Chapter 2—Australian Financial Markets

TRUE/FALSE

1. The culmination of the state stock exchanges eventuated in 1962.

   ANS: F
   The answer is false. Centralisation of the state stock exchanges began in the 1960s with the introduction of Uniform Listing Rules in 1962. The formation of the Australian Securities Exchange ASX in 1987 effectively created one national market.

   PTS: 2 DIF: Moderate REF: 2.2.1 Australia securities exchange

2. Trading on the Australian stock exchange is conducted on the CHESS system.

   ANS: F
   The answer is false. While the CHESS (Clearing House Electronic Sub-register system) system helps facilitate settlement, the actual trading of securities takes place on the CLICK XT platform which replaced SEATS (Stock Exchange Automated Trading System) system after the merger of the ASX and the Sydney Futures Exchange SFE in 2006.

   PTS: 2 DIF: Easy REF: 2.2.1 Australia securities exchanges

3. Trading on the Australian stock exchange is conducted on the SEATS system.

   ANS: F
   The answer is false. While the CHESS (Clearing House Electronic Sub-register system) system helps facilitate settlement, the actual trading of securities takes place on the CLICK XT platform that replaced SEATS (Stock Exchange Automated Trading System).

   PTS: 2 DIF: Easy REF: 2.2.1 Australia securities exchanges

4. The Integrated Trading System (ITS) system which permits automated order processing is used by brokers to also report regulatory requirements.

   ANS: F
   The answer is false. It allows the automated order processing for all ASX listed products which include equity, interest rate securities, warrants options, index futures and commodity futures. The ITS system facilitates surveillance by allowing detailed analysis of trading with the exception of reporting.

   PTS: 2 DIF: Moderate REF: 2.2 Equity markets in Australia

5. The S&P/ASX 50 is the narrowest of the S&P/ASX indices.

   ANS: F
   The answer is false. The S&P/ASX 20 is the narrowest of the S&P/ASX indices. It captures movements in the top 20 stocks by market capitalisation in the Australian market. In contrast, the S&P/ASX 50 captures movements in the top 50 stocks and hence is a broader index.

   PTS: 2 DIF: Moderate REF: 2.2.3.1.1 The breadth of the index

6. An accumulation index differs from a price index because it assumes that dividends are reinvested back into the stock.

   ANS: T
   The answer is true. An accumulation index represents the true return to an investor by incorporating both the price increase and dividends paid to the investor. In contrast, the price index only captures the price increase.

   PTS: 1 DIF: Easy REF: 2.2.3.1.5 Accumulation indices

7. Bills of exchange and debentures are both examples of securities traded on the Australian bond markets.

   ANS: F
   The answer is false. Bills of exchange, being short-term debt securities, fall into the money market asset class; debentures, being longer term in nature, are classified as a bond market security.

   PTS: 2 DIF: Moderate REF: 2.3 Australian debt markets

8. Both LICs and LITs are closed end vehicles, though LICs distribute dividends.

   ANS: F
   LITs are required to distribute earnings LICs need not distribute dividends.
   PTS: 1 DIF: Easy REF: 2.2.1.1 The primary and secondary markets in shares

9. According to ASX short-selling rules, all short-sold positions must be settled within three days.

   ANS: F
   The answer is false. The additional ASX rules that apply to short selling are outlined in the appendix 2.2.

   PTS: 2 DIF: Moderate REF: Appendix 2.2

10. A margin call occurs when the value of the borrowed money as a proportion of the portfolio value is too high. This ratio is typically known as the value to loan ratio.

    ANS: F
    The answer is false. Although the first part of the question is correct, the ratio is known as loan to valuation ratio (LVR)

    PTS: 2 DIF: Moderate REF: 2.2.4.4 Gearing an equity investment: margin loans

MULTIPLE CHOICE

1. In Australia, the main organized securities markets available to investors included:
   A. ASX
   B. ASX 24
   C. Chi-X
   D. All of the above

   ANS: D

Chi-X started trading on Oct. 2011. So by the end of 2013, ASX, ASX 24 and Chi-X are main trading systems.

PTS: 1 DIF: Easy REF: 2.2.1 Australian securities exchanges

2. Which of the following bodies is responsible for the supervision of financial markets in Australia like ASX and ASX 24?
   A. RBA
   B. ARPA
   C. ASIC
   D. Australian Government Treasury

ANS: C

ARPA has considerable regulatory influence over industries like the banking industry and the financial services industry it has less direct interest in regulation of the financial markets themselves. Treasury tends to take on more of an oversight role. RBA has regulatory powers in the financial markets concerned with ensuring that Financial Stability Standards are complied with.

PTS: 1 DIF: Easy REF: 2.2.1.2 Regulation

3. According to the ASX minimum price steps, which of the following represents the smallest possible positive simple return for a share with a current price of $4.00?
   A. 0.01%
   B. 0.04%
   C. 0.25%
   D. 1.00%

ANS: C

As outlined in appendix 2.1, the ASX minimum price steps for a share with a price between $2 and $998.99 is $0.010. Hence, the smallest positive simple return will be obtained if the share price increases to $4.01, which is a continuously compounded return of ln(4.01/4.00) = 0.25%.

PTS: 2 DIF: Moderate REF: Appendix 2.1

4. Which of the following does not affect(s) the performance on an index?
   A. breadth
   B. weighting system
   C. capitalisation adjustments
   D. dividend effects

ANS: D

The performance of an index will be affected by the number of shares in the index (i.e. breadth), whether the index is equal, value or price weighted (i.e. the weighting system) and how the index incorporates bonus issues and rights issues (i.e. capitalisation adjustments). Dividend payments are received when investing, these intra-period returns are also known as intermediate returns.

PTS: 2 DIF: Moderate REF: 2.2.3 Historical equity performance

5. ________are traded in the ASX 24 system.
   A. Australian Government bonds
   B. Exchange-traded options
   C. equities
   D. Future contracts such as ASX SPI200

ANS: D

PTS: 1 DIF: Easy REF: 2.2.1Australian securities exchanges

6. The broadest index in the Australian equity market is the:
   A. S&P/ASX 200
   B. S&P/ASX 50
   C. ASX All-Ordinaries
   D. Consumer Price Index

   ANS: C
   The ASX All-Ordinaries represents the value-weighted movements of approximately 500 shares in the Australian equity market, and hence is the broadest index of those listed. In contrast, the S&P/ASX 200 and S&P/ASX 50 are equity indices representing 200 and 50 stocks respectively and hence are said to be narrower than the All-Ordinaries index. Finally, the Consumer Price Index (CPI) is a measurement of the prices of goods and services, and hence is not an equity index.

   PTS: 1 DIF: Easy REF: 2.2.3.1.1 The breadth of the index

7. Which index weighting systems are most share indices using?
   A. equal-weighted index
   B. value-weighted index
   C. price-weighted index
   D. All of above

   ANS: B
   Most share indices are value-weighted, such as the indices produced by ASX.

   PTS: 1 DIF: Easy REF: 2.2.3.1.2 Index weighting systems

8. Which of the following represent(s) the way in which Australian debt instruments are taxed differently from Australian equity instruments?
   A. the dividends on Australian equity instruments are not taxed
   B. capital gains on debt instruments are not subject to CGT
   C. capital gains on equity instruments are not subject to CGT
   D. all of the above

   ANS: B
   Australian equity instruments are taxed as follows: capital gains and/or losses attract the capital gains tax (CGT) provisions, and dividends are taxed as ordinary income (note imputation has removed the double taxation of dividends that occurred under the previous classical tax system, but these payments are still subject to tax). In contrast, capital gains for debt instruments are taxed as ordinary income rather than attracting CGT.

   PTS: 3 DIF: Difficult REF: 2.2.4 Taxation of Australian equity instruments, 2.3.4 Taxation of Australian debt instruments

9. Which of the following is defined as a money market instrument that is termed a 'negotiable instrument'?

   A. bill of exchange
   B. promissory note
   C. certificate of deposit
   D. treasury note

   ANS: A

‘Bills of exchange’ can be discounted, or sold, in the money market as they are negotiable instruments.

PTS: 1 DIF: Easy REF: 2.3.1.2 Promissory note

10. When constructing a residential property index, it is generally not assumed that properties:
A. have been fully renovated
B. have been sold within a reasonable time of their purchase
C. have been sold through an agent
D. are easily tenanted

ANS: A
While indices are available for residential properties, the interpretation of these is subject to a number of implicit assumptions regarding the properties in the index. One of the most important of these is that the property has not been improved. That is, the property should remain the same over successive sales to determine the true change in the property value. Any improvements undertaken could result in an artificially high selling price, which would overstate the return on the investment. There is no requirement that a house be sold within a certain time or that an agent is used.

PTS: 2 DIF: Moderate REF: 2.4.1 Australian property market instruments

ABC Limited: Order book			
Price (to buy)	**Quantity (to buy)**	**Price (to sell)**	**Quantity (to sell)**
$1.00	50 000	$1.10	25 000
$0.90	25 000	$1.20	50 000
$0.80	50 000	$1.30	100 000

11. Given the order book for ABC Limited, suppose a *market order* arrives to buy 80,000 shares. At what price will the trade occur?
A. $0.80
B. $1.00
C. $1.10
D. $1.30

ANS: C
A market order to buy shares will occur at the lowest available selling price in the order book. This price is $1.10; given that there are insufficient shares available at that price (i.e. 25 000 and 80 000 shares are required to fill the order), 25 000 shares will trade at the price of $1.10. The next 50 000 shares will be bought at $1.20 and the last 5 000 shares at $1.30.

PTS: 2 DIF: Moderate REF: 2.2.2.2 Types of trades

12. Given the order book for ABC Limited, suppose a *limit order* arrives to buy 1000 shares at $1.05. At what price will the trade occur? (Assume no new orders arrive after the limit order.)
A. $0.80
B. $1.00
C. $1.10
D. Uncertain as no trade will occur

ANS: D

A *limit order* to buy is used to purchase shares at a specific price. However, the transaction will only proceed if there are sufficient shares available at the required price. In this case, there are no traders willing to sell at a price of \$1.05 (the lowest available selling price is \$1.10), and hence the trade will not take place. Instead, the limit order will be placed on the order book as a price (to buy) of \$1.05 for a quantity (to buy) of 1000 shares. No trade will take place at this point in time.

PTS: 2 DIF: Moderate REF: 2.2.2.2 Types of trades

13. Given the order book for ABC limited, suppose a *market order* arrives to buy 100 000 shares. What is the cost of the 100 000 shares to the trader?
A. \$ 120 000
B. \$ 90 000
C. \$ 80 000
D. \$ 130 000

ANS: A
The *market order* to buy will purchase shares at the best possible price (i.e. at the lowest price traders are willing to sell). However, there are only 25 000 shares available at the lowest sell price of \$1.10, and therefore the remaining shares will be purchased at the next lowest share price of \$1.20. Hence, the total cost of the shares will be 25000 × \$1.10 + 50000 × \$1.20 + 25000× \$1.30 = \$120000.

PTS: 3 DIF: Difficult REF: 2.2.2.2 Types of trades

Day	**BHP price (end of day)**	**ANZ price (end of day)**
Monday	\$18.20	\$24.50
Tuesday	\$19.00	\$24.80
Wednesday	\$17.80	\$25.90
Thursday	\$16.55	\$26.00

14. Consider the end of day prices for ANZ and BHP for Monday through Thursday. Suppose an investor short sells BHP over this period, calculate their continuously compounded return to the investor.
A. –9.97%
B. –9.95%
C. 9.50%
D. 9.97%

ANS: C
Short selling amounts to borrowing the share and then repaying the share at a later date. In this case, the investor will effectively borrow (and sell) the share at the Monday price of \$18.20 and then purchase the share at the Thursday price of \$16.55. Hence, the continuously compounded return to the investor is ln(18.20/16.55) = 0.095 or 9.5%.

PTS: 2 DIF: Moderate REF: 2.2.2.2 Types of trades

15. Consider the end of day prices for ANZ and BHP for Monday through Thursday. Suppose an investor short sells BHP and buys ANZ, what will the continuously compounded return be on the investor’s combined position if the investments have equal weight?
A. –3.56%
B. 3.56%
C. 7.72%
D. 15.44%

ANS: C

Short selling amounts to borrowing the share and then repaying the share at a later date. In this case, the investor will effectively borrow (and sell) the share at the Monday price of $18.20 and then purchase the share at the Thursday price of $16.55. Hence, the continuously compounded return to the investor for BHP is ln(18.20/16.55) = 0.095 or 9.5%. The bought position in ANZ will generate a return over the period of ln(26.00/24.50) = 5.94%. Therefore, the equally weighted return to the investor will be (0.095 + 0.0594)/2 = 0.0772 or 7.72%.

PTS: 2 DIF: Moderate REF: 2.2.2.2 Types of trades

16. Hendra Heights Ltd has 28 000 000 shares on issue. The company makes a rights issue on the basis of one share for every seven already held. The subscription price for a new share is $4.20 per share. If all rights are taken up such that the issue is fully subscribed, and the current market value of the company's shares is $7.50, what is the amount raised by the company through the rights issue?
    A. $16.8m
    B. $30.0m
    C. $445.6m
    D. $450.0m

    ANS: A

    If the company has 28 000 000 shares on issue, and has a one for seven rights issue, then 4 000 000 new shares will be issued. The company will receive the subscription price for each of these shares, and hence the amount raised will be 4000000 × $4.20 = $16.8 m.

    PTS: 3 DIF: Difficult REF: 2.2.3.1.3 Capitalisation changes

17. Cruiser Ltd has 3 000 000 shares on issue. The company makes a rights issue on the basis of one share for every six already held. The subscription price for a new share is $3.20 per share. The current market value of the company's shares is $4.00. What would be the ex-rights share price?
    A. $2.76
    B. $3.17
    C. $3.89
    D. $4.06

    ANS: C

    Six shares are worth $24.00 (6 × $4.00). One new share costs $3.20. Hence, ex-rights, seven shares are worth $27.20, which makes the ex-rights share price $27.20/7 = $3.89.

    PTS: 2 DIF: Moderate REF: 2.2.3.1.3 Capitalisation changes

18. Company XYZ initially has a share price of $1. The company makes a rights issue on the basis of 1 for every 1 held, with a subscription price of $0.50. Calculate the ex-rights price of the XYZ shares.
    A. $0.25
    B. $0.75
    C. $1.25
    D. $1.50

    ANS: B

    After the rights issue, the investor has two shares with a combined value of $1.50. Hence each is worth $1.50/2 = $0.75.

    PTS: 1 DIF: Easy REF: 2.2.3.1.3 Capitalisation changes

19. Company DEF initially has a share price of $8. The company makes a rights issue on the basis of one for every five held, with a subscription price of $5.00. Calculate the ex-rights price of the DEF shares.
    A. $5.00
    B. $6.50
    C. $7.00
    D. $7.50

    ANS: D
    Six shares are now worth $(5 \times 8) + (1 \times 5) = \$45$, hence, one is worth $7.50.

    PTS: 1 DIF: Moderate REF: 2.2.3.1.3 Capitalisation changes

20. Company ABC has a share price of $10 and has 400 000 shares on issue. If the company makes a bonus issue of 100 000 additional shares, calculate the ex-bonus price of shares in ABC.
    A. $2.00
    B. $5.00
    C. $7.50
    D. $8.00

    ANS: D
    500 000 shares worth $4 000 000, hence, one share = $8.00.

    PTS: 1 DIF: Easy REF: 2.2.3.1.3 Capitalisation changes

21. Taxman Ltd currently has 4 500 000 shares on issue. Taxman Ltd makes a bonus issue on the basis of one share for every five shares currently held. Before the bonus issue, the company's shares trade at $8.50. What would be the expected ex-bonus price?
    A. $6.80
    B. $7.08
    C. $7.80
    D. $8.15

    ANS: B
    There will be an additional 900 000 shares, but the value of the company is not expected to change. Hence, the value of Taxman Ltd before the issue is $38 250 000. Now, each share is worth $7.08 (38250000/5400000).

    PTS: 2 DIF: Moderate REF: 2.2.3.1.3 Capitalisation changes

22. Taxman Ltd currently has 4 500 000 shares on issue. Taxman Ltd makes a bonus issue on the basis of one share for every five shares currently held. Before the bonus issue, the company's shares were trading at $8.50. What is the new share price observed in the market (i.e. assuming no adjustment is made)?
    A. $6.80
    B. $7.08
    C. $7.80
    D. $8.15

    ANS: B
    The share price will fall in proportion to the number of new shares issued. In this case, Taxman will issue one for every five, which implies that the share price will fall by 5/6 or 83.3%. The observed market price (i.e. without adjusting for the bonus issue) will be $\$8.50 \times 0.833 = \$7.08$.

    PTS: 3 DIF: Difficult REF: 2.2.3.1.3 Capitalisation changes

23. An investor wants to calculate the continuously compounded return for month t for a company. If the share price of the company was \$4.50 at the start of month t and \$7.25 at the end of month t, then the month t continuously compounded return is:
A. 30.50%
B. 33.65%
C. 40.00%
D. 47.69%

ANS: D
The continuously compounded return for month t is calculated as ln(7.25/4.5) = 0.4769.

PTS: 1 DIF: Easy REF: 2.2.3.1.4 Dividend effects

24. An investor wants to calculate the continuously compounded return for month t for a company. If the share price of the company was \$4.50 at the start of month t and \$7.25 at the end of month t and the company paid a dividend of \$0.80 in month t, then the month t return is:
A. 16.40%
B. 58.16%
C. 26.20%
D. 47.70%

ANS: B
The dividend should be included in the calculation of return, as it represents a return to the investor. Hence, the continuously compounded return to the investor is ln((7.25+ 0.80)/4.5) = 0.5816 or 58.16%.

PTS: 2 DIF: Moderate REF: 2.2.3.1.4 Dividend effects

25. Assuming an imputation tax system with a corporate tax rate of 28%, what is the *net personal tax* for an investor with a personal tax rate of 45%, if the fully franked dividend is \$14 000?
A. –\$3000
B. \$0
C. \$3306
D. \$6000

ANS: C
The size of the assessable dividend is the franked dividend divided by 1 minus the corporate tax rate, or 14000/(1 – 0.28) = 19444. On this amount, the investor will pay tax at the marginal rate of 45% (i.e. \$19444 × 0.45 = \$8750), but will receive a tax credit at the corporate tax rate of 28% (i.e. \$19444 × 0.28 = \$5444). The net personal tax amount is therefore \$8750 – \$5444 = \$3306.

PTS: 2 DIF: Moderate REF: 2.2.4.3 Taxation of dividend income

26. Assuming an imputation tax system with a corporate tax rate of 30%, what is the *after tax dividend* for an investor with a personal tax rate of 47%, if the fully franked dividend is \$14 000?
A. \$6000
B. \$9400
C. \$10 600
D. \$14 000

ANS: C

The size of the assessable dividend is the franked dividend divided by 1 minus the corporate tax rate, or 14000/(1 – 0.30) = 20000. On this amount, the investor will pay tax at the marginal rate of 47% (i.e. $20000 × 0.47 = $9400), but will receive a tax credit at the corporate tax rate of 30% (i.e. $20000 × 0.30 = $6000). The net personal tax amount is therefore $9400 – $6000 = $3400, which makes the after tax dividend $14 000 less $3400 = $10 600.

PTS: 2 DIF: Moderate REF: 2.2.4.3 Taxation of dividend income

27. Assuming an imputation tax system with a corporate tax rate of 30%, what is the *net personal tax* for an investor with a personal tax rate of 15%, if the fully franked dividend is $14 000?
A. –$3000
B. $0
C. $3400
D. $6000

ANS: A
The size of the assessable dividend is the franked dividend divided by 1 minus the corporate tax rate, or 14000/(1 – 0.30) = 20000. On this amount, the investor will pay tax at the marginal rate of 15% (i.e. $20000 × 0.15 = $3000) but will receive a tax credit at the corporate tax rate of 30% (i.e. $20000 × 0.30 = $6000). The net personal tax amount is therefore 3000 – 6000 = –$3000, making A the correct answer.

PTS: 2 DIF: Moderate REF: 2.2.4.3 Taxation of dividend income

28. Assuming an imputation tax system with a corporate tax rate of 28%, what is the *after tax dividend* for an investor with a personal tax rate of 15%, if the fully franked dividend is $21 000?
A. $11 985
B. $14 225
C. $17 330
D. $25 375

ANS: D
The size of the assessable dividend is the franked dividend divided by 1 minus the corporate tax rate, or 21 000/(1 – 0.28) = 29 167. On this amount, the investor will pay tax at the marginal rate of 15% (i.e. $29 167 × 0.15 = $4375) but will receive a tax credit at the corporate tax rate of 28% (i.e. $29 167 × 0.28 = $8167). The net personal tax amount is therefore 4375 – 8167 = –$3792, which makes the after tax dividend $21 000 plus $4375 which equals $25375.

PTS: 2 DIF: Moderate REF: 2.2.4.3 Taxation of dividend income

29. Assuming an imputation tax system with a corporate tax rate of 30%, what is the *net personal tax* for an investor with a personal tax rate of 30%, if the fully franked dividend is $10 000?
A. –$3000
B. $0
C. $3400
D. $6000

ANS: D

The size of the assessable dividend is the franked dividend divided by 1 minus the corporate tax rate, or 10 000/(1 – 0.30) = 14,286. On this amount, the investor will pay tax at the marginal rate of 30% (i.e. $14, 286 × 0.30 = $4,285), but will receive a tax credit at the corporate tax rate of 30% (i.e. $14,286 × 0.30 = $4,285). The net personal tax amount is therefore zero, making B the correct answer.

PTS: 2 DIF: Moderate REF: 2.2.4.3 Taxation of dividend income

30. Assume an investor buys an apartment for investment purpose for $400,000. The purchase is financed with 50,000 of the investor's money and the rest, $350,000, is borrowed at a rate of 8%. Suppose the apartment earns rental income of $10,000 and the investor earns $100,000 p.a. and the marginal tax rate is 37%. Calculate the loss on the property.
A. $11,340
B. $6,660
C. $10,360
D. $17,640

ANS: A
The interest cost on the borrowed money is 350,000*0.08=28,000 exceeds the rental income about 18,000 (28,000-10,000).18,000*0.37=6,660 then, 18,000-6,660=11,340

PTS: 1 DIF: Moderate REF: 2.4.2 Property taxation issues