

# Corporate Taxation

*Of course I am minimising my tax. And if anybody in this country doesn't minimise their tax, they want their heads read, because as a government, I can tell you you're not spending it that well that we should be donating extra.*

Kerry Packer (businessman)

Corporate Taxation: Basic Concepts ♦ Corporate Taxation in Practice ♦ Incidence of Corporation Tax ♦ Efficiency Effects of Corporation Tax ♦ Taxation of International Corporate Income ♦ Concluding Observations

In this chapter we examine the taxation of company income. This is another form of taxation of income from capital. Typically, companies are owned by shareholders, who provide risk capital to the companies. Companies compensate shareholders out of profits. However, nearly all governments tax these profits before they are distributed to shareholders. This tax on profits is known as company income tax. Because companies are incorporated business entities, this is also often described as 'corporate taxation'.

Companies may be legally required to pay other taxes. For example, they may pay taxes on labour inputs in the form of payroll tax or social security contributions, taxes on land inputs in the form of land tax or rates, stamp duty on the purchase of property and taxes on the sale of commodities. They may also be required to pay royalties or a tax on excess profit in resource-based industries. We discussed the incidence of payroll and commodity taxes in Chapter 26 and the efficiency effects in Chapter 27. Land taxes, stamp duties and various taxes on resources are discussed as part of our examination of wealth taxes in the next chapter.

Companies are not the only form of commercial entity. Sole traders, partnerships, mutual funds and trusts also provide products with a view to making a return on investment. However, these entities must distribute all their profits notionally, if not actually, to members or persons of some kind and all profits are taxed fully in the hands of the recipients. This tax system, known as the full integration method, could be adopted for companies but it rarely is.

On the other hand, many business entities are designated as non-profit organisations. Although they may make a profit they must either retain it (as there are no shareholders) or distribute it to designated non-taxable activities. In either case they are not required to pay any tax on the surplus. The (non-tax) treatment of these entities is discussed in Chapter 32.

A further complication with corporate taxation is the variety of forms that taxation may take. These various forms affect the outcomes that may occur.

In this chapter we start by describing basic concepts in corporate taxation including the main kinds of corporate tax structure. We then describe some basic features of corporate tax systems in Australia and other OECD countries, including corporate tax rates. The third and

fourth sections discuss incidence and efficiency impacts of corporation tax. The penultimate section discusses tax treatment of international income. The final section presents some concluding observations including on the topical issue of the appropriate corporate tax rate.

## Corporate Taxation: Basic Concepts

Corporate taxation, like personal income taxation, is based on statutory definitions of taxable income. Since accounting profits are often the basis of taxable company income, we start by defining accounting profit. We then examine how economic profit and taxable income may differ from accounting profit.

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### Accounting profit

The return on  
shareholder's capital  
(equity)

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**Accounting profit.** Accounting profit is the return to shareholder-provided capital (equity). It is the surplus accruing to shareholders either in retained earnings or in distributed income. This surplus equals income less expenses, which are defined as follows:

$$\text{Income} = \text{sales revenue} + \text{work in progress} + \text{change in inventories} + \text{realised capital gains}$$

$$\text{Expenses} = \text{costs of operating inputs} + \text{interest costs} + \text{depreciation} + \text{amortisation}$$

Income and expenses are usually defined in accrual terms rather than by cash payments. Thus income includes the value of sales where goods have been provided but not paid for, the value of work in progress and the change in the value of stocks even without order for the stock. However, work in progress and stocks may be valued conservatively at cost rather than at possible market price, so that after allowing for costs there is no taxable income. Income also includes realised capital gains.<sup>1</sup>

Turning to expenses, input costs include employee compensation, purchases of energy and materials, rent and so on. Interest payments on borrowings are also deducted from income, but capital repayment is not. Nor are dividends deducted from income. From a taxation perspective this is a significant asymmetry in the treatment of capital employed.

Expenses also include depreciation on fixed capital such as buildings, plant and equipment. Depreciation is the loss of value of a physical asset during the tax period.<sup>2</sup> The value can be written down in various ways. The most common ways are the straight line and decreasing balance methods. The straight line method writes off an equal amount of the value of an asset each year over its expected life, which varies with the type of asset. The decreasing balance method applies a constant percentage rate of write-off each year (with higher absolute amounts in earlier years) until the last year when the residual value is written off.

In most cases, capital expenditures and gains are based on historic costs. There is often no allowance for changes in prices for capital assets. This means that real capital costs and depreciation expenses are understated (and real capital gains and real income are overstated).

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### Economic profit

Income in excess of  
the opportunity cost  
of all factors of  
production employed

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**Economic profit.** Economic profit is a different concept from accounting profit. It is the surplus, if any, over and above the opportunity cost of all resources used. These costs include economic depreciation of plant and equipment and other capital assets employed based on current asset values and the opportunity cost of equity capital. Economic profit is sometimes known as economic rent or as pure (or super) profit. Thus, economic profit, where it exists, is generally far smaller than accounting profit. Economic profit would equal accounting profit only if a company funded all its financial requirements by debt or if it could account fully for the opportunity cost of equity in the accounts. In addition, all other costs including depreciation would be based on current economic values. These conditions are rarely met.

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<sup>1</sup> Unrealised capital gains (or losses) may be included in balance sheets.

<sup>2</sup> Amortisation is a similar concept but applies to the writing down of intangible assets.

**Taxable company income.** This is generally closer to accounting profit than to economic profit. This is because there is rarely any allowance for the cost of equity capital. As we will see, both the Henry (2010) and Mirrlees (2011) tax reviews challenge this omission.

However, taxable company income or profit is based on statutes and is not necessarily based on accounting principles. Differences may arise in the treatment of income and expenses. For example, tax regimes may differ on the treatment of capital gains. On the expense side the accounting and tax treatment of depreciation, trading stock and losses are often quite different. For instance, taxation rules may allow a company to accelerate depreciation of assets or to deduct from income some multiple of expenditure on research and development. In estimating accounting profit, only the standard accounting allowance for depreciation or the actual amount spent on research and development would be allowed.

**Attribution of international income.** As with personal income, international business income may be taxed at source or at destination (residence). If income is taxed at both source and destination, there is double taxation unless the home country allows full tax credits for taxes paid at source.

In practice, most countries tax companies similarly to individuals. Resident companies are generally taxed on their worldwide business and investment income; non-resident companies are taxed on local sourced income. To offset double taxation, most countries allow credits for taxes paid in foreign countries. However, there are many variations and exceptions and the outcomes are quite untidy.

## Corporate tax systems

A key issue in the design of corporation tax is the relationship to personal income tax. There are numerous possible permutations. Here we identify five main corporate tax systems.

1. **The classical corporation tax model.** Under this traditional model there are separate taxes on company income and on distributed profits in the hands of recipients. This model is employed in many countries, including the United States, Japan and several European countries. The model involves double taxation of income—profits are taxed when earned and again when paid out as dividends or received as capital gains. However, the impact could be small if either company or individual tax rates were low.
2. **Full imputation model.** There are again separate taxes on company income and on distributed profits, but in this case the recipients of dividends are granted full tax credits for any tax paid by the company. This model is employed in Australia and New Zealand, but in few other countries. In this model corporation tax is largely (though not entirely) a withholding tax.
3. **Partial imputation model.** In this case taxes are levied on company and recipient income, but the recipients receive only partial tax credits for tax paid by the company. Alternatively, dividends may be taxed at a lower rate than other personal income, as in Canada, the UK and some other European countries. However, the credits are a simple function of income received and do not reflect tax paid.
4. **A fully integrated tax system.** Under this system there is no company tax. Instead, all profits, whether distributed or not, are attributed to shareholders in relation to their holdings and taxed as shareholder income. This system applies to partnerships, trusts and managed funds. However, few countries have adopted this model because of practical difficulties with foreign shareholders and changes in shareholders over the tax year.

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### Taxable company income

Taxable income as determined by legislation

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### Tax imputation

Recipients of dividends receive full tax credits for profits tax paid by the company

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### Integrated tax system

All company profits, including undistributed profits, are attributed to shareholders and taxed as shareholder income

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5. A **partially integrated tax system**. Here again there would be no company tax. Shareholders would be taxed on receipt of dividends and capital gains, but not on profits retained in the company. This model is noted here for completeness. Despite some practical advantages, it does not appear to have been adopted anywhere. This may reflect the potential for using companies as tax shelters.

These five tax models may create quite different outcomes. For example, the classical model involves double taxation of the return to equity capital. This may deter incorporation and equity finance. On the other hand, it may encourage retained earnings if capital gains attract less tax than dividends. Table 31.1 outlines some major possible impacts with respect to incorporation, use of debt or equity finance, the double taxation of savings and policies towards retained earnings.

Much of the technical literature focuses on the effects of the classical model. But many commentators (such as Meade, 1978) have questioned why companies should be treated differently from unincorporated businesses and taxed separately and, in effect, advocated the full integration model. We discuss these issues below.

## Corporate Taxation in Practice

Company tax has many features. Here we discuss the tax base, the relationship between corporation and personal income tax, full and effective company tax rates and the treatment of international income. Most examples are Australian (see Box 31.1), but international comparisons are provided.

**Table 31.1** Some implications of five company tax systems

<i>Form of company tax</i>	<i>Impact on incorporation</i>	<i>Impact on form of finance</i>	<i>Single or double taxation</i>	<i>Impact on retained earnings</i>
1. Classical double taxation: company tax + tax on dividends	Discriminates against incorporation	Discriminates against equity finance; bias towards debt	Double taxation of dividends	Favours retained earnings if capital gains taxed at low rate
2. Full imputation model: company tax + taxes on dividends + full tax credits	Neutral with respect to incorporation	Neutral with respect to debt and equity for local capital but not for overseas capital	Largely avoids double taxation except for capital gains	May favour retained earnings or distribution depending on relative tax rates
3. Partial imputation model: company tax + taxes on dividends + partial tax credits	Retains some bias against incorporation	Retains some bias against equity finance	Retains some double taxation, depending on size of tax credits	Favours retained earnings if capital gains taxed at low rate
4. Fully integrated system: all profits including retained earnings taxed as if in hands of shareholders	Neutral with respect to incorporation	Neutral with respect to debt and equity	Fully avoids double taxation, but gets complicated with overseas shareholders	Neutral between retained earnings and distribution unless there is also a capital gains tax
5. Partial integrated model: taxes on dividends and realised capital gains but not on retained profits	Favours incorporation	Biased in favour of equity due to deferred tax on capital gains	Avoids double taxation, but may create income tax shelters	Favours retained earnings due to tax deferral and if capital gains taxed at low rate

**Box 31.1 Company income taxation in Australia**

Australia's company income tax system has two main roles. It acts as a withholding tax on the income of Australian residents received from an Australian resident company. And it taxes the local source income of foreigners earned from an Australian company or the Australian branch of a foreign company.

In 2009-10, company income tax revenue in Australia was about \$61 billion compared with personal income tax of \$125 billion. As a proportion of total income tax, company income tax was around 30 per cent in the early 1970s, fell to about 15 per cent in the mid-1980s and has risen back to about 30 per cent. In 2009-10, company income tax accounted for 18 per cent of all tax revenue.

Factors that affect company income tax revenue are the number of companies, the size of company profits, and the company tax rate along with any tax concessions, for example for depreciation rates. There has been substantial growth in the number of companies and in company profits. Between 1990-91 and 2008-09, the number of companies in Australia more than doubled from 331 000 to 732 000. Over the same period company profits (gross operating surplus) rose from about 23 per cent of GDP to about 28 per cent.

On the other hand, the corporate tax rate was greatly reduced from a peak rate of 49 per cent in the late 1980s to 30 per cent in 2001-02, which remains the standard rate in 2017-18. Companies with a turnover rate of less than \$25 million are taxed at 27.5 per cent of taxable profits in 2017-18.

A key feature of the Australian tax system is full dividend imputation (model 2 in Table 31.1) which was introduced in 1987. The Australian scheme eliminates double taxation of dividends. It also helps to prevent individuals deferring tax by taking some, or all, of their income through a company structure and not paying dividends, because the company must pay tax on profits whether dividends are declared or not. Individuals on marginal tax rates higher than the company tax rate may defer some of their tax liability but not all of it.

However, franking (tax) credits can be used only by Australian taxpayers. Foreigners (individuals or companies) holding Australian shares but paying tax in their own country obtain no benefit from franking credits. This makes shares in Australian companies more valuable to Australians than to foreigners and favours local ownership of Australian companies. It also resulted initially in a market for franking credits. Shortly before a franked dividend was due to be paid, an Australian taxpayer would buy the shares from a foreign owner while simultaneously agreeing to resell the shares after the dividend had been paid at a pre-fixed price. The Australian taxpayer would get the benefit of the franking credits while the foreign owner of the shares would share that benefit by repurchasing the shares at a lower price than they had been sold for. The Australian government deterred this trade by stipulating a minimum time that shares must be held before franking credits could be utilised.

**Corporate tax burden.** Company taxes comprise over 5 per cent of GDP in Australia compared with an OECD average of a little over 3 per cent. However, comparisons of total tax revenues must be treated cautiously for various reasons. Australia's imputation credit system means that a significant proportion of company tax revenue represents withholding tax payments in respect of individuals' income tax liabilities. Australian company tax revenue includes taxes on contributions to, and earnings in superannuation funds. It also includes a tax on economic profits of some petroleum projects which may be taxed via royalties or excise in other countries. Another factor is that Australia has a relatively high level of incorporation

**Corporate tax base.** Most OECD countries treat taxable company profits as the corporate income tax base. These profits include a normal return to equity plus any economic profit. The Australian Treasury (2006) reported that two (unnamed) countries trialled taxing just economic profit but did not continue and that Belgium has a version of this. Currently, Austria, Brazil and Italy have variants. Tax can be levied on economic profit by deducting from total profit a notional cost of equity capital. However, this is complicated because the cost of equity varies by company and the appropriate rate of return on capital depends on how losses are treated. Accordingly, few countries have adopted economic profit as a tax base.

The tax base is also affected by statutory rulings. Chief among them is the treatment of depreciation. Allowable short asset lives, high general rates of depreciation and concessional treatments for particular industries reduce the tax base. As reported by the Australian

Treasury (*ibid.*), the present (discounted) value of depreciation allowances in OECD countries is typically about 70 per cent of the purchase price of capital assets. The relevant figure for Australia is 66 per cent, which implies that Australia has a relatively high tax base. The treatment of research and development expenditures as current rather than capital expenses, industry concessions and allowances for small companies can also affect the tax base.

**Company and personal income tax.** Among OECD countries, the classical model remains the most common tax one (Warren, 2004). Almost as many OECD countries adopt a partial imputation model by making partial allowance in the personal income tax regimes for company taxes prepaid on dividends. Australia and New Zealand are the only countries with a full imputation tax system. Because of these differences, to make meaningful comparisons of the burden of company taxes on individuals in different countries, allowances need to be made for the double taxation that occurs in the classical and partial imputation tax systems.

The Australian imputation system works through use of franked dividends. When a company pays dividends to shareholders from profits on which the full Australian company tax rate of 30 per cent has been paid, the dividends are described as “fully franked”.<sup>3</sup> The tax paid on the dividends is treated as though it had been paid by the shareholder. When no company tax has been paid the dividends are described as “unfranked”. When a shareholder receives a dividend, she receives a statement that shows the gross dividend paid (broken into franked and unfranked parts) and the amount of tax that has been paid on the franked dividend (the imputed tax credit). On their individual tax return the shareholder declares as income the gross dividend plus the tax credit. This income creates a tax liability at the shareholder’s marginal rate of tax.

Once the total tax liability has been calculated the shareholder’s franking credits are deducted. If the shareholder’s MTR is the same as the company tax rate the dividend is tax free to the shareholder, the tax having been prepaid by the company. If the shareholder’s MTR is higher than the company tax there will be additional tax to pay at a rate equal to the shareholder’s MTR less the company tax rate. If the shareholder’s MTR is lower than the company tax rate she receives a tax rebate. In essence, dividends paid to shareholders are taxed once at each shareholder’s marginal tax rate.

When a company retains after-tax profits rather than distributing them, there is no tax liability or credit for individual shareholders. Retention of profits should increase share values as net tangible assets have risen. If shareholders sell their shares they gain this increase in asset value less the capital gains tax which they pay on 50 per cent of the gains at their marginal tax rate (if the shares are held for over 12 months).

**Statutory and effective company tax rates.** Statutory tax rates have fallen in most OECD countries over the last 30 years. The unweighted OECD average corporate tax rate fell from 48 per cent in 1982 to 28 per cent in 2008 (Henry Tax Review, HTR, 2010). Over the same period, the statutory corporate tax rate in Australia fell from 47 per cent to 30 per cent, which remains the rate today except for small companies (see Box 31.1).

HTR also noted that the Australian corporate tax rate in 2009 was around 5 percentage points higher than the average for open small to medium OECD economies. Indeed, in this group Australia was the third highest behind Belgium (which has a narrower tax base) and Canada, which was moving to a lower rate.

More changes are now likely as, in 2018, the United States passed legislation to slash their corporate tax rate from 35 per cent to 20 per cent.

However, comparisons of statutory rates must be made cautiously for various reasons. First, tax bases vary with differences in the treatment of depreciation, foreign sourced income and

<sup>3</sup> No imputation credit is allowed for tax paid in other countries.

capital gains and with specific industry concessions. High tax rates may be offset by narrow tax bases. Second, some countries tax small companies at lower concessionary rates. Third, tax concessions may also materially affect actual tax rates. Markle and Shackleford (2009) estimated that, after allowance for all concessions, especially deductions of capital expenditure, the average effective tax rate for all Australian industries was only 22 per cent. Indeed, the estimated effective rate for mining was only 17 per cent.

These issues have led some analysts to attempt to estimate alternative effective company tax rates. A simple aggregate measure is total corporation tax revenue as a proportion of gross operating surplus (broadly company profits plus depreciation) as recorded in the national accounts. In Australia, this proportion has risen over the last 30 years, despite the fall in the corporate tax rate. However, this does not allow for tax credits available due to imputation.

**Treatment of international income.** As we have noted, most countries tax resident companies on their world-wide business and investment income and non-resident companies on local sourced income. However, there are significant differences between countries. Some countries (including the US and traditionally the UK and Japan) tax all foreign source income. Other countries (such as Australia, the Netherlands and Switzerland) provide exemptions for some foreign-sourced income depending on the type of income exempting active business income, the country the income is sourced from, the type of non-resident entity that earns the foreign income on behalf of the resident company and the degree to which it has been taxed. Also, most countries allow credits for taxes paid in foreign countries, but the credits depend on the type and place of the income and there may be special provision for losses (see Australian Treasury, 2006).

Australia taxes overseas earnings of Australian companies relatively lightly. The government taxes only passive foreign investment income earned by resident companies. It does not tax foreign active business income or capital gains from sales of active foreign businesses. Resident companies can also claim losses from tax-exempt income against domestic income. Australia allows foreign tax credits capped at Australian tax rates and quarantined to one active class of income and three passive classes. Excess credits can be carried forward.

Non-resident companies in Australia are taxed on their local income. To try to minimise evasion of local taxes, the government has an active oversight of transfer prices.

## Incidence of Corporation Tax

In considering who really bears the corporation tax, three introductory observations may be made. First, all taxes are borne ultimately by individuals, not by companies. Of course, in the first instance shareholders bear the tax on company profits. In the absence of the corporation tax, companies could distribute gross rather than net profits. However, as we will see, depending on the tax system, the corporation tax may also be borne by all owners of capital, including owners of unincorporated entities. Further, in an open economy the tax may be borne by labour in the form of lower wages.

Second, corporation tax may be designed in many ways with different tax bases and imputation systems. We examine below the incidence of the tax in a full classical system and a full imputation system. A partial imputation system would contain some of the effects of a full imputation system. We also consider briefly the incidence of a tax on economic profits rather than on the return on equity capital.

Third, the incidence of any tax depends on the economic environment. This includes demand and supply elasticities, the competitiveness of the market environment and whether the economy is closed or open. Incidence may also vary in the short and long run as these market factors vary.

**Incidence with a classical corporation tax system.** A key feature of the classical tax system is that profits of incorporated entities are taxed twice whereas profits of unincorporated firms are taxed only once in the hands of the recipients. In a classic article Harberger (1962) used a simple general equilibrium model to show the incidence in this system.<sup>4</sup> He assumed two economic sectors, a corporate and a non-corporate sector. Each sector produced a different product under conditions of perfect competition in a closed economy. Importantly, because the economy was closed, the supply of labour and capital was fixed. A representative consumer was assumed to purchase output from both sectors.

Before the corporation tax is imposed, equilibrium requires that the gross rate of return on capital is the same in both sectors. After imposition of the tax, the after-tax return on capital in the corporate sector falls below the return on capital in the non-corporate sector. In the short run, with the capital in each sector fixed, a tax on company income reduces after-tax returns to shareholders who bear the full burden of the tax. The higher return in the non-corporate sector then causes capital to shift from the corporate to the non-corporate sector. This raises the after-tax return in the corporate sector and lowers the return in the non-corporate sector. Labour moves in the opposite direction from the non-corporate to the corporate sector.

When the system is again in equilibrium, output of the corporate sector will be lower and prices higher than in the pre-tax situation. On the other hand, the non-corporate sector will be larger and prices of that product lower. The after-tax return on capital will be equal in each sector and lower than before the tax was levied. In this model the tax burden falls generally on capital, but not just on shareholders in the corporate sector. The tax burden on owners of capital is greatest when firms in the corporate sector can easily substitute labour for capital but firms cannot easily substitute capital for labour in the non-corporate sector.

An important assumption of this model is the closed economy and, related to this, a fixed amount of capital. This explains why the rate of return on capital in the non-corporate sector falls to match the lower after-tax rate of return in the corporate sector.

In an open economy such as Australia with high mobility of capital, the long-run supply of capital is not fixed but is quite responsive (elastic) at the internationally competitive after-tax return on capital. In this case an increase in the corporation tax will initially reduce the after-tax rate of return in the corporate sector. Capital will exit the country (or not enter). In a perfect market, the decline in capital will cause the gross return on capital to rise until the after-tax rate of return is consistent with the internationally required after-tax rate of return. The fall in the capital/labour ratio will reduce output and labour earnings. Consumer prices may also increase but only in a limited way in an open economy.

**Incidence with a full imputation tax system.** With a full imputation system, shareholders in a corporation pay the same tax on distributed profits as do owners of capital in unincorporated entities. In both cases recipients of dividends or other payments from profits are taxed at their marginal tax rates. The corporation tax is a withholding tax. A change in the corporate tax rate has no effect on the final after-tax income of domestic shareholders. An increase in the tax rate would reduce the dividends paid out and increase the amount withheld in tax but increase the tax credits by an equivalent amount. In this case the income from companies is simply another form of income from capital and the incidence of the tax is similar to the incidence of any tax on income from capital. The tax is borne by the owners of the capital if the supply is completely inelastic but may be passed on to users of capital in the form of higher interest rates if the supply of capital is elastic.

The analysis for retained earnings is slightly different. An increase in the corporate tax rate will reduce retained earnings, but there is no offsetting tax credit to the shareholder. In the

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<sup>4</sup> This model has a similar structure to the general equilibrium model described in Chapter 26.



short run, shareholders bear the burden of the increase in the tax rate. However, if shareholders are significantly disadvantaged, capital will flow to the local unincorporated sector or overseas, and the same kind of effects that we observed above will occur in this case, although on a reduced scale.

**Incidence with taxation of economic profits.** A tax on economic profits (or rents) is like a lump sum tax—it does not affect the use of resources. Remember that economic profit is a return over and above the opportunity costs of resources. This assumes that economic profit can be determined and that no one is responsible for it.

If economic profit is part of the return to an entrepreneur who is a risk-taking shareholder, then a tax on economic profit is a tax on entrepreneurs. The tax may also be passed on to the community at large if it discourages entrepreneurial behaviour. The Australian government changed the capital gains tax in 2000 from a tax on real capital gains to a 50 per cent tax on nominal gains because the venture capital industry claimed that the tax on real gains discouraged entrepreneurs and venture capital. On the other hand, if economic profit (or rent) is an act of God and not the responsibility of business managers or entrepreneurs, the burden of a tax on it will fall simply on the shareholders in enterprises that are blessed with the economic rent and have no passed-on impact.

## Efficiency Effects of Corporation Tax

As we have observed, a tax on economic profit is perfectly efficient. If a company could purchase an asset which produced an expected rate of return of  $p$ , the company would purchase the asset if the cost of borrowing  $r$  was lower than  $p$ . Thus the condition for investing is  $(p - r) > 0$ . If there is a corporate tax rate of  $\theta$  on net income, the after-tax profitability of the investment will be  $(1-\theta)(p - r)$ . The firm will invest if  $(1-\theta)(p - r) > 0$ . But if the project passes the before-tax condition, it also meets the after-tax condition. The company will undertake any investment where the rate of return is higher than the cost of capital, which implies an economic profit. This form of corporate tax would provide no disincentive to investment. In addition, this reduces the cost of equity finance and eliminates any bias towards debt finance in preference to equity.

Citing these efficiency arguments, the Mirrlees Review (2011) of taxation recommended the introduction of an Allowance for Corporate Equity (ACE) within the UK corporate income tax. The ACE would be a deduction of the normal rate of return on capital representing the cost of using equity finance. This would be similar to deducting the cost of interest payments on debt finance. As the Mirrlees Review (Chapter 20) remarked, ‘Exempting the normal rate of return on capital from corporate taxation fits well with our proposal to exempt the normal rate of return on capital invested in the business sector from personal taxation’, which we discussed in Chapter 30.

This model would be a proxy tax on economic profit. It could under-estimate the cost of capital when there was any significant business risk and might not allow for the true costs of various non-capital inputs, especially entrepreneurship. HTR (2010) also considered that ACE had merits, as well as practical complications, and recommended that it should be considered in due course. HTR viewed it as a lower priority than reducing the corporate tax rate.

Another model with significant efficiency features is the full integration model. In this case the total taxable income of both corporations and unincorporated entities is taxed in the hands of the owners and there is no separate corporate tax. This treats all capital income on a level playing field, avoids differentials between corporate and personal tax rates and minimises economic distortions. There remain some general issues with respect to the taxation of income from capital which we discussed in the previous chapter, but not issues due specifically to the taxation of company income.

Nevertheless, as far as we are aware, no country has adopted a full integration model. Accordingly, we examine below the efficiency effects of the main model employed, namely the classical dual-tax model, and the Australian imputation model. We also discuss some issues in relation to the treatment of depreciation.

## Impacts of the classical tax system and the full imputation model

The key feature of the classical system is the double taxation of company income. This may be mitigated by taxing dividends at a lower rate than other income of individuals, but an element of double taxation remains. Providers of equity capital are taxed first at company level and then on receipt of income, but providers of debt are taxed only once on receipt of income. In the full imputation system, providers of equity capital are taxed only once because they receive a tax credit for taxes paid by the company. We consider below the impacts of the tax arrangements on company structures, sources of finance, the amount of investment, and the production of goods and the distribution of profits (payout policies).

**Corporate structures.** Businesses incorporate for several reasons. These include legal limitations on personal liability for losses, access to more capital and liquidity and flexibility in capital arrangements. For small businesses, the protection of limited liability may be a key factor. However, owners are often required to provide personal guarantees for the company's debts, which negate any benefit of limited liability. For larger businesses, access to larger capital markets may substantially increase the value of the business or enable the business to expand with the use of risk capital that would not have been possible otherwise.

Nevertheless, the high cost of equity capital in the classical system may deter incorporation in marginal cases. Where this distorts preferred corporate structure, there is a deadweight loss (DWL). On the other hand, with full imputation there is no tax disincentive to incorporation. In most important matters the effective tax burden on owners of capital is similar in incorporated entities as in unincorporated entities.

**Corporate finance.** *Prima facie*, the high cost of equity in the classical system is likely to distort corporate financing away from equity and towards loans. Of course, companies will still employ equity capital for various reasons. One is that use of equity reduces corporate risk. Debt involves risk because interest on the debt must be met. A firm that cannot meet its interest payments faces bankruptcy or loss of shareholder and management control to the creditors. Dividends are paid only when there is a profit. Second, lenders are often unwilling to provide finance to firms that use little capital of their own. In any case, lenders will charge a higher rate of interest to firms that are highly geared (firms with a high level of debt to total assets). Nevertheless, the high cost of equity capital in the classical system may deter use of it in marginal cases and, again, this may create a deadweight loss.

On the other hand, there is no bias associated with equity finance in the full imputation system. To illustrate, suppose that a project requires \$1000 in capital, that the cost of debt and equity is the same at 6 per cent and that the project is expected to produce a pre-tax operating profit before interest and tax of \$100 a year. The company can deduct interest payments as a cost, but not deduct dividends. The corporate tax rate ( $t$ ) is 30 per cent. Given full imputation, it is easy to show that financing arrangements do not affect the level of after-tax profits.

Consider first 100 per cent debt financing. The interest charge is \$60 per annum. Pre-tax company profit would be \$40, tax would be \$12 and after-tax profit would be \$28. Now consider 100 per cent equity funding. There would be no interest charge. Company profit would be \$70 after tax. However, the use of company (or shareholder) equity of \$1000 has a real cost—the amount of income forgone after tax. This equals  $(\$1000 \times 0.06)(1 - t) = \$42$ . Subtracting \$42 from \$70, we find that the after-tax profit is again \$28. There is no preferential treatment of debt (or equity).

**Investment and output.** Following the Harberger analysis above, by raising the cost of capital, the classical corporation tax can affect output even in a closed economy. If the amount of capital is fixed, the tax will cause investment and output to shift from the corporate to the non-corporate sector. Efficiency requires that all firms face the same marginal costs. Because the corporate sector faces a higher cost of capital, the tax distorts the pattern of output towards less efficient operations at the margin. In an open economy, the supply of capital and consequently output will fall. These distortions also create a deadweight loss.

**The distribution of profits.** The double-taxation classical taxation system encourages firms to retain profits for two reasons. First, retention defers some tax payments. Second, in most tax regimes capital gains are taxed more lightly than dividends. Such a bias towards retention of profits distorts capital markets. Firms are encouraged to invest in their own business rather than allowing owners of capital to determine how capital is used most productively.

In the imputation system the incentives to retain or distribute profits depend principally on the interaction between company and personal income taxes.<sup>5</sup> When the corporation tax exceeds most individual MTRs, there is an incentive to distribute profits so that the recipients can receive tax credits and gain a refund from government for excess tax paid. When the corporation tax is less than individual MTRs, there is an incentive to retain profits in the company. The owners can use undistributed profits to build up wealth taxed at a relatively low tax rate. There is an additional incentive to retention when retained earnings can be converted into capital gains and taxed at a relatively low capital gains tax rate.

In Australia both these phenomena are observable. The weight of money in superannuation funds where income is taxed mainly at 15 per cent, which is half the current corporate tax rate, encourages distribution of profits. On the other hand, MTRs on personal income over 45 per cent encourage high-income company owners to retain savings in corporate vehicles that are taxed at a much lower rate.

## Depreciation and investment

Company tax law has another impact on the cost of capital. The law generally allows firms to depreciate over time the historical cost of capital assets. Firms can subtract from income, before calculating their tax liability, an amount which is supposed to represent the loss of value of the capital asset due to production during the tax period. Depreciation allowances reduce the cost of capital through tax savings.

Because firms can depreciate the whole value of a capital asset, it may appear that this arrangement has no impact on investment. That is incorrect. The tax savings generated by depreciation allowances are received in the years after the asset is purchased. The value of a dollar depends on when it is received. A dollar received one year from now is worth  $\$1/(1+r)$  where  $r$  is the real rate of interest. A dollar received in 10 years is worth  $\$1/(1+r)^{10}$ . If  $V$  is the present value of all tax savings from depreciation allowances on \$1 of capital expenditure, the effective non-deductible cost of capital is  $(1-V)K$ , where  $K$  is the purchase cost of the asset. As we have seen, in Australia the average value of  $V$  (the discounted value of the purchase price of assets) is about 0.66. This implies that capital cannot be fully expensed and use of capital is discouraged. A further problem occurs when prices are rising because the depreciation allowances will not be sufficient to replace the capital used up. To replace the capital, firms need to include in their pricing structure an amount equal to the extra cost of replacing capital due to inflation. But while the firm may view the additional revenue as cost recovery, tax officials generally regard this as additional profit. To achieve full cost recovery and allow for inflation and tax, the firm would have to lift its price by  $\pi/(1-t)$  where  $\pi$  is the

<sup>5</sup> Under imputation, retained earnings are double taxed first as profits and then as capital gains.

rate of inflation and  $t$  is the company tax rate. If the firm cannot do that, there will be a disincentive to invest.

Government can offset these disincentives to invest in various ways.

- Accelerated depreciation allows firms to bring forward the tax savings.
- Investment allowances enable a firm to write off immediately part of the cost of a capital asset and then depreciate the full cost of the asset in the normal way.
- Tax credits allow a firm to claim a credit against income tax for part of the asset value.
- Depreciation schedules that allow investors to write off more than 100 per cent of asset value. In Australia in the 1980s investors could write off 150 per cent of the cost of producing films; in the 1990s firms could write off 150 per cent of money spent on research and development.

Each of these instruments increases the present value of the tax savings from depreciation and has been employed at various times in Australia. However, there are differences. For example, the financial benefit to the firm of an investment allowance depends on the rate of company tax, whereas the value of the tax credit is independent of the rate of tax. In both cases the firm can write off over 100 per cent of the purchase cost of the assets against tax. Depending on the size of the upfront benefit and the subsequent depreciation rate, either scheme could result in the present value of the deductions from income being greater than the cost of the asset.

Evidently, tax allowances may create positive incentives to invest. This may correct a market failure such as spill-over benefits that result in too little investment of some kind. However, such allowances may distort the allocation of capital and investments with a low gross rate of return may displace investments with higher returns. Also, the incentives can be expensive relative to the results achieved.

Further problems arise when a capital-intensive firm cannot benefit fully from depreciation allowances and tax credits because of low earnings. Examples include cyclical industries such as automobile production and industries with a long lead time between investment and profitable operation, such as construction of toll roads. Even if companies can carry losses forward to offset future tax liabilities, it may take a long time for discounted future benefits to offset the present costs. This creates a disincentive to undertake such investments.

In such a situation, a company may lease capital equipment from a firm with a more stable profit flow. The latter can take advantage of the depreciation allowances and tax credits and pass some of those benefits to the disadvantaged company through lower rental payments. Some tax regimes refuse tax deductibility for such leasing arrangements unless there are reasons other than the tax benefits for structuring the investment in such a way. Generally, the tax department allows such schemes if the company purchasing the equipment carries some risk and is not indemnified totally by the leasing company.

An alternative would be for a disadvantaged company, such as one in a cyclical industry, to merge with a company with a more stable, albeit lower, profit flow. Such tax-induced mergers make little economic sense because there are few synergies between the two companies in vastly different industries. The financial benefits are generated by the tax regime. The distortions do not occur if depreciation is based on economic income.

## Taxation of International Corporate Income

We discussed efficiency principles for taxation of international personal income in Chapter 30. Similar principles apply to corporate income because companies are basically conduits for capital supplied and received by individuals. Rather than revisit how taxation affects efficient worldwide investment and saving, we discuss here the two main practical problems facing

governments, namely how should government tax (1) foreign-sourced income of a resident company and (2) local-sourced income of a non-resident company?

**Foreign income of resident companies.** Countries maximise their national income when the marginal after-tax return on capital invested in a foreign country equals the marginal gross return to capital invested at home. Suppose that a local firm can make a \$10 million investment and annual profit of \$1 million at home or abroad. Suppose also that the corporate tax rate is 30 per cent in the home country and 20 per cent in the foreign country. From a national perspective, investment by the firm at home yields a total return of \$1.0 million, but investment in the foreign country yields a return of only \$0.8 million. However, if the firm pays only the foreign tax on its foreign income it would have an incentive to invest overseas.

This problem is mitigated if the home country taxes the income of the local firm at the 30 per cent rate and gives a tax credit for foreign tax paid. But this is still not optimal for the home country. The home country maximises its national income by allowing a deduction for tax paid in the foreign country rather than a tax credit. In effect foreign taxes are treated like other costs borne in production. From the home country viewpoint, a firm's allocation of investment is efficient when:

$$(1 - t_h) p_h = (1 - t_h) (1 - t_f) p_f \quad (31.1)$$

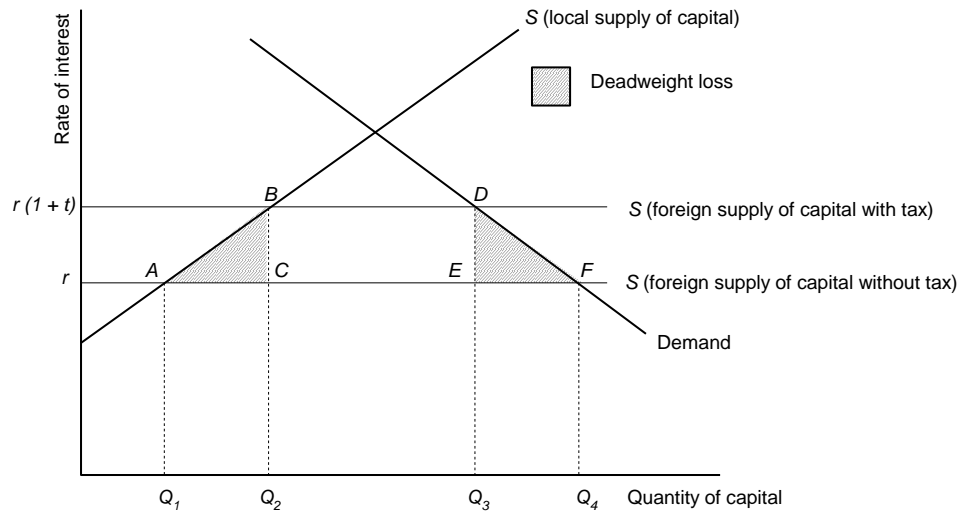
where  $t$  is again the tax rate,  $p$  is the pre-tax rate of return and subscripts  $h$  and  $f$  denote home and foreign countries respectively. The home country maximises its national income when the after-tax return to capital in the foreign country equals the gross return to capital at home.

Few countries treat foreign income in this way. However, Australia effectively treats foreign earnings in this way. Australia does not tax active foreign business earnings. However, these earnings (after foreign tax) are taxed in the hand of shareholders when distributed and they attract no imputation benefits (because local company tax has not been paid on these profits).

Some companies with foreign investments find the situation frustrating and have attempted to stream dividends. Australian shareholders would be paid dividends from profits earned in Australia on which Australian tax has been paid and are thus eligible for franking. Foreign shareholders would be paid from profits earned abroad which were not eligible for Australian franking credits. But this is possible only if there are two separate corporations, one owned by Australians owning the Australian assets and the other owned by foreigners owning the foreign assets. An Australian building materials group tried to organise its affairs in that manner in 1998. But it failed to satisfy either its Australian or its foreign shareholders and the scheme was abandoned. However, subsequently some companies have sought to deal with the non-neutral treatment of income from different sources by dual listing structures.

**Local income of non-resident companies.** In a small open economy, the equilibrium after-tax interest rate for the local economy is generally set by the world capital market. This rate is set independently of the local corporate tax rate. If the local economy is a price taker, there is a deadweight loss from taxing imported foreign capital. Suppose, as in Figure 31.1 overleaf, that the supply of foreign capital in the absence of any tax on it is perfectly elastic at price  $r$  and that the local corporate tax raises the price to  $r(1 + t)$ . Total domestic investment falls from  $Q_4$  to  $Q_3$ . The DWL equals areas  $(ABC) + (DEF)$ . Area  $ABC$  is the loss due to the increased cost of local capital compared with foreign capital. Area  $DEF$  is the loss due to the fall in supply of foreign capital. When output prices are also fixed by world conditions, the higher price of capital cannot be passed on to consumers. The tax on the income of non-resident companies is then borne by labour or other fixed domestic factors.

By contrast a tax on labour would reduce the net wage rate but not distort marginal return to capital invested at home or abroad. As discussed in Chapter 30, in a well-informed world



**Figure 31.1** Effect of a local source tax on foreign capital

of investors, investment is more efficient with residence-based taxes of capital than with source-based taxes of capital. A labour income tax dominates a corporate income tax even for labour. It follows that foreign investors in a small open economy should not be taxed as domestic workers would bear the burden of the tax.

Nevertheless, most countries impose source-based taxes on returns to capital for several reasons. The first is the existence of sunk capital. Ex-post, fixed capital cannot readily escape. A country would not benefit from exempting this capital from a local-source tax. Second, many firms invest in a country for numerous reasons and with the intention of making real economic profits. A source tax on their accounting profits will not deter such investment. Third, source taxation benefits the local treasury at the expense of foreign treasuries when non-residents receive credits for local tax paid. Fourth, there are practical difficulties in distinguishing between profits accruing to local capital and to foreign capital.

**Taxing multinationals.** Finally, brief mention may be made of some practical difficulties in taxing multinational companies. The key problem is determining a realistic account of taxable income. Multinationals typically aim to maximise the proportion of their total profits in low-tax countries. They can do this in many ways. The most common methods are via artificial transfer prices and financing arrangements.

Transfer prices are charges for intra-company transactions, including charges for services and intellectual property rights. Most tax authorities require multinationals to use prices that would apply between two unrelated companies. This works reasonably well where markets are well established. However, when goods or services are unique or rarely traded, it is harder to establish fair prices. Also, the volume of sales involved would affect price as would the existence or absence of a long-term contract.

Second, because interest on borrowings is deductible before tax is calculated while dividends are not, a multinational investing in a foreign country can reduce its tax liability in that country by channelling some of the investment funds as loans, rather than share capital. Governments may respond by imposing a limit on the use of debt finance rather than equity capital or by limiting the amount of interest payments that can be deducted for tax calculations. However, this may discourage foreign investment. Thus, multinationals often have considerable discretion about how much tax they pay in different countries.

## Concluding Observations

Most countries employ the classical, dual tax, system of corporate taxation, which taxes both company profits and dividends, albeit sometimes with reduced tax rates on dividends. This double taxation of equity capital increases the cost of capital to companies, biases capital financing towards debt and discourages incorporation. Arguments for it include revenue security, the idea that incorporation provides the privilege of limited liability for owners of businesses and the view (not necessarily true) that shareholders are relatively well-off. Although the distortions of double taxation appear to outweigh the benefits, only Australia and New Zealand have adopted full imputation and no leading economy has adopted a full integration strategy where all profits are taxed once as if in the hands of shareholders.

As we have seen, the Mirrlees Review (2011) recommended that companies operating in the UK should be allowed to deduct a normal rate of return on capital before tax, which would allow companies to treat equity in a similar way to debt. The tax base would approximate economic profit. This would neutralise most of the distortions noted above.

The Henry Tax Review (HTR, 2010) recommended that Australia move in the long run towards a cash-flow expenditure tax which would give an allowance for corporate equity. This expenditure tax as outlined would allow immediate 100 per cent deductions for capital expenditure which would significantly reduce the cost of capital investment. However, the Review discounted making such a radical structural change to the corporate tax system without considering the risks for revenue and the difficulties of making such a change unless other countries adopted a similar system.

HTR also considered the Australian corporate tax rate should be reduced from 30 per cent towards 25 per cent and that dividend imputation should be retained because of its neutrality towards financing and entity choices. The recommended lower corporate rate was based largely on the view that this would attract significantly more international capital. This has become more significant as the US Government legislated in 2018 to dramatically reduce the US corporate tax rate from 35 per cent to 20 per cent. The Review also suggested that there could be a shift to a partial integration system with company income tax reduced further but more limited relief offered to dividends. This appears to have been to offset the revenue loss from a lower corporate tax rate effective on foreign companies.

The current (2018) Australian Government has made a cut in the corporate tax rate to 25 per cent a major part of its political platform. The major reason given is the need to compete for international capital which does not have the benefits of dividend imputation and which is seen as highly mobile. A large part of capital for Australian business is foreign. It is argued that the lower rate will substantially increase private investment in Australia, which in turn will increase output, employment and, wages.

However, there are several counter-arguments. First, at the time of writing, the Government does not appear to have provided estimates of the likely additional foreign investment induced by the rate cut. Much new foreign investment is non-marginal and will occur at the 30 per cent rate. It may be more efficient to attract new foreign investment with deductions for capital expenditure. Second, given imputation, there is will be little effect on locally funded investment (unlike in the US which does not provide imputation). Third, there will be a significant loss of tax revenue from overseas sources, including tax revenue on existing investment, that will need to be replaced by local tax. It is not clear how this revenue shortfall will be filled. But any additional local tax will have some negative impact on aggregate demand and output. It may also have an efficiency cost (a DWL). Note, there may also be a loss of local tax revenue if high income individuals shelter income in corporate entities. Fourth, companies may reward shareholders (and managers) from the increased post-tax profits ahead of making additional investment. Thus, the outcome may be regressive.

As the Henry Tax Review observed, corporate tax reform is a complicated issue.

## Summary

- Companies are taxed on profits as defined by legislation, which are quite different from economic profits and may also differ from accounting profits.
- There are various corporate tax systems. The classical system taxes both company income and dividends in the hands of recipients. With full imputation, recipients receive tax credits for any tax paid by the company. With partial imputation, recipients receive partial tax credits or pay tax at a concessional rate on dividend income.
- Double taxation was justified traditionally on the ground that company structure gives investors the valuable protection of limited liability. Also, it was assumed that most share capital is owned by wealthy individuals who bear the tax.
- Modern analysis suggests that the corporation tax is borne by all owners of capital (because after-tax returns are equalised), by users of capital who pay more for capital and by workers because the capital to labour ratio declines.
- The classic double-taxation system creates economic distortions. It raises the cost of capital and discourages investment, favours debt finance over equity, favours retained earnings over distributions and discriminates against incorporation. Given these disadvantages, it is surprising that Australia and New Zealand are the only countries to adopt full imputation of corporate taxes.
- One radical strategy would be full integration of company and personal tax with all profits (not just dividends) fully attributed to shareholders and no separate company tax. But there may be practical constraints. It could be harder to track profits and there could be excessive tax evasion and administration costs.
- Another major proposal to neutralise the double tax on equity is that companies be allowed to deduct an allowance for corporate equity (a normal rate of return on capital) so that they are taxed only on economic profits.
- International taxation also creates issues. Countries maximise their income by allowing foreign tax to be a deduction from taxable income rather than a tax credit. They also maximise local value added by not taxing mobile capital, but it is hard to distinguish between mobile and captive capital.
- The major current debate is about the size of the corporate tax rate rather than the structure. Advocates of a major cut in the corporate tax rate argue that it will greatly stimulate investment, employment and growth. Sceptics view it as more likely to be regressive with major benefits to affluent shareholders and little trickle-down effects to employees.

## Questions

1. In what ways are taxable profits different from accounting and economic profits?
2. Why should corporate income be taxed rather than treated like trusts or partnerships where, for tax purposes, all income is fully distributed and taxed in the hands of the recipients?
3. Is there any double taxation of company income in the Australian system of corporate taxation?
4. What factors determine the incidence of company income taxation?
5. Is company tax a tax on entrepreneurship?
6. How may company tax affect the financial structure of firms?
7. Is company tax likely to affect the amount of capital formation? What are the arguments and what is the evidence?
8. Why does a change in the corporate tax rate have no effect on domestic shareholder income under a full imputation system?
9. What are the arguments for and against the Mirrlees Tax Review's proposal for an allowance of corporate equity?
10. What are the main issues governing a country's approach to international taxation?



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