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A brief history of Australia's tax system

Sam Reinhardt and Lee Steel¹

This paper was presented to the 22nd APEC Finance Ministers' Technical Working Group Meeting in Khanh Hoa, Vietnam, on 15 June 2006. It provides an overview of Australian taxation history, identifying trends and discussing key reforms to Australia's tax system at both federal and state levels of government.

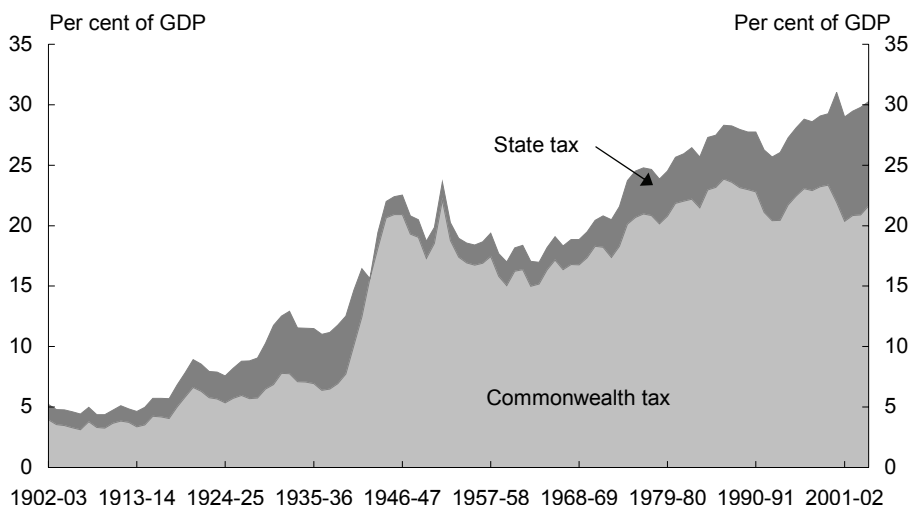
1 The authors are from Tax Analysis Division, the Australian Treasury. The paper has benefited from contributions from Scott Bartley, Paul Dearlove, Shane Johnson and a number of other officers in Treasury's Revenue Group. The views expressed in this paper are those of the authors and not necessarily those of the Australian Treasury.

Introduction

At the end of the nineteenth century each of the six Australian colonies had distinct tax systems, which were almost entirely reliant on customs and excise duties. The design of these tax systems was largely driven by administrative concerns, rather than principles of equity or efficiency. Customs duties were also designed to act as trade barriers between the colonies. One of the significant results of Federation in 1901 was the removal of all duties on goods traded between Australian states.

Consistent with most industrialised countries, Australia's tax take (measured as the tax to GDP ratio) grew significantly over the twentieth century, in line with the expanding role of government (see Chart 1). At the time of Federation Australia's tax to GDP ratio was around 5 per cent. This ratio remained reasonably constant until the introduction of the federal income tax in 1915, which was used to fund Australia's war effort. Between the two World Wars, government expenditure and tax revenues grew significantly and by the beginning of the Second World War, Australia's tax take was over 11 per cent of GDP.

Chart 1: Tax to GDP 1902-2005



Source: Budget papers

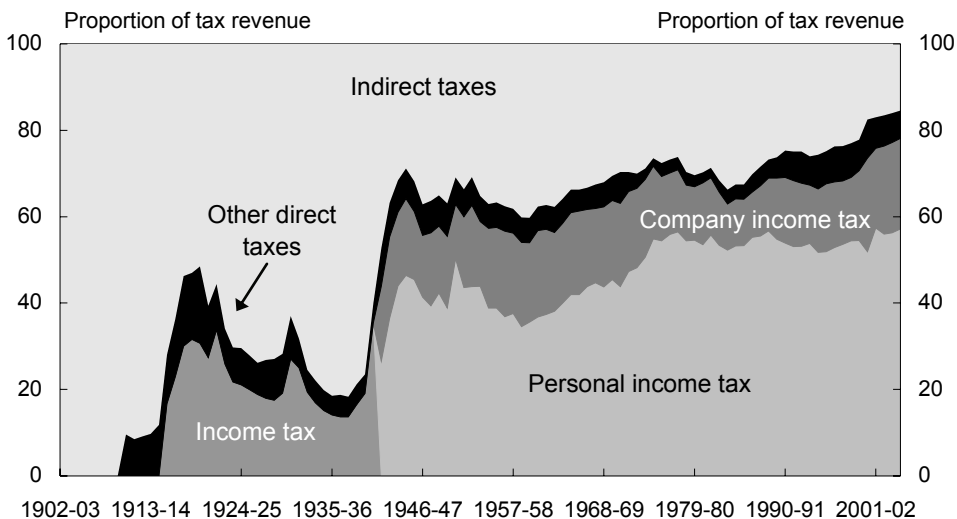
Between 1915 and 1942, income taxes were levied at both the state and federal level, leading to complexity and inequitable taxation of income across states. The Second World War saw fundamental changes to Australia's taxation system. In 1942, income taxation was consolidated by the federal government to increase revenue as a war-time measure. As a result, the states' tax base was reduced (see Chart 1), replaced by federal government grants. The states' tax base was supplemented in 1971, when the then federal government ceded control of payroll taxes to the states.

By the end of the Second World War, taxation revenue had grown to over 22 per cent of GDP. The further increase in taxation largely reflected Australia's involvement in the war and the introduction of government support programmes, such as the widows' pension in 1942 and unemployment relief in 1944.

Tax revenues tended to fall in the middle of the twentieth century and by 1963-64 the tax take was around 18 per cent of GDP. It then increased significantly between 1973 and 1975, largely as a result of increased funding for social programmes. There has since been a modest rise in Australia's tax take, similar to the experience of many other OECD countries. Nevertheless, Australia's tax to GDP ratio is currently the eighth lowest among the 30 OECD countries.

Throughout the twentieth century, federal government reliance on direct taxes as the primary tax base has increased (see Chart 2). The latter part of the twentieth century saw significant base broadening in the income tax system with, for example, changes to the tax treatment of fringe benefits, the introduction of a capital gains tax and the removal of accelerated depreciation. Base broadening in both personal and business taxation has been accompanied by declining rates of taxation.

Chart 2: Federal government taxation revenue — by tax base



Other key areas of tax reform over the past 25 years include the interaction between personal and business taxation and other reforms to business taxation, changes to the taxation of retirement savings and incomes, and the introduction of a broad based goods and services tax in 2000. The goods and services tax replaced a range of less efficient federal and state indirect taxes. Although it was introduced by the federal government, all revenue from the goods and services tax is paid to the states.

Australia's reliance on direct and indirect taxation is broadly consistent with other OECD countries.²

Early taxation — excise and customs duties

Established from late in the eighteenth century, Australia's colonies operated as separate economies up until Federation in 1901. Revenue needs were primarily met through an expansion in the range of indirect taxes. Customs and excise duties were the primary sources of taxation, being easy to administer and less likely to attract negative attention than direct forms of taxation. As demand for public expenditure increased, the colonies supplemented this revenue with fees for services and non-tax revenue from land sales. The reliance on these regressive taxes created significant issues in terms of perceived equity and economic prosperity between colonies.

At the end of the eighteenth century, colonial administrators raised small amounts of revenue through wharfage fees and port entry and exit fees (effectively taxing imports), with additional duties on alcohol. From 1813, customs duties were imposed on major export products such as timber, wool, seal and whale oil, and seal skins. The main appeal of customs duties was that they were readily collected at the limited number of wharves where goods entered the colonies. Levying customs duties and excises on necessities also ensured a relatively secure source of revenue. Revenues were generally hypothecated in an attempt to draw support from the public, for example funding an orphanage, gaol, hospital equipment and building works around Sydney.

Early customs and excises duties on goods such as tobacco and alcohol were intended not only to raise revenue, but were also introduced as 'sin taxes', for example in response to concern over the level of alcohol consumption in the colonies. By 1840, customs duties had been extended beyond luxury goods to essential items such as tea, sugar, flour, meal, rice, grain and pulses (see Mills 1925). The narrow base and the high consumption of these goods by poorer households, relative to their income, meant that the poor shouldered a disproportionate share of the burden of early taxation.

Excise duties levied on locally produced goods, equivalent to the customs duties on imports, were also introduced early in the nineteenth century. At this stage in Australia's development, excise duties provided much less revenue than customs duties, partly because of the limited amount of manufactured goods produced in the colonies.

2 For a detailed comparison of Australia's tax system with other OECD countries, see Warburton and Hendy (2006).

The colonies also introduced a number of taxes on services. These included: liquor retailing fees; auction licence fees; stamp duties; probate fees (service charges for the issue of probates and letters of administration by public legal clerks and judges); and stock taxes. Charges for these services were an additional source of revenue, often exceeding the cost of the services.

The 'gold rush', which began in Australia in 1851, offered a new opportunity for governments to raise revenue, with some small scale alluvial miners making large amounts of money. New South Wales and Victoria introduced a gold licensing fee for the right to mine allotted sections. This was considered the most feasible option for collecting revenue because of the ease of administration. The licence fees were the trigger for a significant uprising by Victorian miners against the colonial authority – the Eureka Stockade. The primary reason for the uprising was the high level at which the licence fees were set, but other contributing reasons included: that the fees had no link to gold discoveries of miners; miners rarely saw any of the benefit of public expenditure; and the inequity of the taxes compared with the light taxation of wealthy land owners. Following the riots and rebellion of the Eureka Stockade, gold licence fees were replaced with a gold export tax and a much reduced miner's right, which were easier to collect and more equitable (see Smith 1993).

Another significant early contributor to colonial revenue was fees on grants of land and leases. New South Wales in particular relied heavily on revenue from land sales and rent, which in 1875 contributed half of the Colony's revenue, and about twice that from all sources of taxation. This revenue source (in particular land sales) was, however, finite, with unallocated lands increasingly less accessible and less fertile.

In the years leading up to Federation, the main political divide in Australia centred on colonial attitudes towards tariffs. Victoria and Western Australia were staunchly protectionist, relying heavily on customs duties and tariffs, whereas New South Wales proudly declared itself a free-trade colony. These differences reflected ideological preferences, each colony's economic development and consumption patterns, and the availability of alternative revenue sources. For example, Victoria approached the limits of land sales as a revenue source much earlier than New South Wales, contributing to its reliance on revenue from tariffs.

Taxation and federalism

By the time of Federation in 1901, Australia had evolved from frontier-style penal and migrant settlements to a modern economy with growing urban and rural populations, rising wealth, and demand for a greater role for government.

Social and demographic changes led to corresponding changes in taxation. Formerly dependent on hidden and regressive indirect taxes such as customs and excise duties, late in the nineteenth century the colonies began to introduce direct, progressive taxes on land and income. The rate of change to the tax bases varied between the colonies according to their stage of development. Although the economic development of the Australian colonies was relatively homogenous compared with other federations, there were sufficiently large differences in the size of the colonial economies, their industrial strength and their policies to provoke some resistance to integration.

One of the challenges accompanying Federation was the creation of a two-tier system of government that centralised control of some functions, while allowing each state sufficient autonomy to meet the social preferences of its constituency. The Australian Constitution allocated the majority of expenditure responsibilities to the states. The expectation of the drafters of the Constitution was that the federal government would carry out functions that the states were not able to conduct efficiently themselves, such as defence and foreign affairs.

The states gave up customs and excise duties to secure interstate free trade and ensuring adequate protection for Australian industry (Groenewegen 1985). Uniform federal tariff and excise duties were introduced in 1901. They largely applied to the goods that had been taxed by the former colonies – tobacco products, beer and spirits and some basic food and clothing. As the federal government's revenue needs were limited, it was expected that revenue from customs and excise duty would be more than sufficient and that only in an emergency would the federal government use its direct taxation powers.

Although the states retained control of land and income taxes, customs and excise duties were by far the greatest source of taxation revenue at the time of Federation. The states were left with a shortfall of funding for their constitutionally allocated expenditure, whereas customs and excise revenue exceeded the needs of the nascent federal government's limited role. To resolve this fiscal imbalance, the Constitution provided for a revenue sharing arrangement for the first ten years following Federation. The federal government retained one quarter of customs and excise duty revenue with the remainder distributed to the states, along with any revenue that was surplus to federal government needs.

Based on views about common citizenship rights, the drafters of the Constitution adopted an 'assumption of "convergence": that Federation would bring about an equalisation of the states' economies and fiscal capacities' (Hancock and Smith 2001 page iv). The federal parliament had power to make laws with respect to 'taxation; but so as not to discriminate between the States or parts of States' (Australian Constitution, Part 5, Section 51(ii)).

It was not long after Federation that fiscal inequality between the states led to federal funding in support of fiscal equalisation. In 1910-11, Western Australia requested fiscal assistance to compensate for the loss of tariffs, which had been its primary revenue source. In 1911-12, Tasmania was also a recipient of federal government grants, and South Australia became a recipient in the 1920s. Over time, horizontal fiscal equalisation was formalised with an independent body recommending distribution of federal government grants based on fiscal need. The ideology of convergence has continued and strengthened over time, so that Australia has a very high level of fiscal equality between the states when compared with other federal systems.

A single income tax

By Federation many of the colonies had introduced income taxes, each with their own definition of assessable income and different rates applying to differing categories of income. Income taxation was further complicated by some jurisdictions taxing according to the taxpayer's residency and others taxing according to where income was earned. This situation became problematic following Federation due to increasing population and capital mobility between states.

A federal government income tax was introduced in 1915, in addition to existing state income taxes, to finance involvement in the First World War. The federal government rates were low and cut in at a high income threshold, minimising double taxation. Following the war, the federal government continued to impose income tax, meaning that two tiers of government were sharing, and competing for revenue from, a common taxation base. The state and federal government taxing systems were kept separate, and administered separately by the different bureaucracies.

As a result of the complexity and inconvenience of paying tax on the same base to two levels of government, there were a number of attempts to harmonise federal and state taxation. In 1919 the federal government offered to withdraw from income tax as an alternative to providing grants to the states, but this option was strongly rejected by some states. Harmonisation of state and federal taxation and ensuring equity in the system of federal grants to the states were the focus of academic and political debate in the period between the World Wars. In 1932, the Ferguson Royal Commission was appointed to suggest ways to harmonise systems. In 1936, similar legislation was enacted in all jurisdictions but over time further changes eroded the uniformity.

The federal government increased its income taxation in the early years of the Second World War to meet the costs of the war effort. Between 1938-39 and 1941-42, federal government income tax revenue grew from 16 per cent to 44 per cent of total federal revenue. With reliance on income taxation rising at both the federal and state levels, differences in state income taxes led to concern about the inequitable tax burdens between taxpayers in different states.

In 1942 the federal government introduced legislation that increased the federal government income tax rates to raise more revenue. The legislation provided for reimbursement grants to the states provided that they ceased to levy their own income taxes. Although a state could legally continue to impose its income tax, doing so would impose an increased burden on its residents and also disqualify that state from receiving federal government grants. In practice, this prevented the states from continuing to levy their own income taxes. The uniform taxation arrangements were initially only meant to apply for the duration of the Second World War and one year thereafter. At the end of the War, the states sought to regain their income taxing powers but were unsuccessful.

Post-war changes to the state tax base

The centralisation of income tax was followed by further changes to the state and federal tax bases during the post-war period.

Land taxes

Land taxes were first introduced by state administrations in the late nineteenth century after a long period of debate and blocking of such taxes by parliaments dominated by wealthy landowners. Land taxes were also introduced at the federal level in 1910 as a form of wealth tax and as a means to break up large tracts of under-utilised land. In most states land was taxed at progressive rates, based on unimproved value, while the federal land tax was introduced as a flat rate tax.

As a form of wealth tax, land taxes became less effective over time as the productivity base of the economy diversified from being mostly agrarian at the beginning of the twentieth century, and wealth was held in more diverse forms. In addition to having no regard to other forms of wealth, land taxes were applied taking no account of net property wealth, such as the value of mortgage debt. By the middle of the twentieth century wealthy primary producers and large landholders had also been largely excluded from land tax requirements through exemptions granted to land used for primary production, restricting the application of land tax to urban property. Land tax revenue became less stable, susceptible to the fluctuations of town property markets. Land taxes were also unpopular as the federal and state taxes were not well integrated with income taxes. In 1952, land taxes were abolished at the federal level, but still operate at the state and local level, accounting for 24 per cent of state and local government revenue in 2003-04 (Australian Bureau of Statistics 2006).

Payroll taxes

The federal government introduced payroll tax in 1941 to finance a national scheme for child endowment. The tax applied as a 2.5 per cent levy on payrolls. With the federal government assuming control of the income tax base, the states lobbied for access to

payroll tax and in 1971 the federal government handed over payroll taxes to the states, acknowledging that this tax represented the sole possible growth tax available to the states (Mathews and Grewal 1997). During the following three years the states uniformly increased the rate from 2.5 per cent to 5 per cent.

Over time, the uniformity of state payroll tax rates has been eroded as has the base to which they are applied. State payroll taxes are now levied at rates ranging between 4.75 per cent and 6.85 per cent. Tax competition between states and lobbying by individual employers and employer groups for exemptions has reduced the payroll tax base to less than half of the comprehensive labour income tax base (Freebairn 2005). Nevertheless, payroll taxes are still an important source of tax revenue for the states, accounting for between 24 and 36 per cent of each state's total revenue.

Estate taxes (death duties)

Estate taxes were first introduced in the form of probate duties (a tax on property passing by will) charged by courts in the early part of the nineteenth century in New South Wales. By 1901 estate taxes had been adopted by all of the colonies. The rates were progressive and based on the value of the estate, with reasonably high exemption thresholds, thus limiting the impact on small estates. The duties were an important source of state revenue from the end of the nineteenth century through the first part of the twentieth century. In general, estate duties were relatively low cost to administer and, when introduced, were more readily accepted than a wealth tax, levied throughout a taxpayer's life. Gift duties aimed to ensure that estate duties were not circumvented. In 1914, the federal government also introduced a progressive system of estate taxes to help fund wartime expenses.

By the late 1960s and into the early 1970s, state and federal governments were coming under increasing pressure to amend or remove estate duties. Having not been adjusted since the 1940s, individuals with relatively modest levels of wealth were becoming subject to estate duties. At the same time more wealthy individuals were seen to be avoiding the tax through effective estate planning (Groenewegen 1985). With the increasing impost on smaller estates, estate duties became more costly to administer. Rural producers and small business owners also objected to the taxes on the basis that they impeded business succession.

By the 1970s pressure for estate duty concessions had gradually reduced the tax base. In the end, state tax competition led to the abrupt demise of estate duties. After Queensland dispensed with its tax in 1977, there was concern in other states about emigration of residents and capital and the potential impact of the tax on electoral outcomes (Pedrick 1981). The federal government also abolished its estate and gift duties in 1979. By 1984 all estate duties had been removed, both state and federal. This

occurred despite various tax review committees recommending refinements to improve the equity, efficiency and simplicity of the tax.

Other taxes

During the latter part of the twentieth century, the states supplemented their revenues with a range of transaction based taxes. Many of these taxes have since been replaced, or are in the process of being replaced, as part of the reforms to federal financial relations associated with the introduction of the goods and services tax, the revenue from which is paid to the states.

Key developments in federal taxation

Developments in federal taxation can be broadly classified into two periods. Up until the 1970s, the focus of significant changes to the tax system was on expanding the revenue base to fund expenditure programmes. Since the 1980s, increased attention has been paid to reforming the tax system to improve equity and efficiency and, more recently, to reducing tax system complexity.

The catalyst for this reform was a growing concern about the equity of the taxation system, which led to the establishment of the Taxation Review Committee in the early 1970s (Asprey et al 1975). A key theme of the Asprey Report was the need to broaden the tax base to improve equity and efficiency. In 1985, the Draft White Paper recommended a broadening of the tax base through the adoption of a broad based consumption tax, the introduction of a capital gains tax and comprehensive taxation of fringe benefits (Australian Government 1985).

The recommendations relating to capital gains and fringe benefits taxation were adopted following the Draft White Paper but there was insufficient support for the implementation of a broad based consumption tax at that time. In the late 1980s there were also fundamental changes to the taxation of corporate income and the taxation of retirement savings. The end of the 1990s also marked the start of a number of important initiatives, including the introduction of a goods and services tax, reform to the business tax system, a review of Australia's international taxation arrangements and the 2006 Budget proposal to reform the taxation of retirement savings.

Income tax

Tax base

At its inception, the federal income tax was modelled on the income tax systems applying in the Australian states and the United States example of a global income tax system, applying to all forms of income, rather than the British schedular tax system.

There has, however, never been a comprehensive definition of 'income' for the purpose of taxation in Australia. Amounts originally identified by the courts and administrators are now known as 'ordinary income'. The concept of 'ordinary income' was developed both on the form of payment and whether the income could be traced to a source such as labour activities, business activities or use of property. Ordinary income is distinguished from 'capital receipts'. The meaning of these constructs derives largely from English equity. At its inception, income tax was an Australian source-only tax and did not apply to the foreign source income of residents.

From its introduction in 1915, the income tax base had been gradually broadened. In the post-war period, income tax base broadening was limited until the implementation of some of the recommendations included in the 1985 Draft White Paper (Australian Government 1985). In 1985 a capital gains tax was introduced and in 1986 the fringe benefits tax was introduced. The primary motivation behind these base broadening measures was to address gaps in the income tax base, which had led to growth in tax avoidance and evasion activity. In 1999 the removal of accelerated depreciation and a range of other base broadening measures were introduced as part of a broad programme of business tax reform.

Capital gains tax

Prior to 1985, Australia had no general tax on capital gains, with most capital gains excluded from the income tax base. Of the capital gains taxes that were in operation, the most important was that applying to gains from property held for less than one year, which was introduced in the early 1970s.

In 1985, based on equity grounds, it was argued that, 'because real capital gains represent an increase in purchasing power similar to real increases in wages, salaries, interest or dividends, they should be included in any comprehensive definition of income' (Australian Government 1985 page 77).

The Draft White Paper and tax academics also argued for taxing capital gains to improve economic efficiency and reduce tax avoidance. In particular, it was argued that the lack of a capital gains tax distorted investment towards assets providing returns in the form of capital gains, rather than income streams, and provided an incentive to convert income into capital gains. It was also argued that, combined with the classical taxation of dividends (discussed below), the lack of a capital gains tax created incentives for companies to retain profits, potentially resulting in less efficient investment choices from an economy wide perspective.

The capital gains tax arrangements introduced in 1985 applied to realised gains and losses on assets acquired after 19 September 1985. Certain classes of assets are exempt from capital gains tax, such as owner occupied homes. From 1985 to 1999, an

indexation system applied, so that only real, and not nominal, gains were taxed. An averaging system was also in place to reduce the impact of the progressive income tax on realised gains accrued over a period of years.

In 1999 a capital gains discount was introduced to promote more efficient asset management and improve capital mobility, by reducing the tax bias towards asset retention, and to make Australia's capital gains tax internationally competitive. The indexation and averaging provisions were removed for assets acquired after 30 September 1999. Under the discount, individuals and the beneficiaries of trusts pay tax at normal rates on only half of any capital gain realised on an asset held for at least twelve months. Superannuation funds receive a one-third discount.

Fringe benefits tax

Fringe benefits (indirect, non-cash benefits provided to employees in addition to wages or salary) have been legally taxable in Australia since the inception of the federal income tax. Because of difficulties in determining the value of fringe benefits and for a range of other administrative and related reasons, in practice there was an almost universal non-inclusion of most fringe benefits in assessable income by employees (Australian Government 1985).

In recognition of the growing trend of remunerating employees with non-cash business benefits (particularly for those employees on higher incomes), the explicit taxation of fringe benefits was proposed in the Draft White Paper (Australian Government 1985). Fringe benefits tax was subsequently introduced in 1986.

Fringe benefits tax is levied on employers, rather than employees, to simplify compliance and administration. Fringe benefits are taxed at the top personal tax rate plus the Medicare levy³ (currently 46.5 per cent). The fringe benefits tax regime contains a number of specific exemptions and concessions for particular types of benefits such as work-related items and remote area fringe benefits. It also provides for concessional treatment of benefits provided to employees of particular types of organisations, including scientific and public educational institutions, charitable institutions, public and not-for-profit hospitals, trade unions and religious institutions.

Depreciation

Australia has had various forms of accelerated depreciation and investment credits/deductions for much of its tax history. The most radical was the adoption of

3 The Medicare levy is imposed at 1.5 per cent of taxable income, and applies above a threshold that excludes low-income earners.

'5/3' depreciation.⁴ This arrangement was gradually wound back in the 1980s, although loadings were reintroduced at times.

In 1999, following the Review of Business Taxation (Ralph et al 1999), the accelerated depreciation arrangements were removed and depreciation rates aligned to an asset's effective life. This change met two broad policy objectives: it removed tax-induced distortions to investment decisions and substantially funded a reduction in the corporate tax rate.

Source and residency based taxation

In 1915, the federal income tax was introduced as a tax on Australian source income, consistent with the state income taxes, other than Tasmania (Harris 2002). In 1930 Australia moved to a residence based taxation system, bringing income of residents from foreign sources into the taxation base. At the request of the United Kingdom, Australia agreed to exempt income derived from the United Kingdom, where it had already been taxed. Following a subsequent request from the United States for similar treatment, in 1947 the government decided that all foreign source income would be exempted where it had already been taxed abroad.

Between 1947 and 1986, Australia operated a bifurcated system, where foreign tax credits were provided for tax paid on dividends from portfolio investments, while income from direct foreign investments of residents was exempt. In 1986 the foreign tax credit arrangements were expanded to cover most foreign income.⁵

Shortly after the Second World War, Australia signed its first tax treaty with the United Kingdom, which limited its taxing rights over income derived by non-residents. A treaty with the United States followed and later one was signed with Canada and another with New Zealand. In the 1970s, Australia began to expand its treaty network and did so with vigour in the 1980s and 1990s. Australia now has close to 50 treaties signed or under negotiation.

Treaties often limit the amount of foreign tax that may be imposed on the income of Australian residents. Under Australian tax treaties, Australia is required to give relief for foreign tax imposed in accordance with the treaty. Although the treaties only provide for relief by credit, double taxation can also be relieved by unilaterally exempting the foreign source income, for example, under domestic law.

4 Under 5/3 depreciation, eligible plant that could otherwise be depreciated at a rate in excess of 20 per cent using a straight line method, could instead be written off at a rate of 33 1/3 per cent (3 year write-off). Eligible plant otherwise depreciable at a rate of 20 per cent or less, could instead be written off at a rate of 20 per cent (5 year write-off).

5 Some direct income, including foreign source employment income, remained exempt subject to time requirements.

With the 1988 reduction in the Australian company tax rate, it was considered that there was little to be gained in taxing foreign source dividends where the foreign country had a similar tax system to that in Australia. As a result, the foreign tax credit system was scaled back significantly in 1990, with dividends from non-portfolio interests⁶ and the profits of branches of Australian companies flowing from comparable tax jurisdictions⁷ excluded from the income tax base.

Personal income tax

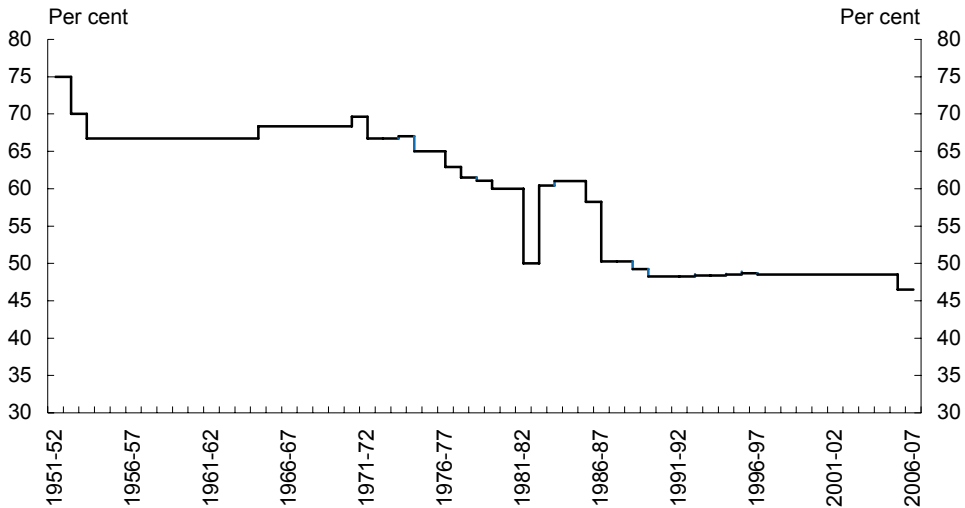
The 1915 federal income tax was levied on individual taxpayers at progressive rates. A relatively high income threshold exempted most wage and salary earners. The rates of tax imposed ranged from 3 per cent through to 25 per cent. Individuals in the top income quintile accounted for the vast majority of personal income tax paid.

The Pay-As-You-Earn (PAYE) system, where employers deduct tax from employees' pay, was introduced by the South Australian government during the depression and universalised by the federal government in 1942. This system allowed income tax collection from wage earners in lower income groups, which had been impracticable without a system of taxation at source. The PAYE system was more convenient for taxpayers, created a more even flow of revenue for government, and improved compliance as evasion was more difficult with income taxed at source (Groenewegen 1985).

Following the assumption of income tax powers and introduction of the PAYE system by the federal government in 1942, the scope of the personal income tax was progressively broadened such that by the early 1980s the share of personal income tax paid by the top income quintile had fallen to around half, a level that has since been broadly maintained. This expansion in the scope of the income tax base has generally coincided with a reduction in marginal tax rates applying at higher levels of income. Australia's top marginal tax rate has decreased over the past 50 years from over 75 per cent in the 1950s to 46.5 per cent (including the Medicare levy) as of 1 July 2006 (see Chart 3). Notwithstanding the increase in the proportion of personal income tax paid by lower income quintiles, Australia's average effective tax rate on the income of a range of household types is in the lowest eight out of the 30 OECD countries (Warburton and Hendy 2006).

6 That is interests of 10 per cent or greater in a company.

7 Broadly, a comparable tax jurisdiction was a foreign country regarded as having an income tax system comparable to Australia's with roughly comparable tax rates. A list of such countries was included in the law.

Chart 3: Personal income tax top marginal rate

From its origins, the basic tax unit in Australia for income tax purposes has been the individual, although, as is the case today, the early income tax systems did recognise family circumstances with a series of deductions (later replaced by credits) for taxpayers supporting dependants. More recently there has been a greater focus on the overall impact of taxation and benefits on household incomes, particularly those of families.

In 1945 a 'Social Services Contribution' was introduced, which hypothecated a part of income tax revenue for social welfare. The primary motivation for the distinction was to make increases in income tax more palatable, rather than as a means to separate out social security contributions from general taxation (Mathews and Jay 1972). In the early 1950s, income taxes and social services taxes were amalgamated allowing a substantial simplification of the income tax return. The new form allowed taxpayers to assess their tax liability and determine if, after credit for tax instalments, a refund was due or a further amount payable. The public responded well to the simplified form. Since that time, Australia has had no specific tax levied to pay for social security benefits, unlike most other OECD countries.

Company income tax

When income tax was first introduced in 1915, companies were taxed on their profits after deduction of dividends (that is only on retained profits). Where dividends were paid out of accumulated profits, shareholders were entitled to a rebate of tax at the lesser of the company tax rate or their personal rate to compensate for tax already paid. This system was administratively cumbersome, requiring extensive record keeping,

particularly as the company tax rates changed over time and rebates depended on the company tax rate at the time profits were accrued (Australian Treasury 1974).

In 1922, a system of taxing all company profits was introduced. The non-refundable rebate system was retained and applied to all dividends, so that individuals with higher marginal tax rates received a full rebate for company tax paid. Individuals on lower marginal tax rates did not receive a rebate for the difference between their marginal tax rate and the company tax rate.

In 1940, with additional revenue needed to fund Australia's involvement in the Second World War, the rebate of tax on dividends received by individual shareholders and non-resident companies was removed. The company tax rate was increased and an undistributed profits tax was imposed on public companies. The removal of the rebate was not intended to remain a permanent feature of the system but remained in place well past the end of the war (Australian Treasury 1974).

From 1940 to 1986, Australia maintained this classical company taxation system, under which profits were taxed at the company rate and at personal rates when distributed. In 1987, Australia introduced an imputation system. Prior to this there had long been calls from business to remove what was seen as double taxation under the two tier classical system. The classical system resulted in both equity and efficiency problems (Australian Government 1985). For example, it provided a disincentive to incorporate, distorted corporate financing decisions by providing a bias towards debt and, combined with the absence of a capital gains tax, provided an incentive for companies to retain profits.

Under Australia's imputation system, resident shareholders receive a credit for tax paid at the company level, thereby eliminating double taxation of dividends. Where the resident shareholder's marginal tax rate is below the company tax rate, the excess credit can be used to offset other taxes (for example, against taxes on wages and salary). Full refundability of excess tax credits for resident shareholders was introduced to the Australian imputation system in 2000.

Under the imputation system, Australia's company income tax system operates as a withholding tax on the income Australian residents earn through Australian resident companies, and as a final tax on (primarily Australian source) income earned by non-residents through an Australian resident company or permanent establishment in Australia.

As shown in Table 1, the company tax rate, like personal income tax rates, has been progressively reduced in recent times, decreasing from a high of 49 per cent in 1986 to the current rate of 30 per cent. The rate reductions have largely corresponded with base broadening measures, such as the removal of accelerated depreciation.

Table 1: Company income tax rates since 1915

Year	Company tax rate (%)	Notes on tax base
1915	7.4	A company was taxed on its undistributed profits (allowing a deduction for income distributed to shareholders).
1922		Tax applied to all profits (not just undistributed profits). Rebate provided to all dividends.
1940		All rebates for distributions of profits to shareholders were removed.
	47.5	<i>Public company</i>
	45	<i>Private company</i>
1948-72	47.5; 45; 42.5	Lower rate (42.5) applied to initial income (first \$10,000 of profits in 1974).
1973-77	45	Private and public company income tax rates aligned.
1979	46	
1986	49	Company tax rate aligned with top individual marginal tax rate. Foreign tax credit system replaced the general exemption for foreign earnings. Credit allowed for foreign tax paid on foreign income up to the amount of Australian tax payable on the foreign income.
1987		The classical system of company taxation replaced by dividend imputation.
1988	39	
1993	33	
1995	36	
1999		Removal of accelerated depreciation.
2000	34	Refundable imputation credits introduced.
2001	30	

Source: Australian Treasury (1974) pp 39-41, Asprey et al (1975), p 225.

Taxation of retirement savings

When the federal government first imposed income tax in 1915, superannuation funds were exempt from paying tax on their earnings provided the fund was set up for the benefit of employees in any business. At that time, unlimited deductions were allowed for employer contributions to a superannuation fund for employees, while a capped concessional deduction was allowed for personal superannuation contributions.

Prior to 1983, the taxation levied on end benefits depended on whether they were paid out as a lump sum or an annuity. Lump sum benefits were taxed very concessional, with only 5 per cent of the lump sum included in assessable income and taxed at marginal rates. In contrast, annuities were taxed at marginal rates (with an exemption for contributions made from post-tax monies).

Krever (1986) notes that the taxation applied to superannuation prior to 1 July 1983 created a significant incentive for taxpayers to convert employment income to lump sum retirement payments. Reforms to the taxation of superannuation benefits were introduced in 1983 to address concerns that individuals whose remuneration package included superannuation contributions were accessing lower effective marginal tax

rates than those individuals who received their remuneration exclusively as salary and wages.

The taxation on lump sum payments was raised to 15 per cent for amounts below a specified threshold, with amounts above this threshold taxed at 30 per cent. Contributions and earnings remained untaxed and the taxation of annuities was largely unchanged. The reforms were applied to service after 1 July 1983, while the pre-1983 arrangements were 'grandfathered'.

Further revisions to the taxation of superannuation benefits were announced in 1988, when the Government imposed a 15 per cent tax rate on both contributions and earnings. To compensate for these changes, the Government reduced the tax rate on the taxed element of lump sum superannuation benefits. The rate was reduced from 15 per cent to zero (provided the benefit was preserved until age 55) for amounts up to the low rate threshold. Amounts above this threshold were taxed at the reduced rate of 15 per cent. While annuities remained taxed at marginal rates, the Government introduced a 15 per cent rebate when benefits were paid to the individual.

Productivity Award Superannuation was created in 1986 under industrial agreements which provided for up to 3 per cent of wage increases to be contributed to approved superannuation funds. While the initiative successfully increased superannuation coverage to approximately two thirds of the population, administration and implementation problems were rife, particularly with respect to the monitoring and enforcement of employer compliance. The Industrial Relations Commission cited these problems as the basis for its refusal of an application to increase the provision by a further 3 per cent in 1991.

The Superannuation Guarantee (SG), introduced in 1992, provides for a percentage of an eligible employee's remuneration to be directed into a superannuation fund by means of a compulsory employer contribution. The motivation for the SG was twofold: to provide a mechanism through which employer contributions could be increased gradually, consistent with the Government's retirement income policy objectives and the economy's capacity to pay; and to extend superannuation coverage to a larger proportion of the population. The SG rate was phased up from 3 per cent to 9 per cent between 1992 and 2002. Superannuation coverage has broadened to about 90 per cent of employees under the Superannuation Guarantee. Although the rate of taxation is higher today than before the first suite of reforms were introduced in 1983, superannuation is still a highly concessional savings vehicle.

In recent years, the Government has introduced a number of policies designed to encourage individuals to make greater voluntary personal superannuation contributions. These include the Government co-contribution for low income workers, superannuation splitting for eligible couples and the introduction of choice of fund.

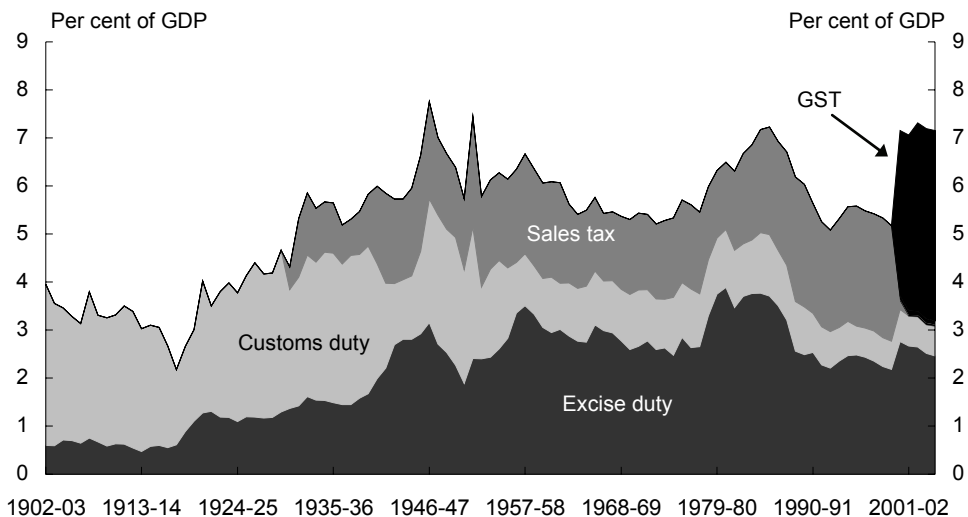
Recent amendments to portability legislation have complemented these initiatives, making it easier for individuals to consolidate their superannuation benefits into a single fund.

The myriad of changes to the superannuation taxation arrangements has led to considerable complexity. In the 2006-07 Budget, the Australian Government announced a proposal to simplify superannuation dramatically and improve retirement incomes. This is to be achieved principally through the removal of taxation on end benefits received by most individuals aged 60 or older. Taxation arrangements are to remain unchanged where an end benefit is taken prior to age 60, but streamlined arrangements would apply. The proposals would improve the incentives to work and save, promoting growth through workforce participation and increased provision for retirement, both of which are an important part of Australia's strategy for addressing the demographic challenges of an ageing population.

Indirect taxes

Indirect taxes have grown relative to economic activity, largely in response to increasing revenue demands brought about by periodic events, such as two world wars and the 1930s Depression, and the increasing role played by the public sector. The composition of indirect taxes has changed considerably over the past 100 years, with Australia's reliance on customs duties declining gradually, while the importance of alternative indirect taxes, particularly excises and more broadly based consumption taxes, has increased (see Chart 4).

Chart 4: Evolution of indirect taxes in Australia since Federation



Wholesale sales tax

The onset of the 1930s Great Depression had a significant impact on the (then) federal government's ability to raise revenue, particularly through customs duties. In addition to falling revenues, the government's debt servicing costs had increased significantly due to a large spending programme in the late 1920s. Faced with a large budget shortfall, the government introduced the wholesale sales tax (WST) in 1930. Raising indirect taxes was favoured because the incidence was disguised, making the tax more politically palatable. It was also argued at the time that such taxes had a smaller impact on labour supply decisions than income taxes (although income taxes were also raised to some degree in the same period).

The WST was levied at the wholesale level to minimise the number of taxing points. It was introduced at a rate of 2.5 per cent, but within a year the rate had been increased to 6 per cent, and by 1940 the rate had been further increased and a multiple rate structure introduced (see Table 2). The WST was levied on many classes of consumables, but provided preferential treatment for food, primary produce and some primary industry inputs (Smith 1999). In its first two years of operation, the WST base averaged 32 per cent of private consumption.

Table 2: Wholesale sales tax rates and schedules

Year	Number of rates schedules	Lower rate(a)	Top rate
1930	1	2.5	2.5
1950	4	10.0	33.3
1970	3	2.5	27.5
1980	5	2.5	27.5
1999	6	12.0	45.0

(a) A rate of zero per cent also applied to excluded items.

Source: Groenewegen (1983), pp 25-26, 1999-2000 Commonwealth Budget Paper 1, Statement 6.

Over time the WST base declined as a proportion of consumption, with an increasing share of consumption expenditure directed towards services. By 1995, the share of private consumption subject to the WST had fallen to 22 per cent. The previously clear lines between wholesalers and retailers became blurred. Where goods were sold directly by manufacturers or importers to retailers, a notional WST value had to be determined. This contributed to complexity, uncertainty and taxpayer disputes. The multiple rate structure also contributed to compliance and administration costs and to the incentives for avoidance, particularly as rates were increased (Groenewegen 1983).

Goods and services tax

The WST was neither an efficient nor simple tax. The narrow base and differential rate structure created distortions to production and consumption decisions in favour of low taxed or untaxed goods or services. Cascading of the WST through the production chain reduced economic efficiency and export competitiveness by increasing the cost

of production in Australia. The arbitrary range of WST tax rates and exemptions imposed significant costs in terms of complexity and compliance.

A broad based consumption tax was proposed in the findings of the Asprey Committee (Asprey et al 1975). However, the introduction of a broad based consumption tax in Australia proved difficult, with unsuccessful attempts to introduce such a tax in 1985 and in 1993.

In July 2000, the federal government introduced a goods and services tax (GST), based on the value-added tax (VAT) model, as part of a broader package of taxation reform. The GST replaced the WST and a range of inefficient state taxes, in conjunction with reforms to federal financial relations. Revenue from the GST is paid to the states and territories, providing them with a stable and growing source of revenue and removing their reliance on general assistance grants from the federal government.

The state taxes that were, or are in the process of being, abolished include Financial Institutions Duty; debits tax; stamp duty on marketable securities, conveyancing duties on business property; stamp duties on credit arrangements, instalment purchase arrangements and rental (hiring) agreements; stamp duties on leases; stamp duties on mortgages, bonds, debentures and other loan securities; stamp duties on cheques, bills of exchange and promissory notes; and accommodation taxes. Like the WST, these taxes distort economic decisions and can cascade through the production chain, increasing production costs.

The introduction of the GST was also accompanied by significant changes to personal income taxes and social security payments. This part of the package included significant reductions in personal income taxes and large increases in government payments to families, pensioners and low income earners. Adjustments were also made to excise taxes and some specific indirect taxes to adjust for the removal of the WST and imposition of the GST.

In order to achieve passage through Parliament, several compromises were made to the scope of the GST base. The most notable of these was the removal of basic food and personal products from the GST base.

Effective implementation of the tax was critical to its success. Some of the tools used in Australia were extensive education, information and support programmes for businesses (including visits by field officers, call centre assistance and web sites to provide information and assistance), education programmes for consumers, and monitoring by the Australian Competition and Consumer Commission to ensure the introduction of the tax was not used as an opportunity for profiteering. The Australian Tax Office adopted a flexible administrative approach in the transition period regarding lodgment deadlines, payment arrangements and taxpayer mistakes as well

as an ongoing openness to reducing compliance costs for businesses where possible (Australian Treasury 2003).

Modern customs and excise duties

Under current Australian law, excise duty is imposed on the domestic manufacture of petroleum fuels, certain biofuels, alcoholic beverages other than wine, tobacco products, crude oil and oils and lubricants.⁸ Equivalent duties on identical imported products are imposed through customs duty, along with tariffs imposed on imported goods for the purpose of protecting domestically produced goods.

Excise and customs duties have remained relatively steady as a revenue source, but have declined in importance as a proportion of tax revenue over the last century (see Chart 4). In 1909 they accounted for three quarters of total tax revenue, while in 2003-04 they accounted for 8.5 per cent of tax revenue. Over this period, customs duties have declined in importance in comparison to excise duties, reflecting both increased domestic production of goods and a decline in the rates of duty applied to imports. Australian tariff levels have been substantially reduced across a wide range of import competing industries since the early 1970s to improve economic efficiency in the Australian economy.

Current Australian excises are typically applied to goods with a relatively inelastic demand and where the number of manufacturers is limited. Inelastic demand means that excise taxes can be applied without creating undue distortions to consumption decisions, the hallmark of an efficient tax. There is, however, an increased incentive to avoid taxation. Monitoring compliance is aided where production of the good is concentrated at a few production points and cannot be readily undertaken by other agents. For example, the number of taxing points is very low for the revenue raised for petroleum, tobacco and alcohol excise, making these administratively efficient taxes to collect.

Excise controls in Australia include licensing of parties that are engaged in the manufacture of excisable goods, issuing permissions that govern dealings with the goods and the classification of those goods (where classification determines the rate of excise liability). These controls provide high levels of compliance. As with excises, a fundamental design element of the administration of customs duties is the control by the revenue authority over dutiable goods until such time that they are dealt with in accordance with the legislation. This is normally at the point of passage into the

⁸ Wine is taxed under a specific scheme, the wine equalisation tax (WET), on an *ad valorem* basis.

market (known as entry or delivery for home consumption) or export (in which case excise is not payable).

Resource taxation

The federal government's responsibility for the extraction of resources is generally limited to waters between three and two hundred nautical miles seaward of the low water line along the coast. The states own most resources on land and within the coastal boundary and impose taxes and charges on the extraction of those resources using a variety of mechanisms. Where the federal and relevant state governments have a joint interest in a petroleum resource, resource taxation occurs by way of royalty.

In the period up to 1975, petroleum royalties were also the main instrument for accruing a return to society for the extraction of offshore petroleum resources. In 1975, a flat per barrel crude oil excise was introduced. Later, in an effort to encourage exploration and production in new and remote areas, the federal government introduced progressive rates of excise based on total production from a field. It was recognised that even this approach could result in some deposits not being developed because the net return to the investor after the imposition of the excise would not be sufficient to warrant the investment.

In 1987, the petroleum resource rent tax (PRRT) was introduced to generate an equitable return to society from its offshore petroleum resources, while also reducing potential distortions to offshore petroleum exploration and development. The North West Shelf and the Joint Petroleum Development Area in the Timor Sea are the only offshore areas which are not subject to the PRRT regime. In the former case, existing taxation arrangements were grandfathered, while the taxation arrangements in the latter case reflect the joint production agreement between Australia and Timor-Leste.

The PRRT is a tax on 'above normal' profits derived from upstream petroleum production, defined by the point at which a saleable commodity is first produced (for example, crude oil, condensate, natural gas, and methane). Downstream processing or value adding activities, such as liquefaction of natural gas, are not subject to PRRT. A gas transfer pricing formula has been developed to establish the upstream value of gas produced and consumed in an integrated gas to liquids project.

Taxable profits are defined to be net of the recovery of all project related exploration, development and operating expenditures. Where expenditure is carried forward to be offset against future income, its value is compounded at an annual rate intended to broadly reflect the required rate of return for undertaking such expenditure. These compounding rates vary according to the type of expenditure incurred, being highest for exploration and least for general overhead expenditure. In essence, a project will only become PRRT assessable once the owners have earned a 'normal' rate of return.

A brief history of Australia's tax system

As a tax on 'above normal' profits, PRRT is levied at a relatively high but constant rate of 40 per cent. Payments of PRRT are deductible for company income tax purposes in the year assessed.

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Future Fund and fiscal policy

Wilson Au-Yeung, Jason McDonald and Amanda Sayegh¹

The Government established the Future Fund as part of a broader strategy to improve the government's long-term financial position. The Fund aims to increase saving now to finance future superannuation payments — the largest liability on the government's balance sheet. By doing so, the Government will free up resources in the future when other fiscal pressures will be pressing. By quarantining Fund earnings for re-investment in the Fund, the Government has tightened fiscal policy. This paper outlines why a tightening of fiscal policy has been necessary; why this requires removing Fund earnings from the underlying cash balance; and the likely magnitude of this change in fiscal policy.

1 The authors are from Macroeconomic Group and Fiscal Group of the Australian Treasury. This article has benefited from comments and suggestions provided by David Gruen, Hugh Hartigan, Kirsty Laurie, David Martine, Neil Richardson, and David Tune. The views in this article are those of the authors and not necessarily those of the Australian Treasury.

Introduction

In April 2006, the Australian Government eliminated general government net debt, after it reached a peak of 18.5 per cent of GDP in 1995-96. The Government's strategy of eliminating net debt has increased national savings at a time of continuing economic growth and in anticipation of the fiscal pressures associated with an ageing population.

A key part of the Government's strategy to improve the long-term financial position is the 'Future Fund', a financial asset fund designed to meet the future payments associated with public sector superannuation entitlements. The superannuation liability remains the largest single liability on the government's balance sheet, estimated to be around \$100 billion (or 10 per cent of GDP). The liability has similar economic consequences to debt and represents a substantial obligation that taxpayers will have to meet.

The Government's decision to re-invest Future Fund earnings and exclude them from the underlying cash balance, has tightened fiscal policy. By increasing government saving now, the Government will free up resources in the future, when fiscal pressures associated with health costs and an ageing population will be pressing.

Fiscal policy in Australia

Over the past decade fiscal policy in Australia has become increasingly focused on medium-term fiscal sustainability, including the identification and management of fiscal risks facing current and future generations (Gruen and Sayegh, 2005). Indeed, the *Charter of Budget Honesty Act 1998* (the Charter) requires governments to focus on fiscal risks when setting fiscal policy.² The Charter also facilitates the management of these risks by requiring: a transparent medium-term fiscal framework; a comprehensive financial management system based on accrual accounting; and a regular Intergenerational Report highlighting future fiscal pressures. These reporting frameworks provide the government with more information to allocate resources in the economy and across generations efficiently.³

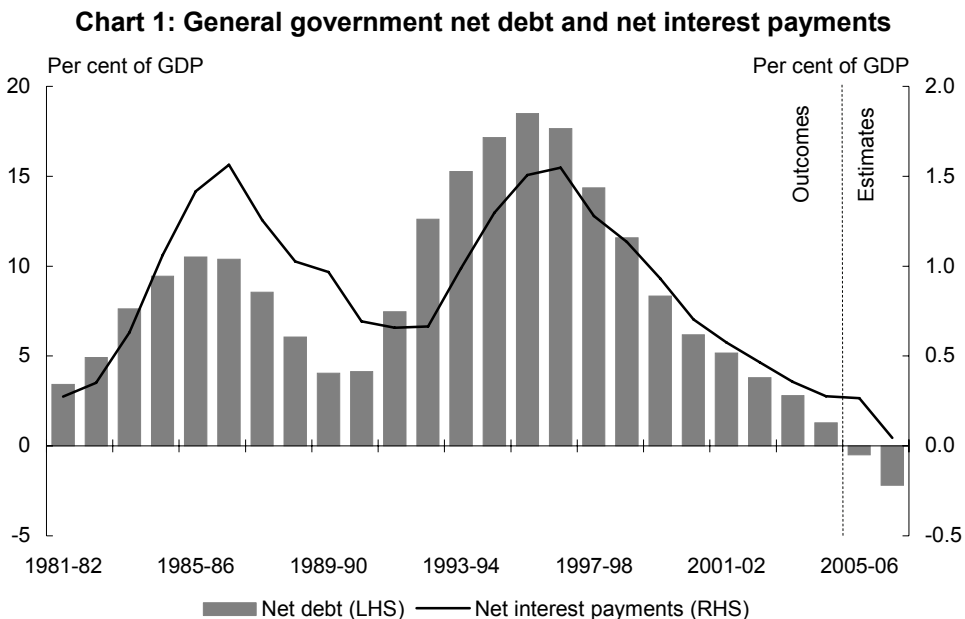
2 Specifically, the Charter requires that fiscal policy have regard to: government debt and the management of financial risks; the state of the economic cycle; the adequacy of national saving; the stability and integrity of the tax base; and equity between generations.

3 For a discussion on the importance of both cash and accrual budgeting and reporting and their relative roles to governments see Barton (1997) and the National Commission of Audit report (1996).

Fiscal policy and net debt

Since coming to office in 1996, the Government has maintained a fiscal strategy focused on medium-term sustainability. The primary objective of the medium-term fiscal strategy is to maintain budget balance, on average, over the course of the economic cycle. This strategy has a number of supplementary objectives, including: maintaining budget surpluses over the forward estimates period while growth prospects are sound; not increasing the overall tax burden from 1996-97 levels; and improving the Australian Government’s net worth position over the medium to longer term.

Until the 1999-2000 Budget, the fiscal strategy also included a supplementary objective to halve the ratio of net debt to 10 per cent by 2000-01. This was actually achieved in 1999-2000. The Government has subsequently further improved on this performance by eliminating all net debt in 2005-06 (Chart 1).



Source: Data are from ABS Cat. No. 5501.0, Australian Government Final Budget Outcomes and Treasury estimates.

By eliminating net debt, and maintaining strong budget surpluses, the Government has reduced the risks associated with investing in Australia, which contributes to lower interest rates and enhances economic growth. Australia is also better placed to respond to economic shocks, should they occur, and to meet longer term fiscal pressures.

This achievement, combined with the introduction of more comprehensive fiscal reporting, has enabled the Government to increasingly focus on the management of broader risks to government finances.

Managing balance sheet risks

The 1999-2000 Budget saw the first set of budget financial statements produced on an accrual basis, including the first balance sheet for the general government sector. The balance sheet provides information on the government's assets (resources) and liabilities (obligations), which reconcile to a measure of government net worth. Net worth includes debt and other liabilities and is therefore a broader measure of the government's overall financial position than net debt.⁴

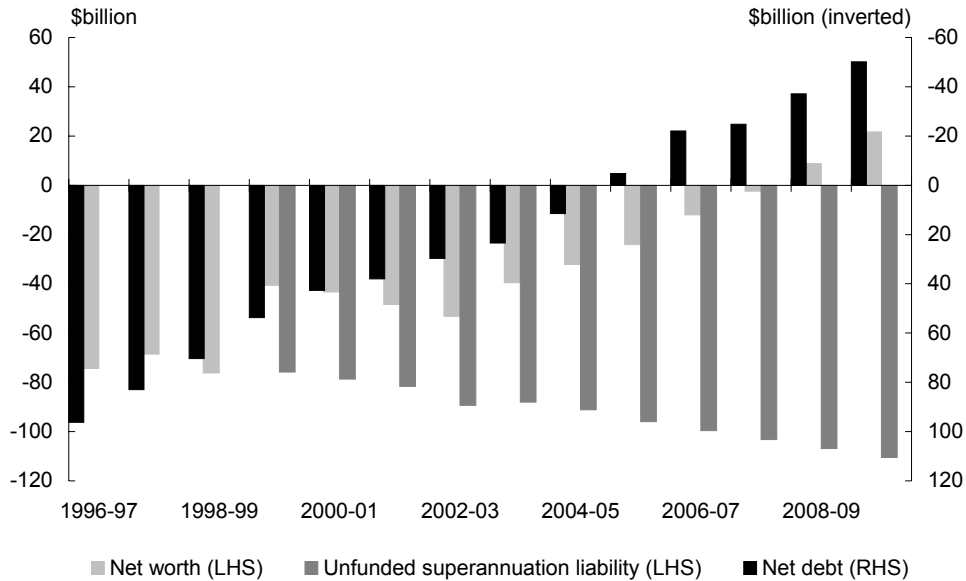
As well as reducing short-term financial risks, eliminating net debt has improved net worth from -\$74.4 billion in 1996-97 (-13.6 per cent of GDP) to an estimated -\$12.0 billion in 2006-07 (or -1.2 per cent of GDP). By 2008-09, the Australian Government is projected to have positive net worth.

The introduction of a detailed balance sheet has enabled the government to identify and manage a broader set of assets and liabilities. The largest single liability on the government's balance sheet is public sector superannuation. The 2006-07 Budget estimates that the value of the superannuation liability will be \$99.6 billion at 30 June 2007.

Although the superannuation liability has different features to debt securities (it is not traded and is not easily extinguished) it has similar economic consequences. Rather than accepting higher wages, past public servants have accepted the promise of future retirement benefits from the government. The government has effectively borrowed from public servants. Indeed, if past governments had chosen to pay for the superannuation liability as it accrued to a superannuation fund outside the general government sector, while maintaining existing taxing and spending, they would have had to issue debt to finance the liability.

4 Net debt is a sub-set of the government's broader financial portfolio. It includes financial liabilities such as government securities and other loans and borrowing and financial assets such as cash, deposits and other investments. Net worth builds on net debt by also incorporating non-financial assets, as well as certain financial assets and liabilities not included in net debt, most notably accrued employee superannuation liabilities.

Chart 2: Net worth, net debt and the superannuation liability

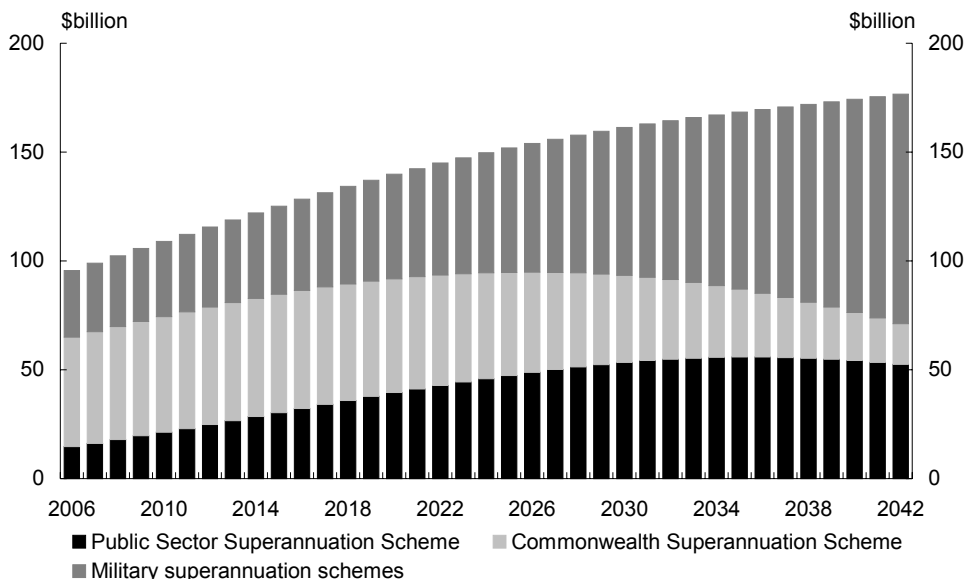


Note: Data from 1996-97 to 2004-05 are based on budget outcomes. Thereafter data are estimates and projections from the 2006-07 Budget.

The Government has taken a number of decisions to reduce the cost of the superannuation liability. These include closing the Parliamentary Contributory Superannuation Scheme to new members of Parliament from 9 October 2004; closing the defined benefit Public Sector Superannuation Scheme to new members from 1 July 2005; and making one-off payments totalling \$5 billion to extinguish fully the Government’s liabilities relating to the Telstra and Australia Post Superannuation Schemes and various state rail employees.

Shifting public service employees from defined benefit to accumulation schemes reduces fiscal risks to the government and provides public sector employees with more choice in investing for their retirement. These measures are expected to see an overall fall in the growth of the superannuation liability arising from civilian public sector employees. In 2040, the largest superannuation liabilities will be generated by the Military Superannuation and Benefits Scheme, which is the only significant defined benefit scheme in the government sector remaining open to new members (Chart 3).

Chart 3: Projected public sector superannuation unfunded liability



Note: The figures do not represent all schemes operated by the Commonwealth. Only the major civilian and military schemes have been included (the military schemes above include the Military Superannuation and Benefits Scheme and the Defence Force Retirement and Death Benefits Scheme).
 Source: Australian Government Actuary.

There are considerable risks around the projected growth in the unfunded superannuation liability. Given the size of this liability, even small variations in growth assumptions can impact significantly on government finances. For example, between 2000-01 and 2003-04, the average annual change in the estimation of the superannuation liability was around \$3.6 billion.⁵

Off balance sheet risks

There are a number of social policy obligations, such as future health expenditure and pensions, that do not meet the accounting definition of liabilities and therefore do not impact on net worth.⁶ However, such obligations are likely to impose significant fiscal costs in the future. The 2002-03 Intergenerational Report showed that taxes may need to rise or spending be cut by up to 5 per cent of GDP by 2040 to finance these

5 The change in each financial year is the difference between the value of the superannuation liability published in the Final Budget Outcome and the first estimate of the liability for that year. The biggest contribution to this annual average is the major actuarial review to the superannuation liability for 2002-03. This major actuarial review occurs every three years.

6 Liabilities on the government’s balance sheet generally cover those obligations which the government has already accrued – that is, they relate to past economic events. Future social policy obligations reflect an intention to make payments in the future and therefore do not meet the accounting definition of a liability. Brixi and Schick (2002) provide a detailed taxonomy of government fiscal risk.

obligations.⁷ Risks to the future path of fiscal sustainability may increase uncertainty and have real costs to the economy today.⁸

Steps to address the fiscal gap, such as improving participation and productivity, are aimed at increasing economic growth.⁹ These policies also need to be fiscally sustainable – you cannot spend your way out of a fiscal gap.

Future Fund

The Future Fund aims to increase government saving now to finance its superannuation payments in the future when other fiscal pressures will be pressing. By building up a pool of financial assets today to finance the growing unfunded superannuation liability, future budgets will be free of the burden of making superannuation-related payments. Aiming to eliminate the unfunded superannuation liability has exactly the same medium-term fiscal policy rationale as eliminating net debt.

Total superannuation payments were around \$4.5 billion (0.5 per cent of GDP) in 2004-05 and are projected to be around \$7.6 billion (0.4 per cent of GDP) by 2020. However, these payments, largely related to past employees, will need to be made around the time that other fiscal pressures are emerging. By beginning to provision for the liability, the Government is enhancing fiscal sustainability and reducing fiscal pressures on future generations. Leaving these payments to future generations is equivalent to arguing for a higher debt burden or higher taxes to be transferred onto future generations.

The Future Fund will finance future superannuation payments from a financial asset portfolio established from past and future budget surpluses, asset sales and reinvested earnings. Contributions to the Future Fund will be made on an 'ex-post' basis depending on actual budget outcomes, rather than making fixed contributions each period according to a pre-determined rule (as would occur for an ex-ante fund). This provides the Government with the flexibility to determine contributions to the Fund depending on cash management requirements, economic circumstances and other government priorities that may emerge.

7 The Productivity Commission's *Economic Implications of an Ageing Population* (2005) also provides an estimate of future fiscal pressures facing all levels of government.

8 See Au-Yeung, McDonald and Sayegh (2006) for a fuller discussion of this issue.

9 Gruen and Garbutt (2004) estimate the fiscal implications of raising participation or productivity growth in Australia.

Accounting for the Future Fund

Under the *Charter of Budget Honesty Act 1998*, the government is required to base its budget financial statements on both the Australian Bureau of Statistics' Government Finance Statistics (ABS GFS) and Australian Accounting Standards (AAS). Both of these frameworks closely follow their international equivalents. There are a number of fiscal aggregates reported in the financial statements consistent with these accounting frameworks. The two main fiscal aggregates used for fiscal policy purposes are the underlying cash balance, which is the Government's primary fiscal aggregate for assessing the stance of fiscal policy, and the fiscal balance.¹⁰

The underlying cash balance records government transactions at the time cash is paid or received. For some economic activities, such as superannuation, there are substantial lags between when liabilities accrue (employees accrue their benefits as they work) and when the payment is recognised (the cash payment for superannuation benefits can be up to 40 years later). This implies that if the Government achieves underlying cash balance on average over the economic cycle, it would not generate sufficient savings to meet accruing superannuation expenses – as the payment for the accruing superannuation cost is recognised long after the economic activity has taken place.

By setting up the Future Fund to finance superannuation-related payments in the future and by reinvesting and quarantining earnings, the Government is effectively pre-committing the Future Fund earnings. Since the Future Fund earnings are not available for current spending, the Government has excluded the earnings from the underlying cash balance.

If earnings were not excluded this would lead to an overstatement of the funds available for recurrent spending – the earnings of the Fund would increase the underlying cash balance today even though the payments they will finance will need to be made in the future. Even if the earnings of the Fund were ear-marked solely for such payments, the Government would still be able to issue other liabilities to offset these earnings. The underlying cash balance, net of Future Fund earnings, is a more accurate measure of fiscal sustainability.

¹⁰ Prior to 1996-97 the headline cash balance provided the key fiscal aggregate for government. However, the headline cash balance provides a poor indicator of fiscal sustainability and the budget's impact on the economy because it includes investments in financial assets for public policy purposes. This means that when governments sell financial assets, the balance is improved. Clearly financing government through the sale of financial assets is not sustainable. In 1996-97, the Government therefore chose to report its fiscal strategy against the underlying cash balance.

Excluding Future Fund earnings from the underlying cash balance does not affect any of the fiscal aggregates required to be reported under the *Charter of Budget Honesty Act 1998*. The underlying cash balance is not an accounting concept required under GFS or AAS. Rather, it is a concept defined by government to manage fiscal policy. Future Fund earnings, such as dividends and interest, are included fully in the GFS and AAS cash flow and operating statements. The financial statements also disclose how the underlying cash balance is derived from the GFS cash surplus.

In contrast to the underlying cash balance, the fiscal balance is an accrual measure that records financial flows at the time of the economic activity and is not conditional on the exchange of cash. In budgeting for superannuation, an expense is recorded as the benefit is accruing, so the accrual measure does not suffer from the timing issues associated with cash accounting. Conceptually, fiscal balance on average over the cycle would ensure that any growth in the superannuation liability is fully financed.¹¹ The remaining portion of the superannuation liability that would need to be financed is the existing superannuation liability. This will be funded through the Government's capital injections to the Future Fund and the compounding growth in the invested assets from capital gains over time.¹²

Another significant benefit of excluding Future Fund earnings is that the underlying cash balance will not be affected by how the Future Fund Board of Guardians chooses to invest.

Magnitude of fiscal tightening

By removing Future Fund earnings from the underlying cash balance, the Government has tightened fiscal policy. From a budgeting perspective, this tightening is represented as the foregone receipts from the Future Fund that would have otherwise been available for current spending. The magnitude of this fiscal tightening is currently estimated to be \$1.8 billion in 2006-07 (0.2 per cent of GDP). This estimate is based on the Government providing the Fund with \$18 billion in April 2006 and the technical assumption that the proceeds from the sale of Telstra will also be provided.¹³

11 A fiscal balance over the cycle means all costs are covered over the period; strictly speaking, this requires that net capital investments and other economic flows are on average zero over the course of the economic cycle.

12 Capital gains (or losses) are recorded in the statement of other economic flows, rather than the fiscal or underlying cash balances.

13 The initial capital injection to the Future Fund was financed from accumulated budget surpluses held on term deposit with the Reserve Bank of Australia. Interest receipts on these term deposits contributed to the underlying cash balance.

Over the forward estimates, the improvement in government saving is greater than shown by the Future Fund earnings in the government GFS cash flow statement. The Future Fund is eventually expected to invest in a diversified portfolio of financial assets, including fixed income securities as well as equities. However, only cash flows, such as dividends and interest income, are recorded in the cash flow statement. Capital gains on equities are recorded in the statement of other economic flows. The 2006-07 Budget assumes that the Future Fund will invest in assets consistent with the Government's required benchmark real return of at least 4.5 to 5.5 per cent.¹⁴

Depending on the size of future contributions to the Future Fund (which are not yet determined given the ex-post nature of the fund) the future tightening in fiscal policy could be in the order of $\frac{1}{4}$ to $\frac{1}{2}$ per cent of GDP per year. For example, if future surpluses projected in the 2006-07 Budget are realised and transferred to the Future Fund, the tightening in fiscal policy could rise to around $\frac{1}{2}$ per cent of GDP by 2009-10.

Concluding remarks

Sound government finances are important for maintaining economic prosperity. Pressures to government finances are projected to emerge over the medium term primarily due to an ageing population and rising public health costs. The Government's unfunded superannuation liability is the largest liability on its balance sheet. The Future Fund will ensure that adequate funds are available to finance this liability. By excluding Future Fund earnings from the underlying cash balance the Government has tightened fiscal policy, making government finances more sustainable over the medium term.

14 The Government's required benchmark is set out in its investment mandate as given to the Future Fund Board (for more information see www.futurefund.gov.au).

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Implications of China's re-emergence for the fiscal and economic outlook

Address to the Australian Business Economists, Sydney, 16 May 2006.

Ken Henry¹

In the background of Australia's current benign economic environment are three powerful and long-lasting forces: the information technology revolution, population ageing and the economic emergence of China and India. China's re-emergence has driven up commodity prices and raised Australia's terms-of-trade. This has important implications for the Budget projections and for the economy more broadly.

Economic theory suggests that a rise in the terms-of-trade will be associated with a shift of capital and labour from Australia's manufactures sector to the resources sector. This may be associated with a fall in real wages. Depending on the extent to which the higher terms-of-trade are anticipated, and the response of the exchange rate, there could be a temporary increase in the current account deficit.

The rise in the terms-of-trade has had different impacts across industries and regions. But it would be undesirable to try to resist this with industry policy or by raising tariffs.

1 I would, as usual, like to thank Treasury colleagues for assistance in the preparation of this speech, especially, on this occasion, David Gruen and Steven Kennedy.

Introduction

If Australia's recent macroeconomic performance is any guide, the economic environment is remarkably benign. The macro economy is growing at around its potential growth rate of 3 to 3½ per cent; underlying inflation is around 2½ per cent; the unemployment rate is at 30-year lows of around 5 per cent – low also by international standards; wages growth, at about 4 per cent, is not putting pressure on average unit labour costs; and the government has no net debt. The world economy is also doing well, having grown above trend for 3 years. While, as always, we can identify short-term risks to the outlook, our forecasts would have these domestic and global pictures continuing.

Yet, despite this apparent macroeconomic stability, there are forces acting on the Australian and global economies that are both powerful and long lasting. Global macroeconomic performance is playing out against, and is being very heavily affected by, three historic medium- to long-term developments: (1) the ICT 'revolution'; (2) the economic emergence of China and India; and (3) population ageing. Just how each of these developments affects the macroeconomic performance of the international economy, and of its national member economies, depends upon many things. An important one is the ebb and flow of the contest between the internationalising forces of globalisation and the efforts of nationalist protectionists. But it is important to recognise too that this contest is itself being influenced strongly by the ICT revolution, the emergence of China and India, and population ageing.

The ICT revolution is creating an information and communications superhighway that ignores national borders. China's re-emergence as a major player in world merchandise trade and the impending emergence of India and others is bringing hundreds of millions of people into the modern world.² And the uneven global pattern of population ageing will have far-reaching implications for capital markets and, quite possibly also, for migration flows, forcing national policy makers to confront issues as fundamental as national identity.

The fact that these forces are powerful and long lasting does not mean that they will always play out smoothly. There will be episodes of volatility, some of which will pose difficult challenges for policy makers.

The ICT revolution provides a recent example. It underpinned an enormously positive sentiment toward the United States economy in the second half of the 1990s; a sentiment captured initially by the rather startling term 'irrational exuberance'. Later, and when policy makers and commentators found it imperative to find rationality in

2 See, for example, Treasury (2001).

exuberance, by the even more startling label the 'new economy' – a startling label because it was being used to describe the most developed economy on earth.

That positive sentiment under-wrote a US stock market bubble funded by an unprecedented inflow of portfolio equity capital apparently disinterested in traditional notions of reward. It provided financial substantiation of persistent US Treasury rhetoric supportive of a 'strong' US currency. And it financed a burgeoning US current account deficit. And when, inevitably, the bubble burst, even rational bystanders suffered substantial real and financial losses in the global downturn of 2001.

China's re-emergence may also be accompanied by periods of volatility. There is risk in the fact that it is provoking industrial country protectionists who want to rebuild and buttress the fortresses erected in the middle decades of the last century. Were they to be successful, the consequences for world economic performance could be very serious.

Industrial country protectionists are concerned by China's impact on the world prices of manufactures. But even more pronounced has been China's impact on the price of energy and of commodities in general. Commodity price developments are affecting all economies. For some, like our own, the immediate consequence is extraordinarily high terms-of-trade. Other economies are having their terms-of-trade hammered. High terms-of-trade should be good news. But it is the sort of good news that has policy makers sitting on the edge of their seats. And for good reason: earlier terms-of-trade booms have not always been comfortable times for Australian policy makers.

China's re-emergence

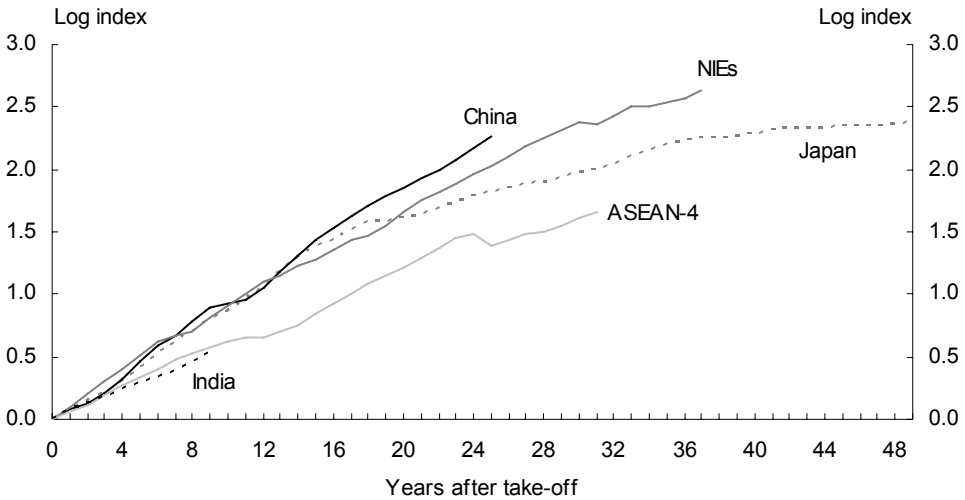
Today I want to explore some of the implications for the Australian economy, and Australian economic policy, of the re-emergence of China.

In the period since the Second World War there have been several instances of rapid industrialisation in various parts of the world: Japan from 1955; the NIEs³ from 1967 and the ASEAN-4⁴ from 1973. But, thus far at least, China's development since 1979 eclipses all of these.

3 Hong Kong, Korea, Singapore and Taiwan.

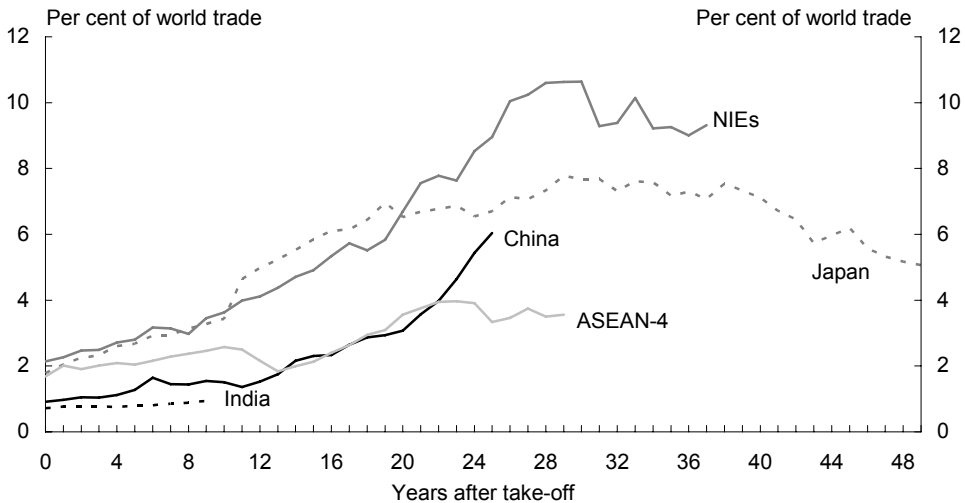
4 Indonesia, Malaysia, the Philippines and Thailand.

Chart 1: Growth after takeoff



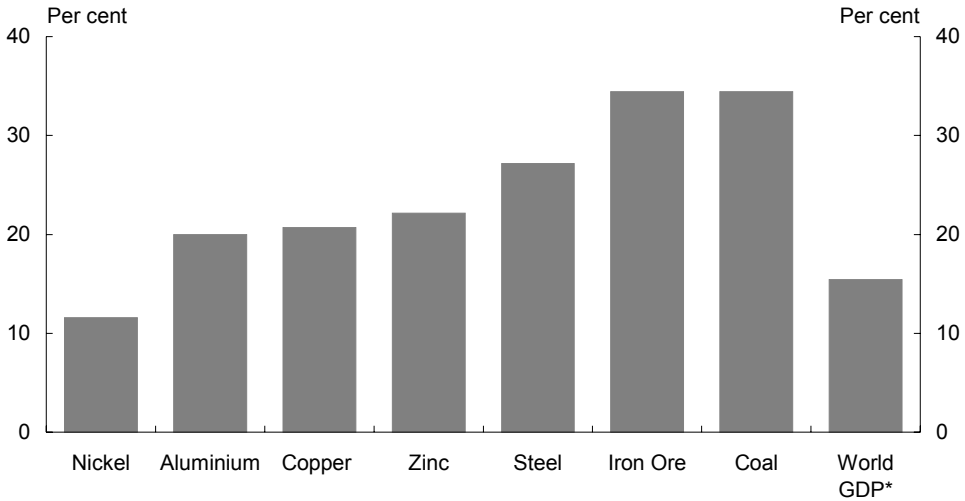
25 years ago, China accounted for less than 1 per cent of global merchandise trade. Today, it accounts for more than 6 per cent – about a percentage point higher than Japan's present share and only about 1¼ percentage points less than Japan's high point.

Chart 2: Share of world merchandise trade after take-off



This extraordinary trade performance has been fuelled by massive quantities of material inputs: nickel, aluminium, copper, zinc, steel, iron ore and coal. In respect of the last two, China now absorbs more than a third of global production.

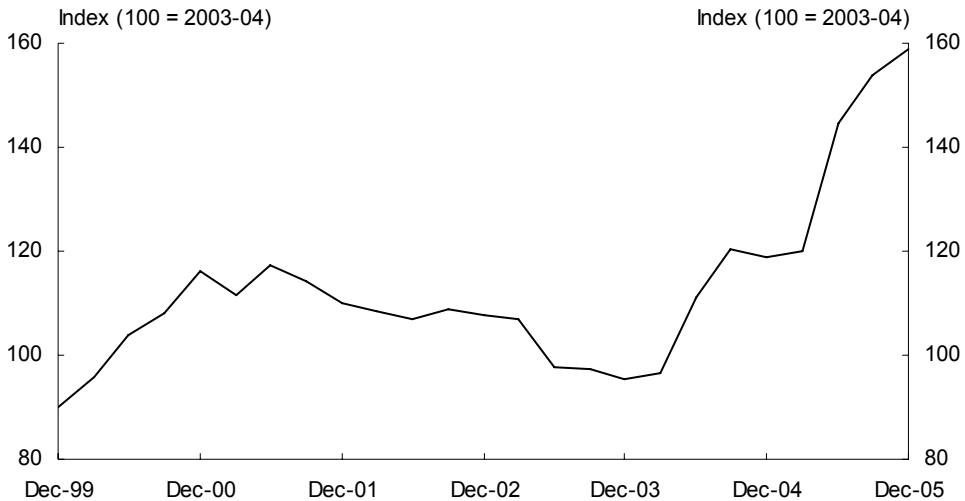
Chart 3: China's share of world consumption of materials
2005



Note: *China's share of World GDP

An immediate consequence of this substantial addition to the global demand for industrial material inputs has been a dramatic rise in commodity prices, especially for coal and iron ore. Average prices received by Australian non-rural commodity exporters have increased by over 60 per cent in the last two years.

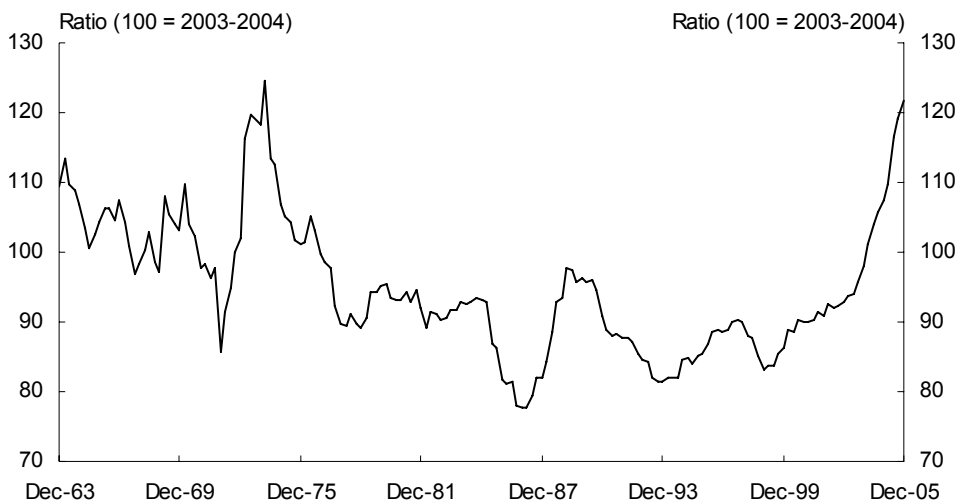
Chart 4: Commodity prices



While China's industrialisation has added substantially to the global demand for material inputs, it has, as Chart 2 illustrated, also been adding substantially to the global supply of manufactures. Australia is a net exporter of many of the materials

used in Chinese industry and a net importer of manufactures. Of course, only about one third of our exports have benefited from the higher prices illustrated in Chart 4, and many of the things we import have not been affected by Chinese supply. Even so, when we look at what has happened to the ratio of average export prices to average import prices we find a very significant pick-up in our terms-of-trade.

Chart 5: Terms-of-trade



Implications for Budget projections

Chart 5 goes back to 1963. It shows that present conditions are quite unusual. It also shows that terms-of-trade booms can be short-lived. There is substantial interest in knowing for just how long the present high commodity prices and terms-of-trade surge might last. Investors and resources producers have an obvious commercial interest in the matter. One of the Treasury's interests is in understanding how the terms-of-trade boom might be affecting the budget – more generally, what is the likely impact of the terms-of-trade boom on present and prospective budgets and how is it affecting the stance of fiscal policy? These are difficult questions.

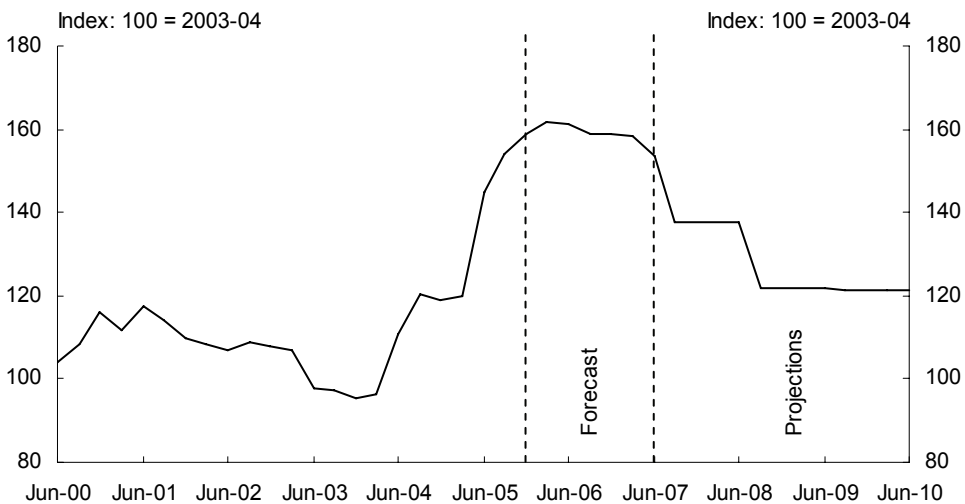
In order to make fiscal projections, we need projections for key macroeconomic variables. Forecasting is difficult, and increasingly so the longer the time horizon. For this reason, rather than make long-term forecasts, our standard approach is to base our projections on an economy evolving as it has on average in history. Another reason we take this approach to projections is that several of the variables we project are commercially significant, and we would prefer not to be criticised for any losses that people like you might make in reliance on our judgements.

A third reason supporting our approach is that we want to avoid any risk of confusion about the respective macroeconomic policy responsibilities of the Treasurer and the Reserve Bank Board. There is a risk that if we were to publish a judgement about the future direction of, say, the exchange rate or interest rates, we might be interpreted as taking a view on what these things *should be* as opposed to what we think they *might be*. Better, we think, simply not to be seen to be taking a view at all.

Incidentally, the *projections* of interest rates, exchange rates and so on are used also in deriving our *forecasts* for real economic activity – a point that seems easily lost in public commentary.

You will recall that when we put together the macroeconomic projections to support last year's budget, we thought it would not be prudent to assume that recent commodity prices would be sustained over the three-year projection period. Instead, we adopted a prudent assumption that coal and iron ore prices would decline in two annual steps back to historical levels. When we updated the Budget outlook at MYEFO, we began *forecasting* rather than *projecting* activity in 2006-07. However, our approach to the *projections* still seemed a prudent one to us. Thus, we moved everything out a year, with the first downward step in coal and iron ore prices occurring in 2007-08 and the second in 2008-09. We have confirmed this approach in the 2006-07 Budget.

Chart 6: Commodity prices (with forecasts/projections)



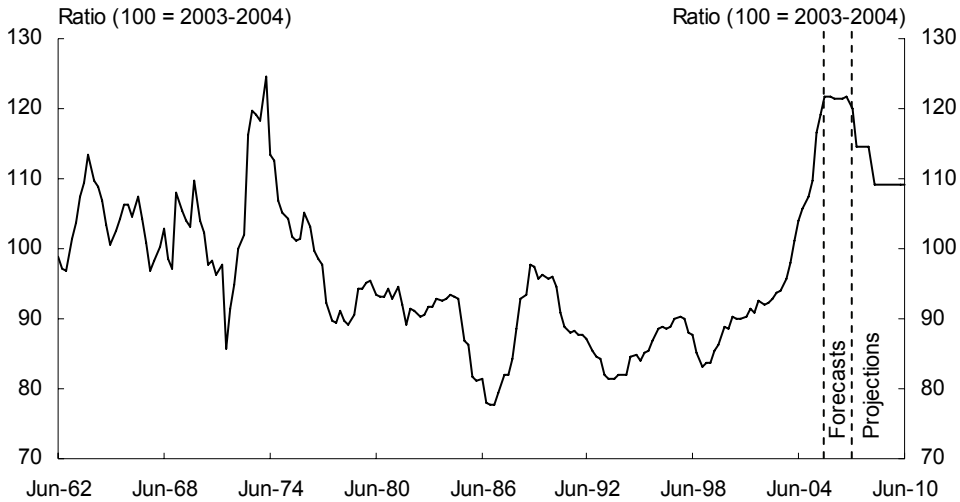
Average commodity prices are projected to fall by about 25 per cent, remaining 10 per cent or so above year 2000 levels. So, in our fiscal projections, we have taken out quite a lot of insurance against a commodities price collapse. Pessimistic commentators consider that even that level of insurance is not sufficient to protect the budget against

a major 'China stumble'. Well, there are lots of possible adverse developments that are at present 'unforeseen', and which would have a material impact on fiscal outcomes. The possibility of China's stumbling is among them, but there are many others. Our fiscal position provides us with a great deal of flexibility to respond to such unforeseen developments. I would go further: if the adverse shock were so large that it drove the budget into deficit, then a deficit budget outcome would be appropriate. Moreover, such an outcome would be quite consistent with the fiscal strategy.

The optimists, on the other hand, are asking whether, if commodity prices stay up at around present levels for many years, we won't turn out to have been too conservative in our fiscal projections. And at what point, they want to know, would we decide to accept reality and abandon the downward bias in our projections? As to the first question, the answer is, 'other things equal, yes'. All I can say about the second question is that our macroeconomic projections will continue to be driven by history. If the emerging history gives us sufficient confidence that the present projections methodology is too conservative, then we will adjust it. We are not at that point yet, however. It is our view that, for the moment, it is prudent to base the fiscal projections on the step-down in commodity prices illustrated in Chart 6.

It's worth noting that our downward adjustments to coal and iron ore prices have much less of an impact on the projected terms-of-trade than they do on projected commodity prices. The terms-of-trade remain well above average levels, and only about 10 per cent below where they are right now. And it is the terms-of-trade that are of importance to the pattern of resource allocation in the Australian economy.

The present high terms-of-trade might turn out to be short-lived. Yet, in thinking about the implications for the Australian economy of the re-emergence of China, India and others, it would not be prudent to ignore the possibility that the terms-of-trade remain well above historical levels for a considerable period of time.

Chart 7: Terms-of-trade (with forecasts/projections)

Implications for the economy

As many analysts and commentators have pointed out, the present terms-of-trade boom has a very different genesis from the 1970s spike.⁵ That earlier episode was both sharp and largely confined to rural commodity prices. Following an initial terms-of-trade spike, a further shock was introduced into the global economy by an artificial oil supply shock engineered by the OPEC cartel. Economic theory, and a good deal of economic history, tells us that cartels have a difficult time sustaining such behaviour. We should expect such episodes to be short-lived, as that one was, even if the cartel itself endures. The present commodity price boom, by contrast, is largely demand driven and reflected in a wide set of non-rural commodities. Provided resources production is not subject to long-run increasing returns to scale (declining long-run average costs of production), prices should remain above historical average levels for as long as demand remains above where it would have been on the basis of trend growth. That is not to say that there will not be volatility sufficient to produce temporary falls in commodity prices. And nor does it imply that commodity prices will stay up at present levels: we should expect prices to fall somewhat as new supply capacity is brought on stream. But, absent a substantial and sustained negative shock to global demand, we should not expect to see average commodity prices fall all the way back to turn of the century levels.

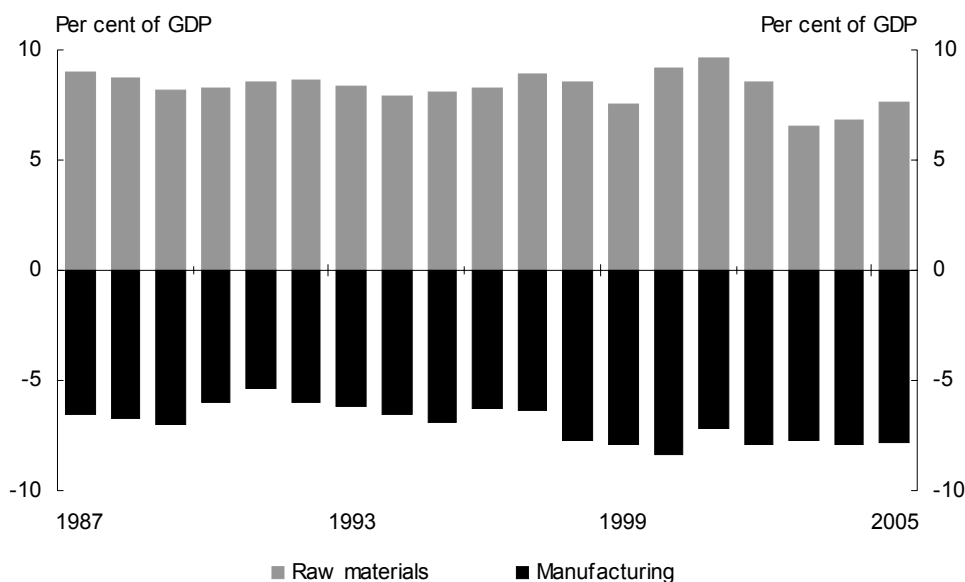
⁵ See, for example, Gruen (2006).

And as far as the denominator of the terms-of-trade is concerned, continued expansion in Chinese manufacturing could put downward pressure on our average import prices for many years.

So it is worth exploring what might happen to the Australian economy if it turns out to be the case that the terms-of-trade are permanently higher, even if not quite as high as at present.

Standard economic theory offers numerous insights on the economic effects of an improvement in the terms-of-trade. In this standard theory, the factors of production (capital and labour) are perfectly mobile between industries, moving in response to factor returns (wages and the return on capital). So there are no rigidities associated with labour and capital being tied to specific sectors. However, the total (i.e., economy-wide) supply of labour and capital is fixed. In these models, one sector of the economy produces 'exportables' and another is 'import-competing'. The former produces things that are both exported and consumed domestically, while the latter produces things that are only consumed domestically and which compete with imports.

Chart 8: Australia's net exports



Many of the goods and services that we export, including a lot of manufactures and services, are not enjoying higher prices as the terms-of-trade increase. The exportables industry that is the clearest beneficiary of higher prices is resources. Import-competing activities facing static or declining prices are numerous. Import-competing manufacturing has gained the most attention, but its circumstance is broadly shared.

Nevertheless, to keep the following discussion as simple as possible, I am going to label the exportables sector 'resources' – noting that this sector is relatively capital-intensive – and label the import competing sector 'manufactures'. With this gross simplification, the terms-of-trade is the price of resources relative to the price of manufactures.

According to standard economic theory, and ignoring everything else that is driving economic activity, we might expect the consequences of a *permanent* improvement in the terms-of-trade eventually to include the following:⁶

1. Output of the resources sector increases and output of the manufacturing sector falls.
2. The set of domestic consumption possibilities expands. Consumers are better off, enjoying higher real income in aggregate. They demand more manufactures, though the impact on the domestic consumption of resources is ambiguous.
3. The volume of trade expands: volumes of both manufactured imports and resources exports increase.
4. The resources sector employs a higher proportion of the economy's capital and labour.
5. The real wage rate falls, no matter which output price, or combination of output prices, is used to 'deflate' nominal wages.⁷ Consistently, labour's marginal and average products fall in both industries.
6. Capital productivity rises, and so too does the real return per unit of capital.
7. Labour's share in GDP falls and the profit share increases.

From these standard results, several corollaries of distributional interest follow: the reallocation of the factors of production may be reflected in an internal geographic migration of capital and labour; property owners in resource-rich parts of the country derive capital gains, while those in the non resource-rich parts of the economy may experience capital losses, as may many who own sector-specific capital in the manufacturing sector; earnings per share increase; domestic and foreign shareholders in Australian companies benefit from higher dividends and from the higher wealth that comes with consequent share price growth; and company tax revenue increases, both in absolute terms and as a proportion of total income tax revenue.

6 These are standard results from the Heckscher-Ohlin model of international trade.

7 Stolper and Samuelson (1941).

The reduction in real wages is a standard Stolper-Samuelson result. Even so, it might strike some of you as a bit odd. An intuitive explanation is as follows: Starting from a position in which labour and capital are fully employed, the output of the more capital-intensive sector expands, and the output of the other sector contracts. Suppose this were to happen with no change in the capital intensity of production in either sector. Then the expanding sector would be requiring additional factor inputs in a higher proportion of capital to labour than they would be released from the contracting sector. The only way this can happen is if labour becomes unemployed; that is, if some of the labour released from the labour-intensive sector is not re-employed in the expanding capital-intensive sector. A real wage reduction ensures that labour remains fully employed. It achieves this by encouraging both sectors to reduce their capital intensity of production.

The effects described above are comparative static impacts. They don't tell us anything about the time path of adjustment, nor adjustment costs. And they deliberately ignore the effects of exogenous shocks other than an increase in the terms-of-trade. These are important qualifications. For example, while the theory says that higher terms-of-trade will be associated with lower real wages, that does not amount to a forecast that real wages in Australia will fall. For one thing, the reallocation of capital in favour of the resources sector will stimulate construction activity, including residential construction, in the resource-rich parts of the country, and that will be reflected in strong employment growth, possibly even labour shortages, exerting some short-term upward pressure on real wages. For another thing, although this upward pressure should be only temporary, the longer term trend of real wages will be driven by the rate of multi-factor productivity growth; and this may very well be more than enough to compensate for any downward pressure associated with the higher terms-of-trade.

Another example of thinking about adjustment paths reveals an important additional result from economic theory: the reallocation of labour and capital in favour of the resources sector will take time. So there could be a lag, possibly lasting several years, before outputs of the resources sector, and export volumes, increase. But consumption and investment may well respond immediately to higher anticipated real national income. In this case:

8. There could be a temporary increase in the current account deficit, with national investment outpacing national saving. While import volumes might increase immediately, export volumes may even fall in the short term.

Judging by the weight of commentary on this topic, the conclusion that a terms-of-trade improvement could imply no growth, or even a reduction, in export volumes, possibly lasting several years, will strike many as counter-intuitive. It shouldn't.

So far, I haven't mentioned the nominal exchange rate. That's because none of the impacts to which I have referred rely on there being any movement in the nominal exchange rate. This is a rather important point. Many Australian manufacturers would be thinking that the reason they are feeling the squeeze from our higher terms-of-trade is that the exchange rate has appreciated. But even if the exchange rate were not to appreciate, they would eventually feel the squeeze because they would find it increasingly difficult over time to compete with the construction and resources sectors for the economy's factors of production.

These are, of course, long run results. As I explained in some detail in last year's address, an appreciating exchange rate contributes to macroeconomic stability during the shorter-run adjustment period. Cushioning the domestic economy from the real affects of external shocks is the principal economic role played by a floating exchange rate.

While a higher terms-of-trade might imply a higher current account deficit in the short-term, what happens to the current account deficit in the longer term depends upon what happens, over time, to the gap between national investment and national saving. A higher terms-of-trade should be associated, eventually, with higher levels of both saving and investment, with the impact on the gap between the two being ambiguous. There is, however, an unambiguous change in the composition of the current account deficit: The increase in the real return on capital attracts capital inflow, expanding the economy's total supply of that factor. Provided the terms-of-trade are not adversely affected by this international transfer of capital, the real return on capital will be unaffected.⁸ But there will then be a higher stream of remittances to the foreign owners of capital – a permanently higher net income deficit on the current account.

It might be tempting to think that the addition to the nation's capital stock will allow the output of the resources sector to expand without there necessarily being a contraction in the manufacturing sector, and that it will provide economy-wide capital

8 This is a consequence of production functions exhibiting constant returns to scale. It is a standard feature of Heckscher-Ohlin trade theory: provided there is not complete specialisation in the production of one of the products, there is a one-to-one correspondence between relative product prices and relative factor prices; in turn, there is a one-to-one correspondence between relative factor prices and the cost minimising capital-labour ratio used by each sector; in turn, there is a one-to-one correspondence between the capital-labour ratio used in each sector and the marginal (physical) product of each factor used in each sector; and marginal products equal real factor rewards. These various relationships are unaffected by changes in the total economy supplies of the factors of production. There is a financial market implication of the capital inflow: financial asset prices (for example, share prices) will be bid up, to the point where the expected rate of return on financial capital is equalised with 'the world rate', with due allowance for country and currency risk.

deepening so that real wages need not fall. But that is not what the standard theory says. Rather:

9. If the capital stock increases in response to the higher real return on capital, not only will output of the relatively capital-intensive resources sector increase by even more, but the output of the labour-intensive manufacturing sector will fall even further.⁹ And the aggregate capital-deepening will not be reflected in higher real wages.¹⁰

But what if the eventual increase in export volumes is sufficiently large as to have an adverse impact on the terms-of-trade? Then there will be some amelioration of the trends in factor allocations, sectoral outputs and real factor rewards. Provided international capital markets do not overshoot, the impact on the terms-of-trade cannot be large enough to completely reverse these trends. Actually, that is a tautology. However, as we know, markets often overshoot, and so a more than complete reversal of the initial terms-of-trade improvement cannot be ruled out.

Implications for industries and regions

While these various results are derived from a highly simplified two-sector, two-factor, long run theoretical model, they nevertheless provide several insights important to an understanding of the changes presently occurring in the Australian economy. Currently, there is quite a bit of interest in what appears to be happening to the composition of Australian output and employment. The model tells us that if the terms-of-trade remain at high levels, not only will the resources sector command more capital and labour, manufacturing and other industries whose relative output prices are declining will command less, even as our total stock of capital expands. Furthermore, as the factors of production are reallocated, the pattern of growth will be characteristic of what is often referred to as a 'two speed economy'.

The fact that our higher terms-of-trade are a challenge for Australia's manufacturers hasn't gone unnoticed. Recently, the Australian Industry Group¹¹ drew attention to a loss of employment in the manufacturing sector. Some of this loss of manufacturing employment would be associated with the housing cycle – Australia's manufacturing being relatively closely related to residential construction; and, in most of the country, housing construction has been weak for about two years. But some of this loss of manufacturing jobs is, no doubt, precisely what theory predicts would be the consequence of an increase in the terms-of-trade.

9 Rybczynski (1955).

10 See footnote 8.

11 Australian Industry Group (2006).

Standard economic theory does not predict that the national unemployment rate will be permanently higher as a result of a loss of manufacturing jobs. Rather, it says that, eventually, the increase in employment elsewhere will absorb at least as many jobs as are lost. Short-term employment outcomes would, of course, be affected by the degree of skill mismatch and labour market flexibility. Hence, in the short term we could see higher unemployment in some areas and lower unemployment in others.

And this is precisely what has been happening. Up until about two years ago, the regional variation in unemployment rates appeared to be declining, reflecting strong economy-wide demand. Since then, however, unemployment rates have fallen by much more in the resource-rich states, even as these same states have had much stronger growth in participation rates.

Chart 9: Distribution of unemployment

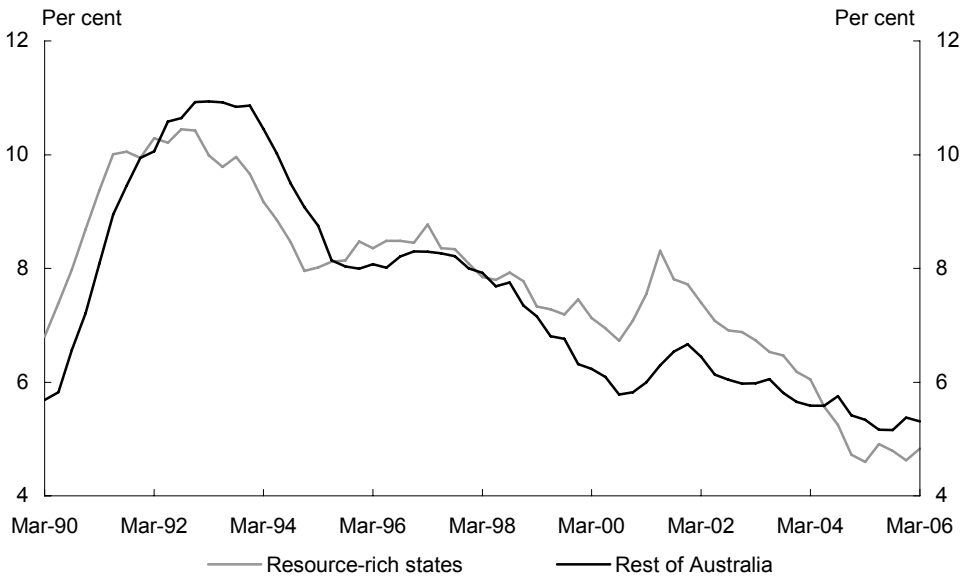


Chart 10: Participation rates



It is difficult to make an assessment of the full distributional implications of a sustained increase in the terms-of-trade. I have identified a number of important effects that derive from decisions made by private economic agents. But the actions of governments are important also; in particular, the way in which the government recycles higher income tax revenues, including through payments that assist the retraining of labour and structural adjustment. On that matter, it is worth noting that there is a body of evidence confirming that structural adjustment support works best if it is targeted to the welfare of individuals rather than the protection of jobs or industries.¹²

Implications for industry policy

Assuming some of the increase in the terms-of-trade is long lasting, are there other implications for government policy? I'm going to come to macroeconomic policy in a moment; but what about industry policy? A lesson from Australia's economic reform experience is the importance of securing efficient resource allocation through strong competition and price-guided markets. A key component of the reform effort was the progressive dismantling of industry plans and other forms of industry policy intervention. Yet, despite that record, and despite the fact that the Australian economy is now operating at close to full capacity, with relatively few idle resources, many people think that industry policy should be doing something in response to higher

12 Blanchard (2005).

terms-of-trade. The first test that should be applied to any proposal in this area is the following: Does the proposal seek to resist the change in resource allocation implied by the higher terms-of-trade, or is it empathetic with that change? Proposals that resist the changes I have outlined here should themselves be resisted. My reasoning is straight-forward: Let's just suppose for the moment that we wanted to prevent the consequences of an increase in the terms-of-trade to which I have referred. What would be the best policy means of achieving such an objective? The answer is an across-the-board additional tariff on all imports at a flat rate of about 25 per cent. Now that would be absurd. But the point is this: absurd as it is, anything else would be worse.

But what if the terms-of-trade boom turns out to be short-lived, while many businesses in the manufacturing sector have closed because of a universal expectation that the resources boom will go on forever? Won't we then have much to regret? Yes, we will. But if you think that has implications for industry policy, ask yourself why it should be easier to persuade government that the terms-of-trade boom is temporary than it is to persuade the manufacturing businesses that are contracting and their financiers who are withdrawing capital. I can accept that there may be a case for taking out some insurance against a retreat in the terms-of-trade – a point I have made already in relation to fiscal policy – but I fully expect, indeed, I know it to be true in many cases, that businesses and those who supply financial capital to them are doing the same thing.

If, however, the terms-of-trade improvement does turn out to be long-lived, then the best thing policy will have been able to do is to ensure that the reallocation of resources required to maximise national income at those terms-of-trade proceeds with minimal disruption. While the reallocation of resources has, to date, been generally smooth, thanks largely to past economic reforms – including in the labour market, isolated events of the last couple of years confirm that the future task will be smoother still if we can address some of the issues in pricing, competition and competitive neutrality, in transport, energy and water needed to ensure efficient infrastructure investment and service delivery.¹³ There may also be an important role for governments in human capital policies, especially education initiatives that reduce the degree of sectoral rigidity in labour markets. These observations underline both the significance of the ambitious COAG National Reform Agenda agreed in February of this year, and the vital importance of those reforms being implemented as expeditiously and as fully as possible.

13 See Henry (2005) for more on reform issues in the transport, electricity and water sectors.

Implications for the global economy

The adjustment to a sustained change in world relative prices driven by the emergence of China has many dimensions. I have spent some time exploring some of the possible implications of China's emergence for domestic resource allocation and domestic policy. But if we take a global perspective, the most significant consequence of China's emergence is surely in the massive social change that is taking place within the world's most populous nation. We should not lose sight of the fact that these changes, despite their potential to disrupt, are bringing enormous benefits to hundreds of millions of people.

I noted earlier too that while we are enjoying a terms-of-trade improvement, some countries are having their terms-of-trade hammered by China's emergence. These countries are worse off, even though the overall welfare of the world is improved. This goes some way to explaining the forces resisting globalisation. Yet, a retreat to protectionist policies in these countries would make them even worse off.

The future need not be that bleak. Many industrialising economies, including some in our geographic region, and a number of large industrialised economies with deteriorating terms-of-trade, will find manufacturing exports that are complementary, rather than competitive, with China's production; things like manufacturing components. In other cases, economies will share in the rewards of China's emergence through capital flows.¹⁴

Fiscal policy

I want to conclude my presentation with a few comments on fiscal policy.

I have noted that strong commodity prices have had an impact on the budget. Over the most recent three years, 2002-03 to 2004-05, underlying cash surpluses have averaged 1¼ per cent of GDP, ½ per cent of GDP above the average over the previous five years. Moreover, the surplus is expected to be around 1½ per cent of GDP in 2005-06 and remain above 1 per cent of GDP over the forward estimates, even with our projected decline in commodity prices.

14 Samuelson (2004), points out that a productivity shock in one country - for example, associated with moving closer to the global production technology frontier - that improves productivity in an area in which other countries specialise, may lead to these countries' welfare being lowered. This is because the terms of trade move against the countries in which there has not been a productivity shock, reducing the gains from trade. Of course, despite the terms of trade also moving against the country that experiences the productivity boost, it still benefits from the increase in productivity and is better off.

Clearly fiscal policy is relatively tight – especially by international standards. Should it be tighter? Some think it should, because there is the potential for the terms-of-trade to fall sharply and for income growth to slow. As I have noted, we have already taken out some insurance for this eventuality through our projection assumptions. And while this insurance does not fully unwind the increase in commodity prices, it is substantial, with nominal GDP projected to grow at a rate a full percentage point below its longer term average.

But there are other metrics for ascertaining the suitability or otherwise of the stance of fiscal policy, and these relate to the behaviour of the real economy. Over the recent period, the real economy has been growing at around trend, with output close to full capacity. Furthermore, we have had no significant increase in inflation in this period – no rapid acceleration in prices – with little change in monetary policy settings. It is far from obvious that an alternative fiscal policy approach would have generated superior macroeconomic outcomes.

Some of the criticism of the fiscal strategy appears based on a couple of misconceptions. Let me quickly address those. Having a medium-term fiscal framework does not imply there will only be fiscal surpluses in the future even if the recent increase in commodity prices turns out to be persistent. Importantly, it also doesn't imply that there can never be deficits. And it does not presage the death of discretionary fiscal policy, as has been suggested by some commentators.¹⁵

I have observed here that Australia is in an enviable position to benefit from the global structural change associated with China's re-emergence. But China's re-emergence does not imply stronger real GDP growth. Potential real GDP growth is driven by the '3Ps' of 'population', 'participation' and 'productivity'. It remains the case that our potential growth rate will be lower in the future because of the impact on 'population' and 'participation' of the demographic changes I have spoken about on several other occasions. The unemployment rate is already at the level projected for the next 40 years in the 2002-03 *Intergenerational Report*. And productivity growth appears currently to be back to the long run trend rate projected in that document.

Far from providing grounds for complacency, China's re-emergence adds substantial weight to the case for implementing in full the Council of Australian Governments national reform package of productivity-enhancing structural reforms. While I have developed this argument on an assumption that the terms-of-trade stay well above historical average levels for a sustained period, the case is only stronger if the present commodity price boom turns out, after all, to be just another spike.

15 Garnaut (2005).

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How international investment income flows affect Australia's balance of payments

Jason Harris and John Hawkins¹

Major shifts in the global economy — such as rapid growth in global commodity prices associated with the emergence of China and other countries — are leading to changes in Australia's international income flows. This is attracting an increasing amount of attention as the net income deficit widens, following a long period of stability.

Higher corporate profits in Australia, notably in the mining sector, are an important cause of the widening in the deficit on international income flows, because a significant proportion of profits accrues to overseas investors. Nevertheless, strong recent investment, especially in the mining sector, will act to lift exports and GDP.

1 The authors are from Domestic Economy Division in the Australian Treasury. This article has benefited from comments and suggestions provided by Laurie Brown, Phil Garton, Michael Harvey, Steven Kennedy, Paul Mahoney, Martin Parkinson, Wendy Raedt and Lachlan Shaw. George Stanwix created the charts. The views in this article are those of the authors and not necessarily those of the Australian Treasury.

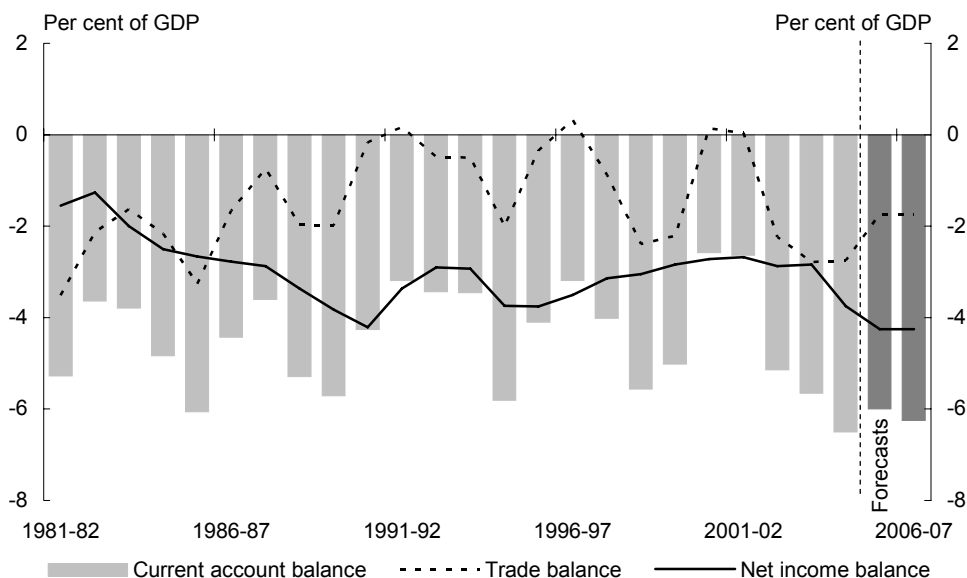
Introduction

Discussion of Australia's balance of payments usually concentrates on the trade balance – the difference between exports and imports of goods and services.² However, the deficit on income flows is now about twice the trade deficit. This paper discusses the nature of the net income balance and relates it to Australia's net international investment position and relevant yields on debt and equity.

Recent movements in the net income balance

Despite being larger than the trade deficit, over the last decade the net income balance has attracted less attention due to its relative stability. It has been the swings in the trade balance which have driven fluctuations in the current account balance (Chart 1).^{3,4}

Chart 1: Current account balance as a per cent of GDP



Source: Australian Bureau of Statistics cat. no. 5206.0 and Treasury.

2 Imports of goods are discussed in the *Economic Roundup*, Summer 2004-05, and resource exports in the Spring 2005 issue. Manufactures and services exports are the subject of submissions to parliamentary inquiries included in this issue of the *Economic Roundup*. Speeches on the current account and the terms of trade are in the Summer 2006 issue. The net income balance was previously discussed in the 2001 Centenary issue.

3 There is a third component of the current account balance: 'net transfers'. These include, for example, the Government's foreign aid programme and the donations made by Australians to tsunami victims. Net transfers are fairly stable and are less than 0.1 per cent of GDP.

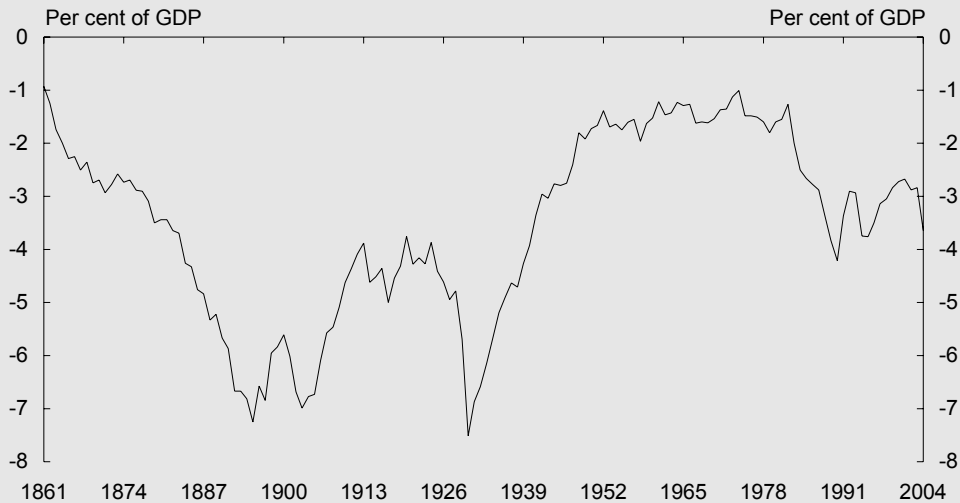
4 This article was completed prior to the release of the June quarter 2006 *Balance of Payments*.

But over the last two years, the net income balance has moved significantly further into deficit, by around 1 per cent of GDP. The budget forecasts that it will stay around this level in 2006-07 (Chart 1). The deficit on the net income balance is large by post-war standards but certainly not unprecedented in the historical record relative to the size of the economy (Box 1).⁵

Box 1: The net income balance in a historical context

Australia has had a current account deficit for nine years in every ten since European settlement. Since the current account deficit is equivalent to the gap between national saving and national investment, this historical experience suggests Australia has long had more investment opportunities than it has funded from domestic saving. By running deficits on the current account to exploit these opportunities, Australians have achieved a higher standard of living than otherwise would have been the case. As a consequence of these deficits, Australia has also accumulated a large net international liability position and a corresponding deficit on the net income balance.

Chart 2: Net income balance: per cent to GDP 1861 to 2004-05



Source: Derived from Butlin (1987), Loughheed (1987), and ABS cat. no. 5302.0 and 5206.0.

The majority of the recent increase can be attributed to large increases in mining company profits. The very strong growth in China's economy is contributing to a significant increase in demand for commodities. This has driven rises in the prices of a wide range of commodities, most notably from an Australian perspective those of coal

5 Arguably the first writer to estimate Australia's net income balance, and express concern about the size of the deficit, was fervent free trader and future senator Edward Pulsford (1892). The deficit was then much larger relative to the size of the economy (Chart 2).

and iron ore; see Grant, Hawkins and Shaw (2005). Accordingly, revenues of Australian mining companies have risen.

These increased revenues flow through the Australian economy in a number of ways. Wages increase for mining workers and suppliers receive higher prices. The State governments and the Australian Government receive higher tax receipts, through higher royalty payments and company taxes. The companies then pay out some of the after-tax profits to shareholders through dividends (or share buy-backs), and keep some of the profits on their books as undistributed earnings.

As foreign entities own a substantial proportion of these companies, a significant amount of the profits accrue offshore. So far, only a minority of these extra profits have been paid out to foreign shareholders. Table 1 shows that dividends paid overseas increased from \$8½ billion in 2004 to \$10 billion in 2005, whereas the share of profits retained in Australia increased from \$13 billion to \$17½ billion over the same period.

Table 1: Net income balance

	Credits		Debits		Net balance	
	2004	2005	2004	2005	2004	2005
	\$bn	\$bn	\$bn	\$bn	\$bn	\$bn
Income on equity	13.1	14.2	26.6	33.5	-13.5	-19.2
Direct investment: dividends and distributed profits	2.1	2.8	8.3	10.1	-6.2	-7.3
Direct investment: reinvested earnings	9.0	9.3	13.0	17.7	-4.0	-8.4
Portfolio income	2.0	2.1	5.3	5.8	-3.3	-3.7
Income on debt	3.2	3.8	17.1	19.0	-13.9	-15.2
Direct investment: income	0.0	-0.1	1.7	1.4	-1.7	-1.5
Portfolio income	3.2	3.9	15.4	17.6	-12.2	-13.7
Other investment income	1.8	2.2	2.2	3.1	-0.4	-0.9
Compensation of employees	1.1	1.2	1.7	1.8	-0.6	-0.6
Total	19.0	21.4	47.6	57.3	-28.6	-35.9

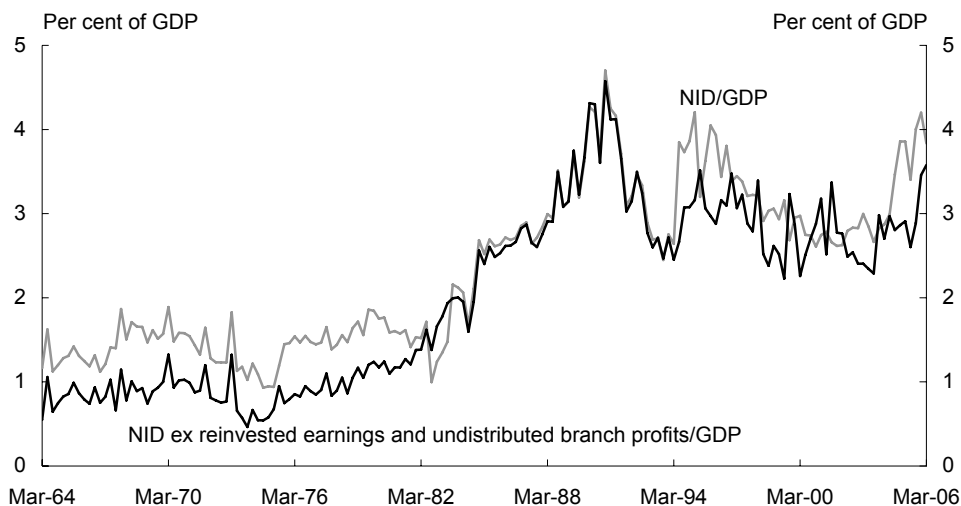
Source: Australian Bureau of Statistics cat. no. 5302.0, March quarter 2006.

However, even the profits retained within Australia are still often recorded as an income 'outflow' in the current account of the balance of payments. This is due to an accounting convention which treats the retained profits as though they had been sent overseas but immediately reinvested back into Australia. The offsetting 'capital inflow' is recorded in the financial account of the balance of payments. This convention

adopted by the Australian Bureau of Statistics is in line with the international practice as set out in the International Monetary Fund's *Balance of Payments Manual*.⁶

The quantitative importance of this accounting treatment is illustrated by Chart 3, which shows the net income balance as published, and excluding these retained profits. The gap widened substantially in late 2005. However, following large increases in dividend payments in early 2006, the gap has narrowed somewhat.

Chart 3: Net income deficit: as published and excluding retained profits



The components of the net income balance are shown in Table 1. For each type of income flow, the balance of payments records credits (flows accruing to Australians) and debits (flows accruing to overseas investors). Income flows are broadly classified into those relating to equity (shares) and those relating to debt securities (bonds, notes and money market instruments).⁷ They are further classified by the type of investment activity from which they arise: 'direct investment' (which involves a degree of control) and 'portfolio investment' (a more passive investment; see footnote 5).

6 To be more precise, how the undistributed earnings affect the net income balance depends on the degree of direct foreign ownership. For companies with direct foreign ownership of at least 10 per cent, a corresponding proportion of the undistributed earnings will be recorded as an outflow of income which is immediately reinvested in Australia. For an Australian company in which individual foreign entities own small stakes, a proportion of dividends (but not retained earnings) are included in 'portfolio investment income debits'.

7 There are two smaller categories of income: 'other investment income', and 'compensation of employees'. The former consists mainly of non-tradable loans by and deposits with banks, and trade credit provided by companies to their customers. The latter refers to income earned by expatriate workers on short-term assignments. An Australian working in a bar in London would contribute an income credit while a foreigner picking fruit in the Riverina would contribute an income debit.

Explaining movements in the net income balance

Understanding movements in the net income balance requires an examination of its individual components. The discussion in this section shows that, in Australia, the net income balance can be explained in terms of the stock of international assets and liabilities and the key variables which affect rates of return on them – equity yields, interest rates and the exchange rate.

This stands in contrast to the position in the United States. The United States presents an unusual case because, until recently, it apparently had a net income surplus despite having more external liabilities than assets. This implies that the yield earned by United States investors abroad is significantly higher than the yield earned by foreign investors in the United States. Hausmann and Sturzenegger (2005) suggest that United States foreign assets are understated by an amount they term 'dark matter', although their analysis has been challenged by Buiters (2006). See Garton (2006) for further discussion of the United States experience.

Income on equity

Australians have increasingly invested overseas to seek higher returns and/or diversify their portfolios. The main destinations (and so the main sources of income) have been the United States, the United Kingdom and New Zealand.

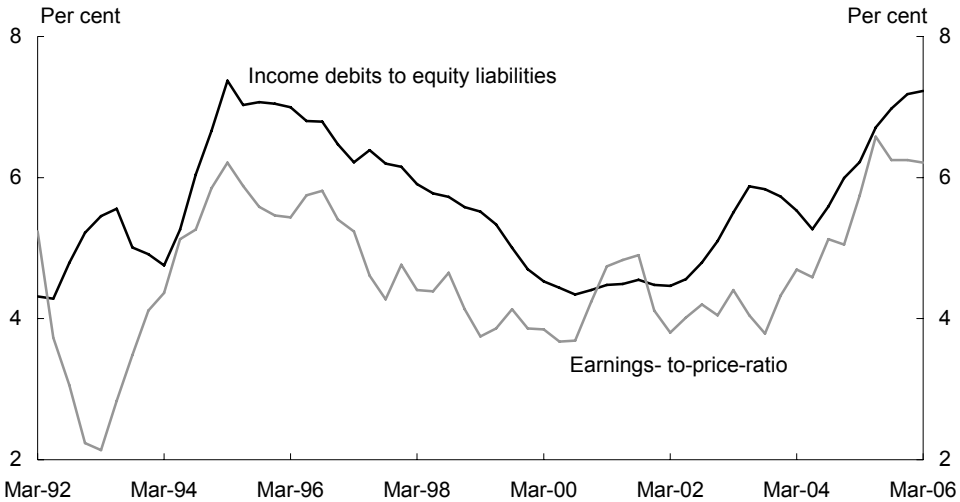
Changes in the income flows Australians receive on their overseas equity investments can be understood by comparing them with other measures of return on equity investments. An implicit average yield on Australia's equity investments overseas can be derived by dividing the \$14.2 billion income flow on equity received in 2005 (from Table 1) by the around \$400 billion stock of Australian equity investment abroad. The implied yield of around 3½ per cent sounds low but it does not include returns in the forms of valuation effects (capital gains) – these accrue to the stock of investment (and so affect the international investment position) but do not appear in the balance of payments (which is a measure of transactions). Reserve Bank of Australia (2006) discusses this issue further.

The Australian Bureau of Statistics data show that price changes added about 8 per cent to the stock of Australian equity investment abroad during 2005 (and exchange rate changes a further 1 per cent). This suggests a total return for Australian investors of around 12½ per cent in 2005, well above the implicit yield of 3½ per cent.

Similarly, overseas investors earn income on their equity investments in Australia. Dividing the \$33.5 billion in income paid on equity investment in Australia by the around \$470 billion in foreign equity investment in Australia gives a yield of around

7 per cent in 2005. In general, the yield foreign investors receive on their investments in Australia moves with measures of the overall yield on Australian assets (Chart 4).

Chart 4: Comparison of yields on foreign equity investment in Australia to earnings yield on Australian shares

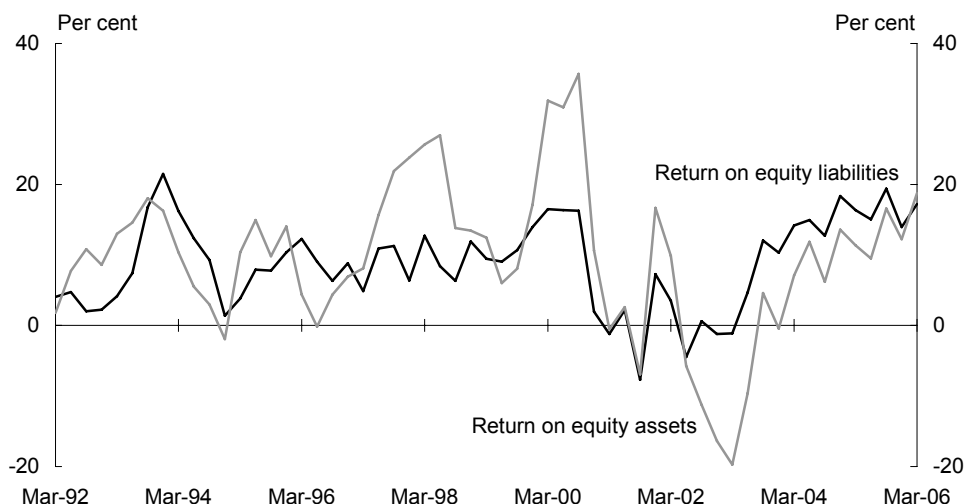


Source: Australian Bureau of Statistics cat. no. 5302.0; Reserve Bank of Australia.

Price changes added a further 6 per cent to this yield for foreign equity investors, bringing their total return (in Australian dollars) in 2005 to around 13 per cent. This is similar to the total return (also expressed in Australian dollars) earned by Australia on its equity investments overseas in the same year.

Over the past decade, the average rate of return on Australian holdings of foreign equities has been similar to the average annual rate of return of foreign holdings of Australian equities of around 8-9 per cent (Chart 5). Returns on overseas equities were particularly strong around 2000, and weak thereafter, due to the 'dot com' boom.

Chart 5: Comparison between returns on Australian and foreign equity



Source: Australian Bureau of Statistics cat. no. 5302.0.

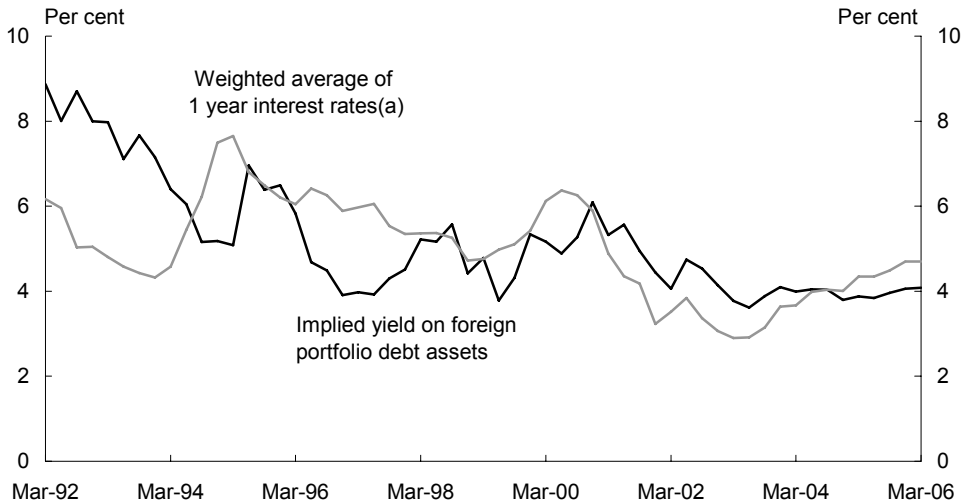
Income on debt

Australians earn interest on their holdings of foreign bonds and notes. Dividing the \$3.8 billion of portfolio income in 2005 by the around \$70 billion of these securities held implies an average yield of around 5½ per cent. Around a third of the securities are denominated in Australian dollars, around another third in US dollars and the remainder in various other currencies, of which the most important are the euro, sterling and yen. About half have a remaining maturity of under three months.⁸

Chart 6 compares the implied yield with a representative interest rate of 12-month bonds. Both have tended to come down over the past decade as lower inflation has become firmly established both in Australia and major overseas economies. The recent rise in global bond yields should gradually be reflected in increased average yields earned by Australian investors as old bonds mature and are replaced by those with higher yields.

⁸ Securities are classified by the time remaining to maturity, not the original maturity when issued. Hence a 10-year bond due to mature in less than a year is recorded as a short-term liability.

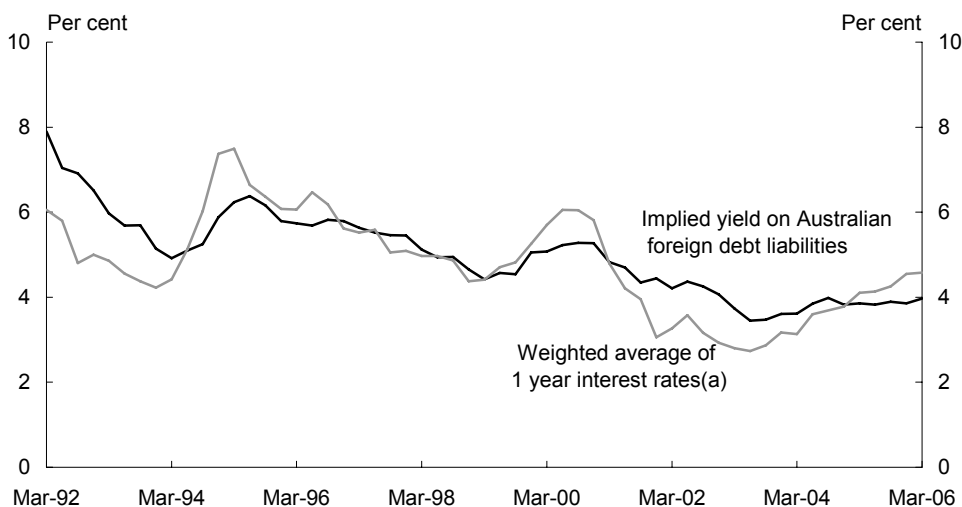
Chart 6: Implied yield on Australian holdings of foreign debt assets and a weighted average of 12-month bond yields



(a) Weighted according to approximate currency denomination of foreign debt assets.
Source: Australian Bureau of Statistics cat. no. 5302.0.

Australian entities have issued more debt securities overseas than they have purchased. Most of the securities have been issued by the banks. Battellino (2002) observes that individual issues of offshore debt securities tend to be larger than domestic issues and the average credit quality is lower. Dividing the \$19 billion of income paid out in 2005 by the around \$440 billion of foreign debt securities on issue gives an average yield of around 4½ per cent. Chart 7 shows the implied average yield follows the representative interest rates on 12-month bonds. It is therefore likely to rise over coming quarters, tending to widen the net income deficit.

Chart 7: Implied yield on Australia's foreign debt liabilities and a weighted average of 12-month bond yields



(a) Weighted according to currency denomination of foreign debt liabilities.

Source: Australian Bureau of Statistics cat. no. 5302.0.

Exchange rate effects

As the value of Australia's foreign liabilities is significantly higher than the value of its foreign assets, one might expect a depreciation of the exchange rate to increase the value of Australia's net foreign liability position. This would also increase the Australian dollar value of payments to foreigners, resulting in an increase in the net income deficit.

Many developing countries have been vulnerable to large depreciations of their currency, because their foreign debt is entirely denominated in foreign currency. The inability to issue offshore in the domestic currency, termed 'original sin' by Eichengreen and Hausmann (1999), risks a vicious cycle of currency depreciations worsening the net income balance and leading to further depreciation.

However, because of the currency composition of foreign assets and liabilities, this is *not* the case in Australia. Almost 40 per cent of the debt securities issued by Australian entities are denominated in Australian dollars. About a third is denominated in US dollars with the remaining quarter spread among various other currencies, of which the most important are the euro, pound sterling and yen. In addition, all of Australia's equity liabilities are denominated in Australian dollars.

The vast majority of Australia's foreign assets are denominated in foreign currency. So despite the fact that Australia's external liabilities exceed external assets, *foreign currency* liabilities are actually *less* than foreign currency assets. In addition much of

Australia's foreign currency exposure is hedged by financial instruments (see Box 2), further increasing Australia's 'long' position on foreign currency (Chart 8). (In the balance of payments, the net income balance is based on the original denomination of the borrowing with offsetting derivative positions being reflected in the financial account. Hedging does *not* affect the net income balance.)

This implies that a currency depreciation would lead to a larger rise in the value of foreign currency assets than foreign currency liabilities. The initial impact of a depreciation would probably therefore be to *reduce* Australia's net external liabilities, in contrast to countries that have faced economic crises, and to Australia's position in the mid-1980s. It would probably also reduce Australia's net income deficit.

Interest rate effects

The value of both income receipts on debt assets and income payments on debt liabilities will vary with movements in interest rates. As Australia's debt liabilities exceed debt assets, the net effect of an increase in interest rates will be to widen the net income deficit.⁹

The accounting treatment implies that an increase in overseas interest rates will affect the net income balance even if Australian borrowers are all fully hedged. In this case the borrowers will effectively pay Australian interest rates but the balance of payments will record the payments based on international interest rates with the offsetting hedge being reflected in valuation effects. See Reserve Bank of Australia (2006) for a further discussion.

9 This is the initial impact. Beyond that, interest rate movements will affect Australia's demand for imports and the world's demand for our exports, altering the trade deficit; and the exchange rate may respond to changes in relative interest rates. The resultant impact on the current account will affect the stock of foreign debt liabilities and hence the net income balance.

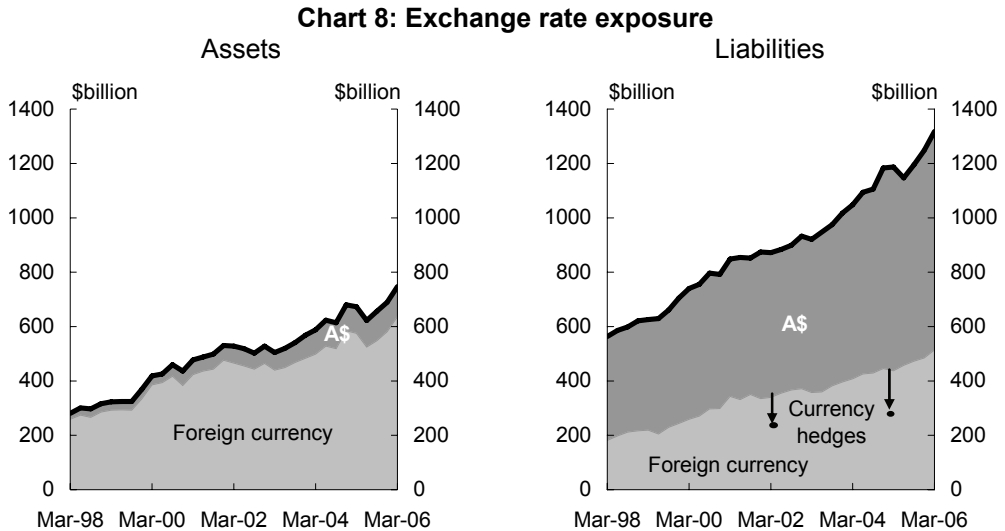
Box 2: Hedging Australia's external liabilities

Since the floating of the exchange rate in 1983, Australian companies that trade with the rest of the world have been subject to more exchange rate risk. And the deregulation of the financial markets over the 1980s increasingly allowed firms to borrow and lend in foreign currency, further increasing foreign currency exposure.

Many companies are naturally hedged due to their revenue streams. For example, a company may have borrowed in yen to develop a mine but have presold the ore to a Japanese company at a set price also in yen. If the Australian dollar depreciates, the company faces higher interest costs (increasing the net income deficit) but this is offset by higher revenues from its exports (decreasing the trade deficit).

Furthermore, many Australian borrowers have hedged their exposure using financial derivatives such as swaps, futures and options. The ABS has twice collected data on this hedging activity, in June 2001 and March 2005; see ABS (2001, 2005) and the discussion in Reserve Bank of Australia (2002, 2005, 2006). The surveys show that Australian borrowers in the financial sector hedged 93 per cent of their foreign currency debt in 2001 and 85 per cent in 2005. Other borrowers used financial instruments to hedge 38 per cent of their foreign currency debt in 2001 and 46 per cent in 2005. Financial hedges may not cover the full term of the underlying debt exposure, as derivatives markets become thinner at longer maturities.

The net effect of the bought (\$1.8 trillion) and sold (\$1.7 trillion) derivative contract values was a hedging of \$122 billion of Australia's foreign currency exposure in March 2005. Combining this with the fact that Australia holds more foreign currency assets than liabilities (\$140 billion), the economy has an even larger long foreign currency position, about \$260 billion in March 2005. It had a similar position in June 2001 (as illustrated by the arrows in Chart 8).



Concluding remarks

Net income flows often provide a partial offset to movements in the trade balance. For example, they tend to subtract more from the current account balance when export prices boom, but subtract less should export prices ease back. The net income balance is related to the net international liabilities cumulating from successive current account deficits. It also reflects the rates of return earned by Australians on equity investments abroad and by foreigners on equity investments in Australia; although over the longer run these rates of return tend to be similar.

The exceptionally strong levels of business investment in recent years, particularly in the mining sector, are likely to generate further mining export sales and increased profits for many years. While this will act to narrow the trade deficit, it will likely act to widen Australia's net income deficit in the next few years. On the other hand, commodity prices could at some stage decline, which would tend to widen the trade deficit but narrow the net income deficit.

While in many ways today's net income deficit is a reflection of strong profitability in Australia rather than any weakness, it is appropriate to monitor it and particularly to understand the causes of any movements.

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Australia's manufactures exports

Treasury submission to House of Representatives Economics, Finance and Public Administration Committee public inquiry

August 2006

Exports of manufactures grew rapidly over the 1980s and 1990s as Australian manufacturers adopted a more global outlook. Growth faltered in the period around the global slowdown in 2001 and has since been adversely affected by the appreciating exchange rate from 2002 to 2004, and by regional competitors increasingly producing more sophisticated goods. Exports of manufactures picked up somewhat from 2004, as the exchange rate stabilised, and export growth continues.

Australians are benefiting from some of the same structural changes in global trade that may have led to slower growth in Australian exports of manufactures. In particular, cheaper imports, in part reflecting rapid industrialisation in China, have substantially increased the spending power of Australian households, contributing to higher living standards than otherwise would have been the case.

While Australia's own history shows that attempts to 'protect' the domestic manufacturing industry are counterproductive, the Government helps Australian manufacturers by providing a sound macroeconomic and institutional environment, through direct assistance and by specific assistance in seeking out export markets.

Introduction

Australia's exports of manufactures amounted to around \$37 billion in 2005, or 4 per cent of GDP.¹ They accounted for around a fifth of the value of Australia's total exports of goods and services.² While more than 9,000 manufacturing companies are exporters, over 90 per cent of exports come from the largest 1,300 of these companies.³ Unlike resource exports, which are disproportionately produced in Queensland and Western Australia, the main sources of manufactures exports are the most populous states of New South Wales and Victoria.

Australia exports a diverse range of manufactures. They include around \$10 billion (in 2005) of iron, steel and other metals, \$7½ billion of various types of machinery, \$5½ billion of transport equipment, \$3 billion of medicines and pharmaceuticals, and \$1½ billion of professional and scientific instruments. Table 1 summarises Australian manufactures exports by type, input intensity, and end-use.

The major markets for Australian manufactures are Asia (42 per cent, including 9 per cent to China and Hong Kong, and 7 per cent to Japan), New Zealand (17 per cent), North America (13 per cent) and Europe (12 per cent), with motor vehicle sales to the Middle East also important. There are significant differences by product, with the more resource-based manufactures going mostly to Asia and the more sophisticated products to Europe, the United States, the Middle East and New Zealand.

Chart 1 places the recent performance of the manufacturing sector, and its role in the Australian economy, into a longer term perspective. As in many advanced economies, the share of manufacturing peaked around the middle of the 20th century. Similarly, (abstracting from war-related disruptions to trade) manufactures rose as a proportion of total exports in the first half of the twentieth century and have tended to become a smaller proportion since, except for the period around the late 1980s and early 1990s when there was rapid growth in Australia's manufactures exports (Table 1), for reasons discussed later in the paper.

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- 1 In this paper, 'manufactures' is taken to include Standard International Trade Classification sections 5, 6, 7 and 8. It therefore excludes divisions which some authors include as manufactures, such as sugar and beverages.
 - 2 For a short history of Australia's manufacturing industry, see ABS (2001). For a more detailed analysis of recent trends, see Productivity Commission (2003). For short analyses of all Australian exports, see Coppel and McLean (2002), Australian Bureau of Statistics (2004) and Rees (2004).
 - 3 Exporters are defined as companies exporting more than \$10,000 worth of goods per annum. In addition to those manufactures exported directly by manufacturing companies, significant amounts were exported by the wholesale trade industry and some semi-processed materials were exported by the mining industry; Australian Bureau of Statistics (2004).

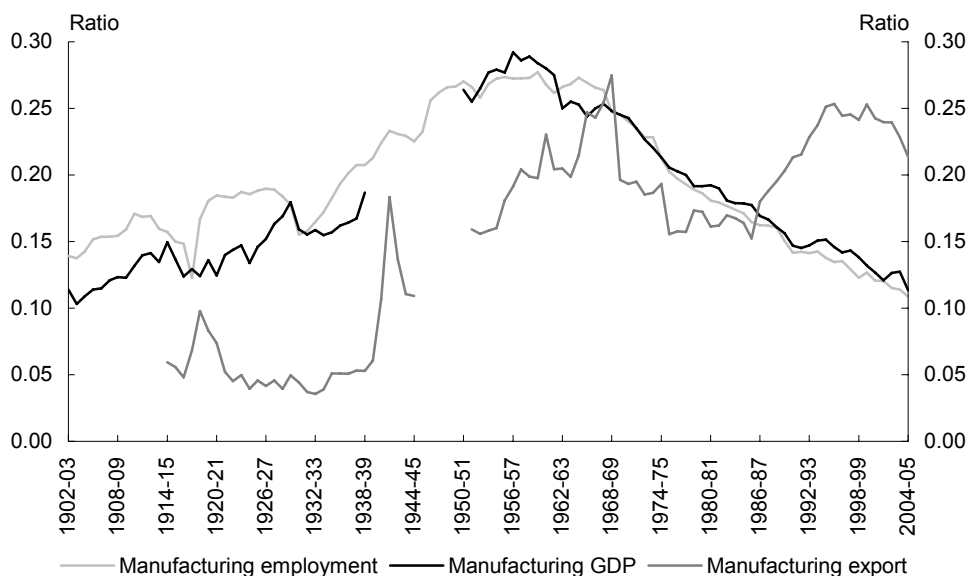
Table 1: Australia's exports of manufactures
(average annual percentage change; chain volume measure)

	1986 to 1994	1994 to 2000	2000 to 2005	(Per cent of total 2005)
By type				
Machinery	15	7	2	(22)
Metals	8	5	-3	(24)
Transport equipment	8	14	4	(16)
Medicine and pharmaceuticals	19	20	6	(9)
Scientific and photographic equipment	12	16	3	(5)
Other	15	5	3	(23)
By input-intensity				
Agricultural	14	8	1	(4)
Resources-intensive	9	5	-3	(26)
Labour-intensive	13	4	3	(28)
Mixed	12	11	6	(26)
Sophisticated	18	17	2	(17)
By use				
Consumer goods	15	13	3	(35)
Capital goods	12	6	4	(28)
Materials	10	5	-2	(37)
Total	12	9	2	(100)

Categories are defined on page 87.

Sources: derived from data supplied by Australian Bureau of Statistics.

Chart 1: Australia's manufacturing sector: proportion of total



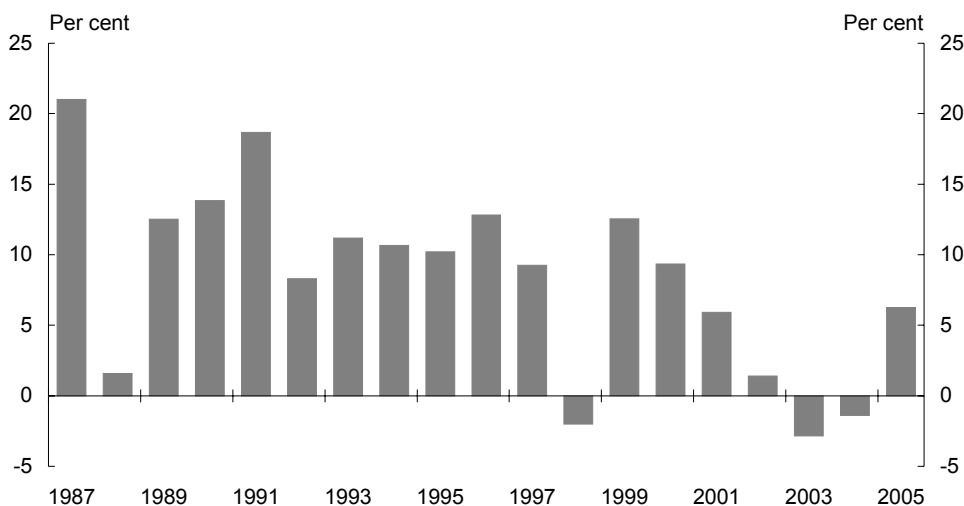
Source: Australian Bureau of Statistics, Reserve Bank of Australia and Bulletin (1962).

Recent trends in manufactures exports

Australia's exports of manufactures have grown at an annual rate of about 8 per cent in volume terms since the mid-1980s. However, there have been some noticeable fluctuations in growth rates over these years (Table 1 and Chart 2).

Manufactures exports grew very strongly in the late 1980s and most of the 1990s, but slowed markedly in the new millennium. Table 1 shows that the slowdown was evident in most types of manufactures. Exports of manufactures picked up in 2005, as the exchange rate stabilised and growth is forecast to continue.

Chart 2: Australia's exports of manufactures
(Annual percentage change; chain volume measure)



Source: Australian Bureau of Statistics.

Factors influencing manufactures exports

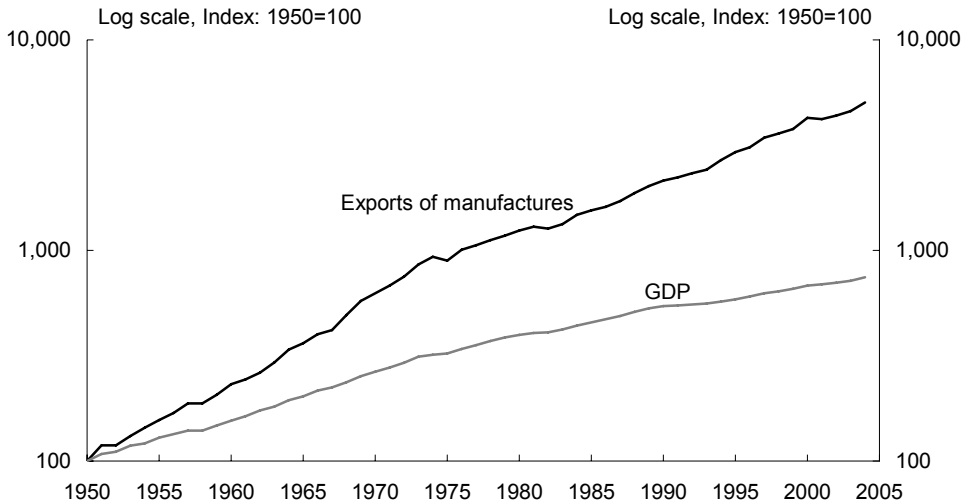
Determinants of export performance include global activity, competitiveness, structural changes and attitudinal developments. The following sections describe developments in each of these factors and reflect on their relative significance in explaining changes in exports of manufactures.

Global economic activity

Over the longer term, world trade volumes have grown considerably faster than world GDP (Chart 3 and Table 2). This is partly a consequence of the demand for variety rising more than proportionately as per capita incomes rise. It also reflects ongoing progress in removing barriers to trade; reductions in transport costs; and greater productivity growth in the tradeable than non-tradeable sector and hence the tendency

for traded goods to become relatively cheaper over time; (see, for example, Dean and Sebastia-Barriel (2004)). Recently, the increase in world exports has been driven by the growth of the Chinese economy and its increasing integration with the global economy. Henry (2006; see pages 39-58 of this issue of the *Economic Roundup*) provides more detail on these developments and their implications for the Australian economy.

Chart 3: World GDP and exports of manufactures



Source: World Trade Organization (2005).

Economic activity in Australia's trading partners (Table 2) cannot explain much of either the growth spurt in Australia's manufactures exports from the mid-1980s or the slowdown since 2000.⁴ Exports of manufactures did pick up globally from the late 1980s to around 2000, and subsequently slowed, but the fluctuations were unusually marked in Australia.

⁴ A more rigorous analysis requires information on the size of the income elasticity of demand for Australia's exports of manufactures. The income elasticity for Australia's imports (which are mostly manufactures) is around 1.2; Dark and Hawkins (2005). Estimates of income elasticities for exports in the G7 economies are mostly between 1 and 2.

Table 2: Exports of manufactures and global activity
(Average annual percentage change in real terms)

	1974 to 1986	1986 to 1994	1994 to 2000	2000 to 2005
World GDP	3½	3¼	4	4
GDP of Australia's major trading partners	4¼	4¾	3¾	3½
World production of manufactures	2¾	2	4½	2¼(b)
World exports of manufactures	4¾	6½	8	4¼(b)
Australia's exports of manufactures	3½(a)	12	8½	1¾

(a) Financial years 1974-75 to 1985-86.

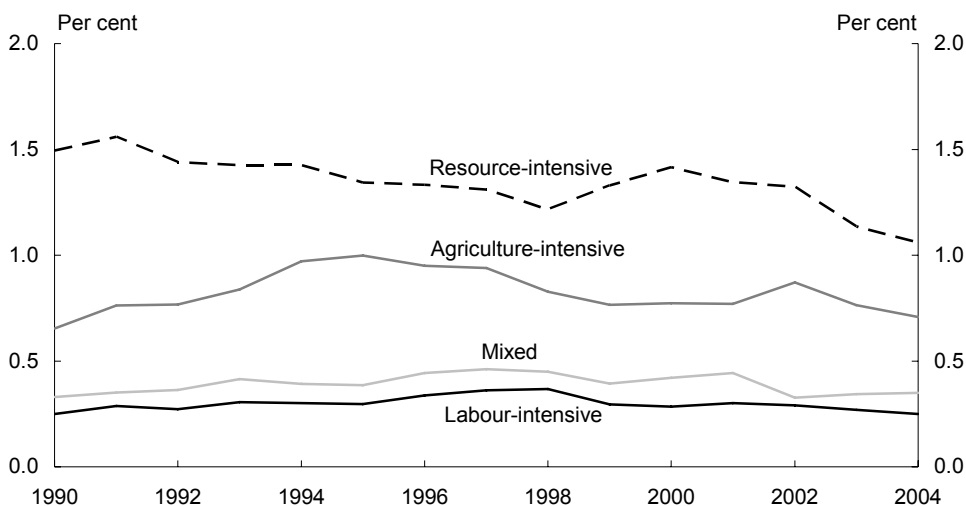
(b) 2000 to 2004.

Sources: Australian Bureau of Statistics, World Trade Organization (2005), Treasury estimates.

Australia's market share

Trends in Australia's share of the global market for various types of internationally traded manufactures are illustrated in Chart 4.⁵ Reflecting Australia's comparative advantages, our share of world trade in resource-based manufactures is much higher than our share of world trade in labour-intensive manufactures.

Chart 4: Global market share of Australian exports of manufactures



Source: derived from US dollar values of exports from United Nations Commodity Trade Statistics Database. The chart shows Australia's exports as a share of global exports for the categories described.

In line with the growth surge of Australian manufactures exports through the 1980s and 1990s, Australia's market share in labour-intensive manufactures reached a peak in 1997 while for resource-intensive manufactures the recent peak was reached in 2000.

5 Therefore, the line marked 'resources-intensive' shows Australia's exports of these types of exports divided by the global exports of resource-intensive exports. Chart 3 is based on US dollar values of exports, not the volume data primarily used elsewhere in this paper.

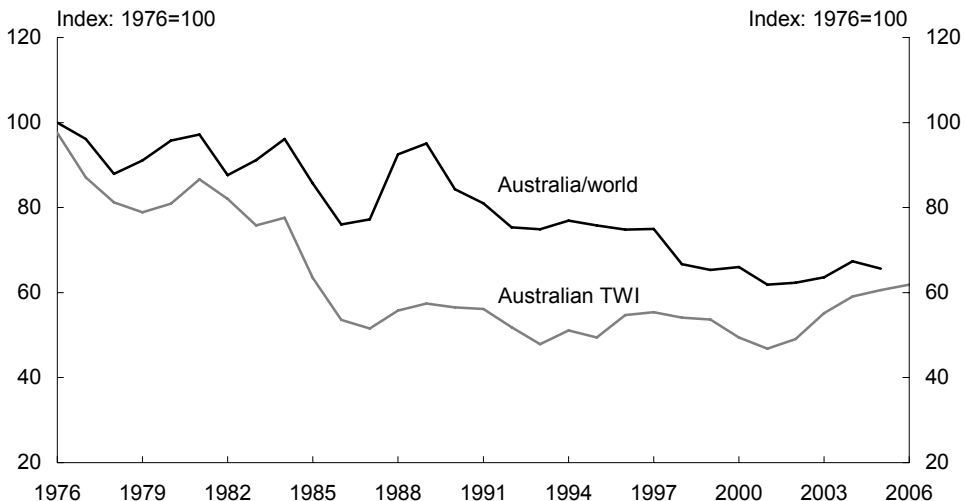
Since then, the emergence of Asian producers, notably China, combined with a slowdown in Australian exports of manufactures, has resulted in a declining market share for most categories of exports.

Relative prices

The price of Australian manufactures exports relative to the prices of world manufactures exports will also affect Australian export performance. The ratio of the 'world price' of Australian exports of manufactures to that of global exports of manufactures is shown in Chart 5 (along with the trade-weighted exchange rate).⁶

The measure of world manufactures prices used in Chart 5 has increased recently — which might signal an end to the downward trend in Australia's relative price. However, this may be misleading as an indicator of Australian manufacturers' competitiveness. The prices that have increased most are those of basic manufactures, notably iron and steel, whereas Australia's manufactures are mostly more sophisticated products.

Chart 5: Relative price of exports of manufactures



2005 observation for relative price is Treasury estimate.

2006 observation for the TWI assumes it is unchanged over the second half of the year.

Sources: World Trade Organization and Australian Bureau of Statistics.

The other major influence on the relative price has been movements in Australia's exchange rate. The significant appreciation of the Australian dollar between

6 Chart 5 shows the relative price that affects the demand for Australian exports. There may also be a role for another relative price that affects the supply of exports. This could be constructed as the price of Australian exports relative to domestic costs. However, when Bullock, Grenville and Heenan (1993) ran regressions for Australian exports of manufactures with both relative price terms, they found that the latter relative price was insignificant.

August 2002 and March 2004 eroded the competitiveness of Australian manufacturers; those producing goods with close substitutes made overseas were forced either to cut prices or accept lower export sales. More recently, the currency has stabilised and manufacturers have been able to adjust to the higher level. This is likely to have contributed to the recovery in growth in exports of manufactures in 2005.

The extent to which currency fluctuations or relative price movements affect the demand for Australia's exports depends on the size of the price elasticity. In Treasury's economy-wide model, TRYM, the price elasticity for Australia's non-commodity exports is estimated at only -0.2 in the short run but almost -2 in the long run — that is, in the long run a 10 per cent increase in relative prices leads to a 20 per cent decrease in export volumes.⁷ On the other hand, a recent IMF (2004) study was unable to detect any influence on Australia's non-commodity exports from the real exchange rate over 1984-2002.⁸

One cause of the recent appreciation was the strong growth in the prices of coal and iron ore, and the strong prospects for the resources sector. It is generally acknowledged that a real appreciation resulting from a resources boom can reinforce the slowing of exports of manufactures, a phenomenon known in Australia as the 'Gregory thesis' (after Gregory 1976) or, elsewhere, as the 'Dutch disease'. As well as the exchange rate effect, booming resources sectors may sometimes bid up wages, further eroding the international competitiveness of domestic manufacturers.

Greater sophistication of Asian competitors

While Australia's exports of more complex manufactures are growing faster than, for example, exports of simple metal products, almost all types of exports of manufactures have slowed significantly (Table 1). The slowing in exports of complex manufactures is consistent with rival producers, notably in Asia, becoming increasingly able competitors. This argument has been mentioned by manufacturing industry spokespeople, who note the growing integration of Chinese manufacturers within Asian supply chains (Ridout 2004).

7 Dark and Hawkins (2005) conclude that the price elasticity of Australia's demand for imports, which are mostly manufactures, is around $-3/4$.

8 De Roos and Russell (2002) also find no significant price effect, which they suggest could be due to difficulties in distinguishing supply and demand effects.

Manufacturers became exporters in the late 1980s and early 1990s

From the mid-1980s, there was a cultural change among Australian manufacturers — a growing belief in 'internationalisation'. A 'new breed' of manufacturers adopted a more outward outlook, and increased the proportion of production they exported.⁹ There were a number of factors behind this change in attitude.

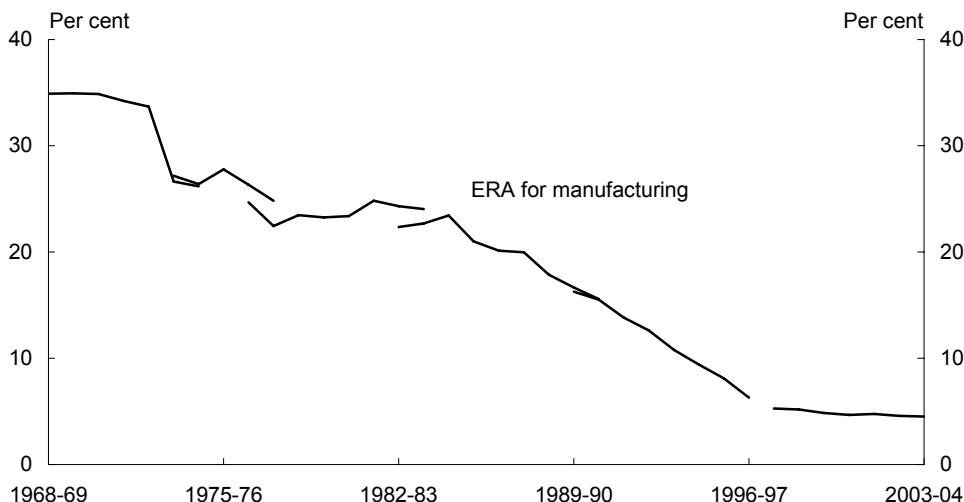
Since the mid-1980s, manufacturing production volumes have grown at an average annual rate of below 2 per cent. In contrast, the export volumes of manufactures grew at an annual average rate of around 11 per cent from the mid-1980s to the turn of the century. This shift was broad-based, with many parts of the manufacturing industry experiencing exceptional growth in their exports during this period — as shown in Chart 1 and Table 1. It seems likely that at least part of the slowdown in manufactures exports since 2000 has been a result of this adjustment coming (inevitably) to an end.

The sharp depreciation of the currency soon after it was floated in 1983 (Chart 5 above) made potential exporters suddenly more competitive, and may have encouraged them to pay the fixed costs necessary to enter export markets. There were 'demonstration effects' as newly successful exporters encouraged others to enter export markets. There may also have been a 'vanguard effect' whereby exporters entering new markets (establishing a 'beachhead') made it easier for others to follow, such as by sharing their experiences.

The drive into export markets was also spurred by cuts in tariffs, both in Australia and in potential export markets. The average effective rate of assistance for manufacturing in Australia fell from 35 per cent in the late 1960s to under 5 per cent now (Chart 6) with further falls over coming years in train.

9 The term 'new breed' is used in Australian Industry Group (2006). See Bullock, Grenville and Heenan (1993) and Menzies and Heenan (1993) for further discussion of this change. The latter paper reports a structural break in the mid-1980s in econometric analysis of Australia's exports of manufactures.

Chart 6: Effective rates of assistance for Australian manufacturing



Source: Dolman, Lu and Rahman (2006).

It was also probably helped by financial deregulation which made it easier for firms to borrow to expand overseas, and to manage the resultant currency exposures. The slower growth in real unit labour costs in the late 1980s and early 1990s, and the increased flexibility in labour markets, may also have contributed.

Government support for manufactures exporters

Government can establish a positive business environment, including for manufactures exporters, by:

- ensuring the economy's fundamentals are conducive to ongoing investment through the application of sound macroeconomic and microeconomic policy;
- removing unnecessary impediments to business activity such as inefficient government processes or excessive regulation;
- encouraging human capital formation through the right wage and price signals; and
- encouraging the pursuit of productivity gains from increasing competition in traded and non-traded sectors.

This helps underpin a low inflation, low interest rate, high economic growth environment and enhances national productivity performance, giving business a sound basis on which to plan expansions into export markets. Furthermore, Australia's pursuit of trade liberalisation (refer Chart 6) and lower global tariffs provides

manufactures exporters with better access to overseas markets and reduces the cost of their inputs.

In some cases, where there are clear benefits to the economy from specific government intervention, it may be appropriate to implement: measures to align the private and social benefits or costs of a given activity; measures to address market rigidities and transitional costs as resources move to alternative uses; and measures to improve information available to market participants. The most effective initiatives are those that are broad-based, thereby limiting market distortions and allowing individual firms to select the most profitable investments.

There continues to be specific support provided to Australian manufacturers in seeking out new export markets. Austrade, the Government's trade promotion agency, reduces the time, cost and risks involved in choosing, entering and developing international markets. It provides practical advice and information on potential export opportunities and how these can be realised. In 2004-05, Austrade assisted over 4,000 clients to achieve export deals valued at \$18.4 billion. It also provides financial assistance to small and medium enterprises through the Export Market Development Grants programme. On 24 January 2006, the Government announced that this programme would be extended for another five years until mid-2011.

The Export Finance and Insurance Corporation facilitates Australian exports by providing finance and insurance services to Australian exporters and their financiers. It operates in 'gaps' in the market by supporting transactions that the private insurance sector does not have the capacity or willingness to support due to excessive political or commercial risk.

There are also some industry-specific measures for manufacturers. On 13 December 2002, the Government announced a \$4.2 billion extension to the Automotive Competitiveness and Investment Scheme. The scheme encourages strategic investment and research and development in the Australian automotive industry and the establishment of links between Australian producers and the global industry. The Government also provides a package of assistance measures for the textile, clothing and footwear industry valued at \$747 million, a significant proportion of which is intended to promote investment and innovation as a means of increasing the productivity and competitiveness of industry participants.

The Government has put in place measures to ensure that import tariffs do not disadvantage Australian exporters. The Duty Drawback Scheme reduces costs for exporters by around \$120 million per annum by allowing exporters to claim a refund on duty paid on imported goods when those goods are used as inputs for exported products or exported themselves. In addition, the Tradex Scheme provides up-front exemptions, worth \$93 million in 2004-05, from duty and GST on imported goods that

are intended for export or used in the manufacture of other goods exported later on. Furthermore, in the 2005-06 Budget, the Government reduced costs for affected businesses by \$1.3 billion over five years by removing the 3 per cent tariff on business inputs where no substitutable goods are manufactured in Australia. By reducing costs, these measures improve the ability of Australian exporters to compete in international markets. The Government's recent improvement to Australia's depreciation regime, increasing the diminishing value rate to 200 per cent, increases incentives for Australian businesses to invest in new plant and equipment. In total, the Productivity Commission (2006) estimates government assistance to manufacturing at \$1.8 billion in 2004-05, accounting for the largest proportion (at 42 per cent) of total Australian assistance to industry.

Current policy pressures

Australians are benefiting from the recent structural changes in the global economy. In particular, cheaper imports of consumer goods, in part reflecting rapid industrialisation in China, have substantially increased the spending power of Australian households, contributing to higher living standards than otherwise would have been the case. Furthermore, Australian manufacturers are able to buy some types of equipment more cheaply as a result of China producing them. Australian shareholders in resource companies, including many working Australians who indirectly hold shares through their superannuation funds, are earning higher incomes which when spent will benefit Australian manufacturers and service providers. Australians benefit from the services funded by increased tax collected from higher levels of economic activity associated with the resources boom.

However, these same global changes may have led to slower growth in Australian exports of manufactures. They are likely to result in some restructuring of the economy towards areas of comparative advantage, such as the resources sector. To take advantage of new opportunities and the prospect of higher returns, firms, investors and workers will reallocate resources.

This process of restructuring will take time, however, and in the short term, social and economic costs may motivate pressure for government intervention. There are many economic studies finding that structural adjustment support works best if it is targeted to the welfare of individuals rather than the protection of jobs or industries; for example, Blanchard (2005). Effectively targeted measures (such as retraining programmes or relocation assistance) that enhance individuals' capacity to adjust to economic changes can be beneficial.

By contrast, measures such as tariffs or subsidies, which protect firms that can no longer generate an economic return, and impede the transition process, will provide

only short-term benefit to manufacturers while leading to higher prices for all businesses and consumers and long-term inefficiencies and rigidities, lowering standards of living.

Moreover, international trade agreements to which Australia is a party limit our capacity to increase tariffs unilaterally or subsidise manufactures exports. As part of our commitments to the World Trade Organization (WTO), Australia has agreed to limit the maximum level for almost all of its tariffs in return for similar commitments from other WTO members. In addition, subsidies for non-agricultural goods that are specifically designed to encourage exports or favour the use of domestic over imported inputs are prohibited under WTO rules. Australia's free trade agreements also limit our capacity to impose tariffs on goods imported from several major trading partners. In return, however, Australian exporters benefit from greater access to overseas markets.

There are concerns expressed that the resources boom may be short-lived. And once a factory is shifted overseas, or a contract lost, it may be difficult to expand manufactures or other non-resource exports again even if, after the resources boom fades, the exchange rate appreciation is reversed. However, governments are no better placed than firms and investors, responding to signals in the market, to determine whether a shock is temporary. Instead, the government can more effectively help the economy achieve its productive potential by allowing the market to operate unimpeded and allow resources to flow to their most efficient use. This will achieve improved productivity, economic growth and expanded national income in the long term.

To this end, implementation of the reforms to infrastructure, human capital, regulation and competition under the Council of Australian Governments' National Reform Agenda will support the business environment. Together with reforms to labour and product markets and the continuation of responsible fiscal management and the pursuit of trade liberalisation by the Government, these policies will improve the flexibility of the domestic economy and ensure its continued strong performance.

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Annex on data

The classifications used in Table 1 are based on Standard International Trade Classification divisions as follows; Machinery is divisions 71-77; Metals is 67-69; Transport equipment is 78 and 79; Medicine & pharmaceuticals is 54; Scientific and photographic equipment is 87 and 88; Other is 51-53, 55-59, 61-66, 81-85 and 89; Agricultural is 61, 63 and 64; Resource-intensive is 52 and 66-68; Labour-intensive is 57, 58, 65, 69, 71-74, 77, 81-85 and 89; Mixed is 51, 53, 55, 56, 59, 62, 75, 78 and 79; Sophisticated is 54, 76, 87 and 88; Consumer goods is 54, 55, 62, 69, 76, 78, 81-85, 88 and 89; Capital goods is 71-75, 77, 79 and 87; and Materials is 51-53, 56-59, 61 and 63-68.

Different definitions had to be used in Chart 4, as some SITC divisions were unavailable for the world. Labour-intensive is defined as divisions 69, 71-79 and 81-89. Agriculture-intensive is divisions 61 and 63 and resource-intensive is 64 and 66-68.

Australia's services exports

Treasury submission to House of Representatives Economics, Finance and Public Administration Committee public inquiry

August 2006

Exports of services have slowed recently, partly reflecting the adverse effects of the exchange rate appreciation in 2002-2004. Tourism-related service exporters suffered from the blows to the confidence of travellers from terrorist attacks and SARS, and are currently being challenged by lower costs of travelling to competing destinations and an emerging preference for shorter journeys. Education exporters are facing a more competitive market.

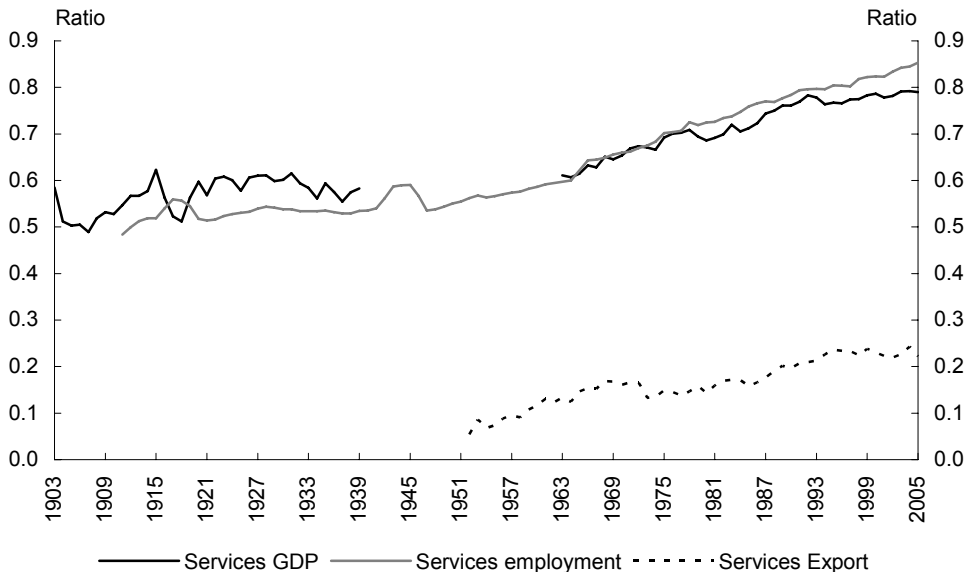
Australia's exporters of services receive government support through the provision of direct financial assistance and the promotion of Australia as a destination, as well as the supply of market intelligence and representation in international forums.

Introduction

Australia exported services worth around \$37 billion in 2005, which contributed around 4 per cent to GDP. Australia's service exports are larger than rural exports, and of a similar size to manufactures exports. The main service exports are services to tourists in Australia (around \$11 billion in 2005), passenger transport (\$7½ billion), education (\$7 billion), and financial and insurance services (\$1½ billion). A variety of other business services are also collectively significant (\$4 billion). Our main markets have long been the United States, Japan and the United Kingdom, but China has been growing in importance and is now the fifth largest market (with New Zealand fourth) for Australia's service exports.

Over the longer term, services have been comprising an increasing share of Australian exports, just as they are an increasing share of total domestic production and employment (Chart 1). However, as many services such as haircuts and restaurant meals are not traded, the share of services in exports is lower than their overall importance in the economy. This is consistent with the pattern seen in other advanced economies. Service exports increased their share of OECD exports from under 20 per cent to almost 22 per cent between 1983 and 2003 (Pain and van Welsum 2004).

Chart 1: Australia's services sector; proportion of total



Source: Australian Bureau of Statistics; Butlin (1962).

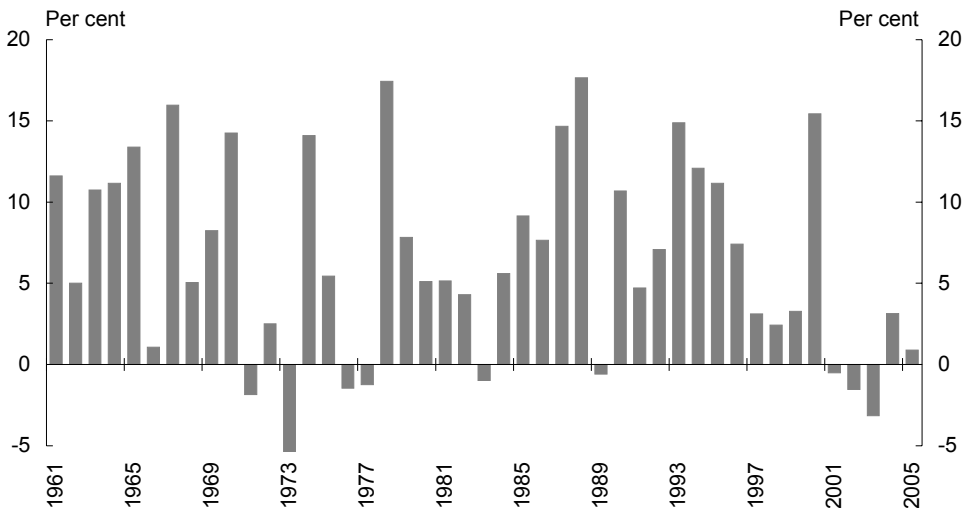
It should be noted that the statistics used in this submission only cover services 'exported' from Australia. They therefore exclude an important mode by which Australian firms and individuals provide services to foreigners, which is through

Australian firms establishing subsidiary commercial presences (or franchises) in foreign countries (McLachlan, Clark and Monday 2002).¹ Furthermore, the statistics on exports of services do not include domestic services embedded in the value of exported goods (perhaps accounting for one-fifth of their value).

What are the recent trends in services exports?

Growth in Australia's exports of services has slowed over the past decade, abstracting from the spike and subsequent unwind associated with the 2000 Sydney Olympics and September 11 terrorist attacks (Charts 2 and 3). This has occurred despite improved technology and communications, and deregulation of markets, making many services increasingly tradeable (McLachlan, Clark and Monday 2002).

Chart 2: Australia's exports of services
(Chain volume measure; annual percentage change)

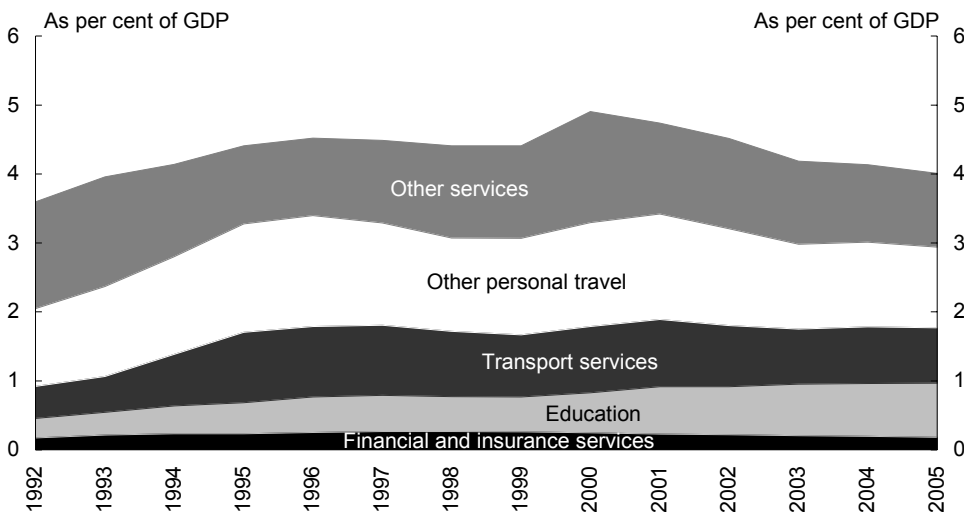


Source: Australian Bureau of Statistics.

1 In this case, the income accrued will appear in the income account of the balance of payments. See Harris and Hawkins (2006) -- pages 59-72 of this issue of *Economic Roundup* -- for a description of Australia's international income flows.

Services provided to travellers are the largest component of Australia's exports of services but education has been the fastest growing (Chart 3).²

Chart 3: Australia's exports of services (nominal)



Source: Australian Bureau of Statistics cat. no. 5302.0.

Tourism

There were around 5½ million short-term visitor arrivals in Australia in 2004-05 (up from just over a million twenty years ago, and under 100,000 before the 1960s).³ Just over half stated the main reason for coming as a holiday, a fifth were visiting friends or relatives and a tenth were on business.⁴ The majority were destined for New South Wales or Queensland. The top source countries were the well-established markets of New Zealand, Japan, the United Kingdom and the United States. But the fifth-ranked source was the fast-growing China.

Education

A success story in the Australian economy over the past twenty years has been the sale of education to the rest of the world (Chart 3). From under 5,000 international students in 1986, the first year public institutions were permitted to enrol them and charge fees, numbers rose to around 50,000 by 1992 (out of a global market of around 1 million

2 The category 'other personal travel' in Chart 3 includes spending on hotel rooms, entertainment and souvenirs, even though some of these are 'goods' rather than 'services'.

3 Short-term visitors are those who report their intended length of stay as less than 12 months.

4 One growing category is 'health tourism' whereby people combine a holiday with medical treatment (IAC 1991b). The other major source of 'exports' of health services is medical treatment for foreign students in Australia.

students⁵). Some surveys suggested Australia appealed due to its proximity to Asia, pleasant lifestyle and safety, and the possibility of later migration, more than the quality of its education (IAC 1991a and Mazzarol 1994). A study concluded that Australia was cheaper than Canada, the United Kingdom and the United States but more expensive than New Zealand as a destination for foreign students, taking into account both tuition fees and living expenses (IDP 2001). The emergence of a larger middle class in countries in east Asia which have long placed a high value on education provided a ready source of students. International student numbers fluctuated with changes in visa regimes (IAC 1991a).

While there was a short-lived dip following the 1997 Asian crisis, demand continued to grow once those economies recovered. International students studying in Australia now number around 200,000. This places Australia behind only the United States, United Kingdom and Germany as a destination (Wooldridge 2005). Almost a third of the overseas students in Australia come from China and Hong Kong, with India, Malaysia and Indonesia the other main sources.

It has also been estimated that foreign students attract an average of 1.3 friends and relatives to visit during their study here (Davidson and Spearritt 2000).

Passenger transport

Australia's service exports include fares for foreign travellers on Australian airlines. As these customers are mostly flying to, within or from Australia, export receipts tend to fluctuate with tourist arrivals.

Business services

Australia has gradually developed more expertise in business services and is increasingly exporting them. DFAT (2001) notes that there 'continues to be a strong demand for Australian lawyers, accountants, engineers and architects, particularly in our region, and many environmental services firms are seeking to exploit new and emerging market opportunities overseas'. Australia's expertise in mining operations provides some potential for exporting services here, although at present mining experts are in very strong demand for domestic projects.

Sydney (as well as, to a lesser extent, other Australian cities) competes with Hong Kong and Singapore to be an Asia-Pacific regional headquarters for global firms. It is disadvantaged by its more peripheral location but can offer a less hectic and 'greener' lifestyle and lower costs.

5 Most of the increase in Australia's market share was at the expense of the United Kingdom, although Japan's restrictions on their intake of Chinese students from 1986 also helped.

Other government services

Some services, such as technical advice and training by government agencies, are exported as part of aid packages or cooperative defence arrangements. There have also been a number of consultancies provided by government agencies on a commercial basis (Industry Commission 1997). Some government-owned corporations such as Australia Post are also involved in exports of services, as is the partly-owned Telstra.

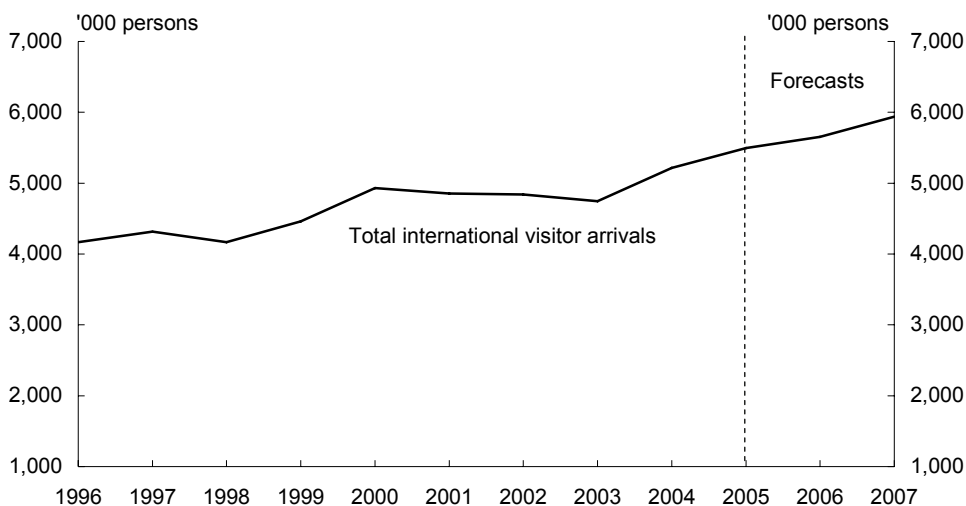
What are the main determinants of service exports?

The demand for services rises more than proportionately as incomes increase. Demand for international services probably expands more than demand for domestic services. This explains why over recent decades international trade in services has been growing faster than world GDP. This is consistent with econometric studies finding income elasticities of demand above one (Pain and van Welsum 2004). It suggests there is scope for strong growth in Australia's service exports. Another indicator of potential is the finding by LEK (1994) that only 1 per cent of Australian service companies were involved in exporting in the early 1990s. LEK expressed the view this could grow to 10 per cent.

Visitor numbers

From the mid-1980s to the mid-1990s there were large increases in tourist numbers (Chart 4). Travel to Australia had become cheaper and offered greater potential to attract international visitors, although there seemed to be a delay in responding to these possibilities.

Chart 4: Overseas visitor arrivals



Source: Tourism Australia (2006).

During the 1980s and 1990s most capital cities opened convention centres and casinos to attract more than the traditional tourists (Davidson and Spearritt 2000). They also competed to attract major sporting events such as the Formula 1 Grand Prix. Glamorous island resorts were built in Queensland. All this innovation, some of it ahead of demand, sustained growth in international visitor arrivals. In 1983 Australia's share of global visitor arrivals was 0.3 per cent; by 2003 it had reached 0.7 per cent.

There was a surge in overseas visitors associated with the 2000 Olympics, but a subsequent flat period as the September 11 terrorist attacks discouraged international travel. This global slump in tourism lasted until 2004. More recently visitor numbers to Australia have slowed again. While surveys suggest Australia retains appeal as a holiday destination, it may have lost some of its 'novelty value'. Furthermore, there is a global trend towards shorter flights, partly attributed to busier lifestyles. In Europe and Asia, this trend has been encouraged by the advent of new airlines which offer cheap flights within the region but not across the world. Furthermore, concerns about terrorist attacks and SARS may have discouraged some American tourists from taking the long flight to this region. Nonetheless Tourism Australia is optimistic that tourism numbers will keep growing. A possible threat would be avian flu mutating into a form that leads to a human pandemic (Beutre et al 2006). The effect of higher oil prices on international airfares has also hurt Australia as a destination, given our remoteness and consequently high fuel costs.

As well as the numbers of arrivals, the composition also matters. For example, independent wealthy visitors are likely to spend more on Australian goods and services. By contrast, tour groups may be more frugal and be accommodated in foreign-owned hotels. Backpackers spend much less per day than other visitors, but stay for longer periods and travel to more remote destinations.

Education

Competition is intensifying in the Asia-Pacific education market as Asian universities are offering modern facilities. Some Australian universities are responding to this competition by offering courses in Asia rather than requiring students to come to Australia.⁶ This allows them to offer part-time as well as full-time courses, which may be more attractive to students who do not wish to interrupt their careers.

6 Depending on how this is structured, the tuition fees may show in the net income balance of the balance of payments rather than as a service export.

Relative price effects

The notable appreciation of the Australian dollar from late 2002 to early 2004 had a significant impact on service exports. Its more recent quiescence may well support a recovery in the growth of service exports in 2006-07. (One cause of the recent (real) appreciation was the strong prospects for the resources sector. This 'Gregory thesis' effect is discussed in Treasury's submission to the inquiry into manufactures exports; see page 80 of this issue of *Economic Roundup*.)

The impact of relative price movements on exports of services depends on the size of the price elasticity. There has been much less modelling of services than goods exports. There are some estimates for Australia's 'non-commodity' exports, which are about half services and half manufactures. A recent IMF (2004) study concluded that the price elasticity for these exports was insignificantly different from zero over 1984-2002. The price elasticity is also estimated as very low in the short run in Treasury's economy-wide model, TRYM, but reaches almost -2 in the long run. International studies typically conclude that price elasticities for services are smaller than those found for merchandise trade. The overall price elasticity for services exports is typically around -0.2 to -0.4, with travel-related services being more elastic and business services relatively inelastic (Pain and van Welsum 2004).

The IAC (1989) review of the tourism industry highlighted the cost and availability of transport as crucial to attracting international tourists. At that time, airfares to and from Australia could typically account for half the cost of a holiday and once in Australia, domestic transport for a fifth of their spending.

Government support for service exporters

The Government and its agencies continue to advocate freer global markets for services, but reducing barriers is more complex than it is for trade in goods. McLachlan, Clark and Monday (2002) comment that 'typical government related barriers encountered by Australian service exporters include foreign equity limitations, lack of recognition of qualifications, restrictions on the issue of licences, various restrictions on commercial presence such as the number and location of branches and restrictions on the forms of commercial presence'. WTO members (including Australia) signed the first agreement covering international trade in services (known as GATS) in 1995. The Doha summit in 2001 launched a round of talks aiming to reduce barriers to trade in services (among other areas). McLachlan, Clark and Monday (2002) cite studies suggesting eliminating such barriers would raise Australia's annual income by around A\$3 billion, and the world's income by around US\$130 billion.

The Productivity Commission (2005) estimates total government assistance to tourism (both domestic and international, and both directed and incidental) as around

\$1 billion a year, after taking account of around \$0.1 billion in tariffs imposed on inputs used by it. They comment that 'tourism receives relatively less assistance from the Australian government than do manufacturing and primary production industries on average but relatively more assistance than many other services'. Tourism Australia promotes Australia as a holiday destination overseas. It also provides market intelligence and forecasts.

Of course, service exporters benefit from general economic policy. Sound macroeconomic policy has led to low and steady inflation and low interest rates. Microeconomic reforms have enhanced domestic competition, and removed unnecessary impediments to business activity such as inefficient government processes or excessive regulation, thereby providing business a sound basis on which to plan. Good government helps attract tourist and business visitors by making Australia a safe and environmentally attractive destination.

As described more fully in Treasury's submission to the inquiry into manufactures exports, the resources boom is leading to other exports growing more slowly than they otherwise would. But this is not undesirable: it is in the national interest for resources to be allocated to their most efficient use. Furthermore, Australia's pursuit of liberalisation of trade in services, which forms part of the Doha round, is directed at achieving improved markets for Australian service exporters.

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The Indonesian economy after the Boxing Day tsunami¹ and Treasury's role in the Government Partnership Fund

Milovan Lucich, Nathan Dal Bon and Elisha Houston²

Boxing Day 2005 marked the first anniversary of the tsunami that devastated communities in Indonesia, Thailand, Sri Lanka, India and as far away as the east coast of Africa, leaving an estimated 230,000 people dead and 1.7 million displaced. Australia has provided substantial assistance to the tsunami-affected countries, with the main focus of our effort on one of our nearest and largest neighbours, Indonesia. The \$1 billion³ Australia-Indonesia Partnership for Reconstruction and Development (AIPRD), announced by Prime Minister Howard on 10 January 2005, is the single-largest aid package in Australia's history. The Australian Treasury has worked with the Australian Agency for International Development (AusAID) and other Australian Government agencies to develop and implement the AIPRD, and the Treasurer is one of the five Australian and Indonesian Ministers on the AIPRD Joint Commission.

The first part of this paper focuses on how the Indonesian economy has performed in recent times, particularly since the tsunami, and discusses the reform priorities of the current Indonesian Government. The second part provides some information on the work Treasury is doing with Indonesian counterpart agencies under the AIPRD's Government Partnership Fund (GPF).

1 This article refers to the 2004 Boxing Day tsunami. Another major tsunami hit Indonesia's Java island on 17 July 2006, killing approximately 105 people.

2 The authors are from International Economy Division, the Australian Treasury. This article has benefited from comments and suggestions provided by David Pearl, Simon Nash, and Don Graham. The views in this article are those of the authors and not necessarily those of the Australian Treasury.

3 All dollar amounts in this article refer to Australian dollars unless otherwise stated.

Introduction

The Republic of Indonesia is located in the Asian Archipelago, the world's largest archipelago; its 18,108 islands cover five million square kilometres between Indochina and Australia and the Indian and Pacific Oceans. Indonesia is the most populous Muslim-majority country in the world and the fourth most populous overall with a population of over 220 million.

The 2004 Indian Ocean earthquake, which had a magnitude of 9.2 on the Richter scale, triggered a tsunami on 26 December 2004 that killed approximately 230,000 people (more than 168,000 in Indonesia alone), making it the deadliest tsunami in recorded history. The tsunami killed people over an area ranging from the immediate vicinity of the quake in Indonesia, Thailand and the north-western coast of Malaysia, to thousands of kilometres away in Bangladesh, India, Sri Lanka, the Maldives, and even as far as Somalia, Kenya and Tanzania in eastern Africa.

The disaster prompted a huge worldwide effort to help victims of the tragedy, with billions of dollars being raised for disaster relief. Australia was at the forefront of this relief effort. In addition to the generosity of private citizens, Prime Minister Howard announced the \$1 billion Australia-Indonesia Partnership for Reconstruction and Development (AIPRD) on 10 January 2005. The AIPRD is significant not only in terms of its absolute size but also for the new approach to bilateral aid that it represents.

The AIPRD is a genuine partnership, jointly overseen by Indonesian and Australian Ministers. It focuses on both immediate reconstruction priorities and Indonesia's broader long-term development challenges. It recognises the importance of sound institutions to successful development and, through the \$50 million Government Partnership Fund (GPF), fosters closer working partnerships between Australian and Indonesian officials in support of the latter's reform efforts.

The tsunami followed a period of significant change and upheaval in Indonesia, including the fall of the Suharto regime, the transition to democracy, and the Asian financial crisis. After providing a brief overview of the Indonesian economy, the following section examines economic developments in Indonesia in recent years, focusing on the period following the tsunami, before detailing Treasury's engagement activities with its counterparts in Indonesia.

Economic developments in Indonesia

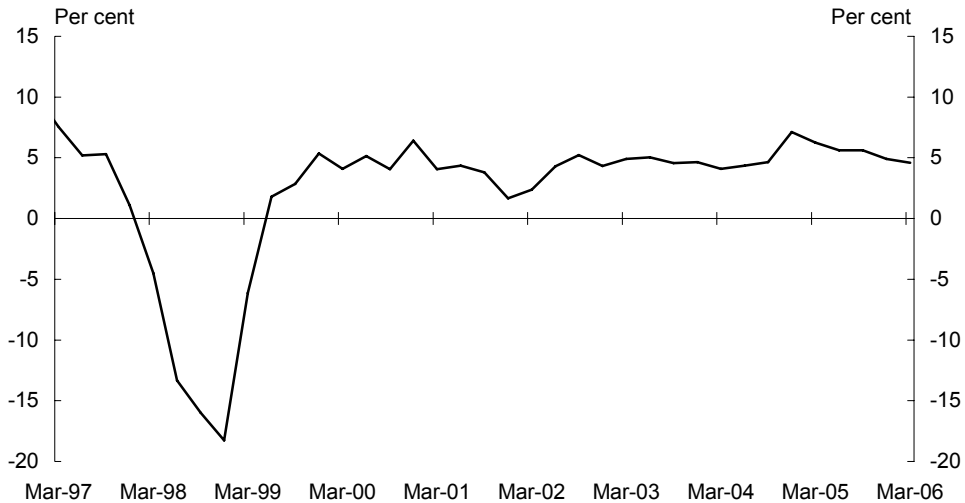
Indonesia has a market-based economy in which the government plays a significant role. It owns more than 164 state enterprises and administers prices of several basic goods, including fuel, rice, and electricity. Manufacturing accounts for 28 per cent of Indonesia's gross domestic product (GDP), services 41 per cent and agriculture

15 per cent (agriculture employs over 40 per cent of the labour force). Crude oil and natural gas are Indonesia's most valuable natural resources and have long been its major source of export revenue, but growth in domestic oil demand, together with declines in production since the 1990s, contributed to the nation becoming a net importer of oil in 2004 and 2005.

During the decades leading up to the 1997-1998 Asian financial crisis, Indonesia shared in the sustained economic growth that was enjoyed by much of East Asia. Real annual GDP growth averaged 7.2 per cent from 1977 to 1996, lifting 30 million Indonesians out of poverty over this period.

The crisis, however, had more severe effects in Indonesia than in any other country in the region. Indonesia's real GDP fell by 13.1 per cent in 1998 (18 per cent through-the-year to December 1998, see Chart 1) as bank failures, capital flight and disorder took hold in the financial sector. The investment environment deteriorated to such an extent that Indonesia's modern, labour-intensive manufacturing sector was severely undermined.

Chart 1: Real GDP growth (through-the-year)



Source: CEIC Asia Database.

As a consequence, Indonesia sought assistance from the International Monetary Fund (IMF), as well as receiving bi-lateral support from a number of countries. Australia and

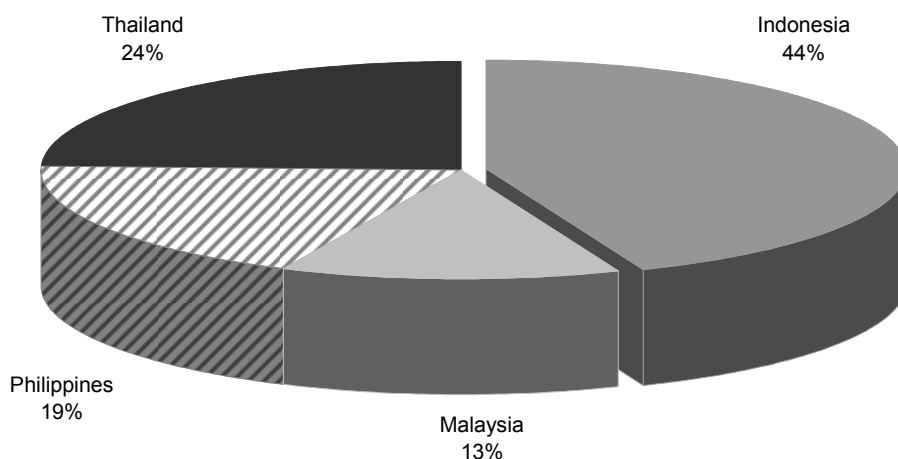
The Indonesian economy after the Boxing Day tsunami and Treasury's role in the GPF

Japan were the only countries in the region to contribute to all three IMF packages to the crisis-affected economies of Korea, Thailand and Indonesia.⁴

Indonesia's subsequent recovery has been slower than those of other crisis-affected countries in the region, with poverty and unemployment remaining stubbornly high. The country only regained pre-crisis levels of real GDP in 2003, and real per capita GDP did not recover to pre-crisis levels until early 2005. Indonesia's GDP per capita (measured on a purchasing-power-parity basis) was US\$4,458 in 2005, compared with US\$30,897 for Australia.

Despite slower growth than its neighbours since the crisis, Indonesia's economy remains the largest in South East Asia, accounting for almost half of the ASEAN-4's aggregate GDP (see Chart 2).

Chart 2: ASEAN-4 GDP comparison at PPP (2005)



Source: IMF World Economic Outlook Database, April 2006.

4 In October 1997, Indonesia and the IMF reached agreement on a programme aimed at macroeconomic stabilisation and economic reform. President Suharto resigned in May 1998, and in August 1998 Indonesia and the IMF agreed on an Extended Fund Facility (EFF) under President BJ Habibie that included significant structural reform targets. President Abdurrahman Wahid took office in October 1999, and Indonesia and the IMF signed another EFF in January 2000. The new programme also contained a range of economic, structural reform, and governance targets. Indonesia graduated from the EFF at the end of 2003 but engagement with the IMF continues via the Post-Program Monitoring (PPM) process. Indonesia has successfully completed its IMF programme, and on 30 June 2006 Indonesia repaid half of its IMF debt (US\$3.9 billion), with the intention of repaying the balance within two years.

The relatively slow recovery in Indonesia reflected the scale and complexity of its economic challenges as well as the lack of political consensus on how best to deal with them. After the resignation of President Suharto in 1998, it was not until the Megawati Government (2001-2004) that the authorities were able to restore macroeconomic and financial stability. However, the much-needed recovery in investment has taken longer to materialise, due partly to weaknesses in Indonesia's regulatory framework and legal system, as well as gaps in its physical infrastructure. The current Government, led by President Susilo Bambang Yudhoyono, which took office in October 2004, has taken steps to strengthen the reform agenda and has made addressing institutional weaknesses one of its key priorities (see reform agenda section below for further details).

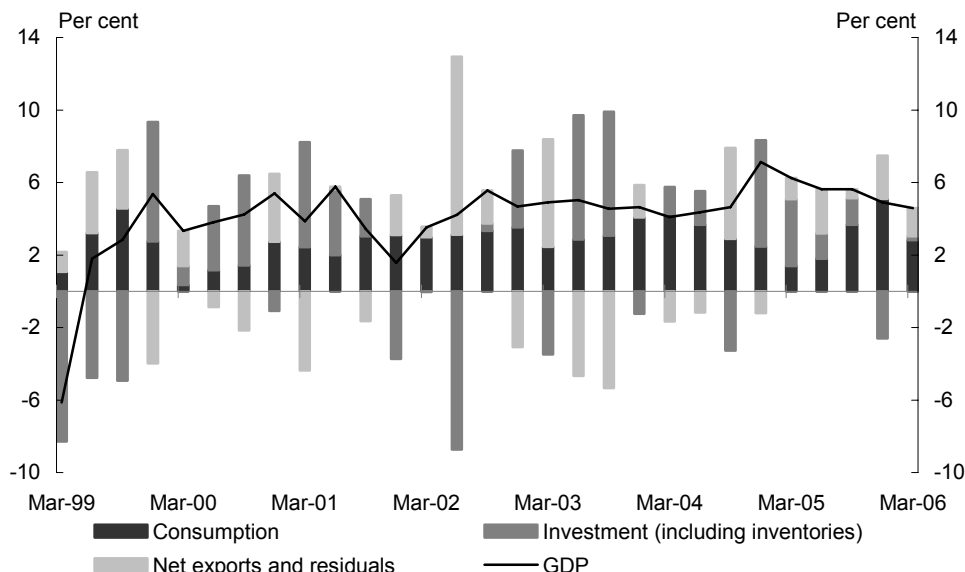
Recent economic performance

Economic growth

Economic growth has slowly gained momentum over the years following the Asian financial crisis, increasing from 3.8 per cent in 2001 to 5.1 per cent in 2004 and 5.6 per cent in 2005 – the fastest annual rate of growth since the crisis. The composition of growth has also changed, with a welcome rebalancing from consumption to investment. Investment grew by around 15 per cent in 2004 compared with 0.6 per cent in the previous year, assisted by a recovery in foreign direct investment (see Charts 2 and 3).

More recently, economic growth and investment have begun to slow, with investment weakening again in the second half of 2005. Overall, investment growth for 2005 declined to 9.9 per cent, partly due to a financial 'mini crisis', which is discussed further below. As a result, the ratio of investment to GDP, which had been moving back towards pre-crisis levels of 25-30 per cent, has now declined to around 22 per cent.

Chart 3: Contributions to GDP growth



Source: CEIC Asia Database.

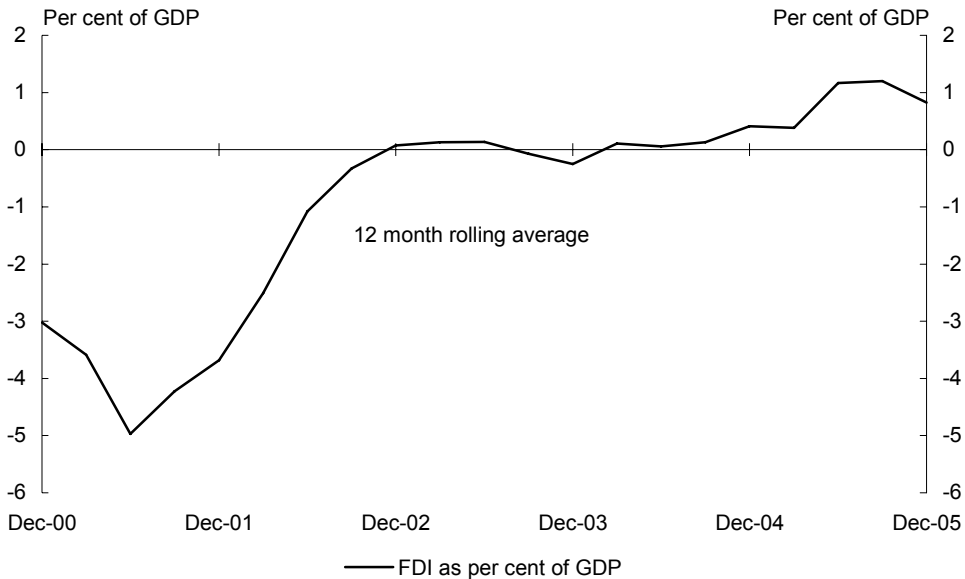
Notwithstanding the terrible cost in human lives and damage to infrastructure and homes in the province of Nanggroe Aceh Darussalam (Aceh), the tsunami had only a small impact on Indonesia's economic growth in 2005. This reflected the fact that Aceh accounts for only 2 per cent of Indonesia's GDP, and that the reduced agricultural production in the region has been largely offset by reconstruction spending.⁵

According to a World Bank study, the direct impact of the tsunami lowered the national GDP growth rate by 0.1-0.4 percentage points in 2005. The Bank concluded that, when the offsetting effects of reconstruction activities were taken into account, the net economic impact of the tsunami on nationwide growth in Indonesia was likely to be close to zero.⁶

5 Since the tsunami, Indonesia has been subject to a number of further natural disasters. A major earthquake took place off the west coast of Sumatra on 28 March 2005. The quake measured 8.7 on the Richter scale and killed around 1,300 people mainly on the island of Nias. Australia provided \$1 million in emergency aid, and dispatched Australian Defence Force medical teams and equipment to Nias. Another major earthquake struck the Yogyakarta region in central Java on 27 May 2006. The quake measured 6.3 on the Richter scale, causing massive devastation across the province and killing 5,760 people. In response, Australia has committed \$7.5 million to provide emergency relief and \$30 million to help rebuild the region.

6 World Bank 2006, *East Asia Update*, p 1.

Chart 4: Foreign direct investment⁷



Source: CEIC Asia Database.

August 2005 'mini crisis'

Despite strong growth in the first half of 2005, last year proved to be a testing year for the Indonesian authorities. In August, the Indonesian rupiah and stock market both fell sharply, reflecting concerns in financial markets about the impact of higher oil prices on Indonesia's public finances and external financial position⁸ (see Charts 4 and 5). The Government responded to the 'mini crisis' with a policy package on 1 October 2005, including a large increase in domestic fuel prices. The reduction in fuel subsidies led to domestic fuel prices increasing by an average of 114 per cent. Budgetary savings from the fuel price rise in 2005 are estimated at approximately

7 Chart based on data for inward direct investment only. Net private capital flows remain negative over the last two years.

8 The relationship between oil prices and Indonesia's economic and budgetary position is not straightforward. Indonesia has traditionally been a net oil exporter, but a lack of investment in oil-related infrastructure has limited Indonesia's oil production capacity so that it is now a net oil importer. The Indonesian Government, however, continues to derive increased revenues as a result of higher oil prices, which to a certain extent offsets the fiscal impact of increased subsidies. Nevertheless, there was a strong perception that oil prices were having a major negative effect on Indonesia's budgetary position, as well as genuine concerns about the skewing of fiscal priorities. The fuel subsidy cuts, after subtracting the compensation programs, will free up \$3-3.5 billion for other kinds of spending.

The Indonesian economy after the Boxing Day tsunami and Treasury's role in the GPF

0.5 per cent of GDP and could amount to up to 2.5 per cent of GDP in 2006, depending on international oil prices.⁹

The reduction in fuel subsidies, together with Bank Indonesia's lifting of official interest rates from 8.75 per cent in August 2005 to a peak of 12.75 per cent in December 2005, led to the stabilisation of financial markets. Since the peak of the crisis in August 2005, the exchange rate has appreciated by 10.5 per cent and the stock market has risen by 34.7 per cent.

Chart 5: Jakarta composite index

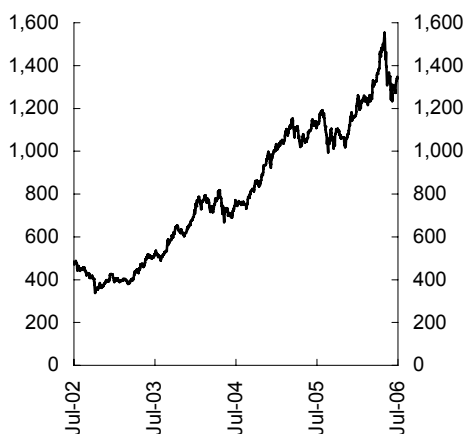
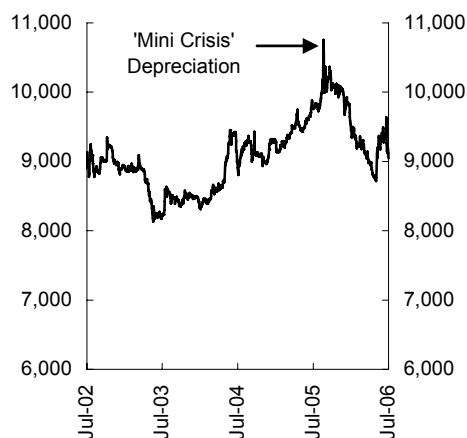


Chart 6: Rupiah per \$US



Source: CEIC Asia Database, Datastream.

At the same time the Indonesian Government commenced the unwinding of fuel subsidies, it also announced a compensation package for the poor. Under the Indonesian Government's oil price compensation arrangements, around 15.5 million poor households are being allocated an ongoing cash transfer of 100,000 rupiah (around US\$9 at July 2006 exchange rates) per month distributed quarterly.

Reflecting the unwinding of fuel subsidies and higher interest rates, economic growth slowed in the latter part of 2005. This trend has continued into the first half of 2006, with GDP growth slowing to 4.6 per cent in the March quarter. Looking forward, economic growth is expected to strengthen, due in part to stronger Government expenditure. Overall, Consensus Forecasts expects growth of 5.2 per cent in 2006, down from 5.6 per cent growth in 2005.

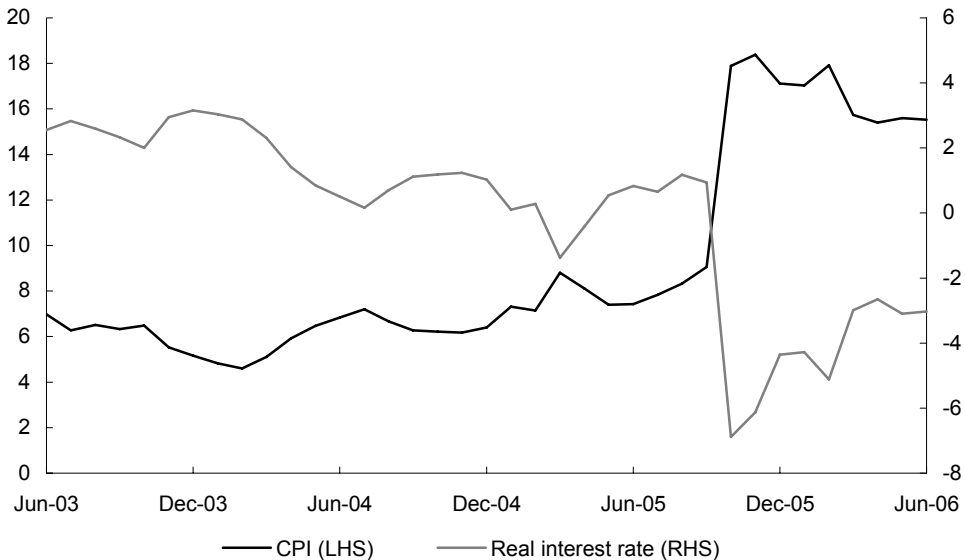
9 World Bank 2005, *East Asia Update*, pp 2-3.

Inflation and interest rates

While inflation has fallen substantially in the years following the 1997-98 crisis, the unwinding of fuel subsidies in October 2005 saw inflation rise sharply, with inflation peaking in November at over 18 per cent through-the-year (see Chart 6). In the first half of 2006, inflation has moderated to some extent, with the CPI rising by 15.5 per cent through the year to June 2006. It is expected to decline further through the second half of the year as the subsidies reductions pass through. Consensus Forecasts expects average inflation of 13.3 per cent for the year.

The decline in inflation has enabled Bank Indonesia to relax monetary policy settings, with official interest rates reduced in May and June this year to the current rate of 12.25 per cent. The reduction in interest rates should assist the banking sector, which came under pressure during the August 'mini-crisis'. In the second half of 2005, loan growth decelerated and the net non-performing loan ratio rose from 1.9 per cent to 5.0 per cent. In particular, State-owned commercial banks reported non-performing loan ratios of around 15 per cent, up from 5.5 per cent in 2004.

Chart 7: CPI and real interest rate



Source: CEIC Asia Database.

External sector

In 2005, Indonesia's current account surplus fell to US\$3 billion or 1.1 per cent of GDP, compared with a surplus of 4.8 per cent of GDP in 2000. In value terms, total merchandise exports rose by around 20 per cent in 2005. However, in volume terms,

export growth was flat. At the same time, merchandise imports rose by about 26 per cent in value terms in 2005.

In recent years, Indonesia has experienced a significant slowdown in the growth of exports in sectors where it traditionally has had a comparative advantage, including furniture, palm oil, rubber, textiles, and footwear. This has led to concerns that Indonesia has been losing trade competitiveness, particularly to China and Vietnam, through persistent inflation, rising labour costs and a relatively strong currency. The IMF estimated in 2004 that Indonesian unit labour costs were about 35 per cent higher in dollar terms than before 1997. Generally weak investment in recent years has also hampered Indonesia's competitiveness. This applies not only to a lack of investment in manufacturing, but also in transportation, ports, and other infrastructure that affects exporters' costs.

Government sector

Indonesia has significantly improved its fiscal situation in recent years, with the central government budget deficit narrowing from 2.4 per cent of GDP in 2001 to 0.5 per cent in 2005. The outcome last year was helped by the cuts in fuel subsidies and delays in spending caused by changes to budgetary procedures.¹⁰ The deficit is expected to widen to 1.2 per cent in 2006, primarily reflecting spending carryovers from 2005.

On the revenue side, the Indonesian Government is making a concerted effort to improve tax compliance and more generally to reform the tax system. The system has a limited capacity to raise revenue due to a very large informal sector (in a country of around 220 million people there are only 10 million registered income tax payers).¹¹ In 2005, total tax revenue amounted to only 12.8 per cent of Indonesia's GDP – a low figure compared with other developing countries.

Fiscal consolidation and solid GDP growth have reduced the central government debt to GDP ratio from around 100 per cent in 2000 to close to 50 per cent in 2005. The ratio of external public debt to GDP has also steadily declined in recent years, from about 45 per cent in 2000 to 27 per cent in 2005. As part of the international response to the tsunami, Australia joined with other Paris Club members to delay debt repayments

10 These delays were caused by changes to budgetary procedures in the transition to decentralisation. The process of decentralisation involves the devolution of some fiscal responsibilities from the central to local governments.

11 The informal sector expanded following the 1997-98 crisis as Indonesians who lost their job in the formal sector attempted to find work in the informal sector. While the informal sector accounts for only 20 per cent of GDP, it is estimated to employ almost two-thirds of the Indonesian workforce (Heriawan, p 1).

from Indonesia, allowing it to focus resources on emergency and reconstruction efforts.¹²

Economic policy and the reform agenda in Indonesia

Despite experiencing some major challenges last year, Indonesia's short-term growth prospects remain positive. However, to significantly reduce rates of poverty and unemployment, economic growth needs to be increased. Poverty is widespread, with half of the population surviving on less than US\$2 a day. While at current growth rates the economy is adding a net 1.2 to 1.4 million jobs a year, 1.6 to 1.8 million new workers are entering the workforce each year. In 2005 the unemployment rate was 10.3 per cent, more than double its pre-crisis level of 4.7 per cent in 1997. Inroads into Indonesia's unemployment and poverty rates will not be achieved unless economic growth of greater than 6 per cent per annum is sustained.

The Indonesian Government has detailed a three-pillared approach to reduce rates of poverty and unemployment.¹³

1. Increase confidence in economic stability by significantly reducing the inflation rate through Bank Indonesia's inflation targeting regime. Last year's 'mini-crisis' was an early test of this regime, which was first adopted in 2005. The inflation target for 2006 is 7-9 per cent. This was raised from the previous target of 5-7 per cent as a result of the further reduction in fuel subsidies.
2. Lift economic growth above 6 per cent by making further progress on a range of structural reforms. These include:
 - reforms to taxation arrangements, including the gradual reduction of the corporate tax rate, addressing problems in tax administration, and reducing trade and business distorting regional taxes;

12 The deferred debt will be repaid between 1 December 2006 and 1 December 2009. This rescheduling affected approximately US\$12.5 million in payments to Australia. Australia is owed approximately \$1.16 billion in sovereign debt by Indonesia, all but \$27.3 million of which is on the National Interest Account.

13 On 5 December 2005, President Yudhoyono announced a major cabinet reshuffle. Notable changes to the economic team include the appointment of a new Coordinating Minister for Economic Affairs, Dr Boediono, and the movement of the former State Minister for National Development, Dr Sri Mulyani Indrawati, to the position of Finance Minister. On 20 March 2006, Dr Boediono delivered an address at the Indonesia Investment Conference detailing the Indonesian Government's overall economic priorities and reform strategies for 2006.

- reforms to the financial sector, as announced on 5 July 2006 in the Financial Sector Reform Package, including: strengthening coordination between fiscal and monetary authorities; regulatory changes to enable the state-owned banks to offload their non-performing loans; and measures to improve the liquidity, efficiency and integrity of the capital markets; and
 - reforms to improve the flexibility of the labour market.
3. Promote greater private investment, including through: mobilising finance for infrastructure development; and strengthening the rule of law and streamlining government regulations¹⁴. Indonesia has an ambitious investment agenda, with investment needs in infrastructure alone estimated at US\$63 billion over the next five years.¹⁵ However these targets have not been realised and little progress has been made on the numerous infrastructure measures announced by the Government.

Indonesia's reform and development priorities will not be achieved without strong, effective and responsive policy-making institutions. The improvement and strengthening of the institutions of economic policy development and governance in Indonesia is the main focus of Treasury's engagement with Indonesia, as detailed below.

Treasury's engagement with Indonesia

Engagement with Indonesia and the new aid paradigm

The Indonesian public service is generally well educated and dedicated. However, like much of Indonesia, it is going through a period of transition from the poor governance practices that characterised the Suharto era to a public service able to support the Government's reform agenda.¹⁶ It is in this area that Australian Government agencies are well placed to share their experiences of reform and change management with their Indonesian counterparts.

In the past, Australia's development assistance to Indonesia and other developing countries was primarily provided through conventional AusAID programmes that focused on the provision of basic services to meet humanitarian, health and education

14 In February 2006, the Government announced a package to improve the investment climate, which included 85 specific measures to be largely enacted this year.

15 Jakarta Post 2006, 'Infrastructure conference finally gets go-ahead', Jakarta.

16 The Indonesian Government has recently foreshadowed a special presidential commission to reform the civil service. Donnan, S 2006, *Indonesia plans reform to tackle bureaucracy*, Financial Times, Jakarta.

needs. However, there has been growing recognition that such efforts alone will not be enough to break the cycle of poverty and deliver sustainable increases in growth.

Experience has demonstrated that one of the key building blocks of sustained economic growth is good governance, based on strong domestic institutions. The Australian Government's 1997 review of Australia's aid programme, *Better Aid for a Better Future*, established governance as one of the five priorities of the aid programme.¹⁷

This message has been reaffirmed by the Government's recent Aid White Paper¹⁸, which emphasises the links between good governance, economic growth and poverty reduction. In particular, the paper refers to economic growth being underpinned by 'appropriate and effective institutions'.

*'Institutions that provide dependable property rights, manage conflict, establish macroeconomic stability, align economic incentives with social benefits and maintain law and order, are an important foundation for long-term growth.'*¹⁹

Treasury's engagement activities

In recent years, Treasury has been deepening its engagement with its counterparts throughout the region. It is well known that Treasury has been providing assistance to Papua New Guinea, the Solomon Islands and Nauru, through the placement of Treasury officers in these countries. However, Treasury's efforts to promote sound economic policy elsewhere in the region are less well known.

Treasury is pursuing a number of policy support activities to build capacities of partner agencies in critical reform areas where Treasury is uniquely placed to contribute. Treasury's contributions focus on institution building, through the development of high-level policy-making skills and sharing central agency policy perspectives. For example, Australia has been at the forefront of a number of Asia-Pacific Economic Cooperation (APEC)-led initiatives to strengthen governance in key areas such as financial markets and the public sector. In February 2005, Treasury organised a conference attended by officials and academics from throughout the region to discuss key macroeconomic policy and structural policy challenges facing

17 *Better Aid for a Better Future 1997*, Seventh Annual Report to Parliament on Australia's Development Cooperation Program and The Government's Response to the Committee of Review of Australia's Overseas Aid Program, Department of Foreign Affairs and Trade, Canberra, p 5.

18 Australian Aid: *Promoting Growth and Stability 2006*, A White Paper on Australia's Aid Program, AusAID, Canberra.

19 Australian Aid: *Promoting Growth and Stability 2006*, A White Paper on Australia's Aid Program, AusAID, Canberra p 15.

East Asia.²⁰ Treasury has also helped organise an intensive one-month fiscal management course for Indonesian and Chinese officials, with the first group of students completing the course in March 2006.

Treasury has also built linkages at the operational level with its counterparts from the region. For example: in late 2005 Treasury hosted three Indonesian Ministry of Finance (IMoF) officials for a one month internship; Treasury's Domestic Economy Division are hosting officials from Indonesia and Thailand in the later half of 2006, to further develop their forecasting skills; and Treasury's International Economy Division will be jointly organising with the Australian National University, the second bi-annual Fiscal Policy Course for Chinese and Indonesian Officials in September 2006.

These initiatives have not only assisted regional policy makers; they have also deepened Australia's understanding of key regional economies and developed the skills and capacities of Treasury officers in Australia.

The Australia-Indonesia Partnership

The AIPRD has added a new dimension to Treasury's efforts to promote improved economic governance in the region. This programme has given Treasury the opportunity to deepen its relationship with the IMoF and other Indonesian agencies, further its understanding of Indonesia's reform challenges, and foster the development of close working relationships with Indonesian officials.

The AIPRD is guided by a Joint Ministerial Commission, comprising the foreign and economic ministers from both countries and overseen by Prime Minister Howard and President Yudhoyono. The Commission sets broad strategic directions and establishes priorities for AIPRD funding. The Australian end of the AIPRD Commission is supported by a Secretaries' Committee, which prepares AIPRD initiatives for ministerial approval. The Committee is comprised of the Secretaries of the Department of Foreign Affairs and Trade, Department of Finance and Administration, Treasury and Department of the Prime Minister and Cabinet.

Projects under the AIPRD are financed through a \$500 million grant assistance programme and a \$500 million loan programme. The loan programme is highly concessional as it is interest free and repayments will be made over 40 years, with a 10-year grace period. The concessional loans are governed by a Partnership Loan Agreement signed by Australian and Indonesian officials on 27 June 2006.

20 Macroeconomic Policy and Structural Change in East Asia – Conference Proceedings 2005, Australian Treasury, Canberra. <http://www.treasury.gov.au>.

To date, the Joint Commission has released four statements detailing the new activities agreed to under the AIPRD. The Treasurer announced the 2nd Joint Ministerial Statement during his visit to Indonesia in September 2005, when he toured areas of Aceh where AIPRD projects have been implemented. One of the projects visited by the Treasurer was the rebuilding of the Merduati primary school. To give a sense of the magnitude of the devastation, 410 of the 535 students and 16 out of the 23 teachers at this school were killed by the tsunami.

All of the AIPRD funding has now been allocated. Major AIPRD initiatives include: urgent rehabilitation work in Aceh province; including rebuilding of the main hospital; restoring health, education and local government services; key initiatives to assist Indonesia's development at a national level (for example, a major new scholarship programme to help train up to 600 of Indonesia's future leaders at Australian tertiary institutions); major new infrastructure programmes in road transport and junior secondary education; and work initiatives to boost private sector development and rural productivity.

Treasury's engagement activities under the Government Partnership Fund

Given the importance of strong and effective institutions for development and sustainable growth, a key component of the AIPRD is the \$50 million GPF. The GPF aims to promote government-to-government cooperation, focusing on the exchange of skills, knowledge and expertise with key public sector institutions in Indonesia, while providing the opportunity to build long-term institutional linkages and partnerships.

A Treasury-led delegation of officials from a range of Australian Government agencies visited Indonesia in June 2005.²¹ The delegation was successful in establishing and strengthening contacts between Australian and Indonesian agencies, improving Australia's understanding of Indonesia's economic governance priorities, and identifying areas where Australian agencies can work together with their Indonesian counterparts to advance Indonesia's governance priorities.

This visit has led to a number of initiatives by Australian economic agencies, in areas such as taxation policy, financial sector regulation, medium-term expenditure frameworks and government-central bank coordination. Treasury has taken steps to deepen its engagement with its Indonesian counterparts. In particular, Treasury has

21 The delegation included officials from the following agencies: AusAID; Australian Bureau of Statistics; Australian Office of Financial Management; Australian Prudential Regulation Authority; Australian Securities and Investments Commission; Australian Taxation Office; Productivity Commission; Reserve Bank of Australia; and the Department of Finance and Administration.

identified a number of areas where it can support Indonesia in improving its economic governance capacity, and has established a small scale, multi-year, flexible programme of joint activities and direct support. Key elements of this programme include:

- A Treasury-IMoF partnership to support Indonesia's plans to establish a new Fiscal Policy Office (FPO) within the IMoF.
 - On 8 June 2006, a Presidential Regulation on the Reorganisation of the Ministry of Finance was issued, announcing the creation of a FPO to replace the Agency for Economic and Financial Research and International Cooperation (BAPEKKI). Treasury is focusing its efforts on the FPO as it is expected to have a similar economic policy advising role.
- The expected deployment of a full time senior Treasury official from September 2006 to co-lead the partnership engagement, facilitate direct policy development assistance in the IMoF, and assist in the establishment of the FPO.
- A limited, flexible, ongoing programme of further capacity-building activities such as seminars, workshops, joint problem-focused studies, and internships.
 - An early initiative that has already been successfully completed is a Forecasting and Economic Modelling Course carried out in Jakarta in February this year by Treasury's Domestic Economy Division for officials from IMoF, Bank Indonesia, BAPPENAS (the economic development and planning agency) and BPS-Statistics Indonesia. Following on from this, it is proposed that Treasury will host two IMoF interns later this year, to observe Treasury forecasting processes first hand.

Contingent on the success of these early programmes, the intention is to gradually scale up Treasury-IMoF engagement activities over the life of the programme to the extent of resources that Treasury can bring to bear on this task.

Conclusion

In the difficult year following the 2004 Boxing Day tsunami, the Indonesian economy nevertheless recorded its strongest growth since the Asian financial crisis. However, even stronger growth will be needed in the future to reduce significantly unemployment and poverty. This will require progress on a number of priority reform areas, including ongoing reforms to Indonesia's system of economic governance.

The response to the tsunami has added a new dimension to Treasury's relationship with its counterparts in Indonesia. Treasury is well placed to assist its counterparts with their organisational and policy reforms. Engagement also benefits Treasury by

The Indonesian economy after the Boxing Day tsunami and Treasury's role in the GPF

deepening our people-to-people relationships and knowledge of one of our key economic and security partners.

The ability of our neighbours such as Indonesia to generate economic growth, reduce poverty and maintain stability is essential not only to the wellbeing and aspirations of their own people, but also to Australia's own security and prosperity.

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Key themes from the Treasury Business Liaison Programme — April to July 2006

As part of Treasury's Business Liaison Programme, Treasury officials met with around 70 businesses and organisations in Sydney, Melbourne, Brisbane, Adelaide and Perth from April to July 2006.¹ Officials also spent two days meeting with businesses on the Gold and Sunshine Coasts and two days meeting with businesses in Tamworth.

Treasury greatly appreciates the commitment of time and effort made by the businesses, industry associations and government agencies that participate in the programme.²

1 A detailed explanation of the Treasury Business Liaison Programme is provided in the Treasury *Economic Roundup*, Spring 2001.

2 This summary reflects the views and opinions of participants. While Treasury's evaluation of the economic outlook is informed by findings from business liaison, a much wider range of information and data are utilised to ensure a rigorous assessment of the Australian economy.

Business conditions

Business conditions were generally good across Australia, but there were noticeable variations across sectors and among States. For example, retailers reported reasonable conditions, but manufacturers reported varying conditions depending on their line of business.

Manufacturers supplying products to the mining and construction sectors described strong conditions. These businesses were running at high capacity utilisation rates and some were importing products to make up for their production shortfall. However, manufacturers of goods such as clothing, homewares and automotive parts reported tough conditions and were struggling to compete with imported goods from Asia. Manufacturers of food products noted that they were facing reasonable conditions.

Both retailers and manufacturers reported a divergence in conditions among the States. Most were experiencing strong conditions in Western Australia, solid conditions in Queensland, average conditions in Victoria and South Australia and flat conditions in New South Wales. Businesses on the Gold and Sunshine Coasts were generally performing well, with these areas continuing to grow strongly.

The favourable conditions in Western Australia were reported as largely the result of strength in the mining sector. Mining businesses described very favourable conditions, notwithstanding cyclone activity in the first quarter of this year. This strength was flowing through to other sectors, particularly the construction sector. Businesses in the construction sector commented that non-residential and engineering construction was strong, with the degree of the strength varying across States.

The strength in the construction sector has offset the slowing in residential activity that has occurred in most States. Businesses reported that the property market in New South Wales was still broadly flat, although businesses in Tamworth noted that their local market was still strong. Conditions held up a little better than businesses expected in Queensland. There were reports of a patchy housing market in the south-east Queensland region, with the first home owner segment showing solid performance, while other segments were a little flatter. Residential construction had not slowed in Western Australia and capacity constraints were resulting in longer lead times for building.

In the services sector, businesses providing services to the mining industry were performing well, while logistics service providers were facing tight conditions largely due to high fuel costs and a highly competitive environment. Companies involved with the infrastructure sector in Victoria and South Australia were benefiting from increased capital spending by these State governments.

Businesses in the tertiary education sector felt that conditions were steady, although the international student market appears to be maturing. They also reported increased competition in the education sector, with more students attending university in their own countries and some countries increasing their competition for international students. Businesses involved in communication and media services also reported increasing competition from Asia.

For businesses involved in tourism, the number of Australians travelling overseas was higher, which was detracting from domestic tourism. High petrol prices were also having some effect on the domestic tourism market, with some evidence in Queensland that domestic tourists were not travelling as far by car for holidays.

In terms of rural conditions, businesses in Tamworth commented that they were grateful for the recent rainfall in the region, but that follow-up rain was required. The winter crop in the region was fully sown, with the area planted similar to last year. Follow up rain is not only required for the current yield on the winter crop but also for preparation of the incoming summer crop. In Victoria, it was reported that conditions in certain parts of the State remain dry.

Business investment

Overall business investment levels were fairly steady, with those businesses benefiting from the strength in the mining sector undertaking more investment. It was also evident that some businesses in south-east Queensland were undertaking significant investment relative to their size, with a number of them in a growth phase.

Retailers reported they were undertaking sufficient investment to maintain existing operating levels. Some manufacturers told us that it was difficult for them to justify increased investment in the sector, given the increased competition from Asia. However, those manufacturers involved in supplying products to the mining sector were increasing investment levels to lift their output capacity. Other types of businesses benefiting from the strength of the mining sector, such as construction and maritime services, were also undertaking greater amounts of investment.

Mining companies reported undertaking significant amounts of investment in both current operations and new projects. There were also reports of a large amount of exploration expenditure being undertaken in the resources sector. For mining investment, businesses reported that the challenge was undertaking large projects with skill shortages and increased construction costs. Some mining companies were also having difficulty getting certain capital equipment, with tyres being a particular issue. The lags are long in this industry, with investment still in its ramp-up stage.

Employment

Employment levels were expected to remain reasonably steady overall, with the general theme of divergences in strength in sectors and States reflected in the reports from businesses.

Businesses in the mining sector continued to report tight employment conditions in some areas and noted that it was increasingly difficult to retain staff in some occupations, including engineers, seismic interpreters, tradespeople and geologists. In Queensland and Western Australia, there were reports that staff with transferable skills, such as truck drivers and tradespeople, were being attracted to the mining sector. There were also reports that labour in rural Victoria was moving to the resources sector. Businesses in the mining sector noted that sourcing employees from overseas was not an easy option, with competition also coming from other countries.

Some businesses have established in-house training and training colleges in response to their skills requirements. Businesses in Tamworth noted that, where they can, they try to hold on to labour during dry weather conditions in order to maintain their skill base.

There were some pressures noted for professionals in legal areas, finance, information technology and accountancy.

Wages, other costs and prices

The pattern of wage pressures reported by businesses was consistent with broader indicators of labour market strength. The mining sector in particular reported strong wage growth compared to other industries. Wage pressures across a number of skilled occupation groups were particularly evident in Western Australia, a situation that has been emerging for some time.

Moreover, high levels of activity in parts of the construction sector were leading to relatively strong wage growth, with non-residential and engineering construction activity outside the mining sector also remaining very high.

In most other parts of the economy, businesses reported more moderate wage pressures.

Non-wage business costs were also showing strength. Not surprisingly, a large proportion of businesses mentioned that high fuel prices were having an impact on their costs. Businesses in the transport and logistics sector reported a relatively greater impact from high fuel prices, as did retailers and other businesses providing delivery

services. High fuel costs were also affecting the rural sector, both directly and indirectly with a flow-through to higher fertiliser costs.

Costs in the construction industry were reported to be remaining high, reflecting strong demand for construction materials. This was affecting the cost of new building and engineering construction projects. High steel costs remained an important factor for many businesses in the construction sector.

Increases in raw material costs were also affecting some businesses. The costs of aluminium, steel, tin and plastic were mentioned by some businesses as increasing their packaging costs. Increases in the cost of some agricultural commodities, such as sugar and milk, were also mentioned as important for some businesses.

Some businesses were benefiting from continued falling prices for a number of imported goods. Wholesalers and retailers reported falling costs for imported goods, as did manufacturing businesses that use imported inputs. However, some businesses reported that the cost of imported machinery and equipment was rising.

Businesses across a number of sectors reported continuing strong competitive pressures in the economy. This was constraining their ability to pass on increases in input costs. An exception was for fuel-related increases in transport costs, which were being passed on to final consumers in some cases. Some retailers also reported using promotional activities to increase sales volumes to offset falling profit margins.

What's new on the Treasury website

The Treasury's website is www.treasury.gov.au. It includes past issues of the *Economic Roundup*. Some of the other items posted on the website since the previous issue of *Roundup* that may be of interest to readers are listed below.

Working papers

2006-03: Does distance matter? The effect of geographic isolation on productivity levels (May 2006)

<http://www.treasury.gov.au/contentitem.asp?NavId=049&ContentID=1113>

Bryn Battersby

Over the past 50 years, Australia has maintained a labour productivity level of around 80 per cent of that of the United States. One possible reason for the gap is the hindrances that might be imposed by Australia's geographic isolation. A simple labour productivity regression, estimated for the states of the United States of America and Australia, finds that distance is a significant determinant of state productivity levels and that Australia's isolation from world economic activity accounts for almost half of the gap in labour productivity between Australia and the United States.

Discussion papers

IMF quota reform and the G-20

<http://www.treasury.gov.au/contentitem.asp?NavId=035&ContentID=1102>

This paper identifies the issues involved in reforming the quotas used to determine voting rights at the International Monetary Fund, and provides a possible framework for discussion of these issues within the G-20. Currently a number of countries are significantly underrepresented, relative to their weight in the global economy. Quota reform may be implemented through voluntary realignment, ad hoc increases or a general increase with a selective component. A possible way forward is a sequenced approach that would achieve some realignment of quotas in the near term, while longer term options are considered further.

Progressing the G-20's agenda on reform of the governance of the Bretton Woods institutions

<http://www.treasury.gov.au/contentitem.asp?NavId=035&ContentID=1103>

There is broad consensus among IMF and World Bank member countries that reform of both organisations is necessary to ensure their effectiveness and legitimacy. The G-20 can play a useful role in supporting current IMF and World Bank efforts to improve their internal governance but also in proposing specific new work involving more fundamental review and aimed at practical and achievable outcomes.

Speech

Asian economic growth prospects and the impact on Australia (May 2006). Address to the 'Leading Australia's Future in Asia' programme, at the Australian National University, by Martin Parkinson, Executive Director (Macroeconomic Group); co-written with Gordon de Brouwer, Nathan Dal Bon, Milovan Lucich and Hassan Noura.

<http://www.treasury.gov.au/contentitem.asp?NavId=008&ContentID=1115>

A profound rebalancing of global economic and strategic power is transforming Asia. The strong economic growth is set to continue as China and India are still in the early phase of 'take-off'. The economic changes mean reform of the institutions for global cooperation is required. Australia is actively contributing to regional forums, including by discussing our extensive and ongoing reform process.

Sources of economic data

The following table provides sources for key economic data. Australian Bureau of Statistics (ABS) data can be obtained over the internet at <http://www.abs.gov.au>. The Reserve Bank of Australia information is available at <http://www.rba.gov.au>. Similarly, OECD information is available at <http://www.oecd.org>. Information on individual economies is also available via the IMF at <http://www.imf.org>.

International economy

Output, current account balance and interest rates	OECD Main Economic Indicators
Consumer price inflation	ABS cat. no. 6401.0

National accounts

Components of GDP, contributions to change in GDP	ABS cat. no. 5206.0
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Incomes, costs and prices

Real household income	ABS cat. nos. 5204.0 and 5206.0
Wages, labour costs and company income	ABS cat. nos. 5204.0, 5206.0 and 6302.0
Prices	ABS cat. nos. 6401.0 and 5206.0
Labour market	ABS cat. no. 6202.0

External sector

Australia's current account, external liabilities and income flows	ABS cat. nos. 5368.0, 5302.0 and 5206.0
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Past editions of Economic Roundup

Details of articles published in the past two editions of the Economic Roundup are listed below:

Autumn 2006

Educational attainment in Australia

Wellbeing and happiness in OECD countries

Brilliant minds: the Nobel Prize in Economics

Key themes from the Treasury Business Liaison Programme – December 2005 to March 2006

Summer 2006

Perspectives on Australia's current account deficit

A tale of two terms-of-trade booms

Understanding productivity trends

Water and Australia's future economic growth

Innovation across the OECD: a review of recent studies

Demographic challenges and migration

Australian net private wealth

Copies of these articles are available from the Treasury. Written requests should be sent to Manager, Domestic Economy Division, The Treasury, Langton Crescent, Parkes, ACT, 2600. Telephone requests should be directed to Ms Amy Burke on (02) 6263 2756. Copies may be downloaded from the Treasury web site <http://www.treasury.gov.au>.

