PEARSON ALWAYS LEARNING

CHAPTER 2

The tax environment

CHAPTER ORIENTATION

To be able to make financial decisions that will maximise the wealth of the owners of the business it is necessary to correctly include the impact of taxation. The objective of this chapter is to provide the student at an early point in the textbook with a basic understanding of the major components of the taxation setting in which Australian firms operate. The basic components of calculating the income tax obligations for different taxation entities are identified. This is followed by an analysis of the income tax treatment of companies and shareholders with particular emphasis given to the Australian dividend imputation system. Also briefly outlined are the major components of Australian capital gains taxation and the determination of the after-tax rate of return for investors. To simplify the impact of taxation on financial decision making, the chapter allocates businesses into various taxation categories in accordance with the extent that business tax deductions increase the after-tax wealth of the owners of the business.

CHAPTER OUTLINE

1. What does tax have to do with financial management?

(a) The impact of the incidence of taxation on the maximisation of the wealth of the owners of the business.

(b) Focus of financial management decision making on maximising the after-tax wealth of the owners of the business.

1. An introduction to income tax

(a) Interdependency of the Australian taxation system with government social and economic policies.

(b) Categorising taxpayers into three broad types: individuals, companies and fiduciaries. Computing the taxable income and the tax liability of individuals and companies. Stepped income tax rates for individual taxpayers and flat tax rates for companies. The difference between the average tax rate and the marginal tax rate.

2. Income tax on companies and shareholders

(a) The double taxation of company income under a classical tax system compared with the objective of the Australian dividend imputation system to effectively levy tax on company net income at the shareholders' marginal tax rate.

(b) The mechanics of the Australian dividend imputation system – franked, unfranked and partially franked dividends, grossing-up of franked dividends, imputation (franking) credits. The effect of different marginal tax rates and surplus imputation credits on shareholders' after-tax wealth.

3. Implications of dividend imputation for business decision making

(a) The impact of the extent of the integration of the company and its shareholders through the Australian dividend imputation system on financial decision making. Full integration occurs when Australian resident shareholders are able to fully utilise imputation credits and therefore are essentially taxed on the net income of the company's business as if they were partners in the business. The after-tax wealth of these shareholders will be directly determined by the amount of the company's before-tax income. Consequently, the financial decision-making objective for these companies (identified as taxation category 1) should be to maximise company before-tax income.

For companies with shareholders who are not fully integrated into the dividend imputation system because they cannot fully utilise imputation credits, the amount of income tax paid by the company can affect shareholder wealth. In an extreme case, the net income of companies with shareholders who cannot utilise any value of imputation credits is subject to a classical tax system. The financial decision-making objective for these companies (identified as taxation category 2) should be to maximise company after-tax income.

(b) For non-corporate types of entities (sole trader, partnership) income tax is levied at the individual level so decisions that minimise the income tax paid on business net income will maximise the after-tax wealth of the business owners. This is the same financial decision-making objective as for taxation category 2 companies with shareholders who are not integrated into the dividend imputation system.

4. An introduction to capital-gains taxation

A brief outline of the capital-gains tax laws as they apply in Australia identifies that tax is paid on net capital gains. A concessionary discount of the relevant tax payable is provided to various entities, but does not include companies.

5. Implications of income tax and capital-gains tax on rates of return for shareholders

An illustration of how the after-tax return on an investment is affected by income tax and capital-gains tax payable.

6. Summary

Given the financial decision-making objective to maximise the wealth of the owners of the business, the purpose of this chapter is to provide a relatively simple outline of the Australian taxation system and its impacts on achieving this objective.

SOLUTIONS TO REVIEW QUESTIONS

2-1 Assessable income refers to all income earned by a taxpayer which potentially forms part of taxable income. This is contrasted with taxable income, which is the amount upon which income tax is levied and is equal to assessable income minus allowable deductions.

2-2 Taxation law governs the calculation of taxable income (assessable income minus allowable deductions) whereas accounting rules (generally based on some form of accounting standards) are used to determine accounting net profit (net income) from revenues less expenses. An example of the difference between tax and accounting rules is the concessional tax deduction for research and development, which provides a taxpayer with an allowable deduction that may be larger than the expense amount used in calculating net profit. As a consequence, taxable income will be lower than accounting net profit. For companies, the reduction in tax paid will have an impact on the amount of franking (imputation) credits that can be provided to shareholders with dividends that are paid from accounting net profits. It is important to remember that the amount of dividends a company can pay is determined by the amount of its after-tax accounting net profits and not the amount of its taxable income.

2-3 A major focus of financial management is measuring the effects of a decision on the incremental cash flows of an entity. This requires looking at the entity's cash flows at the margin to see whether they increase or decrease in response to the decision being evaluated. To identify the tax effects of these cash-flow changes it is important to apply the appropriate tax rate, which is the marginal tax rate. This is the tax rate applying to each incremental taxable cash flow. For a company, the marginal tax rate is currently 30% irrespective of the amount of taxable income. Therefore, a financial decision which increases taxable income by $1 will result in 30 cents more tax being payable by the company. For individuals, the marginal tax rate changes depending on the current level of taxable income. Therefore, the tax effect of a $1 increase or decrease in taxable income will depend on the taxpayer's marginal rate.

2-4 Individual taxpayers are required to determine amounts of assessable income and allowable deductions in accordance with the current taxation laws. Given these two components, the taxable income will be equal to assessable income minus allowable deductions. The gross amount of tax is calculated by applying individual marginal tax rates to the taxable income. The net amount of tax payable to the government will be equal to the gross amount less any tax rebates/offsets that the individual taxpayer is entitled to. Examples of tax rebates/offsets include franking (imputation) credits, low-income earners, sole parents and residents in a designated remote area.

2-5 A partnership doesn't pay tax on its net income. Each partner is allocated their share of the partnership taxable income. Each partner includes this amount in their taxable income and tax is levied at the rates applicable for that taxpayer (e.g. individual).

2-6 The major implication of a classical tax system is that the net income of the company is taxed twice:

1. Income tax is initially paid at the company level (at the company tax rate) on its net income.

2. When a shareholder receives a dividend paid from the company's after-tax net income, the shareholder is levied tax on the dividend amount at their personal tax rate.

Depending on company and personal tax rates, up to 80 cents of each dollar of net income earned by a company could be paid as income tax. If this were the case, shareholders would only receive 20 cents after tax from the $1 earned by the business of their company.

2-7 The purpose of the dividend imputation system is to remove the double taxation of company net income that occurs with a classical tax system. The imputation system aims to tax company net income only once at the shareholder's marginal tax rate through the following steps:

1. The company pays income tax to the government on its taxable income.
2. The company can pay dividends to its shareholders from its after-tax net income.
3. When the company pays dividends it has to advise its shareholders the amount of imputation (franking) credits. These credits represent an amount of income tax paid by the company.
4. Shareholders are required to include in their taxable income the 'grossed-up' dividend amount that comprises the amount of dividend received plus the amount of imputation (franking) credits.
5. Income tax is levied on the grossed-up dividend amount at the shareholder's marginal tax rate.
6. The shareholder is entitled to reduce their tax liability by the amount of the imputation credit.

The outcome of the dividend imputation process is that once dividends are distributed by the company, its net income is effectively only taxed once at the shareholder's marginal tax rate. Therefore, the income tax paid by the company can be viewed as a prepayment of the income tax payable by shareholders on their share of the company's net income.

2-8 **(a)** A fully franked dividend is a dividend paid from the company net income upon which full Australian company income tax has been paid by the company. Accordingly, shareholders receive the full amount of imputation credits with the dividend.

A partially franked dividend is a dividend paid from the company net income upon which only some Australian income tax has been paid by the company. Accordingly, shareholders receive less than the full amount of imputation credits with the dividend.

An unfranked dividend is paid from the company net income where no Australian income tax has been paid by the company. Accordingly, shareholders receive no imputation credits with the dividend.

(b) The 'grossed-up' value (amount of the dividend plus the value of the imputation credit) of the fully franked and partially franked dividend is included in the shareholder's assessable income. As unfranked dividends have no imputation credits, only the amount of the unfranked dividend is included in the shareholder's assessable income.

2-9 An imputation (franking) credit is the amount of Australian income tax paid by a company on its net income that is paid as a dividend to its shareholders. The credit is used to reduce the amount of income tax shareholders have to pay on the grossed-up dividend amount. The credit thereby ensures that the total amount of income tax paid on the company's net income is determined by the shareholder's marginal tax rate.

2-10 Under a fully integrated imputation system, shareholders can use 100% of the value of imputation credits to offset any income tax that is levied on the dividend income they receive from the company. When full integration occurs, the net income of the company is effectively only taxed once at the shareholder's marginal tax rate and the income tax paid by the company can be viewed as a prepayment of the tax to be levied on the shareholders. Consequently, the objective of financial decisions for fully integrated companies (identified as taxation category 1) should be to maximise the company's *before-tax* net income as this will maximise the after-tax income of the company's shareholder. The important implication for taxation category 1 companies is that maximising company income tax deductions (and thereby minimising the amount of income tax paid by the company) will not increase the after-tax wealth of shareholders.

For a company whose shareholders are not fully integrated into the dividend imputation system because they cannot fully utilise the value of Australian franking credits, additional company income tax deductions can increase the after-tax wealth of shareholders. Consequently, the objective of financial decisions for taxation category 2 and 3 companies should be to maximise the company's *after-tax* net income.

SOLUTIONS TO PROBLEMS

Students should be made aware that solutions identified by an asterisk * are also provided with brief check answers at MyFinanceLab at www.pearsoned.com.au/myfinancelab

All the following problems apply the individual income-tax rates as detailed in Table 2.1 and a company tax rate of 30%.

2-1*

	$	$
Assessable income:		
Sales		340,000
Less: Allowable deductions:		
Cost of merchandise sold (55% of sales)	187,000	
Operating expenses	50,000	
Depreciation	50,000	
Interest expense	25,000	(272,000)
Taxable income		**68,000**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 68,000	31,000	30	9,300
Total	**68,000**		**13,950**

2-2 This question can be answered in two ways.

1. Recalculate Amy's tax payable with the inclusion of the additional tax deduction.

Previous taxable income		$68,000
– Additional tax deduction ($50,000 × 10%)	5,000	
New taxable income	$63,000	

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 63,000	26,000	30	7,800
Total	**63,000**		**12,450**

Reduction in tax payable = $13,950 – $12,450 = $1,500

2. Recognise that the additional deduction is a tax saving which will be equal to the amount of the additional deduction × the taxpayer's marginal tax rate.

   Additional deduction = $50,000 × 10% = $5,000

   Tax saving = $5,000 × 0.30 = $1,500

2-3* (1) Recalculate the taxable income and tax payable.

Previous taxable income from question 2-2	$63,000
Plus additional assessable income	45,000
	$108,000

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 108,000	28,000	37	10,360
Total	**108,000**		**27,910**

Increase in tax payable from question 2-2 = $27,910 – $12,450 = $15,460

(2) Recognise that the additional assessable income is equal to the amount of the additional assessable income multiplied by the taxpayer's marginal tax rate.

The marginal tax rate applicable to the first $17,000 of the additional income is 30% and the marginal tax rate applicable to the remaining $28,000 of the additional income is 37%. Thus the appropriate calculation will be:

$17,000 × 0.30 =	$5,100
$28,000 × 0.37 =	$10,360
	$15,460

2-4

	$	$
Assessable income:		
Fees		900,000
Less: Allowable deductions:		
Staff costs	630,000	
Operating expenses	85,000	(715,000)
Taxable income		**185,000**

Assessable Capital Gains:

Capital gain = $160,000 – $115,000 = $45,000

Concessional discount for individual taxpayer = 50%

Assessable capital gain = 45,000 × 0.5 = $22,500

Total taxable income = $185,000 + $22,500 = $207,500

Kate's income tax liability will be:

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 180,000	100,000	37	37,000
180,000 – 207,500	27,500	45	12,375
Total	**207,500**		**66,925**

2-5*

	$	$
Assessable income:		
Sales		120,000
Less: Allowable deductions:		
Operating expenses	50,000	
Depreciation	10,000	(60,000)
Net operating income		60,000
+ 'Grossed-up' franked dividends 15,000 / (1 – 0.30)		21,429
+ Unfranked dividends		5,000
Taxable income		**86,429**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 86,429	6,429	37	2,379
Total	86,429		19,929
Less franking credits 15,000 × 0.30 / (1 – 0.30)			(6,429)
Total payable			**13,500**

2-6 **(a)**

	$	$
Assessable income:		
Sales		120,000
Less: Allowable deductions:		
Operating expenses	50,000	
Depreciation	10,000	(60,000)
Net operating income		60,000
+ 'Grossed-up' franked dividends 18,500 / (1 – 0.30)		26,429
Taxable income		**86,429**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 86,429	6,429	37	2,379
Total	86,429		19,929
Less franking credits 18,500 × 0.30 / (1 – 0.30)			(7,929)
Total payable			**12,000**

(b) After personal-tax income Phil Schubert.

Question 2-5

Net operating income	60,000
+ Franked dividend	15,000
+ Unfranked dividend	5,000
= Total income	80,000
– Personal tax payable	(13,500)
= **After personal-tax income**	**$66,500**

Question 2-6

Net operating income	60,000
+ Franked dividend	18,500
= Total assessable income	78,500
- Personal tax payable	(12,000)
= **After personal-tax income**	**$66,500**

The after personal-tax income has stayed constant at $66,500. The question shows the purpose of the imputation system to tax a shareholder's share of the company's net income at the shareholder's marginal personal tax rate. In question 2-5, the unfranked dividend of $5,000 is equal to Phil having a $5,000 share of the company's net income before company income tax. As this amount was not taxed at the company level, Phil had to pay personal income tax at his marginal tax rate of 37%, i.e. $5,000 × 0.37 = $1,850.

In question 2-6, the fully franked dividend of $3,500 represents Phil's share of $5,000 of company net income before the company paid income tax of $1,500. Therefore, Phil is levied income tax on the grossed-up fully franked dividend value of $5,000 which at his marginal personal tax rate is equal to $5,000 × 0.37 = $1,850. However, he is entitled to an imputation credit of $1,500 for the income tax paid by the company. Therefore, in question 2-6 he received $1,500 less in dividend income than in question 2-5 but has to pay $1,500 less in personal income tax. As a consequence, after personal income tax, the difference between the two scenarios is zero.

2-7*

	$	$
Assessable income		
Wages:	31,000	
Rental income	2,000	33,000
+ 'Grossed-up' franked dividends 1,854 + 705		2,559
+ Unfranked dividends		430
Taxable income		**35,989**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 35,989	29,989	15	4,498
Total	35,989		4,498
Less franking credits			(705)
Total payable			**3,793**

2-8*

	$	$
Assessable income:		
Sales		690,000
Less: Allowable deductions		
Cost of goods sold:	320,000	
Operating expenses:	110,000	
Interest:	18,000	
Depreciation	25,000	(473,000)
Net operating income		217,000
+ 'Grossed-up' franked dividends 25,000 / (1 – 0.30)		35,714
+ Unfranked dividends		6,500
+ Assessable capital gain		2,000
*		
Taxable income		**261,214**

* Assessable Capital Gain

ABC Ltd: Sale Price > Purchase Cost. Capital Gain = $25,000 – $17,000 = $8,000

XYZ: Sale Price < Purchase Cost. Capital Loss = $10,000 – $14,000 = ($4,000)

Total net capital gain = $8,000 – $4,000 = $4,000

Concessional discount for individual taxpayer = 50%

Assessable capital gain = $4,000 × 0.5 = $2,000

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 180,000	100,000	37	37,000
180,000 – 261,214	81,214	45	36,546
Total	261,214		91,096
Less franking credits 25,000 × 0.30 / (1 – 0.30)			(10,714)
Total payable			**80,382**

2-9*

	$	$
Assessable income:		
Sales	5,000,000	
Interest received	15,000	5,015,000
Less: Allowable deductions		
Cost of goods sold:	2,500,000	
Operating expenses:	900,000	
Interest paid	100,000	(3,500,000)
Taxable income		**1,515,000**

Tax payable = $1,515,000 × 30% = $454,500

Fully franked dividends = $1,515,000 – $454,500 = $1,060,500

Imputation credits = $454,500

2-10

	$	$
Assessable income:		
Sales	5,000,000	
Interest received	15,000	5,015,000
Less: Allowable deductions		
Cost of goods sold:	2,500,000	
Operating expenses:	900,000	
Interest paid	100,000	
Investment allowance (500,000 × 0.10)	50,000	(3,550,000)
Taxable income		**1,465,000**

Tax payable = $1,465,000 × 30% = $439,500

Decrease in tax payable = $454,500 – $439,500 = $15,000

Alternatively: Tax saving = $50,000 × 30% = $15,000

As the company has now not paid tax at 30% on all of its accounting net income of $1,515,000, the dividends it is able to pay will only be partially franked (a partially franked dividend is a combination of a fully franked dividend and an unfranked dividend).

Note that the investment allowance, being an income tax concession and not accounting expense, is omitted from the calculation of accounting net income.

Partially franked dividends payable = $1,515,000 – $439,500 = $1,075,500

Imputation credits = $439,500

2-11*

	$	$
Assessable income:		
Sales		4,500,000
Less: Allowable deductions:		
Cost of merchandise sold	2,200,000	
Operating expenses	175,000	
Depreciation	130,000	
Interest paid	150,000	
Research & Development	2,250,000	(4,905,000)
1,500,000 × 1.5		
Tax loss		**(405,000)**

Tax Payable: Nil

Accounting Profit

	$	$
Sales		4,500,000
Less: Expenses:		
Cost of merchandise sold	2,200,000	
Operating expenses	175,000	
Depreciation	130,000	
Interest paid	150,000	
Research & Development	1,500,000	(4,155,000)
Accounting profit		**345,000**

Dividends payable = Accounting net income – tax paid

= $345,000 – $0 = $345,000

This amount is able to be paid to shareholders in the form of unfranked dividends.

2-12*

	$	$
Assessable income:		
Sales		6,500,000
Less: Allowable deductions:		
Cost of sales & operating expenses	5,850,000	
Depreciation	150,000	
Interest paid	360,000	(6,360,000)
Taxable income		**140,000**

Tax payable: $140,000 × 30% = $42,000

Company net income (Profit) After-tax = $140,000 – $42,000 = $98,000

Dividend Distribution

	Fully Franked	**Imputation Credits**
M. Utsumi (80%)	$78,400	$33,600
K. Utsumi (20%)	$19,600	$8,400
	$98,000	$42,000

M. Utsumi	$	$
'Grossed-up' franked dividends 78,400 + 33,600		112,000
Taxable income		**112,000**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 112,000	32,000	37	11,840
Total	112,000		29,390
Less franking credits			(33,600)
Refund of surplus franking credits			**4,210**

K. Utsumi	$	$
'Grossed-up' franked dividends 19,600 + 8,400		28,000
Taxable income		**28,000**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 28,000	22,000	15	3,300
Total	28,000		3,300
Less franking credits			(8,400)
Refund of surplus franking credits			**5,100**

2-13*

	$	$
Assessable income:		
Wages		65,000
+ 'Grossed-up' franked dividends 1,800 / (1 – 0.30)		2,571
+ Assessable capital gain (27,000 – 20,000) × 50%		3,500
Taxable income		**71,071**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 71,071	34,071	30	10,221
Total	71,071		14,871
Less franking credits 2,571 × 0.30 / (1 – 0.30)			(771)
Total payable			**14,100**

After-tax income: $65,000 + 1,800 + 7,000 – 14,100 = $59,700

Tax payable on wages income of $65,000 = ($6,000 × 0%)

+ ($31,000 × 15%)

+ ($28,000 × 30%)

= $13,050

Incremental tax payable on share return = $14,100 – $13,050 = $1,050

After-tax $ return from shares = 1,800 + 7,000 – 1,050 = $7,750

After-tax % return from share investment of $20,000 = 7,750/20,000 = 38.75%

2-14 (a) At the end of 5 years the written down value of the machine will be:

$30,000 – (5 × $3,000) = $15,000

If the machine is sold for $25,000, the profit on sale will be:

$25,000 – $15,000 = $10,000

This profit on sale (= recovery of previously claimed depreciation) gives rise to the following tax liability:

($25,000 – $15,000) × 0.28 = $2,800

(b) If the machine is sold for its depreciated (book) value of $15,000 no taxation adjustment will occur.

(c) If the machine is sold below book value, the tax saving is as follows:

($15,000 – $12,000) × 0.28 = $840

2-15 (a) Annual Depreciation = ($50,000 – $0) / 10 = $5,000

Current written down value (end year 5) = $50,000 – (5 × $5,000) = $25,000

(b) Tax loss on sale of existing machine

Depreciated value of existing machine	25,000
– Sale value	(5,000)
= Tax loss on sale of existing machine	$20,000

(c) Tax saving on sale of existing machine

Tax loss × marginal tax rate = $20,000 × 0.30 = $6,000

2-16*

	$	$
Assessable income:		
Sales		690,000
Less: Allowable deductions:		
Cost of sales & operating expenses	430,000	
Depreciation	40,000	
Interest paid	70,000	(540,000)
Taxable operating income		150,000
Capital gain 147,000 – 37,000*		110,000
Taxable income		**260,000**

* There is no concession discount of capital gain for companies.

Tax Payable: $260,000 × 30% = $78,000

Company net income after tax = (Operating net income + Capital gain) – Tax

= $260,000 – $78,000 = $182,000

Dividend Distribution

	Fully Franked	**Imputation Credits**
Margot Crisp (70%)	$127,400	$54,600
Spence Smith (30%)	$54,600	$23,400
Total	$182,000	**$78,000**

Margot Crisp	$	$
Assessable income:		
'Grossed-up' franked dividends 127,400 + 54,600		182,000
Taxable income		**182,000**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 180,000	100,000	37	37,000
180,000 – 182,000	2,000	45	900
Total	182,000		55,450
Less franking credits			(54,600)
Total payable			**850**

Spence Smith	$	$
Assessable income:		
'Grossed-up' franked dividends 54,600 + 23,400		78,000
Taxable income		**78,000**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	3,300
37,001 – 78,000	31,000	30	12,300
Total	78,000		16,950
Less franking credits			(23,400)
Refund of surplus franking credits			**6,450**

2-17 Effective Tax Rate $T_{eff} = T(1 - u)$

where T = the nominal or statutory tax rate = 30%

u = the proportion of the franking credits usable effectively by shareholders = 60%

(a) Shareholders are able to use 60% of franking credits $T_{eff} = 0.30(1 - 0.60) = 0.12$. If the company is entitled to a tax deduction equal to 125% × research and development expenditure totalling $100,000, the value of this tax deduction to shareholder after-tax wealth = $100,000 × 1.25 × 0.12 = $15,000. Hence, shareholders are exposed to an additional taxation impost at 12% on dividends received but will also benefit at a rate of 12% from additional taxation deductions generated at the company level.

(b) However, if the company and its shareholders were fully integrated into the dividend imputation system, the research and development tax deduction would produce an effective tax saving of $100,000 × 1.25 × 0 = $0. This means that there would be no increase in shareholder after-tax wealth from the tax incentive of a 125% research and development tax deduction.

(c) If there is no integration of the company and its shareholders from the imputation system, then the effective tax saving and consequent increase in shareholder wealth would be equal to $100,000 × 1.25 × 0.30 = $37,500.

2-18*

	$	$
Assessable income:		
Sales		146,000
Less: Allowable deductions:		
Operating costs	87,000	
Depreciation	17,000	(104,000)
Taxable income		**42,000**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 42,000	5,000	30	1,500
Total	**42,000**		**6,150**

2-19 This question can be answered in two ways.

1. Recalculate Sam's tax payable with the inclusion of the additional tax deduction.

Previous Taxable Income	$42,000
– Additional tax deduction (interest and fees)	6,500
New Taxable Income	$35,500

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 35,500	29,500	15	4,425
Total	**35,500**		**4,425**

Reduction in tax payable = $6,150 – $4,425 = $1,725

2. Recognise that the additional deduction is a tax saving which will be equal to the amount of the additional deduction × the taxpayer's marginal tax rate. This reduction in taxable income places Sam in a lower tax bracket, so there are two marginal tax rates applicable and the calculation needs to be done in two parts.

Tax saving = $1,500 × 0.15 + $5,000 × 0.30 = $1,725

2-20 Assessable capital gain:

Capital gain: $125,000 – $68,000 = $57,000

Concessional discount for individual taxpayer = 50%

Assessable capital gain = 57,000 × 0.5 = $28,500

Given Phoebe's marginal tax rate of 45%, her tax liability for the capital gain will be equal to $28,500 × 0.45 = $12,825

2-21*

	$	$
Assessable income:		
'Grossed-up' fully franked dividends 14,480 / (1 – 0.30)		20,686
'Grossed-up' partially franked dividend $37,350 + $10,290		47,640
Unfranked dividend		2,150
Taxable income		**70,476**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 70,476	33,476	30	10,043
Total	70,476		14,693

Less franking credits:	
Fully franked dividends 14,480 × 0.30 / (1 – 0.30)	(6,206)
Partially franked dividends 14,480 × 0.30 / (1 – 0.30)	(10,290)
Refund of surplus franking credits	**1,803**

2-22

Fully franked dividends	$14,480
+ Partially franked dividends	37,350
+ Unfranked dividends	2,150
Total income	53,980
+ Refund of surplus franking credits	1,803
After-tax income	**55,783**

After-tax rate of return = $55,783 / $900,000 = 0.0620 = 6.20% p.a.

2-23*

	$	$
Assessable income:		
Sales Revenue	225,000,000	
Less: Cost of goods sold (40% of sales)	(90,000,000)	
Gross profit (60% of sales)		135,000,000
Less: Allowable deductions		
Operating expenses	90,000,000	
Depreciation	10,000,000	
Interest expense	5,000,000	(105,000,000)
Taxable income		**30,000,000**

Tax payable = $30,000,000 × 30% = $9,000,000

Fully franked dividends = $30,000,000 – $9,000,000 = $21,000,000

Imputation credits = $9,000,000

2-24

	$	$
Assessable income:		
Gross profit (60% of sales of $225,000,000)		135,000,000
Less: Allowable deductions		
Operating expenses	90,000,000	
Accelerated depreciation $10m × 175%	17,500,000	
Interest expense	5,000,000	(112,500,000)
Taxable income		**22,500,000**

Tax payable = $22,500,000 × 30% = $6,750,000

After-tax net income = $30,000,000 – $6,750,000 = $23,250,000

Partially franked dividends = $23,250,000

Imputation credits = $6,750,000

2-25 Annual Depreciation = ($235,000 – $0) / 8 = $29,375

Current written down value (end year 5) = $235,000 – (6 × $29,375) = $58,750

(a)	Sale value		70,000
	– Depreciated value of existing machine		(58,750)
	= Profit on sale of existing machine	$11,250	

Tax payable = $11,250 × 0.37 = $4,162.50

(b)	Depreciated value of existing machine	58,750
	– Sale value	(58,750)
	= Profit/loss on sale of existing machine	$0

Tax payable/saving = $0

(c)	Sale value		40,000
	– Depreciated value of existing machine		(58,750)
	= Loss on sale of existing machine	$18,750	

Tax saving = $18,750 × 0.37 = $6,937.50

SOLUTION TO CASE STUDY

A major criterion used to decide whether a partnership or a company should be used as the appropriate structure for the business is to identify which business structure maximises the after-tax income of the owners. Given that the owners have no other income and they want the business to pay out to them 100% of its net income (1/3 each), it is possible to use the after-tax net income of a representative owner to compare the two alternative structures.

Partnership

1/3 share of annual net income from the business = $300,000

Taxable income	Tax to be paid on	Tax rate	Tax payable	After-tax income
	$	%	$	$
0 – 180,000	180,000	various	54,550	
180,001 – 300,000	120,000	45%	54,000	
Total	$300,000		($108,550)	$191,450

Company

Company taxable income:	900,000
– Company income tax @ 30%	(270,000)
Company net income after tax	$630,000

Fully franked dividend paid to each shareholder = 1/3 of company net income after tax = $210,000

Imputation credit associated with dividend amount = 1/3 company income tax = $90,000

Grossed-up dividend amount = $210,000 + $90,000 = $300,000

Shareholder:

	Tax calc.	Income
Franked dividend received	$210,000	
Grossed-up franked dividend	$300,000	
Taxable income	$300,000	
Tax on taxable income*	($108,550)	
Less: Imputation credit	$90,000	
Tax (payable)/refund		($18,550)
After-tax income		$191,450

Note:

* Calculated using the marginal tax rates shown in Table 2.1.

As each owner would receive the same after-tax net income of $191,550 irrespective of whether the business was conducted as a partnership or a company, other criteria would need to provide the basis for selecting the most appropriate business structure.

The major advantage of using a partnership structure when the business was established arises from lower establishment and operational costs, as establishing a company requires formal legal registration and greater ongoing costs. However, the unlimited liability of the owners with a partnership structure is a significant disadvantage compared to the limited liability of a company. This is particularly the case in the early period of a business when its success and survival is very uncertain. Once the business is established and generating significant profits, a company may provide a better structure for the business to raise external finance where required (e.g. for further expansion). In addition, a company structure facilitates the continuity of the business whereby business owners can sell or transfer part (or all) of their shares without adversely impacting on the business.

SOLUTIONS TO CONCEPT CHECK QUESTIONS

2.1 Tax obligations for sole traders are determined by including assessable income and allowable deductions on individual tax returns, then paying taxation at marginal rates on taxable income.

Tax obligations for partnerships are determined by including assessable income and allowable deductions on partnership tax returns, then paying taxation at marginal rates on taxable income distributed from partnership returns to individual returns.

Tax obligations for companies are determined by including assessable income and allowable deductions on company tax returns, then paying taxation at company rates on taxable income.

2.2 Marginal tax rates are those rates of tax applicable to the next (or incremental) dollar of income included in the taxpayer's taxable income. Average tax rates are those rates of tax applicable when the total tax payable on taxable income has been calculated.

2.3 In financial decision making it is the marginal tax rate which is important because this is the rate of tax that will be applicable for any changes in taxable income that result from decisions made.

2.4 The taxation treatment of interest under the classical system resulted in debt finance having an advantage compared with equity finance. Specifically, the interest paid by a company for the use of debt finance is an allowable deduction for the company, with the income tax being paid by the investor (lender) on the interest received. The treatment of interest payments under the dividend imputation system will be the same as the treatment under the classical system. The thrust of the dividend imputation is that dividends are only taxed once at the company level rather than being taxed again at the shareholder level as under the classical system.

2.5 Under the classical system a strict separation applies between a company that generates net income and its shareholders, which results in the double taxation of company net income. Because it is regarded as a separate entity, the company is required to pay tax on its taxable income at company rates. The company can then pay dividends to its shareholders from after-tax income (NPAT). In the financial year in which the shareholders receive dividends from the company, they are required to include the dividend amount in their taxable income, on which tax is paid at individual taxpayer rates. This results in tax being paid by the company and by the individual shareholder on the same dividend income.

2.6 The dividend imputation system is a tax system applying to companies and their shareholders, where the net income of the company is imputed to the shareholders and taxed at their marginal rate. The company when paying the dividend to the shareholder franks the dividend (pays taxation at company rates) and then passes this tax credit onto the shareholder to include in their individual return.

2.7 Full integration of the dividend imputation system means for companies and their shareholders that financial decisions that increase or decrease the amount of income tax paid by the company will not affect the amount of the shareholder's net income after tax and therefore shareholder wealth.

2.8 The amount of income tax paid by the company on its net income is largely irrelevant to the amount of net income after tax of its shareholders. Investment and financing decisions should focus on maximising the company's pre-tax net income and cash flows.

2.9 The amount of income tax paid on business net income is relevant to the after-tax wealth of the owners of the business. Investment and financing decisions should focus on maximising the company's after-tax net income and cash flows.

SELF-TEST SOLUTIONS

All the following problems apply the individual income-tax rates as detailed in Table 2.1 and a company income-tax rate of 30%.

ST-1

	$	$
Assessable income:		
Sales		4,000,000
Less: Allowable deductions:		
COGS & operating expenses	3,200,000	
Interest expense	600,000	(3,800,000)
Taxable income		**200,000**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 180,000	100,000	37	37,000
180,000 – 200,000	20,000	45	9,000
Total	**200,000**		**63,550**

ST-2 As Mark Roscoe received a fully franked dividend of $5,000, he needs to include the grossed-up amount of the dividend in his assessable income. This will be equal to the amount of the franked dividend plus the amount of the imputation credit attached to the dividend. The imputation credit is equal to the amount of tax paid by the company on the net income from which the fully franked dividend was derived, and can be calculated as:

$$\frac{\text{Fully franked dividend} \times \text{company tax rate}}{1 - \text{company tax rate}} = \frac{5,000 \times 0.30}{1 - 0.30} = \$2,143$$

Therefore, the grossed-up value of the franked dividend is equal to:

$5,000 + $2,143 = $7,143

Alternatively, the grossed-up value of the fully franked dividend can be calculated directly as:

$$\frac{\text{Fully franked dividend}}{1 - \text{company tax rate}} = \frac{5,000}{1 - 0.30} = \$7,143$$

Thus Mark Roscoe's taxable income becomes:

	$	$
Assessable income:		
Sales		4,000,000
Less: Allowable deductions:		
COGS & operating expenses	3,200,000	
Interest expense	600,000	(3,800,000)
Taxable operating income		200,000
+ 'Grossed-up' dividend		7,143
Taxable income		**207,143**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 80,000	43,000	30	12,900
80,000 – 180,000	100,000	37	37,000
180,000 – 207,143	27,143	45	12,214
Total	**207,143**		**66,764**

However, under the imputation system Mark Roscoe is entitled to an imputation credit of $2,143. Tax payable becomes:

$66,764 – $2,143 = $64,621

This is an increase of $1,071 on the previous tax payable figure in SS-1 and represents 15% of the grossed-up dividend amount of $7,142 (as 30% tax was paid previously by the company and the shareholder, with a marginal personal tax rate of 45%, effectively paying the extra 15%).

ST-3

	$	$
Assessable income:		
Salaries and wages	27,000	
Interest	400	
'Grossed-up' dividend 1,500 / (1 – 0.3)	2,143	29,543
Less: Allowable deductions:		200
Taxable income		**29,340**

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 29,340	23,340	15	3,501
Total	29,340		3,501
Less franking credits 1,500 × 0.30 / (1 – 0.30)			(643)
Tax payable			**2,858**

Capital loss: ($2,000 – $1,600) = $400. The amount of the capital loss can be used to offset assessable capital gains included in the year of income or it can be carried forward to offset assessable capital gains in future years. It cannot be used to offset the taxable income derived from other sources.

ST-4 This question can be answered in two ways.

1. Recalculate Roger's tax payable with the inclusion of the additional tax deduction.

Previous taxable income		$29,340
– Additional tax deduction		500
New taxable income	$28,840	

Taxable income	Tax to be paid on	Tax rate	Tax payable
$	$	%	$
0 – 6,000	6,000	0	Nil
6,001 – 28,840	22,840	15	3,426
Total	28,840		3,426
Less franking credits 1,500 × 0.30 / (1 – 0.30)			(643)
Tax payable			**2,783**

Reduction in tax payable = $2,858 – $2,783 = $75

2. Recognise that the additional deduction is a tax saving which will be equal to the amount of the additional deduction × the taxpayer's marginal tax rate.

   Tax saving = $500 × 0.15 = $75

ST-5

	$	$
Assessable income:		
Sales		600,000
Less: Allowable deductions:		
COGS (70% of sales)	420,000	
Operating expenses (incl depreciation)	140,000	(560,000)
Taxable operating income		40,000
+ 'Grossed-up' partially franked dividend 1,500 + 150		1,650
+ Unfranked dividend		2,000
Taxable income		**43,650**

Taxable income $	Tax to be paid on $	Tax rate %	Tax payable $
0 – 6,000	6,000	0	Nil
6,001 – 37,000	31,000	15	4,650
37,001 – 43,650	6,650	30	1,995
Total	**43,650**		**6,645**

ST-6 **(a)**

	$	$
Assessable income:		
Sales		2,500,000
Less: Allowable deductions:		
Cost of goods sold	700,000	
Interest paid	200,000	
Operating expenses	150,000	
Depreciation	150,000	(1,200,000)
Taxable income		**1,300,000**

Tax Payable: $1,300,000 × 30% = $390,000

(b) (i) Fully franked dividends = Company net income after tax

= Operating income – Tax payable

= $1,300,000 – $390,000 = $910,000

(ii) Imputation credits = Income tax paid by the company = $390,000

ST-7 **(a)**

	$	$
Assessable income:		
Sales		2,500,000
Less: Allowable deductions:		
Cost of goods sold	700,000	
Interest paid	200,000	
Operating expenses	150,000	
Depreciation (150,000 × 1.5)	225,000	(1,275,000)
Taxable income		**1,225,000**

Taxable income has decreased by $1,300,000 – $1,225,000 = $75,000

Tax payable: $1,225,000 × 30% = $367,500

Tax payable has decreased by $390,000 – $367,500 = $22,500

(b) (i) Fully franked dividends = Company net income after tax

= Operating income – Tax payable

= $1,300,000 – $367,500 = $932,500

(ii) Imputation credits = Income tax paid by the company = $367,500