

As a result, market value 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 (VIVO, LOLLIPOP etc. ). Also, historical cost accounting for inventories is accompanied by the lower- of-costar-market rule.

Then, reliability issues of current valuation re-arise_ 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. Copyright C 2012 Pearson Canada Inc 500 500 500 0471. 70 0 445.

00 419. 81 $1, 336. 51 2 1. 06 3 1. 06 1. 06 PAP 0 471. 70 El 445. 00 a $471. 70 Sure Corp.. Balance Sheet As at December 31, 2011 Cash (SOC -?? SO) Capital asset, at present value $450. 0 Shareholders' equity Capital stock 51, 336. 51 5916. 70 Net income Dividend 80. 19 (50. 00) 51, 366. 70 $1, 366. 70 Sure Corp.. Income Statement For the year ended December 31, 2011 Accretion of discount (1, 336. 51 x . 06) Sure Corp.. Balance Sheet As at December 31, 2012 Cash (450 + 27 5927. 00 -?? 50) Capital asset, at present value Shareholders' equity Capital stock 51, 336. 51 62. 19$1, 398. 70 471. 70 $1 , 398. 70 Retained earnings Note: Cash includes $450 . 06 $27 interest on opening cash balance. Retained earnings calculated as $80. 19 – 50 4 82. 00 – 50 = $62. 19 Sure Corp..

Income Statement For the year ended December 31, 2012 Accretion of discount (1, 366. 70 . 06) 582. 00 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. Because of incomplete markets, market values are not available for all assets and liabilities or, if market values are available, these markets may not work well. Then, estimates of fair value, such as the market value of related assets and liabilities, reversion to value-in-use, or models, are needed.

These problems complicate the implementation Of fair value accounting due to possible low reliability. The main reason for low reliability is the difficulty of estimating future cash lows, Since, under realistic conditions these estimates are subject to error and bias, reliability is reduced. Another reason

arises from possible error and bias in the choice of interest rate for discounting. However, the prime hank rate and central bank rate are available as proxies. Low reliability does not necessarily mean that present value-based accounting is not decision useful, since present values are high in relevance.

These two desirable characteristics of collocating information must be traded off, Expected present value Of asset on January I, 2010 and 2011: go o a 200 300 PACE n 0. 31] 01. 06 1. 06 1. 06 0 0. 3660. 38 C 801. 00 C 0. 7018868 267. 00 0 0. 3 01 , 461. 38 0 0. 7 0 455. 68 438. 41 0318. 98 757. 39 PAP 0. 70 1. 06 1. 06 0. 3 0 849. 06 00. 7 D 283. 02 C 254. 72 0 198. 11 452. 83 Rainy Ltd. Balance sheet As at December 31, 2010 Cash (700 – 50) Capital asset, at present value 452. 83$1 , 102. 83$650, 00 Shareholders' equity Capital stock (PAP) $757. 39 Retained earnings (335. 4 – 50) 345. 44$1 102. 83 Rainy Ltd. Income Statement For the year ended December 31 , 2010 Expected net income (accretion of discount) (757. 39 x . 06) Abnormal earnings Expected cash flow (0. 3 x 700) (0. 7 x 200) = (210 + 140) Actual cash flow Net income for the year $350. 00 700. 00 350. 00 $395. 44 b. The main reason why the present value calculations may become unreliable is that objective state probabilities are not available, Consequently, subjective probabilities must be assessed. However, these are subject to error and bias. Consequently, they are low in reliability.

Copyright C 2012 Pearson Canada Inc Other reasons include the lack of a single interest rate in the economy, identifying the set of states of nature, and possible non-absorbability of the state realization. All of these introduce

additional sources of error and bias into the resent value calculations, reducing reliability. C. A main reason is incomplete markets. Then, income cannot be measured by the change in the market values of the firm's assets and liabilities. Lacking complete markets, fair value estimates or discounted present values must be used to value assets and liabilities.

However, such estimates and calculations are low in reliability, resulting in major adjustments to previous years' estimates. If true net income existed, there would be no adjustments. In view of these problems, accountants have retained historical cost for major asset and liability lasses and adopted criteria of decision usefulness and full disclosure. 21 a. HAL Oil & Gas Ltd. Income Statement for 2011 from Proved Oil and Gas Reserves Accretion of discount (6, 500 x . 10) Abnormal Earnings: Present value of additional reserves added during the year 1, 500 unexpected items: Changes in prices Changes in quantities Net income for the year b. , 200 (200) 1, 000 2, 500 150 $650 The reason derives from concerns about reliability of the reserves estimates. The standard setters must have believed that while unproved reserves information is highly relevant, they could not be valued with sufficient reliability hat the resulting estimates were decision useful. C. Again, the reason derives from reliability concerns. Allowing each firm to choose its Own discount rate opens up the possibility Of manager bias, Whereby the rate is chosen to achieve a desired present value.

Copyright @ 2012 Pearson A disadvantage is that when conditions are not ideal, different firms may have different costs of capital. This can arise, for example, from operating in different countries and in different geographical

conditions. Then, mandated discount rates may not reflect the reserves' rockiness, This would reduce decision usefulness. A theoretically correct measure of income is the net income of a firm for a period calculated on a present value basis; that is, accretion of discount on opening firm present value, plus or minus any differences between expected and actual cash flows for the period.

Alternatively, net income is theoretically correct if it is calculated so as to include the changes during the period in the market values Of all assets and liabilities, adjusted for capital transactions (providing that the markets for all assets and liabilities exist and favor reasonably well). B. A theoretically correct measure Of income does not exist because ideal notations do not exist. As a result, future cash inflows and outflows from assets and liabilities cannot be reliably estimated. This means that present value- based net income is not theoretically correct since theoretical correctness requires complete reliability.

Furthermore, market incompleteness can exist in the absence of ideal conditions. Then, properly working market values for all assets and liabilities of a firm need not exist, As a result, net income based on net changes in market values is not theoretically correct either. C. Historical cost accounting is reasonably reliable because the cost of an set is usually an objective and verifiable number. However, while cost is also relevant at time of acquisition, it may lose relevance over time due to changes in market prices, interest rates and economic conditions, which will change the assets current value.

To the extent reasonably-working market prices exist, current value accounting is more relevant than historical cost while retaining reliability. However, if such market values do not exist, current valuation requires estimates of fair value, cash flow estimates, or the use of models Estimates of cash flows face serious problems of reliability, as do the inputs into valuation oodles. Similar considerations apply to liabilities. If a reasonably-working market value exists for a liability (e. G. , certain derivative financial instruments), fair value provides both a relevant and reliable current valuation.