

3 The economic structure of the tax-transfer system

Outline

This section sets out an economic framework for assessing how the tax-transfer system affects the living standards of Australians through its impacts on the economic decisions of individuals and businesses and on the distribution of economic opportunities amongst individuals.

Key points

- There are many taxes in Australia, all of which are ultimately paid from the earnings from only three factors of production: labour, capital and land (including natural resources).
- Individuals (rather than businesses) own these factors of production and therefore ultimately bear the burden of taxation. Who bears a tax or benefits from a transfer payment can be very different to who pays the tax or receives the payment.
- All taxes affect choices by encouraging individuals to shift from higher taxed to lower taxed goods and services or activities and by lowering their available income. Similarly, transfers can impact on people's choices by increasing available income in certain circumstances. The costs of the tax-transfer system include its impacts on these choices (economic efficiency) and the costs of administering and complying with the system. These costs are significant.
- Equity is an important objective of the tax-transfer system. There is no unanimity about how best to assess equity but two fundamental principles are: horizontal equity, which requires that individuals in the same economic circumstances pay the same tax; and vertical equity, which is generally considered to mean that those with greater capacity pay more tax than those with less capacity.
- The top 20 per cent of tax payers are estimated to receive around 46 per cent of wage and salary income. The distribution of capital income is more skewed, particularly dividend income and capital gains. The distribution of wealth is less equal than the distribution of income but this reflects lifecycle effects to a significant extent.
- Australia's tax-transfer system places a relatively greater net burden on those with higher incomes. It also redistributes income from the young working age population to the retired elderly.

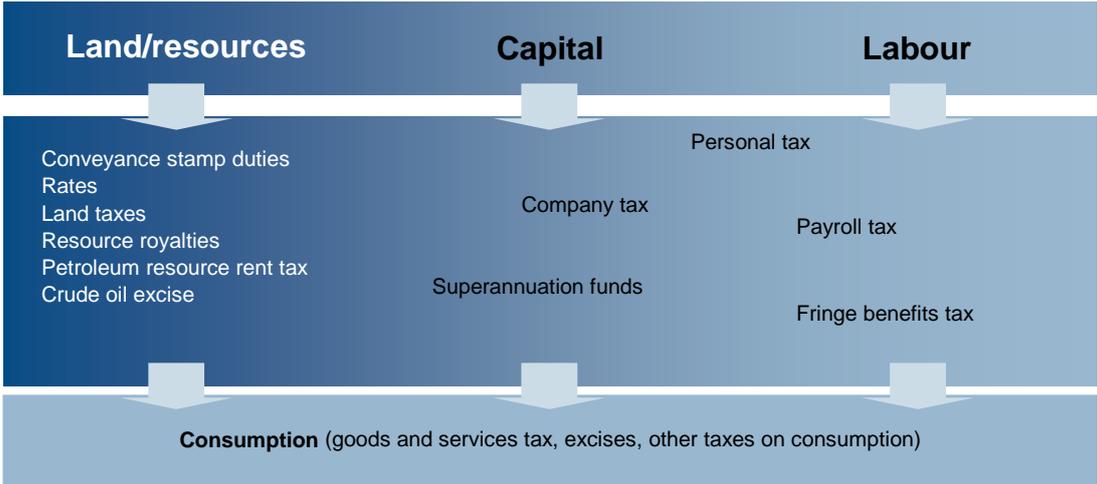
3.1 The economic impacts of the tax-transfer system

Many taxes but only three tax bases

Individual tax bases are often described in terms of the nature of the tax and the things that are taxed. For example, payroll tax applies to the payrolls of business (subject to a threshold), land tax applies to land used for particular purposes, the GST applies to the consumption of particular goods and services and the queen bee levy applies to the production and export of queen bees.

All taxes, whether payroll tax, land tax, GST or the queen bee levy, are ultimately borne by individuals on the earnings from only three factors of production: labour, capital and land (including natural resources). Taxes are levied either on the income derived from these factors or on the use of that income to consume goods and services. Individuals end up paying taxes in a range of ways, including as consumers through higher prices, as employees through lower wages, or as shareholders or investors through lower profits. Chart 3.1 provides a schematic overview of how some of the main Australian taxes relate to income derived from these factors of production.

Chart 3.1: Relationship between economic bases and taxes



It does not matter whether the taxes are levied on activities, entities, goods or transactions, all taxes are ultimately paid out of the incomes of individuals. See Box 3.1 for a discussion of the relationship between income derived from the three factors of production and the use of that income.

Box 3.1: The relationship between sources and uses of income

The *earnings* from the three factors of production – labour, land (including natural resources) and produced capital – comprise the income of individuals. This includes income received by individuals in the form of transfers from the government, as such payments are derived from taxes levied on the earnings from the factors of production.

The aggregate of each individual's income from labour, land and produced capital represents the income of the nation. This income can be either consumed or saved to finance consumption in a later period (see Chart 3.2).

Chart 3.2: Sources and uses of income

The equivalence of income to consumption and saving, means that in the long run taxes on consumption (such as the GST and excise) can be broadly thought of as taxes on labour (see Appendix B). For example, a payroll tax that reduces the after-tax income of a worker means the worker has less money to buy goods and services. The payroll tax can therefore be viewed as a tax on labour *income* or, equivalently, as a tax on the *consumption* of goods and services. In theory, a tax on goods and services and a payroll tax should therefore have similar effects on the incentive to work, since both reduce the goods and services that can be purchased through working. Indeed, all taxes – from small transaction based taxes to broad based income taxes – tax people's jobs (by taxing their wage income), their savings (by taxing their return to saving) or the returns they derive from natural resource endowments. In practice, however, the impacts of direct taxes on labour income and taxes on goods and services may differ. This reflects imperfect information about the ultimate burden of different taxes and the tendency for individuals to make decisions about complex matters such as the burden of different taxes using relatively simple procedures.

The aggregate of each individual's income from these sources represents the income of the nation (see Box 3.2 for a discussion of alternative measures of national income). The exact breakdown of national income between the three factors is difficult to determine for a number of reasons. In particular, many small businesses only report overall income and it is difficult to determine how much of that reflects a return to invested capital and how much is a return to labour. Returns to land and resources are also difficult to distinguish from returns to capital. However, it is clear that more than half of national income comes from labour.

Box 3.2: Measuring national income

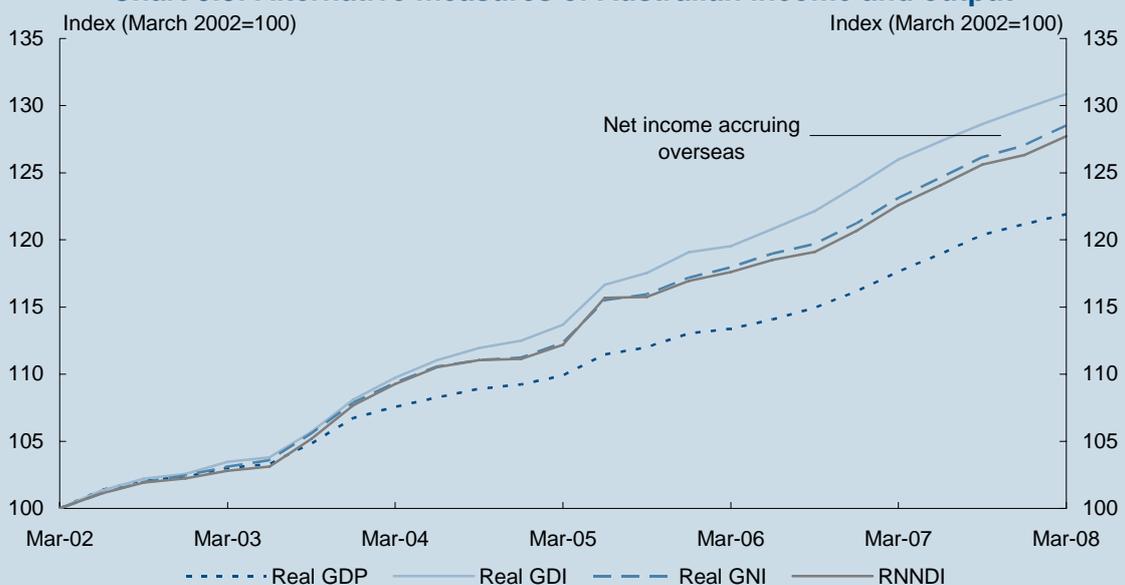
The Australian Bureau of Statistics produces a number of indicators of national income. Different ways of measuring national income are suitable for different purposes. For example, there are important differences between income generated in Australia and the income actually accruing to Australians. Some of the key measures of national income are discussed below.

Nominal gross domestic product (GDP) is the value of all goods and services produced in Australia. Nominal GDP is the major driver of revenue collections. However, it is not a good measure of wellbeing because it includes price changes, which can lift nominal GDP but not raise Australians' actual spending power.

Real GDP shows the volume of goods and services produced in the economy by removing price impacts from nominal GDP. Real GDP is a measure of the productivity and participation outcomes in the economy. However, by removing all price impacts, it ignores the income changes that arise from changes in the terms of trade (as Australia has experienced during the recent boom in export prices).

Real net national disposable income (RNNDI) shows the amount of income accruing to Australians that can be consumed without diminishing the economy's productive capital. It is derived through several adjustments to real GDP. Adjusting real GDP for the income effect of the terms of trade results in real gross domestic income (GDI), which has grown significantly faster than real GDP during the terms of trade boom. Net income accruing to foreigners is then subtracted (resulting in real gross national income (GNI)), reflecting the fact that this income is not available to raise Australian wellbeing. Net income accruing to foreigners has grown strongly during the recent terms of trade boom. Finally, depreciation of the capital stock is deducted to achieve RNNDI. As RNNDI is a real measure, it captures the capacity of Australians to consume actual goods and services.

Chart 3.3: Alternative measures of Australian income and output



Source: ABS cat. no. 5206.0, National Income, Expenditure and Product, March 2008.

Tax and transfer incidence

Who bears the burden of a tax bears the 'incidence' of a tax. 'Legal incidence' is borne by the person who is required to pay the tax to the administrative authority. 'Economic incidence' is borne by the person who ultimately bears the cost burden of the tax. The economic incidence of a tax is less apparent than its legal incidence, but it is the economic incidence that is important when considering the efficiency and equity implications of the tax-transfer system.

Taxes can be shifted from one person to another through changes in the prices of inputs to the production process, through changes in the price of goods produced, or through changes in the distribution of the returns to economic activity.

There is no authoritative view as to the economic incidence of our tax-transfer system. Determining precisely the economic incidence of a tax is extremely difficult. Further, the interrelationships between the influences that determine incidence need not be static, due to changing economic conditions and tax-transfer settings, so that the economic incidence of a tax may vary over time.

While determining the exact incidence of the tax system or a specific tax is problematic, economic relationships provide insights into the likely economic incidence of at least some taxes (Box 3.3). Some generally accepted outcomes are that the economic incidence will fall to a greater extent on:

- a good or factor, the demand or supply for which is unresponsive to a change in its price;
- a good with no ready substitutes; and
- a factor of production that is relatively immobile.

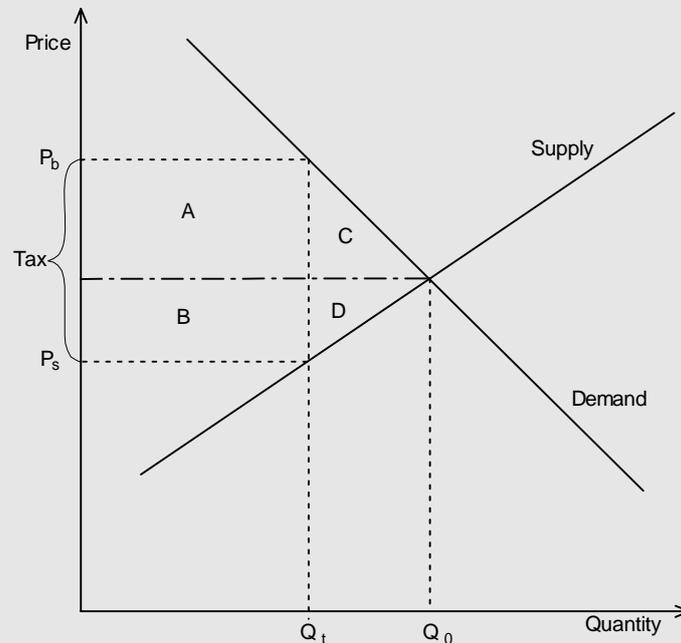
Where a tax is levied on a good or factor which does not have these characteristics, or on a business entity, the burden of the tax will tend to be shifted to goods or factors of which the demand or supply is relatively less price responsive, less substitutable or less mobile.

For example, foreign investment is generally considered to be more mobile than the resident labour force. It is generally accepted that for existing investment, the incidence of a change in company tax falls on shareholders in the short-run. However, in the longer run, it is more likely the incidence falls on land and labour, particularly where domestic consumers can substitute foreign goods for goods produced by the resident company. Under these conditions, a high rate of tax on capital income may discourage some new capital investment resulting in a smaller stock of productive capital. With reduced capital investment, average labour productivity could be expected to fall, and with lower labour productivity wages would be likely to be lower. It is through lower wages that, in the longer run, labour may bear the economic incidence of the company tax.

Similarly, it can be difficult to determine who ultimately benefits from some forms of transfer payment. In most cases the incidence of untied cash transfers to individual recipients is likely to fall on those individuals, with the possible exception of transfers to the elderly, which may also benefit future generations by allowing more savings to be passed on as bequests. Where cash payments are tied to the purchase of particular goods or services, as with rent assistance and public transport, part of the benefit of the concession may be captured by the provider of the goods or services in the form of higher prices to which the concession is applied, depending on the demand response.

Box 3.3 Understanding the economic incidence of taxes

Consider a market for a factor (labour, capital or land, including natural resources) or for goods and services (intermediate or final). A tax, whether paid by the buyer or the seller, places a wedge between the buyer price (P_b) and the seller price (P_s).

Chart 3.4: The effects of taxation

This results in:

- a fall in quantity produced and consumed from Q_0 to Q_t (unless one of demand or supply is perfectly inelastic – that is, unresponsive to a change in price)
- a rise in the price paid by the buyer to P_b (unless supply is perfectly inelastic or demand is perfectly elastic)
- a fall in the price received by the seller to P_s (unless demand is perfectly inelastic or supply is perfectly elastic)
- a transfer of revenue to the government (of area $A + B$)
- losses of economic value to buyers (of area $A + C$) and sellers (of area $B + D$)
- a net loss of economic value ($C + D$ – which is equal to the loss of producer and consumer surplus less the revenue transfer to the government), referred to as the ‘efficiency cost’ of taxation.

The share of the final economic incidence of the tax borne by buyers and sellers depends on the relative price responsiveness of the demand and supply curves, with the less elastic side bearing most of the final burden. To minimise the loss of economic surplus, taxes need to be higher on relatively inelastic goods.

Note: Strictly speaking the demand curve represented in Chart 3.4 should be the compensated demand curve.

Incentive and income effects

All taxes – whether on labour, capital or land and natural resource income – have two types of effects.

- First, taxes affect individuals' *incentives* by encouraging them to shift from taxed to untaxed activities and goods or from heavily taxed to lightly taxed activities and goods (that is, the substitution effect). For example, taxes on wages may discourage people from working additional hours, or encourage them to find alternative forms of remuneration that are not taxed. Taxes on capital income encourage people to save less or shift their savings into vehicles which are taxed less. The loss in economic value due to these incentive effects is what economists call the efficiency costs of taxation (see Box 3.4).
- Second, taxes reduce individuals' *incomes*, which can also affect their behaviour. For example, taxing wages might encourage an individual to work longer hours if they desire a given level of income to meet their spending requirements. Similarly, taxing the return to saving might encourage individuals to increase their level of savings to achieve a desired level of income in retirement.

The incentive and income effects of taxes can interact in complicated ways. For instance, a higher tax on labour income would have an incentive effect of discouraging people from working, while the income effect may encourage more work, to ensure that the individual or family has enough after-tax income to meet their expenditure needs.

Government spending, particularly on transfers to individuals, can also have important incentive and income effects. Transfers act like reverse taxes. Rather than raising money in ways that affect individuals' incentives and reduce their after-tax incomes, transfers give money in ways that affect individuals' incentives and increase their after-transfer incomes. For example, transfers can reduce the incentive to work, particularly means tested payments, and to save.

Box 3.4: Efficiency costs of taxes and transfers

Tax revenue is used by government to fund goods and services, including transfers – past, present and future. The revenue raised by government is not a cost to society as a whole. Revenue collections are transferred from one set of Australians to another through the tax-transfer system and the broader functions of government. The impact of this transfer on wellbeing depends upon the value assigned by individuals to the goods and services provided by government.

In contrast, efficiency costs represent losses to the Australian community. The vast majority of taxes and transfers affect the choices that individuals and businesses make by altering incentives to work, save, invest or consume things that are of value to them. Individuals and businesses generally respond to taxes by choosing more of lower taxed items and less of higher taxed items than they otherwise would. (They may respond to transfers in ways that increase the payment they receive.) These changes in behaviour can ultimately leave the economy and society as a whole worse off than if the revenue had been raised (or distributed) without affecting their behaviour. It is this consequential loss of value that is referred to by economists as efficiency costs.

The size of these efficiency costs varies across different taxes and transfers. For example, taxes that alter production decisions will tend to have higher efficiency costs than taxes that alter consumption decisions. This is because such taxes alter both the mix of business inputs used to produce a good or service, as well as the final consumption choices of individuals. At a system level, the efficiency costs of taxation in Australia have been estimated to be around 6 per cent of GDP (Freebairn 1998). These estimates are broadly consistent with 'rules of thumb' developed from studies of the efficiency costs of taxation in the United States (Government Accounting Office 2005). Additional efficiency costs could be expected to result from the effects of the transfers system on individuals' choices. However, it is the marginal efficiency cost of raising the last dollar of revenue from a particular tax that is relevant for comparing the efficiency of different taxes or additional spending. Some taxes, such as taxes on economic rent, are likely to have negligible marginal efficiency costs if well designed, whereas the marginal cost of other taxes can be high.

There are also additional costs of raising revenue. These are the costs of administering the tax-transfer system and the costs to taxpayers and transfer recipients of complying with the requirements of the system. Administration and compliance costs are considered further in Section 11.

The existence of these efficiency, administration and compliance costs does not automatically imply that reducing taxes will result in increased GDP or social wellbeing. Provided that the goods and services supplied by government are of sufficient value to society to offset these costs, the overall wellbeing of society is enhanced. It may, however, be possible to reduce efficiency costs by altering how some taxes are used to raise revenue.

Minimising efficiency costs through tax design

In the absence of administration and compliance costs, and with perfect information, an optimal design for a tax system would be where the rate of tax is inversely related to the responsiveness of economic choices to the imposition of the tax. That is, minimising the efficiency costs of taxation would require higher tax rates on factors of production, the supply of which is relatively unresponsive to the rate of tax, and on goods and services for which demand is relatively unresponsive to the rate of tax.

Such a tax system is impractical, due to deficiencies in our understanding of the efficiency impacts of individual taxes and because the considerable costs of administration and compliance associated with such an approach would likely outweigh much of the gain in economic efficiency. The principles underlying this approach are, however, applied in many aspects of tax design. For example, high rates of excise are applied to goods for which demand is relatively unresponsive to the rate of tax and for which there is a degree of control over the supply of untaxed production. Similarly there is a widely held view in academic circles that capital should be taxed at lower rates than labour or consumption, particularly for a small, open and geographically isolated country like Australia, because of the higher international mobility of capital relative to labour.

It is also this general principle that has underpinned an OECD wide trend towards financing lower rates of tax by broadening the tax base and applying a uniform rate of taxation across the tax base. One rationale for this approach is that if all goods and services are taxed at the same rate, relative prices will be unaffected and therefore there will be less impact on the decisions of individuals and firms. A supporting rationale is that efficiency costs tend to increase more than proportionately with the rate of tax and, hence, for a given revenue target efficiency costs will be lower where revenue is raised across a broad base.

In applying this approach, however, a key question is how widely the base to which a uniform rate of tax is applied should be defined. For example, is it more efficient to apply a uniform rate of income tax across all forms of income, or to have differentiated rates across different types of income, such as that accruing to labour, to the extraction of natural resources and to capital?

If there were no limitations to our understanding of the efficiency implications of different tax settings and if economic efficiency were our only policy objective, it would be appropriate to differentiate the tax base so long as the efficiency benefits exceeded any additional administration and compliance costs. In reality, information constraints and other policy objectives will be important determinants of the extent of differentiation in the tax base.

Inflation may also affect the efficiency of the tax system. Some of its impacts are outlined in Box 3.5.

Box 3.5: Inflation and the tax system

A major issue in the Asprey Report (1975) was the adverse interaction between a nominal tax system and inflation on incentives, especially for savings and investment. This was at a time when inflation was over 10 per cent. The 1985 draft White Paper also had a significant focus on the impacts of inflation, including reasons why tax on income such as capital gains should exclude the inflationary component. There have been major developments in monetary policy over the last 20 years, including independence of the Reserve Bank in setting interest rates to target an inflation range of 2 to 3 per cent. This has helped reduce the negative interactions between tax and inflation, especially unanticipated changes in inflation. However, even with lower and more stable rates, inflation can have significant impacts on the incentives created in the tax system. Its impacts can be very different for labour and capital income.

Australia does not have a formal system for annual indexation of income tax thresholds like many OECD countries but the frequent adjustments to thresholds over the last decade have more than compensated for inflation over the past two decades. Australia generally indexes its pensions and allowances to at least compensate for inflation.

Inflation can represent a very significant part of the return to capital. For instance, with an inflation rate of 2.5 per cent and nominal interest rates of 6 per cent, inflation accounts for some 40 per cent of the amount assessed as income for tax purposes. This proportion has changed over time, varying from up to 90 per cent in the 1970s, through to around 30 per cent in recent years. The inflation component of the return to capital does not increase the purchasing power of the investor. Taxing the inflation component under a nominal income tax results in an effective tax rate on the change in purchasing power that is higher than the nominal income tax rate.

3.2 What does equitable distribution mean?

There is no commonly accepted benchmark for what constitutes an equitable distribution of opportunity in an economy. Whether elements of the current tax-transfer system improve equity or not depends on a range of judgements. People put different degrees of emphasis on different priorities of a tax-transfer system and these priorities can sometimes conflict. For example, some people believe that high marginal tax rates on capital improve equity since they may help to redistribute income from rich to poor. Others believe that high rates harm equity because they may reduce the level of investment and capital income formation, and through that channel result in lower growth in wages, as well as imposing a higher tax rate on Australians who decide to save rather than consume.

There are a number of perspectives on equity that people use to inform their assessments of the tax-transfer system, including:

- *inter-temporal equity*, which looks at how the tax-transfer system impacts on longer term decisions of individuals, such as work, saving, family structure and education. Equity therefore requires some consideration of dynamic or future lifetime resources;

- *intergenerational equity*, which looks at how the decisions of today's individuals affect future generations. In general, this includes the objective of ensuring that the wellbeing of future generations is at least no lower than the current generation;
- *spatial equity*, which focuses on the degree to which the tax-transfer system should deliver individuals in different geographic areas similar consumption opportunities, at least for certain types of goods and services;
- the *opportunity and freedom* of individuals to participate in society and to achieve the things they value. Considered here is the role of the tax-transfer system in providing individuals with capabilities and opportunities rather than specific outcomes; and
- '*rights based*' frameworks, which emphasise that the tax-transfer system should not violate fundamental rights and the procedural fairness necessary to sustain a liberal democracy. For example, the tax-transfer system needs to treat issues of privacy carefully and certain forms of inequality – such as direct discrimination on the basis of race, gender or sexual preference – should be ruled out altogether.

While equity can mean different things to different people, there are some common concepts often used to discuss whether the tax-transfer system contributes to equity, or not, according to different equity perspectives; in particular, the beneficiary principle and the ability to pay principle.

The beneficiary principle and ability to pay

The beneficiary principle states that people should pay tax according to the benefits they receive from spending funded by tax revenue, regardless of their income. The principle could be appropriate for funding the public provision of services where it is possible for a user charge to apply (such as public transport, electricity and water). There are, however, a range of government-provided services where access to the service for one person has no impact on access for others: the services are 'non-rival in consumption'. Examples include national defence, law and order, public health services and fire protection. The marginal cost of providing such services is usually close to zero, so excluding some people from consuming them can be inefficient. The beneficiary principle can, nevertheless, be used to justify higher tax burdens on groups that benefit disproportionately from public goods. For example, the principle may support progressive income taxation if higher income earners use relatively more public goods. It may also support taxing foreigners through company tax, as they benefit from government funded infrastructure, legal institutions, and a skilled workforce.

The ability to pay principle states that those who are more capable of bearing the burden of taxes should pay more taxes than those with less ability to pay. For transfers, this principle suggests assistance should increase with the level of disadvantage. This principle requires a measure of ability to pay, such as overall wealth, income, or consumption. Ability to pay may vary considerably depending on the measure chosen. For example, a taxpayer's ability to pay, measured by property and financial wealth, may differ significantly from his or her ability to pay measured by income. A taxpayer who works for many years and then retires may accumulate a significant amount of wealth relative to others, typically in the form of owner-occupied housing, but have a relatively low income.

The period of measurement and the choice of tax-transfer unit can also have a significant bearing on the redistributive implications of the tax-transfer system. Annual income may not be representative of the past or future consumption opportunities of individuals. For example, some students may have the same current income as chronically unemployed job seekers but are likely to have significantly better prospects and significantly higher lifetime consumption opportunities. Lifetime consumption opportunities may provide a better reflection of society's view of equity but are more difficult to measure.

The choice of unit – individual, family or household – also has implications for distribution based on measures of ability to pay. While some are critical of the individual as the unit of taxation, it avoids specifying a family structure that is preferred for tax purposes, and minimises workforce disincentives for secondary earners, such as mothers in families. See Box 3.6 for further discussion about the choice of unit.

Box 3.6: Individual versus family unit

The tax and transfer systems differ in terms of the unit of assessment to which they are applied. The individual is generally the unit of assessment for the taxation system. However, there are exceptions, as the Medicare levy surcharge and the senior Australians tax offset take into account the incomes of partners.

The unit of assessment in the transfer system is the couple or family, based on the principle that providing targeted support should take into account other sources of financial support, including from close family members (spouse, parents of dependent children). The type of household also determines eligibility for assistance.

The possibility of using the family unit to determine tax liabilities has been debated regularly. Some people consider that using the family as the unit of taxation better reflects the ability to pay of individuals in a family. Others argue that the individual unit of taxation avoids specifying what is a suitable family structure for tax purposes and promotes the autonomy of individuals within a family, particularly secondary earners.

The family unit of taxation tends to reduce work incentives for secondary earners since the family's tax rate reflects the income of the primary earner. This also increases the incentive for home production inherent in the tax system due to the exclusion of home production from tax. The individual tax unit of taxation is generally thought to be less complex to administer and comply with, but it may provide some opportunity for informal income splitting of unearned income.

In Australia, the income needs of families are addressed through the transfer system as well as the tax system. Those with children in particular receive government support according to an assessment of the family's income and circumstances. More broadly, many OECD countries have moved away from family based tax in favour of individual based systems (although the Czech Republic is an exception, introducing joint tax in 2005). Consistent with this direction, reform in Australia over the past decade and a half has been focused on facilitating the employment of secondary earners, where this is compatible with their personal circumstances.

Horizontal and vertical equity

The concepts of horizontal and vertical equity are refinements of the ability to pay principle. Horizontal equity requires individuals in the same economic position to be treated the same by the tax-transfer system. Vertical equity is generally considered to mean that individuals in different economic positions should be treated differently, usually with those having greater economic capacity paying more.

The 'same economic position' is often defined by reference to criteria such as individual income, family circumstances (such as the number of dependants) or geographic area. For example, Family Tax Benefit is sometimes justified on the basis of the demands on a given level of income for individuals who are raising children.

Different perspectives on the 'same economic position' can lead to different judgements about whether a policy is horizontally equitable. Consider two individuals who earn the same amount of income but do so from different sources, such as wages and dividends. Taxing these two individuals in an equivalent manner may be considered horizontally equitable by some but others may consider it appropriate to tax wages less as this income is derived from an individual's work effort while dividend income may be derived from inherited wealth. As noted in Section 7, the basis for determining 'capacity to pay' differs fundamentally between the tax system focus on the individual and the transfer system focus on the family.

Vertical equity deals with differences in ability to pay. Subjective judgments about vertical equity are reflected in debates about the overall fairness of the following three types of personal tax rate structure:

- progressive tax rates – where the tax liability as a percentage of a taxpayer's income increases as their income increases;
- proportional tax rates – where the tax liability as a percentage of income stays the same, regardless of the taxpayer's income; and
- regressive tax rates – where the tax liability as a percentage of a taxpayer's income declines as their income increases.

A progressive statutory rate structure for the personal income tax does not ensure that the overall tax system is progressive. Progressive statutory tax rates could be offset by other features of the tax system that reduce the average rate of tax paid by individuals with higher incomes.

The transfer system provides a number of benefits, including pensions, allowances and income tested payments which affect the overall redistributive impact of the tax-transfer system. Whether people think higher or lower taxes will improve the distribution of income or consumption, it is generally acknowledged that both income and consumption need to be measured broadly and consistently to determine whether a system is vertically or horizontally equitable.

Some further considerations regarding horizontal and vertical equity

Importantly, the horizontal and vertical equity of the tax-transfer system depends on who actually bears a tax or benefits from a transfer. As noted above, the actual burden of a tax or

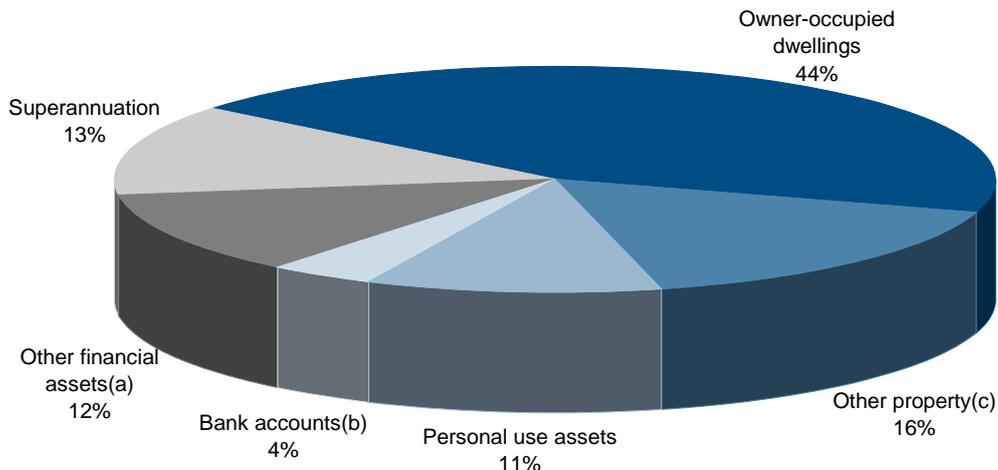
benefit of a transfer does not always fall on the people or businesses that actually pay the tax to the government or receive the transfer payment. Horizontal and vertical equity outcomes will also be influenced by the level of compliance with tax and transfer obligations and the ability of taxpayers to avoid the payment of tax or receive increased transfers through income planning arrangements. Many of the tax reforms introduced in the latter part of the 1980s were intended to address a widespread perception that higher income individuals were able to reduce their tax liabilities through income structuring arrangements. The design of the tax-transfer system and the level of compliance enforcement are important determinants of the extent to which intended and actual equity outcomes align.

3.3 The distribution of wealth, income and taxes

The composition of wealth

In 2005-06, the average value of household assets held by Australian households was estimated at \$655,300. Owner-occupied dwellings accounted for 44 per cent of household assets (Chart 3.5). Personal use assets, including contents of dwellings and motor vehicles contributed around 11 per cent. Superannuation balances constituted 13 per cent of total assets, with other investment assets (non-owner occupied property, and financial assets) accounting for a further third of household assets.

Chart 3.5: Composition of assets of households, average all households, 2005-06



(a) Includes value of shares (including own incorporated businesses) and value of trusts.

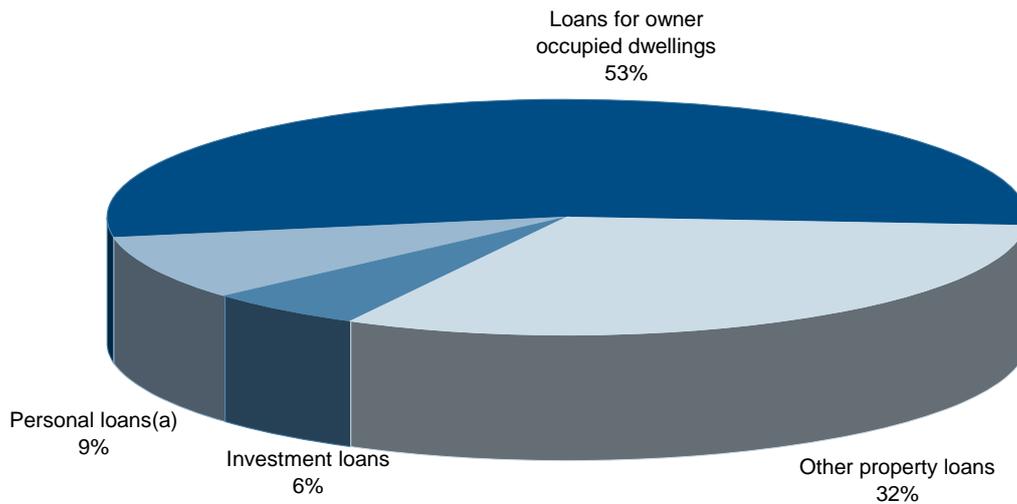
(b) Includes value of debentures and bonds.

(c) Includes value of own unincorporated entities.

Source: ABS (2007a).

Average household liabilities in 2005-06 were \$92,500, consisting mainly of property loans (Chart 3.6). Loans relating to owner-occupied dwellings accounted for about half of the value of household liabilities, with other property loans accounting for a further third. Investment loans were the single most significant other liability, contributing around 6 per cent to household liabilities. All personal loans, including study loans, credit cards and car loans, accounted for 9 per cent of household liabilities.

Chart 3.6: Composition of liabilities of households, average all households, 2005-06

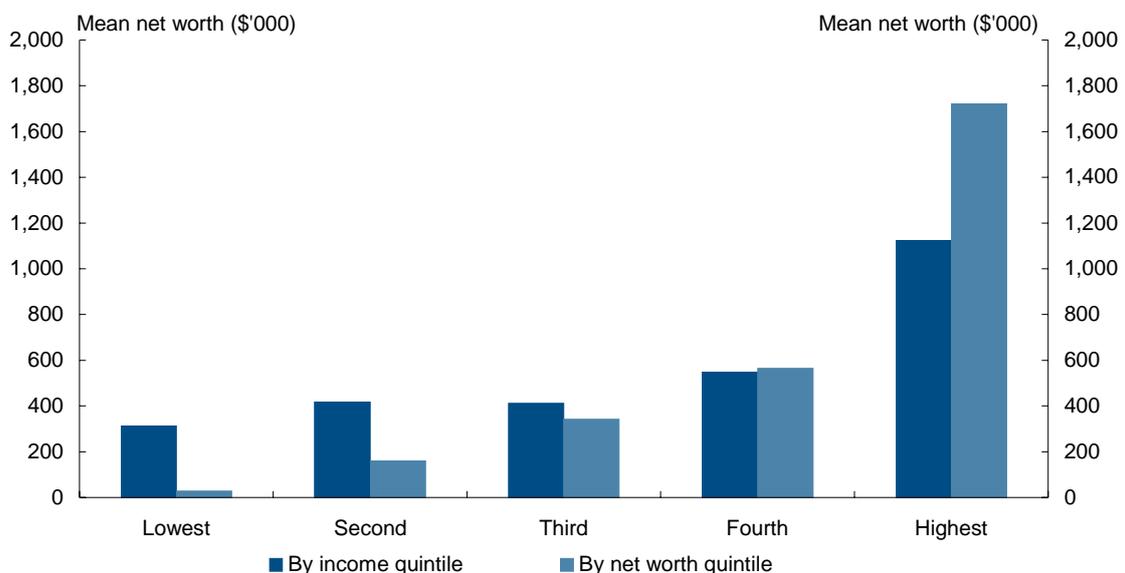


(a) Includes study loans, credit cards, vehicle loans and other loans, nec.
Source: ABS (2007a).

The distribution of wealth

Chart 3.7 shows the distribution of the net worth of Australian households by income and net worth quintiles (a quintile is 20 per cent of the population). The distribution of net worth by income quintile is more even than the distribution by net worth quintile. In part, this reflects differences in relativities between wealth and income across a person's lifecycle. For example, retirees and pensioners tend to have low incomes but substantial assets in the form of equity in owner-occupied dwellings or superannuation.

Chart 3.7: Net worth of Australian households by income and net worth quintiles, 2005-06

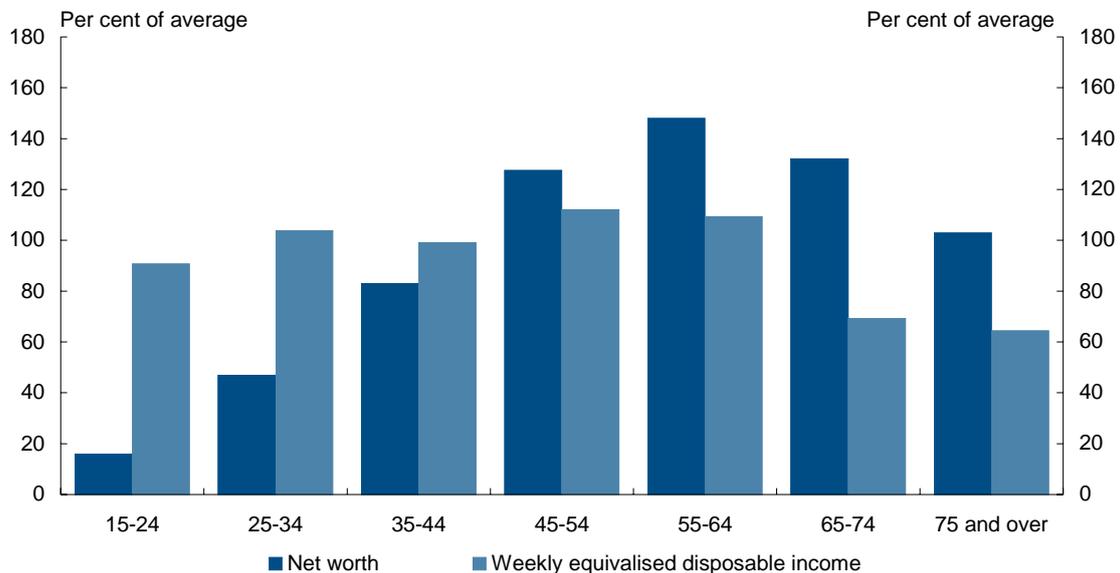


Source: ABS (2007a).

The importance of lifecycle influences is illustrated in Chart 3.8. Households towards the right hand side of the chart (older households) have higher average net worth but lower average incomes than those towards the left hand side of the chart (younger households).

This profile is to be expected, with households saving part of their incomes and accumulating wealth through the early to middle parts of their lifecycle, and drawing on that wealth towards the end of their lifecycle. The higher incomes through to retirement age reflect the accumulation of human capital across the lifecycle.

Chart 3.8: Net worth and mean weekly equivalised disposable income of Australian households by age of reference person, 2005-06 (per cent of household average)



Source: ABS, Survey of Income and Housing, FaHCSIA estimates.

The distribution of income

The distribution of wage and salary income and of capital income is important when considering the overall structure of our tax-transfer arrangements.

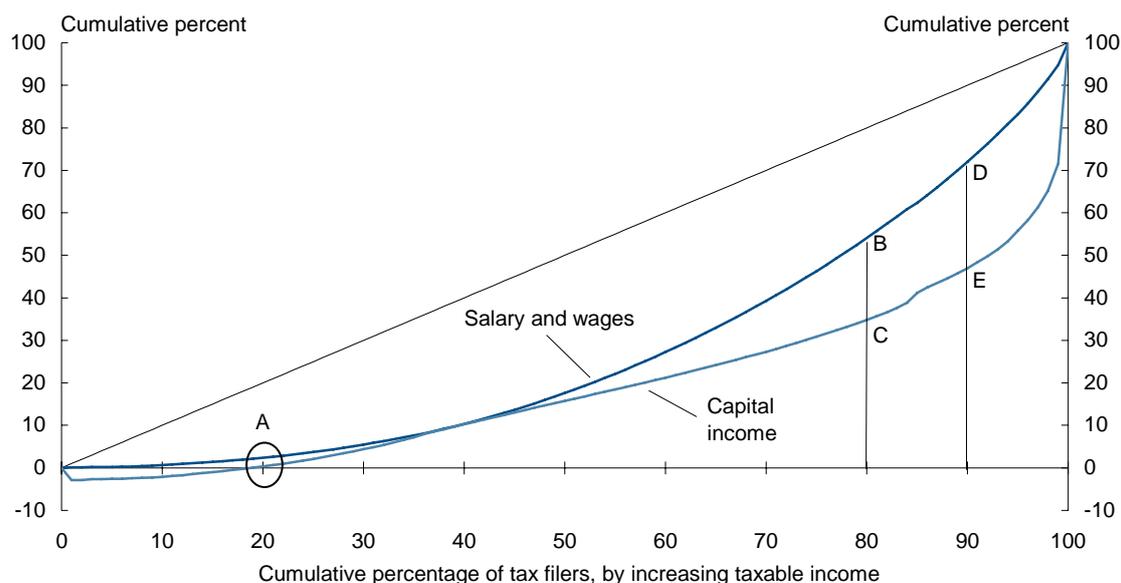
For most households the principal source of income¹ in 2005-06 was wages and salaries (59 per cent of households), followed by government pensions and allowances (26 per cent of households), incorporated business income (6 per cent of households), with other forms of income being most significant for 8 per cent of households. Less than one per cent of households reported no income or an overall net loss, due to business or property losses. Approximately 17 per cent of households relied on government pensions and allowances for at least 90 per cent of their income. These households were more likely to be composed of lone people or people aged 65 years and over than households with higher private income.

Chart 3.9 plots the percentage of wage and salary income, and capital income, against the percentage of taxpayers, ranked according to their taxable income. Points along the 45-degree line represent a proportional distribution of income, with a given percentage of income being earned by an equivalent percentage of taxpayers. The chart illustrates that both wage and salary income and capital income are skewed toward higher income earners but that capital income is more highly skewed (indicated by the greater curvature of the line at higher incomes).

1 The principal source of income is that source from which the most positive income is received. If total income is nil or negative the principal source is undefined. As there are several possible sources, the principal source may account for less than 50 per cent of gross income.

For example, the bottom 20 per cent of taxpayers accounted for very little salary and wages or capital income in 2005-06 (point A). This reflects the cluster of pension and beneficiary recipients at the lower end of taxable incomes and individuals with significant net losses, such as net business losses. In contrast, the top 20 per cent of taxpayers are estimated to receive around 46 per cent of salary and wage income (point B) and around 65 per cent of capital income (point C). The top 10 per cent of taxpayers receive 28 per cent of salary and wage income (point D) and 53 per cent of capital income (point E). Table 3.1 provides further comparisons of the distribution of wage and salary and capital income.

Chart 3.9: Distribution of salary and wage income and capital income, 2005-06^(a)



(a) Includes tax filers without a tax liability.
Source: Australian Government administrative data.

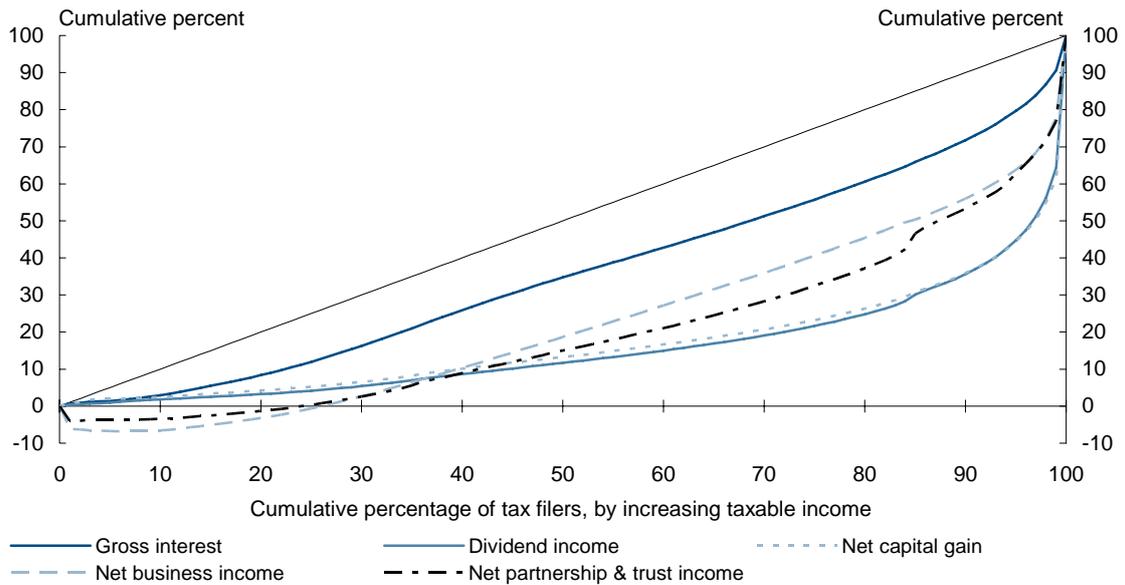
Table 3.1: Estimated distribution of wage and salary income and capital income in 2005-06

	Bottom		Top		
	20 per cent	50 per cent	20 per cent	10 per cent	1 per cent
Salary or wages	2.4	17.6	45.9	28.0	5.3
Net rent	18.8	31.3	38.8	24.0	4.0
Gross interest	8.4	34.7	39.4	28.2	9.4
Dividend income	3.2	11.7	75.2	64.4	35.7
Net capital gain	4.2	13.3	73.7	64.2	38.6
Net business income	-3.2	18.7	54.6	44.0	22.2
Net partnership & trust income	-1.3	15.0	62.9	46.8	23.1
Capital income	0.4	15.8	65.2	53.0	28.5

Source: Australian Government administrative data.

There are also considerable differences in the distribution of the individual components of capital income – interest income, dividends, net rent, net capital gains, net business income and net distributions from partnerships and trusts (Chart 3.10). The bottom 20 per cent of taxpayers earned around 8 per cent of gross interest income but only around 3 per cent of dividend income and around 4 per cent of net capital gains. In contrast the top 10 per cent of taxpayers receive around 28 per cent of gross interest income but over 64 per cent of net capital gains and dividends.

Chart 3.10: Distribution of selected capital income items, 2005-06^(a)

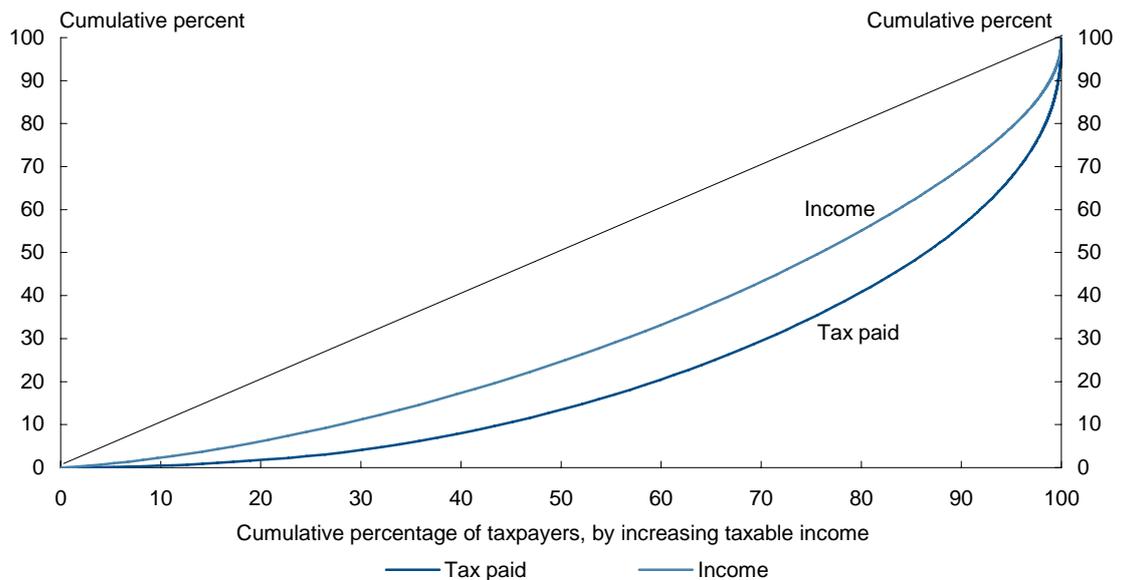


(a) Includes tax filers without a tax liability.
Source: Australian Government administrative data.

The distribution of tax paid

The distribution of taxable income and the tax burden across individuals is shown in Chart 3.11 for 2005-06. While the distribution of taxable income is skewed toward those on higher incomes, the tax burden is even more skewed, indicating a progressive personal income tax system. The bottom 20 per cent of taxpayers accounted for 6.5 per cent of taxable income but only 2.0 per cent of tax paid. In contrast, the top 20 per cent of taxpayers accounted for 45 per cent of taxable income and 59 per cent of tax paid.

Chart 3.11: Distribution of taxable income and tax paid, 2005-06^(a)

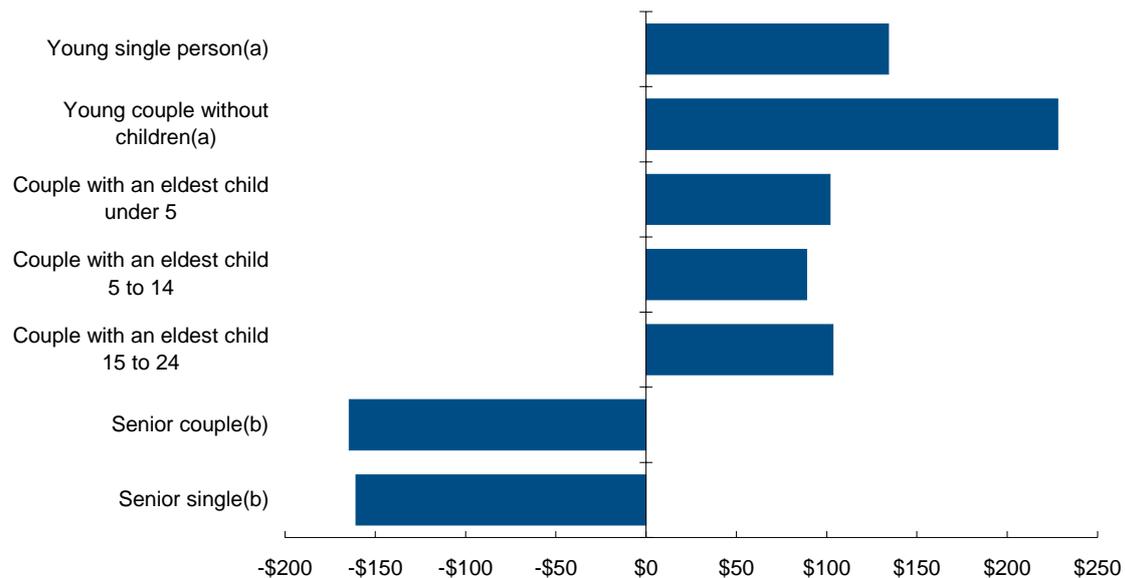


(a) Taxpayers are those people with a positive tax liability.
Source: Australian Government administrative data.

3.4 The distribution of taxes and transfers through time

The tax-transfer system also distributes income over a person's life-cycle. That is, the tax-transfer system can treat the same people differently at different times in their lives. At different stages of their lives individuals may be net taxpayers (pay more in tax than they receive in transfers) or net recipients of transfers (receive more in transfers than they pay in tax). This is illustrated in Chart 3.12 at an aggregate level for different household types. Net tax paid is defined as tax paid less cash transfers received.

Chart 3.12: Average weekly net tax for different household types in 2003-04



(a) Reference person under aged under 35.

(b) Reference person aged 65 and over.

Source: ABS (2007b).

On average, younger households are net taxpayers. The average net tax paid by a single person aged under 35 in 2005-06 was relatively low, reflecting generally lower private incomes for this group, higher levels of unemployment and higher numbers of individuals in receipt of student allowances. Young single people working full-time would have a net tax burden above this average. Couples with children had a higher average tax burden than young single persons but a lower tax burden than young couples without children, in part because they receive family tax benefit and other child related transfers, such as higher rent assistance. Couples with older children, where the eldest child is aged 15 to 24, paid more tax than couples with younger children, primarily because they were likely to be more advanced in their careers and have higher net worth, and hence have higher average private incomes than young couples without children. Retired individuals and couples were net recipients of transfers, primarily reflecting the Age Pension and reduced private income.

Cameos can also show the impact of the tax-transfer system over the life-cycle

Chart 3.12 presented aggregate data on the effect of the tax-transfer system on different household types. Another way to explore the effect of the tax-transfer system on households as they age is to construct a set of hypothetical cameos of a household at different stages of its lifecycle. The following cameos describe the net tax position of the household in terms of the average net tax rate — defined as the net tax paid by the household as a proportion of household private income.

Box 3.7: A young single

Jason is a single person who has just completed education. Given his lack of work experience he has a lower income than established workers. Jason earned \$42,000 in 2008-09, roughly 70 per cent of average ordinary time earnings. His average tax rate is 15.5 per cent. His disposable income (his income after tax and transfers) is \$35,490. These figures take into account the small amount of low income tax offset (LITO) that Jason can claim and his liability to pay the 1.5 per cent Medicare levy. Jason deferred payment of his course fees and is therefore also required to repay his Higher Education Loan Program (HELP) debt at a rate of 4 per cent of his gross income. His overall net tax rate is 19.5 per cent. Through the superannuation guarantee scheme Jason is already building savings which will enhance his retirement income.

If Jason lost his job he might be eligible for Newstart Allowance and possibly other supplementary payments such as Rent Assistance. These payments are also available to families, although in this case the family's assets and income will be used to determine eligibility. Families with children also have interactions with family assistance, such as Family Tax Benefit. These benefits can significantly reduce average net tax rates.

Box 3.8: Seven years later Jason has a young family

Jason is earning \$60,000 a year. His partner, Melissa, stays at home to look after their two young children aged 2 and 4. Jason is eligible for Family Tax Benefit Part A and Melissa can claim Family Tax Benefit Part B. Together these payments add \$9,469 to Jason and Melissa's income. After Jason pays income tax and Medicare levy, the family is left with a disposable income of \$56,569, equivalent to a net tax rate of 5.7 per cent.

Melissa is on unpaid leave from her job as a social worker. If she had returned to her job for three days a week, she would have been earning \$27,000 a year. With their children in long day care for three days a week at \$5.60 per hour, Jason and Melissa would be eligible to claim \$12,404 in Child Care Benefit and Child Care Tax Rebate. The family's private income would be \$87,000 and their disposable income would be \$70,568, giving them a net tax rate of 18.9 per cent.

These outcomes depend on the age of Jason and Melissa's children, because the amount of Family Tax Benefit they can receive depends on the age of the children. As a one-earner couple with \$60,000 in wage income, Jason and Melissa would have \$58,012 in disposable income and face a net tax rate of 3.3 per cent if their children were aged 11 and 13.

Box 3.9: At 48 years of age Jason and Melissa are without dependent children

As an established couple without dependent children earning \$80,000 and \$45,000, Jason and Melissa face a net tax rate of 21.4 per cent. Their household disposable income is \$98,225.

Older people can qualify for the age pension, as well as Pharmaceutical Allowance, the senior Australians tax offset (SATO), the mature aged worker tax offset (MAWTO) and different Medicare levy thresholds.

Box 3.10: Enjoying retirement

Jason and Melissa have vigorously pursued a healthy work-life balance and are enjoying good health in their retirement. Aged 66 and 65 with private non-working income of \$12,000 and \$6,000 respectively, Jason and Melissa are able to claim a part pension, entitling them to a concession card. They face a net tax rate of less than negative 100 per cent. That is, they receive a net transfer which more than doubles their disposable income.

3.5 Measuring taxation of labour, savings and investment — analytical tools

To assess the impact of taxes on the production and distribution of resources in the Australian economy it is necessary to look beyond statutory tax rates. For example, companies do not pay the company tax rate each year on all of their profits, as corporate financing policies, generally available deductions, concessions for particular industries or activities, and tax planning opportunities may impact on the amount of tax payable.

To understand the impact of the tax-transfer system on labour supply, it is also necessary to consider the effects of tax and transfers on disposable income. A number of measures are available that take into account the effect of tax offsets and transfers, and the withdrawal of these transfers (which has the effect of reducing the return from work and/or saving).

To describe accurately how much tax is actually paid, it is necessary to find alternative measures to the statutory tax rate. There are several other ways of measuring the tax rates on labour, savings and investment, each with its own advantages and disadvantages (see Table 3.2).

Tax to GDP

Tax to GDP ratios are commonly used for comparing the level of taxation across countries. These measures can be calculated for taxes paid by particular industries or under particular revenue heads and are calculated as the tax revenue expressed as a percentage of GDP. Tax to GDP ratios are a 'backward' looking measure of the tax burden, in that they are an estimate of taxes already paid.

Average tax rate

Average tax rates (ATRs) are commonly used to measure the tax burden on income. They are based on micro data and express tax paid as a percentage of an appropriate measure of income, such as profits from the annual accounts of a business or total income obtained from tax returns. ATRs incorporate most aspects of the tax system, such as variations in tax rates, deductions and offsets. ATRs also implicitly take into account impacts of tax planning, evasion and minimisation.

ATRs on labour can be structured in a number of different ways, for example, to measure tax as a proportion of total wage and salary income and transfers, or tax net of transfers as a proportion of earned income.

Effective tax rates on labour

Effective tax rates on labour take account of the complete wedge between gross income and disposable income, including any reductions in transfers, as well as income tax. The effective tax rate on an additional dollar of income is often referred to as an effective marginal tax rate (EMTR). Effective tax rates on larger increases in income (for example, an additional \$100 per week) are often called effective average tax rates (EATRs), while the effective tax rate when moving into the workforce is referred to as the participation tax rate (PTR).

For labour, EMTRs, EATRs and PTRs are measured in the same way, but over different ranges of income. EATRs measure the effect of the tax-transfer system over broader increments of income.

These measures do not directly measure the incentive to work, but rather the return from additional work (labour supply elasticities would need to be coupled with the effective tax rates to determine incentives). They do, however, provide an indication of the magnitude of potential incentive effects.

Effective tax rates on capital

EMTRs on savings and investment measure the effect of taxation on the return to an investment in a marginal project. A marginal investment is one where the investor is indifferent between undertaking the investment or investing elsewhere (that is, where the expected net present value of the investment is zero). The EMTR is defined as the difference between the pre-tax and the post-tax return on the project as a proportion of the pre-tax return.

EMTRs measure the tax burden on an extra dollar of marginal investment, and are indicative of the extent to which saving or investment is discouraged and of tax driven distortions in investment choices. They do not, however, show all the potential impacts on investment choices. For example, stringent preservation requirements for superannuation and lock-in effects in respect of assets with unrealised capital gains, are not captured in these measures.

The EMTR is a forward looking measure because it calculates the tax burden on a hypothetical investment under the current tax system. As such, the EMTR can be used to estimate incentive effects arising from the tax system.

In contrast to the EMTR, the EATR on savings and investment measures the effective tax burden on projects that earn more than the marginal rate of return (that is, projects generating so-called supernormal returns or economic rents). The EATR for a future investment project is calculated as the ratio of the future tax liabilities to the pre-tax financial profit (or some other parameter for the value of the firm over the estimated life of the project).

The primary use of EATRs in the empirical literature has been in examining the effect of the tax system on managerial decisions such as investment location.

Table 3.2: Comparing measures of tax

Method	Advantages	Disadvantages
Statutory tax rates	Simplest of all measures	Is a primary component of other measures such as EATRs but does not reflect all aspects of actual burden (does not include base adjustments and does not include withdrawal of transfers)
Tax to GDP	Relatively simple to calculate Internationally recognised as a measure of comparing the level of taxation across countries	Backward looking (does not identify incentive effects) Changes in the estimated rate may reflect variations in economic profit to GDP rather than tax changes Tax paid and GDP may not relate to same income year Problem with carried forward losses, tax expenditures Excludes tax at shareholder level with respect to corporate income tax Limited usefulness for analysing tax structures within a country
Average tax rate	Relatively simple to calculate Calculates rates for particular taxpayers, groups or industries Good estimate of the tax burden	Backward looking (does not identify incentive effects) Issues with including loss making firms, upward bias Problem with carried forward losses Excludes tax at shareholder level with respect to corporate income tax Provides no indication of incentives at the margin, particularly in relation to labour taxation
Effective tax rates (labour)	EMTRs and EATRs measure returns to additional labour supply Calculates rates of tax and transfers for individuals and different family types Provides an indication of returns to increased labour supply — particularly when examined over ranges of income	Focusing on EMTRs can lead to too great a focus on marginal return, when labour supply is 'lumpy' and effective rates over a broader range of income may illustrate returns more accurately. May not take into account all costs (for example, childcare) Provides only a static measure of the returns to labour (that is, excludes long-term returns of increased labour supply) Useful only for analysing substitution effect of taxes-transfers on labour, not the income effect
Effective marginal tax rates (capital)	Forward looking measure. Can incorporate taxes at shareholder level Calculates rates for particular taxpayers, groups or industries for various asset types and financing arrangements. Long-standing, internationally recognised measure	Complex calculation Not appropriate if project/asset earns inframarginal gains
Effective average tax rates (capital)	Forward looking measure. Measure for examining location decisions for investments Measures the tax burden of an inframarginal investment Can incorporate taxes at shareholder level	Complex calculation Problems with determining inframarginal gains