

# **Solutions Manual**

to accompany

## **Financial Reporting**

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## Chapter 2: Application of accounting theory

### Comprehension questions

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1. **Describe the four components of an accounting policy. Illustrate your answer with examples.**

Accounting policies involve the following four components:

**Definition** – does the transaction or event give rise to an item that meets the definition of one of the elements of financial statements? e.g., whether expenditure on building improvements gives rise to an asset.

**Recognition** – when does the item satisfy the recognition criteria? e.g., recognising cost of goods sold as an expense when goods are delivered to the customer.

**Measurement** – how should it be measured on initial recognition and, in the case of an asset or a liability, how should it be measured subsequent to initial recognition? e.g., whether to measure property, plant and equipment at cost or fair value, and how to measure depreciation.

**Disclosure** – how should information be presented and disclosed? e.g., how much detail should be included about the calculation of depreciation, should an item be presented in the financial statement or in the notes?

2. **Differentiate normative accounting theory from positive accounting theory. Provide an example of each.**

A **normative theory** prescribes what should be done based on a specific goal or objective. The outcome of a normative theory is derived from logical development based upon a stated objective; e.g., the *Conceptual Framework* prescribes principles, such as recognition criteria for elements of financial statements, based upon an explicit objective of financial reporting. In contrast, the role of a positive theory is to describe, explain or predict. For example, agency theory is a positive theory because it is used to explain why managers prefer accounting policies that increase profit in certain situations, such as when there is a bonus plan linked to accounting profit.

3. **What is the difference between the deductive and inductive processes of developing a theory?**

Developing a theory using **inductive reasoning** commences with observing definable activities and actions, which form the basis for inferring the principles that conform to the observations. The theorist would then attempt to infer higher-level assumptions and objectives.

Developing a theory using **deductive reasoning** commences with setting objectives, which may be based on assumptions. For example, an objective of providing information that is

useful for decision making involves assumptions about the users of financial statements and their information needs for decision making. Principles (e.g., that items reported in financial statements should be faithfully represented) are derived logically from both the objectives and the assumptions. Definitions and observable actions are, in turn, derived from the principles.

Thus, under inductive reasoning, observations of practice lead the development of principles. However, under deductive reasoning, the objectives and principles lead to the actions prescribed by the theory.

**4. What is an agency relationship? Explain how monitoring costs, bonding costs and residual loss arise in agency relationships.**

An agency relationship occurs when one party, who is referred to as the principal, employs another party, the agent, to undertake some activity on their behalf. Costs incurred by the principal to observe, evaluate and control the agent's behaviour are referred to as monitoring costs. Examples of monitoring activities incurred by shareholders to monitor management include having the financial statements audited. Bonding costs are those costs incurred by the agents to provide assurance to the principal that they are acting in the principal's best interests. The time and effort expended in producing and providing quarterly accounting reports to lenders is an example of bonding costs. Residual loss is the reduction in value of the firm that results from the separation of ownership of control, when the marginal cost of additional monitoring or bonding exceeds the expected benefit.

**5. Why would managers' interests differ from those of shareholders?**

Agency theory assumes that parties, such as manager and shareholders, will act in their own interests, that is, to maximise their own wealth. Accordingly, given separation of ownership and control, managers are expected to act in their own interests through excessive consumption of perquisites and avoidance of effort. While this may offer the manager more income for less effort, it would reduce the wealth generation for shareholders by increasing expenses for perquisites and reducing income through reduced managerial effort. The interests of managers and shareholders can also diverge because managers have shorter horizons in evaluating decisions, are more risk averse and prefer dividend retention because it gives them control over more resources.

**6. Explain the following agency problems that can arise in the relationship between owners and managers:**

- a) the horizon problem**
- b) risk aversion**
- c) dividend retention**

- a) Shareholders are concerned with the long term growth and value of the firm, which reflects the market's expectations of the present value of the future cash flows. However, management's interest in the cash flow potential may be limited to the period over which they expect to be employed by the firm. This horizon problem may be exacerbated if the manager is approaching retirement. Managers generally adopt a shorter horizon than shareholders when evaluating proposed actions or investments, e.g., management's preference for delaying research and development expenditure may increase short-term

profitability but may also have adverse long-term consequences, such as missed opportunities for innovation and new product development.

- b) Managers are generally more risk averse than shareholders because managers are less able to diversify risk. Shareholders typically spread their investment (and hence, their risk) across a range of securities and other assets. Their liability is limited to the unpaid capital on their shares. Shareholders may also receive income from sources, such as employment, that are independent of the company. Managers, however, have less diversifiable 'human capital' invested in the company. Their management compensation (remuneration) is likely to be their primary source of income.
- c) Managers prefer to maintain a greater level of funds within the company through dividend retention. This helps managers to expand the size of the business they control (empire building) and to pay their own salaries and benefits. Shareholders may have preference for increased dividend. In particular, this would occur where the retention of dividends results in lower returns because the firm has insufficient investment opportunities. Under such circumstances funds would be held in low return investments, such as cash and cash equivalents, or perhaps invested in negative net present value projects.

**7. Outline the four agency problems that can arise in the relationship between lenders and managers.**

Four agency problems that can arise between lenders and managers include: excessive dividend payments to owners; asset substitution; claim dilution; and underinvestment.

Management may pay excessive dividend, which can leave the company with insufficient funds to service the debt. To reduce this problem managers and lenders agree to covenants that restrain dividend policy and restrict dividend payouts as a function of profits.

Asset substitution refers to management investing in riskier assets after the loan has been arranged, e.g., borrow money to invest in local production facilities but actually spending it on overseas investments with additional foreign currency risk. Managers may use the debt finance to invest in alternative, higher risk assets in the likelihood that it will lead to higher returns to shareholders. Lenders bear the risk of this strategy as they are subject to the increased risk of default, but do not share in any benefit in the form of higher returns if the investment project becomes more successful.

Claim dilution arises when firms take on debt of an equal or higher priority. For example, after obtaining an unsecured loan, management might obtain additional loan funds by offering floating charge over its working capital to another lender. This reduces the assets available to unsecured creditors in the event of default.

Lastly, underinvestment can arise if the borrower is struggling to repay the principal and interest components of debt. Extra cash flows that might be generated by additional projects would go to repaying the debt rather than increasing shareholder wealth because creditors would rank above shareholders if the company were liquidated. Thus any funds generated by these projects would go towards debt rather than equity if the company were liquidated. Managers, acting on behalf of owners, may lack incentive to undertake projects that could lead to increased funds being available to lenders.

**8. What is a debt covenant and why is it used in a lending agreement?**

Debt covenants are restrictions or undertakings imposed in debt contracts. Debt covenants reduce the risk to the lender, resulting in lower interest costs being imposed on the borrower. Some debt covenants use accounting numbers. For example, a debt covenant may restrict leverage to a maximum of 60 per cent of total assets. By agreeing to debt covenants, managers may be able to borrow funds at lower rates of interest.

Debt contracts will often restrict investment opportunities of the firm, including mergers and takeovers, to protect themselves against the additional risk arising from asset substitution. Establishing a maximum ratio of debt to tangible assets can also mitigate asset substitution by restricting investment in intangible assets. Restricting higher priority debt is a common method of reducing the risk of claim dilution.

**9. Why would managers agree to enter into lending agreements that incorporate covenants?**

Lenders expect to be compensated for risk. Debt covenants reduce the risk to the lender and thus result in lower interest costs being imposed on the borrower. As a result of agreeing to debt covenants, managers may also be able to borrow more funds and/or for longer periods.

**10. How does accounting information reduce agency problems in relationships between management and shareholders?**

Accounting information is used in contracts that are designed to reduce agency problems in the relationship between shareholders and management. Accounting numbers are used to specify targets, monitor performance and determine rewards. For example, a bonus might be calculated as 1% of profit, provided return on equity exceeds 7%. Thus, the accounting information is used to specify the target (e.g., return of equity greater than 7%). Reported accounting numbers are used to measure performance against the target to determine eligibility for a bonus (e.g., whether the hurdle of 7% return on equity has been exceeded) and to determine the amount of the bonus, if any, payable to the manager (e.g., 1% of reported profit).

**11. How does accounting information reduce agency problems in relationships between management and debt holders?**

Accounting information is used in debt covenants to reduce the risk to the lender. Accounting numbers are used to specify debt covenants. For example, a debt covenant may restrict leverage to a maximum of 60 per cent of total assets, thus reducing the lender's risk of claim dilution. Debt covenants may also restrict dividend payouts as a function of profits, again using accounting information. Reported accounting numbers are used to monitor compliance with debt covenants. For example, the lender would refer to the statement of financial position to assess whether the leverage ratio exceeds the maximum allowed in the debt contract.

**12. What are the factors a manager might consider in making various expensing-capitalisation choices?**

While accounting standards play a very important role in determining accounting treatment, this does not remove the need for professional judgement in the application of accounting principles. According to agency theory, the application of judgement in accounting policy choice may be influenced by incentives arising from the economic consequences, particularly in relation to the outcomes for contracting parties. In deciding whether to account for an item of expenditure (e.g., cost of maintenance that also enhances the efficiency of the asset) as an asset or an expense, management may consider the effect of the alternative accounting treatments on their remuneration, the firm's proximity to debt covenants, and the political visibility of the firm.

**13. Linking managerial remuneration to firm performance motivates managers to act in the interests of shareholders. However, it also burdens managers with greater risks than they may like. How do organisations balance these two considerations in management remuneration plans?**

Management compensation packages typically comprise fixed salary and at-risk components. The at-risk remuneration refers to that part of a manager's income that is subject to meeting or maintaining performance targets. Also, some remuneration schemes link at-risk remuneration to performance over a longer period, which reduces the risk borne by management for intermittent fluctuations in performance over a period of several years. Benchmarking against other firms or the industry can also be used in compensation arrangements to reduce the manager's exposure to industry-wide risks.

**14. Bonus plans are used to reduce agency problems between managers and shareholders. Discuss two (2) of these problems specific to the relationship between shareholders and managers and identify how bonus plans can be used to reduce the agency problems you have identified. In your answer you should provide examples of specific components that may be included in a bonus plan to address the issues identified.**

While all three problems that can arise in the shareholder-manager agency relation are considered in this solution, students need only address two of them in answering the question.

Managers generally adopt a shorter horizon than that of shareholders in making decisions about various courses of action the company may take. According to agency theory, the manager will act to secure income and wealth during the period of his or her employment. In contrast, shareholders' wealth is linked to the long-term prospects of the firm. Even if shareholders sell their shares, their wealth is affected by the price they obtain for their shares, which, in turn, reflects the market's expectations of the firm's future prospects. The horizon problem can be reduced by linking management rewards to the company's performance over a longer period, for example, through share-based remuneration, such as shares or executive share options. Paying a portion of managerial remuneration as shares provides management with an incentive to focus on long-term performance because it is likely to affect their own wealth.

Managers' prefer to maintain retain a greater level of funds within the company, even in excess of available investment opportunities, in order to increase their power and prestige. In

contrast, shareholders may have a preference for increased dividends. The dividend retention problem can be mitigated by aligning the interest of managers with those of the firm through the use of incentive-based payment. In particular, bonuses linked directly to dividends and share-based remuneration increase managers wealth with dividends payments. Bonuses linked to return on investment and return on equity can discourage managers from retaining funds in excess of available investment opportunities, because doing so would lower returns.

Managers, who have undiversified human capital, may be more risk averse than shareholders who can readily diversify their risk through portfolio management. Managerial remuneration contracts can include incentives to encourage managers to invest in more risky projects. For instance, linking a bonus to profits can encourage managers to consider more risky projects that have the potential to increase profits. However, share-based compensation, such as executive shares and share option schemes, can be less effective in encouraging managers to invest in more risky projects because the cost to the manager of diversifying risk increases with managerial share ownership.

**15. What are political costs? How might political visibility influence accounting policy choice?**

Political contracts are implicit and refer to the expectations of government and society in relation to how companies exercise power over resources. Political costs refer to the effects on the firm of political actions such as lobbying and increased regulation. Political action is more likely to be taken against larger, more profitable companies, which control more resources and have power to affect more people. Accordingly, managers of companies with high political sensitivity may prefer accounting policies that result in lower profits to reduce political visibility.

**16. Distinguish between the three forms of market efficiency? Which form is more relevant for financial reporting? Justify your answer.**

Market efficiency is the rapid and unbiased adjustment of prices in response to information. Different forms of market efficiency can be distinguished in terms of the information set impounded in share prices, that is, the information set to which the market is efficient.

The weak form of market efficiency is the rapid and unbiased adjustment of prices in response to information in past prices, such that prices reflect all information contained in past prices.

The semi-strong form of market efficiency is the rapid and unbiased adjustment of prices in response to all publicly available information. Accordingly, if a securities market is efficient in the semi-strong form, security prices reflect all publicly available information. The semi-strong form is most important for financial reporting because it forms part of the set of publicly available information. Further, sophisticated capital markets are considered to be better categorised by semi-strong efficiency than other forms.

The strong form of market efficiency is the rapid and unbiased adjustment of prices in response to all information, including private information. Under the strong form of market efficiency, prices reflect all private and public information.

## Case studies

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### Case study 2.1

**Penny Ltd made the following disclosure in the notes to its financial statements about how it accounts for insurance premiums:**

**Other current assets**

**Insurance premiums are paid in advance and recognised as Prepaid insurance asset at the time of settlement. 'Other current assets' includes an amount of \$10 000, which represents the unexpired portion of the insurance contract. The expired portion of the insurance contract is recognised as an expense.**

**Required**

- (a) List the four components of an accounting policy decision.**  
**(b) Analyse Penny Ltd's policy for accounting for the insurance premium in terms of each component.**

(a) An accounting policy decision may comprise four components:

- definition, whether the transaction or event gives rise to an item that satisfies the definition of an element of financial statements;
- recognition, whether or when it should be recognised;
- measurement, how it should be measured, which may include a decision about subsequent measurement as well as initial measurement; and
- disclosure, that is, how information about the item should be presented and what information should be disclosed.

(b) The insurance policy is accounted for as an asset, namely prepaid insurance. This is appropriate because it satisfies the definition of an asset. First, it is a resource controlled by Penny Ltd as a result of a past event, being the payment of the insurance premium in accordance with the insurance policy (the insurance contract). The other criterion, that future economic benefits are expected to flow to Penny Ltd, is evident to the extent of the unexpired period of the insurance cover.

The insurance policy is recognised as an asset at the time of settlement, that is, when Penny Ltd pays the insurance premium. It is subsequently expensed as the period of the insurance policy expires.

The prepaid insurance asset is initially measured at cost and amortised to expenses on a time proportionate (straight-line) basis. Thus subsequent measurement of the prepaid insurance asset reflects the cost of the unexpired portion of the insurance policy.

Penny Ltd includes the prepaid insurance asset in 'other current assets' in the statement of financial position and discloses the carrying amount and the accounting policy in the notes to the financial statements.



## Case study 2.2

During the year ended 30 June 2016, City Retail Ltd launched a new logo and spent \$1 000 000 on new signage for all its premises. The expenditure on signage was originally accounted for as part of property, plant and equipment. It was recognised as a depreciable asset with a useful life of 10 years.

Tony has been engaged as the new accountant for City Retail Ltd. Tony believes that the expenditure for signage should be recognised as an expense because it is in the nature of advertising and the signage has no resale value. Eager to impress the senior managers, Tony gave a presentation on how he would 'improve' the forthcoming 2016 financial statements, by expensing signage costs. An extract from his presentation is provided below:

	Before change \$'000	% of total assets
Total assets (includes signage with carrying amount of \$900 000)	8 400	100
Total liabilities (including a long term debt agreement)	5 000	60
Shareholders' equity	3 400	40
Profit (includes depreciation expense of \$100,000)	1 200	14

Tony was puzzled by the senior managers' response: 'You don't understand our business. What might look like an improvement for your financial statements, looks like devastating economic consequences for us.'

### Additional information

- Managers receive a bonus, subject to profit exceeding 10% of total assets.
- The long term debt agreement restricts borrowing to a maximum of 65% of total assets.

### Required

For simplicity, assume that the change in accounting treatment has no implications on tax or tax expense.

- Describe and quantify the effects of recognising the signage costs as an expense in City Retail Ltd's financial statement for the year ended 30 June 2016.
- How would agency theory explain why the managers of City Retail Ltd did not welcome Tony's accounting treatment for the expenditure on signage?

(a) Ignoring tax, if the signage costs were recognised as an expense for the year ended 30 June 2016, profit would decrease by a net amount of \$900,000, comprising an increase in signage expense of \$1,000,000 and a decrease in depreciation expense of \$100,000. This would flow through to a reduction in equity of \$900,000. Thus profit would be \$300,000 for the year ended 30 June 2016 and shareholders' equity would be \$2,500,000 at 30 June 2016. Assets would decrease by \$900,000, being the carrying amount of the signage, to \$7,500,000 at 30 June 2016 if the signage were expensed. The accounting treatment of the signage costs has no effect on liabilities.

(b) Agency theory suggests that managers with bonus plans linking remuneration to accounting profit are more likely to prefer accounting policies that increase profit. City Retail

Ltd has a remuneration scheme that links the managers' bonus to profit. The change of accounting policy reduces profit to \$300,000 and assets to \$7,500,000. Profit would be only 4% of total assets, which is below the hurdle of 10% of total assets. Accordingly, the managers would not be eligible for a bonus for the year ended 30 June 2016.

Agency theory suggests that management of firms with high leverage, or in close proximity to leverage constraints, are more likely to prefer accounting policies that increase reported profit so as to avoid breaching restrictive debt covenants. Management of City Retail Ltd would prefer to account for the expenditure on signage as an asset because expensing it would reduce assets and thus increase the firm's leverage ratio to 67% (i.e., \$5,00,000/\$7,500,000), which exceeds the maximum leverage ratio of 65% permitted by its long-term debt contract. Management would be keen to avoid the breach of the debt covenant because it might cause the lender to demand repayment in full, resulting in costly refinancing.

### Case study 2.3

**Rocky Retail Ltd had experienced a difficult year with declining sales as a result of increased competition from online retailers. The accountant for Rocky Retail Ltd presented a set of draft financial statements to management to review before the final set of financial statements were published. Management was very worried because the draft financial statements showed a profit of only \$230 000 for 2016, compared with \$300 000 in 2015. They were concerned that a reduction in profit would result in a fall in the company's share price.**

**The statement of profit or loss and other comprehensive income included an expense of \$80 000 for stamp duty on its long-term rental properties. One of the managers announced a 'clever plan' to increase profit, suggesting the company 'classify the stamp duty as an asset and expense it over the term of the lease'.**

**The accountant did some calculations and advised that if Rocky Retail Ltd accounted for the stamp duty costs of \$80 000 as 'Prepayments', and then progressively allocated it to expenses over the term of each lease, only \$5000 would be recognised as an expense in 2016. Everyone seemed happy with that plan and the accountant got to work writing the note disclosure about the accounting policy. She explained, 'We must disclose this to comply with accounting standards, but don't worry...I think the shareholders and investors will be too busy looking at the profit to read what is says in the notes'.**

#### **Required**

- (a) Ignoring taxes, calculate Rocky Retail Ltd's profit for 2016 after the decision to account for stamp duty as an asset.**
- (b) Explain which of the theories discussed in this chapter best describes the managers' expectations about how shareholders and investors will react to the reported profit for 2016.**
- (c) Define the semi-strong form of market efficiency and discuss its implications for how the investors, and therefore, the share price, might respond to the release of the financial statements. Assume that the market is efficient in the semi-strong form.**

(a) Rocky Retail Ltd's profit for 2016 would be \$305,000 if the stamp duty is accounted for as a prepaid expense and allocated to expenses over the period of the lease. This is calculated by adding back the \$80,000 stamp duty expense to profit and subtracting the \$5,000 expense, being the amount of prepaid stamp duty that would be allocated to the current period ( $\$230,000 + \$80,000 - \$5,000 = \$305,000$ ).

(b) Rocky Retail Ltd's managers' expectations of how shareholders and investors will react is consistent with the mechanistic hypothesis, which predicts that investors are systematically deceived by cosmetic accounting changes, which affect reported profit but have no cash flow consequences). It is based on the assumption that investors take a mechanistic approach, fixating on the numbers and ignoring the methods used to derive accounting numbers.

(c) If the market is efficient in the semi-strong form the share price makes a rapid and unbiased response to the release of publicly available information, such that the share price reflects all publicly available information. Thus the market will not be tricked into thinking the company is more profitable; instead the share price will reflect the understanding that the increase in profit resulted from a cosmetic change of accounting policy, such that there will be no response unless it has indirect implications for expected future cash flows, such as reduced probability of breaching a debt covenant.

## Application and analysis questions

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### Exercise 2.1

#### Debt covenants and accounting information

**You have recently been appointed as a lending officer in the commercial division of a major bank. The bank is concerned about lending in the current economic environment, where there has been an economic downturn.**

#### Required

**Prepare a report outlining what agency problems the bank should be concerned with, how covenants in debt agreements can be used to reduce those problems, and how accounting information can be used to assist in this process.**

The bank should consider four agency problems of debt that may arise when lending to companies: excessive dividend payments to owners; asset substitution; claim dilution; and underinvestment. Each of these problems is considered in turn, followed by some suggestions as to how debt covenants may be used to mitigate them. Some of the debt covenants rely on accounting information.

Excessive dividends payments may increase the risk of the company being unable to service the debt. This problem may be reduced if managers agree to debt covenants that restrain dividend policy. Accounting numbers may form the basis of the dividend restriction, such as a maximum dividend payout expressed as a percentage of profit.

Asset substitution refers to management investing in riskier assets after the loan has been arranged. This generates a problem of adverse selection. If the lender had known that the managers would invest in riskier assets, a different decision option may have been selected, such as not granting the loan, or charging a higher interest rate to compensate the bank for the higher level of risk. Debt covenants can restrict the investment opportunity set of the firm by establishing a maximum ratio of debt to tangible assets. This discourages investment in intangible asset which may be less liquid than some tangible assets and thus be less useful to the bank and other creditors in the event of the company defaulting on the loan.

Claim dilution arises when firms take on debt of an equal or higher priority. This reduces the assets available to unsecured creditors in the event of default. Lenders can mitigate the risk of *claim dilution* by restricting higher priority debt. Another debt covenant employed in many debt contracts is a maximum leverage ratio. This accounting-based debt covenant can also reduce the risk of claim dilution by limiting further borrowing when the firm approaches the maximum.

Lastly, there is the risk of underinvestment which may occur if the borrower is struggling to service the loan. Extra cash flows that might be generated by additional projects would go to repaying the debt rather than increasing shareholder wealth because the bank and other creditors rank above shareholders in order of payments. Thus any funds generated by these projects would go towards debt rather than equity if the company were liquidated. It is very difficult for lenders to protect themselves against the risk of underinvestment because management has control over the use of resources unless the firm is facing severe financial

difficulties such that management loses control (for example, if control of the company is placed in the hands of an administrator).

Financial statements can be used to monitor compliance with the debt covenants bases on accounting numbers. The use of audited financial statements provided more reassurance of that the financial statements present a true and fair view of the company and are in compliance with accounting standards.

## **Exercise 2.2**

### **Mechanistic hypothesis and efficient market hypothesis**

**Douglas Ltd had always classified interest paid as an operating cash flow. In 2016 Douglas Ltd changed its accounting policy and classified interest as a financing cash flow in its statement of cash flows. The reported amounts are summarised below:**

	<b>2015</b>	<b>2016</b>
	<b>\$'000</b>	<b>\$'000</b>
Net cash inflows from operating activities	800	900
Net cash outflows for investing activities	(600)	(600)
Net cash outflows from financing activities	(100)	(200)
Net movement in cash	100	100

### **Required**

- (a) **Describe the mechanistic hypothesis. What does the mechanistic hypothesis predict about how investors and, therefore, share prices will respond to the increase in operating cash flows reported in Douglas Ltd's 2016 financial statements?**
  - (b) **Describe the semi-strong form of market efficiency. What does the efficient market hypothesis predict about how investors and, therefore, share prices will respond to the increase in operating cash flows reported in Douglas Ltd's 2016 financial statements?**
- (a) The mechanistic hypothesis predicts that investors will focus on the reported numbers and ignore the underlying methods and classifications used to calculate them. Accordingly, in the absence of other news, the mechanistic hypothesis predicts that the share price would respond favourably to the increase in operating cash flows.
  - (b) The semi-strong form of market efficiency is the rapid and unbiased adjustment of prices in response to all publicly available information. Accordingly, if a securities market is efficient in the semi-strong form, security prices reflect all publicly available information. Assuming the market is efficient in the semi-strong form, the efficient market hypothesis predicts that investors would respond to the information contained in the notes to Douglas Ltd's financial statements as well as the numbers reported in its statement of cash flows. As this is a cosmetic change in accounting policy, merely affecting the classification of cash flows rather than the amount of cash generated or used, it would not be expected to have any effect on share prices.

### Exercise 2.3

#### Mechanistic hypothesis and efficient market hypothesis

Due to a change of accounting standards Adele Ltd reclassified some of its financial instruments in preparing its financial statements for the year ended 30 June 2016. The fair value of the financial instruments actually declined by \$1 000 000. The effect of the reclassification was that changes in the fair value of the financial instruments were no longer recognised in the financial statements and this enabled Adele Ltd to report a profit of \$3 000 000, which was an increase of 5% over the previous year's profit. The amount of the decline in the fair value of the financial instruments was disclosed in the notes to the financial statements.

#### Required

- (a) What does the mechanistic hypothesis predict about how investors and, therefore, share prices will respond to information about the profit reported in Adele Ltd's 2016 financial statements?
- (b) Distinguish between the mechanistic hypothesis and the semi-strong form of market efficiency. What does the efficient market hypothesis predict about how investors and, therefore, share prices will respond to information about the profit reported in Adele Ltd's 2016 financial statements?

(a) The mechanistic hypothesis suggests that investors respond mechanistically to changes in accounting numbers when analysing financial statements. This hypothesis is based on an assumption that investors ignore differences in the way that those numbers are calculated. In other words, investors fixate on accounting numbers, such as profit, ignoring the implications of any differences or changes in accounting policies.

*Ceteris paribus* (other matters being equal), according to the mechanistic hypothesis, the share price will increase in response to Adele Ltd's increase in profit. The disclosure of the decline in fair value will not affect the share price because it does not affect reported profit.

(b) Rather than assuming investors fixate on accounting numbers reported in financial statements and ignore other information, the semi-strong form of market efficiency suggests that the share price makes a rapid and unbiased response to all publicly available information. With reference to the semi-strong form of market efficiency, the efficient market hypothesis suggests that the share price would impound all information disclosed about the change in fair value of the financial instruments, irrespective of whether it is in the financial statements or in the notes. It is reasonable to anticipate that the release of information about a decline in the value of assets would result in a drop in the share price, unless the market had already predicted the occurrence and its impact on the firm's capacity to generate future cash flows.

## **Exercise 2.4**

### **Management remuneration plans and performance**

**UBS is a global financial institution with an executive remuneration scheme that includes both cash-based and share-based remuneration. The company's senior executive share ownership plan awards UBS shares that vest in equal instalments over a five-year period. This means that the senior executive becomes legally entitled to 20% of the awarded shares each year, for the five years immediately following the award of the shares. Thus all of the shares are deferred for the first year, after which 20% vest and the remaining 80% are deferred for a further one to four years. Members of the group executive board (GEB) become legally entitled to the shares awarded to them, subject to the profitability of a GEB member's business division, or on the profitability of the UBS Group as a whole if the GEB member does not manage a division of UBS.**

#### **Required**

- (a) Explain how the use of a bonus plan linked to performance and the deferral of part of the bonus can reduce the agency problems of the owner-manager relationship.**
- (b) How does the senior executive equity ownership plan reduce agency problems beyond that which is achieved by the bonus plan?**

(a) Agency problems that arise in the owner-manager relationship include the horizon problem, dividend retention and risk aversion.

The horizon problem refers to management's tendency to adopt a shorter horizon in decision making than that preferred by shareholders. A bonus plan linked to firm performance can help to align management's interests with those of shareholders because shareholders prefer more profit. However, the use of performance hurdles could potentially encourage management to focus on the short term in order to meet performance hurdles. UBS' deferral of equity-based remuneration can encourage a longer term focus by providing an incentive to maintain or improve the share price over a longer period, such as five years. Making vesting contingent upon meeting performance targets in subsequent periods provides additional incentive for management to adopt a longer horizon so that previous equity-based rewards vest.

Dividend retention may result in overinvestment (investment in negative present value projects), with consequential adverse effects on share price. Similarly, risk aversion has an adverse effect on share price through under investment (rejection of positive net present value projects). Equity-based remuneration linked to firm performance can mitigate these agency problems by providing an incentive to invest in (only) positive net present value projects that increase share price. Deferral of the equity based remuneration further discourages dividend retention and risk aversion by providing management with incentives to take actions that maintain or increase the share prices, in order to increase the value of the remuneration. Conditional provisions, such as those introduced by UBS further discourage dividend retention and risk aversion as managers attempt to continue to maintain performance targets, so that previously granted awards vest.

(b) The bonus plan linked to profit targets helps to align the interest of managers with those of shareholders, who also benefit from corporate profits, which contribute to shareholder wealth. However, short-term profit targets do not capture the long-term interests of

shareholders. The use of equity-based remuneration by UBS helps to align the interest of managers with those of shareholders because managers benefit directly from increased share prices if they also own shares. Even if the shares have not vested, the manager has an incentive to maximise share value so as to increase his or her wealth when the shares ultimately vest. Further, UBS defers a significant proportion of the performance-based remuneration. The deferral of remuneration provides additional incentives by facilitating the imposition of additional conditions, such as not making a loss. Such conditions reduce the incentive to manage earnings so as to achieve a performance target because these techniques can result in lower profit in subsequent periods. E.g., if management capitalises expenditure to achieve a profit target in one year, the depreciation or amortisation of the capitalised expenditure reduced profit in subsequent years. This increases the risk of a loss which would result in a reduction of the deferred remuneration.



## **Exercise 2.5**

### **Agency theory and management remuneration**

**Publicly listed companies provide a remuneration report as a component of the annual report, which is often available on the company's website.**

#### **Required**

**Obtain the remuneration report for a publicly listed company. Examine the remuneration arrangement for the chief executive officer (CEO). Prepare a report which summarises your findings for each of the following:**

- (a) What amount of the CEO's remuneration is in the nature of salary and cash bonus for the current year, and for the previous year?**
- (b) What forms of remuneration other than salaries and cash bonuses does the CEO receive?**
- (c) What proportion of the CEO's pay for the current reporting period is fixed and what proportion is performance based?**
- (d) What measures of accounting performance, if any, are used to determine the CEO's bonus?**
- (e) Explain the incentives for accounting policy choice that arise from the CEO's remuneration contract according to agency theory. Use specific accounting policies to illustrate your answer.**
- (f) Can agency theory provide an explanation for the various remuneration components? Justify your answer.**

Answers to this exercise will vary over time and with the student's choice of company. For illustrative purposes, the Commonwealth Bank's 2014 remuneration report has been selected, refer [www.commbank.com.au](http://www.commbank.com.au). Details of the compensation contract and remuneration for the CEO can be found in the "Directors' Report – Remuneration Report" on pages 43-62 of the *Annual Report 2014*.

The Commonwealth Bank reports that its CEO's total remuneration for 2014 was \$7,922,651. While this seems a very large sum, analysis of the remuneration reveals that only about one third of the remuneration was paid in cash. In the following discussion and analysis of the remuneration arrangement for the CEO all page references are to the Commonwealth Bank's *Annual Report 2014*.

- (a) For the year ended 30 June 2014 the remuneration of Ian Narev, Managing Director and CEO of the Commonwealth Bank, included salary (including superannuation) of \$2,575,000 (\$2,500,000 in 2013) and cash bonus (short term-incentive payment at risk) of \$2,961,250 (\$3,125,000 in 2013). Note, accrual-based accounting numbers are used (refer page 56). Accordingly, both the 50% of STI paid in cash and the 50% of STI deferred are included.
- (b) Other forms of remuneration include non-monetary fixed remuneration in the form of car parking, interest accrued on short term incentive awards that have been deferred, annual leave, long service leave, and share-based payments (page 56).  
While the preceding analysis of the CEO's remuneration is helpful in understanding the cash flow implications, considering how much is fixed versus at-risk (performance-based) provides additional insights into how the Commonwealth Bank uses its remuneration package to provide incentives and reward management for performance that furthers the interests of shareholders.

- (c) The fixed proportion of the CEO's remuneration is 33%  $[(\$2,575,000 + \$14,600 - \$21,633 + \$18,140)/\$7,922,651]$ ; 67%  $[(\$2,961,250 + \$2,375,294)/\$7,922,651]$  is performance based (at risk). Refer to note 9 on page 56.
- (d) An accounting-based measure of Total Shareholder Return, relative to a set peer group, forms a hurdle for long-term incentives (pp. 50-52). Short-term performance incentives are based on both financial and non-financial performance measures, managed through a balance scorecard approach. Financial performance is measured using "profit after capital charge" (p. 47). The capital charge refers to an adjustment for the level of risk, such that a larger charge against profit is applied if more risk was involved in generating the profit.
- (e) The reliance on profit may provide an incentive to select accounting policies that temporarily increase profit, particularly in periods in which the reported profit would otherwise fall below the hurdle. For example, a policy of straight-line depreciation increases profit in the earlier periods of the asset's useful life, compared with the reducing-balance method, which recognises more depreciation expense in the first few years of asset's useful life. Estimating a longer useful life for an asset would similarly delay the recognition of depreciation expenses, resulting in more reported profit in the short term. Another example of an accounting policy choice that affects profit is in relation to the timing of the recognition of income arising from bank fees charged to customers, particularly large fees associated with granting loans. Specifically, the accounting policy decision is whether to recognise bank fees as income immediately, or to spread them across the term of the loan. However, the deferral of the long-term incentive reward, subject to meeting performance targets at the end of a four-year period, mitigates the incentive to manage earnings to achieve current period targets.
- (f) Agency theory assumes that managers, acting in self-interest, will prefer investments that maximise returns over a shorter horizon than that preferred by shareholders. The use of a four-year performance period for long-term incentives and the deferral of the incentive award payments may be considered as an attempt to motivate the managers to consider a longer horizon.
- Linking management remuneration to risk-adjusted profit measures can also be viewed as an attempt to align the interests of managers with those of shareholders, both in terms of achieving shareholder returns and avoiding use of excessive risk in the process. For instance, short-term incentive rewards are adjusted downwards in the event of material risk issues (p. 47).
- Further, the payment of awards in shares rather than in cash can also be viewed as seeking to align the managers' interests with those of shareholders by linking their wealth to the value of the bank's shares.

## **Exercise 2.6**

### **Debt covenants and agency relationships**

**On 1 July 2013, Medical Supplies Ltd borrowed \$30 million to finance an investment in a laboratory for developing and testing surgical supplies. The loan is due 30 June 2023. The lender insisted on a debt covenant in the loan agreement, specifying that the ratio of total liabilities to total tangible assets not exceed 65%. Medical Supplies Ltd complied with the requirement in 2014 when the ratio of total liabilities to total tangible assets was 64%.**

**Medical Supplies Ltd also invested in plant and equipment used exclusively to manufacture latex gloves. However, due to a decline in demand for latex gloves, analysts are predicting that the company may need to write-down some of its plant and equipment.**

#### **Required**

- (a) Debt covenants or restrictions are commonly used in Australian lending agreements. Discuss how they are used to reduce agency problems that exist in the relationship between management and lenders.**
- (b) Why would management choose to enter into a lending agreement that contains a covenant that restricts the company's leverage?**
- (c) How might a write-down of plant and equipment increase the risk of breaching debt contracts?**
- (d) If a company is close to breaching its leverage covenant what actions might it take?**

(a) Debt covenants reduce the risk to the lender by restricting the actions that may be taken by the firm, such as mergers and takeovers, thus protecting creditors from the additional risk arising from asset substitution.

Establishing a maximum ratio of debt to tangible assets can mitigate claim dilution by reducing further borrowing, (and can mitigate asset substitution by restricting investment in intangible assets, assuming intangible assets are more risky).

Restricting higher priority debt is a common method of reducing the risk of claim dilution.

(b) A debt covenant may restrict leverage, for example, to a maximum of 60 per cent of total assets. By agreeing to debt covenants, managers can reduce the creditors' risk of claim dilution, so that the company is able to borrow funds at lower rates of interest and/or more favourable terms, such as over a longer period.

(c) Asset impairment reduces assets and increases expenses, with consequential effects on profit and equity. To the extent that assets, profit and equity numbers are used in debt covenants in debt contracts, the recognition of an impairment loss may increase the likelihood of breaching a debt covenant, even though the entity may still be servicing the debt. For example, assume an entity has a debt covenant that restricts leverage to a maximum of 65% of total assets. If the entity's total liabilities and total assets are \$6 000 000 and \$10 000 000, respectively, it would have a leverage ratio of 60%, in compliance with its debt covenant. However, if assets or a cash generating unit were to become impaired, such that an impairment loss of \$1 000 000 were recognised, the assets would be reduced to \$9 000 000, resulting in a leverage ratio of 66.7%, which would place the company in breach of its debt

covenant. These effects are in addition to any difficulties in servicing debt that may arise from the reduced capacity to generate cash flows from the impaired assets.

(d) The company may make changes that affect operating, investing and financing activities, such as deferring actual expenditures or restructuring finance, or renegotiating the leverage covenant. Agency theory suggests that the company, through its managers, may also, or alternatively, choose accounting policies that reduce the proximity to restrictive debt covenants. Such accounting policy choices might involve earlier recognition of revenue. For example, some complex contracts with customers may involve multiple components, some of which may be delivered immediately while others involve ongoing service. Allocating more of the consideration paid or payable by the customer to delivered components can result in earlier recognition of revenue. Other techniques involve deferring the recognition of expenses, which may be achieved by allocating expenditure to assets, such as leasehold improvements, rather than expenses, such as repairs and maintenance, or spreading costs over more accounting periods through a longer useful life or straight-line depreciation rather than accelerated depreciation techniques. Another approach is to use off-balance sheet forms of financing, such as leases that are classified as operating leases, rather than those which require an asset and liability to be recognised on the statement of financial position.

### Exercise 2.7

#### Accounting policies

**In small teams, obtain the financial statements of three publicly listed companies. Refer to the notes to the financial statements pertaining to accounting policies and the note pertaining to property, plant and equipment reported in the statement of financial position.**

#### Required

- (a) Describe the measurement and disclosure components of each company's policy for accounting for each class of property, plant and equipment.**
- (b) Prepare a report on the comparability of the accounting policies used by the three companies. Drawing on theories explored in this chapter, do you think all companies should be required to use identical accounting policies?**

The answers to this question will vary with the choice of companies. The following three companies from the Food, Beverage and Tobacco industry group are used to illustrate a response to this question: Bega Cheese Ltd ([www.begacheese.com.au](http://www.begacheese.com.au)); Clean Seas Tuna Limited ([www.cleanseas.com.au](http://www.cleanseas.com.au)); and Refresh Group Limited ([www.refreshgroup.com.au](http://www.refreshgroup.com.au)).

(a) This answer draws on information provided in Notes 11 and 33 (p) of the 2014 financial statements of Bega Cheese Ltd. Four classes of Property, Plant and Equipment are presented, namely, Land and buildings, Plant and equipment, Leased assets and Construction in progress. The Company separately reports separate carrying amounts and reconciliations of movements in carrying amounts for Land and buildings, Plant and equipment and Construction in Progress. Land and buildings and Plant and equipment are measured at cost, less depreciation and accumulated impairment. Construction in progress is measured at cost less accumulated impairment. Construction in progress is not depreciated. When the constructed item is completed and ready for use, it is transferred to Land and buildings, or Plant and Equipment, as appropriate. Leased assets are measured at cost less accumulated

depreciation. Straight-line depreciation is used for buildings and plant and equipment. Carrying amounts and a reconciliation of the movement in carrying amounts for each class of asset are provided and details of the range of useful lives of buildings and property, plant and equipment are disclosed.

This discussion is based on information in Notes 1(c) and 15 of the 2014 financial statements of Clean Seas Tuna Limited. The Company separately reports carrying amounts and reconciliations of movements in carrying amounts for four classes of Property, Plant and Equipment: Marina Lease; Dams and fishponds; Land and buildings; and Plant and equipment. All classes of PPE are measured at cost, less accumulated depreciation and accumulated impairment (if applicable). The Marina Lease and Dams and fishponds have no carrying amount because they are fully depreciated but cost and accumulated depreciation are disclosed in Note 15. Straight-line depreciation is used for buildings, plant and equipment and leased assets. Separate depreciation rates are disclosed for different classes, such as buildings, and types of assets included in plant and equipment, such as vessels, cages and nets, computers and motor vehicles.

This discussion is based on information reported in Notes 3.4 and Note 13 of Refresh Group Limited's 2014 financial statements. The Company separately reports carrying amounts and reconciliations of movements in carrying amounts for six classes of Property, Plant and Equipment: Plant and equipment; Furniture and fittings; Office equipment; Motor vehicles; Pallets; and Leased equipment. Plant and equipment (presumably all six categories) and leasehold improvements (if they had any) are measured at cost less accumulated depreciation and accumulated impairment, if applicable. The Company disclosed that all Property, Plant and Equipment assets, except motor vehicles, are depreciated on a straight-line basis. Motor vehicles are depreciated using the diminishing value method. Leased assets and leasehold improvements are depreciated over the shorter of the assets useful life and the term of the lease. Assets are otherwise depreciated over their useful life. The Company discloses the range of useful life for leasehold improvements and plant and equipment. The useful life of motor vehicles is disclosed as 10 years.

(b) The measurement policies are extremely consistent. However, differences can be observed in the level of detail provided, particularly with respect to depreciation rates and expected useful life of types of assets. The disclosure of depreciation rates, or useful lives, was often describes as a range which makes it difficult to understand the effects of differences in depreciation charges.

Agency theory suggests that regulation prescribing the use of identical accounting policies would potentially reduce firm value. The prescription of certain accounting policies may prevent some firms from choosing the accounting policy that maximises the interests of the firm in terms of its contracts with other parties. For example, changing to a prescribed accounting policy may place some firms in breach of debt covenants.

The mechanistic hypothesis suggests that investors focus on reported profit numbers without regard for how they have been calculated. For example, an increase in profit might result from reduced depreciation expenses after assets have become fully depreciated. According to the mechanistic hypothesis investors would ignore the effect of reduced depreciation when reviewing trends in the company's profit. The mechanistic hypothesis implies that investors would be less likely to be misled when comparing different firms' financial statements if all companies were required to use the same accounting policies.

Lastly, the efficient market hypothesis suggests that if the market is efficient in the semi-strong form, the share price reflects all publicly available information. Accordingly, the use of different accounting policies is not expected to mislead the market provided that information about the accounting policies is disclosed.

## Exercise 2.8

### Leases and efficient market hypothesis

**Accounting standard setters are debating changes to the requirements for accounting for leases. Currently, if a lease is classified as a finance lease, the leased asset and a corresponding lease liability are recognised in the statement of financial position of the lessee. However, if a lease is classified as an operating lease, a lease asset and a lease liability are not recognised by the lessee. Instead, lease payments are recognised as expenses as incurred and lease commitments are disclosed in the notes to the financial statements. The following statement has been made in relation to the proposed changes to accounting for leases:**

**If the efficient market hypothesis is correct, management would be indifferent between classifying the lease as a finance lease or as an operating lease.**

### Required

**Critically evaluate this statement.**

The evaluation of this statement commences with an explanation of the claim made, and then considers both its strengths and weaknesses. This evaluation argues that there is some merit in the statement but it reflects a misunderstanding of the implications of an efficient market and ignores other reasons why management might prefer to classify a lease as a finance lease.

The author (of the statement) asserts that managers would have no preference for classifying a lease as either operating or financing if the market is efficient. The classification of a lease as either operating or financing has implications for its effect on financial statements. Specifically, when a lease is classified as a finance lease, the leased asset and a corresponding lease liability for the present value of the minimum lease payments are recognised in the statement of financial position. Conversely, when a lease is classified as an operating lease, lease rental is expensed as incurred and the leased asset and corresponding liability are not recognised on the statement of financial position.

Market efficiency suggests that the share price would impound all information disclosed about the lease, irrespective of whether it is in the financial statements or in the notes. Although the statement is not specific, the implied form of market efficiency is the semi-strong form in which share prices respond in a rapid and unbiased manner to new publicly available information. Information included in general purpose financial reporting is publicly available, irrespective of whether disclosure is in the financial statement, or the notes to the financial statements. Thus, if the effect on the share price is the same irrespective of whether the lease is classified as a finance lease or an operating lease, management might be expected to be indifferent between the alternative lease classifications and their implications for financial statements.

The claim in the statement and the above argument contain some assumptions, including that managers believe the market to be efficient and act on that belief. Market efficiency does not rely on market participants believing in it. Management might still make choices on a mistaken belief in inefficiency; that some managers act as if the market is not efficient, does not mean it is not efficient. Indeed, market efficiency may be promoted by this disbelief as it acts as an incentive to search out and act upon more information – the so-called paradox of the efficient market hypothesis.

Another limitation of the statement is that it ignores other reasons why managers may prefer one accounting treatment over another. For example, debt constraints may give rise to preference for using off-balance sheet finance to keep the firm within a maximum leverage ratio permitted by a debt covenant. Managers may be more concerned about the relative consequences of breaching debt covenants than the market's reactions to leasing.

More generally, the efficient market hypothesis only considers the relationship between the release of information and market reaction, which reflects only one user group (investors). It does not attempt to explain the reactions or financial information literacy of credit analysts, which may influence management's preference for alternative lease classifications.

In conclusion, the statement that if the market were efficient, share price reactions would be robust to alternative lease classifications is only partly correct. It assumes the classification of leases has no other economic consequences. The extension of the efficient market implications to management's indifference to alternative lease classifications relies on an invalid assumption that market efficiency relies on management believing in it. The claim is also incorrect to the extent that other factors may influence managers' preference for lease classifications, and their effect on financial statement numbers.