

Australia's Economy

Introduction

Political debate is often focussed on economic indicators, such as GDP, unemployment and inflation. The long term performance of an economy, however, is very much dependent on the country's economic structure – its endowment of physical and human assets and the country's institutions, values and traditions. Economic structure, in turn, is strongly influenced by government policy. This brief essay surveys Australia's economic structure, concluding with an outline of some long-term and medium-term challenges for Australian economic policy.

Governments can influence economic structure through policies directed at particular firms or industries (as Australia did in the postwar years when there was strong tariff support for manufacturing) or through more general measures such as provision of communications and transport infrastructure, favouring certain types of education, or engaging in overseas promotion (such as tourism promotion). In Australia, as in other countries, governments have moved away from supporting particular firms and industries over the last twenty years, but are still involved in providing more general support for industry.

In most important aspects Australia's economic structure is similar to that of other developed countries. The days of Australia's economy "riding on the sheep's back" are long gone, and, as the Australian economy has opened to the rest of the world, its manufacturing sector has contracted in relative size. As in other OECD countries, the broadly-classified "service sector" comprises around three quarters of our GDP and even more of our employment.

There are, however, many factors which tend to set Australia apart from other developed countries. Among these are a high rate of immigration, and a high dependence on mineral commodities in our export base.

The composition of Australia's GDP and employment.

Agriculture, manufacturing and mining loom large in Australian folklore, but the reality is that as many Australians work in retail trade as in these three industries combined. More Australians are employed in health care than in manufacturing, and twice as many are employed in cultural and recreational services than in mining. Property and business services account for more of GDP than manufacturing.

Table I: GDP and Employment

	Contribution to GDP 2006-07	Employment Nov 2007
Agriculture, forestry and fishing	2.5%	3.4%
Mining	8.3%	1.3%
Manufacturing	12.1%	10.4%
Electricity, gas and water supply	2.6%	0.8%
Construction	8.0%	9.0%
Wholesale trade	5.5%	4.2%
Retail trade	6.8%	15.0%
Accommodation, cafes & restaurants	2.4%	4.6%
Transport and storage	5.5%	4.8%
Communication services	3.0%	1.8%
Finance and insurance	8.7%	3.8%
Property and business services	14.0%	11.8%
Government administration & defence	4.7%	4.6%
Education	5.0%	7.1%
Health and community services	6.9%	10.6%
Cultural and recreational services	1.8%	2.8%
Personal and other services	2.2%	4.0%
	100.0%	100.0%

Source: Derived from ABS statistics

Industries involving extraction and transformation of mineral and energy resources are very capital intensive; their share of GDP is much higher than their share of employment. Their labour productivity (as measured by the value of output per worker) is high. Many service industries, by contrast, are much more labour-intensive.

Immigration

Australia has one of the highest immigration rates of all developed countries, and has sustained high immigration for most of the past 60 years. Almost a quarter of Australian residents were born overseas. Only a handful of other developed countries – Singapore, Switzerland and Canada – have comparable or higher proportions of overseas-born people in their populations.

Australia's rate of immigration reached a peak in the early 1950s, when there were around 150 000 immigrants coming to a country of only eight million people. Since then there have been fluctuations in the numbers of immigrants: a high in 1988, a rapid fall in the early 90s, and a strong and sustained rise since then.

Australia's natural population growth and net immigration are now roughly equal, at around 130 000 people a year. As a result Australia has a population growth rate which, at 1.2 percent a year, is high for a developed country. (Many developed countries have growth rates just above zero, and some, such as Italy, have negative population growth.)

There are several economic implications of Australia's high immigration.

First, if our material living standards are to improve (as measured by GDP per capita), Australia must achieve a growth rate of at least 1.2 percent. That is our population

growth rate which is kept high by immigration. While Australia's GDP growth rate has been high in comparison with other developed countries, its per capita GDP growth rate is closer to mid-range, and many economists predict it to fall in coming years. Also, in times of slow growth, Australians can suffer considerable pain while the country is not technically in recession, for a recession is defined in terms of two consecutive quarters of negative growth – absolute decline, not just decline in per capita growth. (See the box "Advocacy by numbers" for the limitations of GDP as an indicator of well-being.)

Second, while net immigration has only a minor immediate effect on the overall age structure of the population, a large proportion of immigrants is in the 15 to 34 age range, a range which includes years of heavy fertility. Thus, in a secondary way, immigration has helped keep Australia's population young. With a young population there is less demand than in some other countries for public budgets to fund health care and retirement incomes.

Third, because immigrants are heavily represented in this 15 to 34 age bracket, they are generally of working age, and in recent years there has been a strong emphasis on work skills for immigration eligibility. Immigrants are also at the age of household formation, which means they contribute to demand for housing and to demand for public infrastructure and other public services.

Figure I: Permanent settler arrivals - annual rate (persons/year)



Fourth, and not so easily quantified, immigration has contributed to our nation becoming culturally and linguistically more diverse, particularly since we broadened our sources of immigration from around 1970. Multiculturalism has a strong economic dimension as immigrants provide personal commercial links to a variety of markets and destinations for foreign investment, and help break the economic rigidity which can arise in a social monoculture.

Commodity dependence

In terms of exports, Australia stands out in having a high dependence on mineral and agricultural commodities. Table II compares Australia with selected other industrialized countries.

Even within the category “manufacturing” Australia has a low proportion of exports classified by the UN as “high technology”. Our 14 percent of manufactured exports classified as “high technology” compares with 32 percent for the USA, for example. For high-growth Asian countries the figures are even higher – 56 percent for Malaysia, 30 percent for Thailand and 32 percent for Hong Kong.

One characteristic of the recent period has been an extraordinary growth in the prices received for mineral commodities. Between 2003 and 2007 base metal prices rose by 130 percent, boosting export income and contributing to a rush of new mining developments.

The availability of exportable natural resources has both benefits and costs. The benefits of foreign exchange earnings are readily apparent: in Australia’s case natural resources have contributed to strong economic growth, not only over the most recent period of high demand from China, but over a longer period going back to 1807 when the Macarthurs sent their first bale of Merino wool to England. Over the last 50 years minerals have displaced agricultural commodities in our exports.

While the benefits of Australia’s endowment of mineral resources are easy to see, the costs are more diffuse and not so easily traced. One of the more identifiable costs is that the resulting influx of export income, and of foreign investment to develop mineral deposits, drives up the exchange rate, to the detriment of the competitiveness of other industries seeking export markets or which are exposed to import competition, such as agriculture, manufacturing and tourism. Of course, if commodity exports were to continue indefinitely this may not be such a problem, but commodity booms have a finite life, particularly as global supply slowly rises to meet demand, and as importing countries go through their own business cycles. When the exchange rate eventually settles back to a lower level it takes those other industries, which have lost their capacity during the boom, a long time to respond.

Another cost, also related to the cyclical nature of the industry, is the demand these industries, particular mining industries, places on skilled labour. This is not to suggest it is undesirable for skilled workers to be highly paid, but when one sector of the economy makes high demand on certain classes of skills, there are disruptions to other industries which also need these skills. High incomes in these trades evoke their own market response, in terms of people enrolling in courses relevant to mining and other natural resource based industries, but there is a lag in this response. The newly-qualified geologists and mining engineers may be workforce-ready just as the boom winds down.

Also, particularly in the case of agricultural and forest commodities, there can be high environmental costs. When a country has abundant natural resources there is a strong temptation to practice non-sustainable production as a means of making fast revenue. Many of our export activities are energy-intensive. Our agriculture is energy and water intensive, and our aluminium industry, which supplies seven percent of the world market, is very energy

Table II: Composition of exports

	Australia	EU	USA	Canada	Japan
Agricultural products	14%	5%	6%	10%	1%
Fuels & mining products	41%	5%	5%	24%	3%
Manufactures	14%	61%	58%	48%	76%
Other merchandise	10%	2%	3%	5%	5%
Services	21%	27%	27%	13%	16%
	100%	100%	100%	100%	100%

Source: WTO 2006 data

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intensive, because the electricity which is necessary to convert alumina to aluminium in an electrolysis process is generated almost entirely from brown coal. If Australia is to contribute to emission reductions as recommended in the Garnaut Report, there will inevitably be very high price rises for energy, particularly coal.

Structural change

A nation's economic structure needs to respond to change and challenge. A frozen economic structure leads to stagnation and eventual decay. Fortunately, Australia has a strong history of structural change, but there are periods, particularly in the early years of this century, when structural change seems to have slowed.

The period from 1983 (the election of the Hawke Government) to 2000 (the Howard Government's introduction of the Goods and Services Tax) saw widespread structural change in the Australian economy. At the beginning of this period Australia had very high trade protection (in the form of tariffs and quotas), fixed exchange rates, a highly-regulated financial sector, centralized regulation of wages and working conditions, weak trade practices law, and a complex and highly distortionary indirect taxation system. In a series of reforms the governments of the time – mainly the Hawke-Keating Government – modernized the Australian economy, generally with a view to exposing industries to the discipline of domestic and international competition.

Changing employment indicating structural change

Australia's structural change is revealed in significant shifts in employment patterns. Table III shows recent changes in employment. Some commentators suggest this change can be summarized as a shift to services, but the developments are more complex. There has been a very large expansion in human services such as retail trade (contrasting with wholesale trade), hospitality, education, health and recreation. Some sectors, such as utilities have expanded output significantly without commensurate expansion in employment; in these capital-intensive industries productivity as measured by output per employee has increased significantly. Some of the expansion of property and business services reflects outsourcing of activity by other businesses, while some reflects the recent boom in real estate activity.

Table III: Employment trends

	Employment '000	1984	2007	Change '000	Change %
Agriculture, forestry and fishing		413	359	-54	-13%
Mining		94	138	44	47%
Manufacturing		1,146	1,084	-62	-5%
Electricity, gas and water supply		143	87	-56	-39%
Construction		446	961	515	115%
Wholesale trade		411	441	30	7%
Retail trade		896	1,592	696	78%
Accommodation, cafes and restaurants		224	494	270	121%
Transport and storage		342	500	158	46%
Communication services		145	188	43	30%
Finance and insurance		262	396	134	51%
Property and business services		404	1,242	838	208%
Government administration and defence		319	487	168	53%
Education		451	766	315	70%
Health and community services		544	1,110	566	104%
Cultural and recreational services		115	298	182	158%
Personal and other services		221	418	197	89%
		6,576	10,562	3,986	61%

Source: ABS statistics

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These reforms contributed to a growth in productivity (as measured by changes in GDP per hour worked) in the 1990s through to the early 2000s. (See Figure II.) There are other contributing factors to Australia's productivity growth. As industries become more capital-intensive, particularly through use of information technologies, labour productivity grows (which is why "multifactor productivity", a measure that incorporates both capital and labour, rises less steeply). Some growth may be due to work intensification (we are working harder each hour). And part of the surge in the early 1990s may be a by-product of high unemployment of the time, as firms tend to lay off their least productive workers first. (By the same mechanisms, some of the recent decline in productivity may be a result of lowering unemployment as less skilled workers are employed.) Economic researchers, such as the Australian Industry Group, suggest that the gains in productivity realized over the mid 1990s were due to factors not easily replicated and therefore our economic growth will be slower in the future.

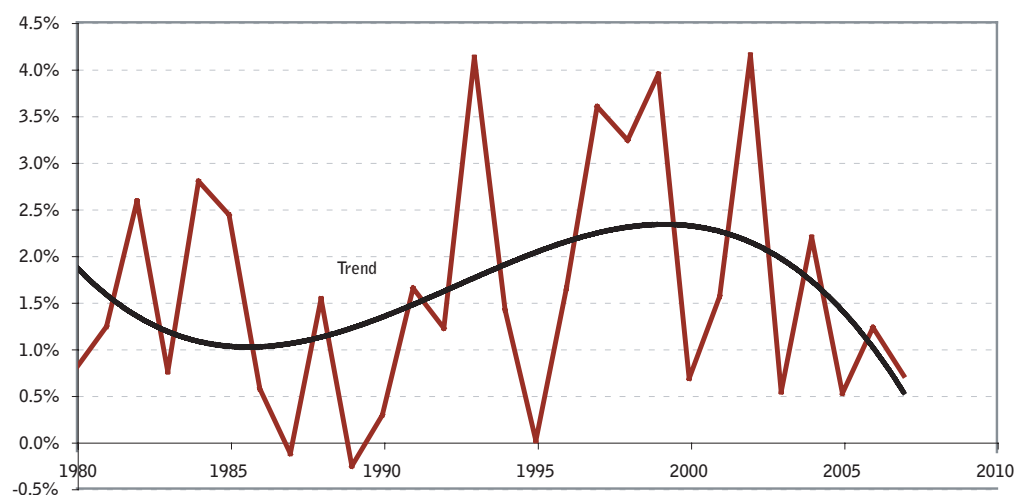
Along with the structural reforms mentioned above there was an extensive program of privatization by both the Commonwealth and state governments. Most energy and water utilities were privatized. Qantas, the Commonwealth Bank, the Commonwealth Serum Laboratories and many other government business enterprises were privatized. The process of privatizing Telstra was begun (completed in 2003), and several industries, once reserved for publicly-owned monopolies, were opened up to new entrants. In many cases governments withdrew from

direct service provision, relying, instead, on contracts with the private sector. User-charging became more prevalent, for example in the case of toll roads.

Whether Australia's extensive privatizations have been beneficial is debatable. In many instances there had been poor productivity in government business enterprises before privatization, but it is possible that their performance could have been improved without resorting to privatization. Privatization of utilities has had to be accompanied by costly regulatory mechanisms, and private utilities have had to raise funds on private financial markets where funds are more expensive than public sector debt. As in other countries, Australia's privatized utilities have not always been able to provide adequate peak capacity (particularly in electricity) and to provide universal services.

While the benefits or otherwise of privatization are unclear, there is less dispute about the benefits of other aspects of structural change, although most structural change imposes high costs on those who are directly affected, particularly employees whose skills are specific to the industries concerned. For example, as our clothing industries became more exposed to foreign competition, many women, often immigrants without strong English language proficiency, lost their jobs, and in many cases these industries were concentrated in particular regions, such as Geelong. The benefits of lower clothing prices have been enjoyed by all Australians.

Figure II: Annual change in GDP per hour worked

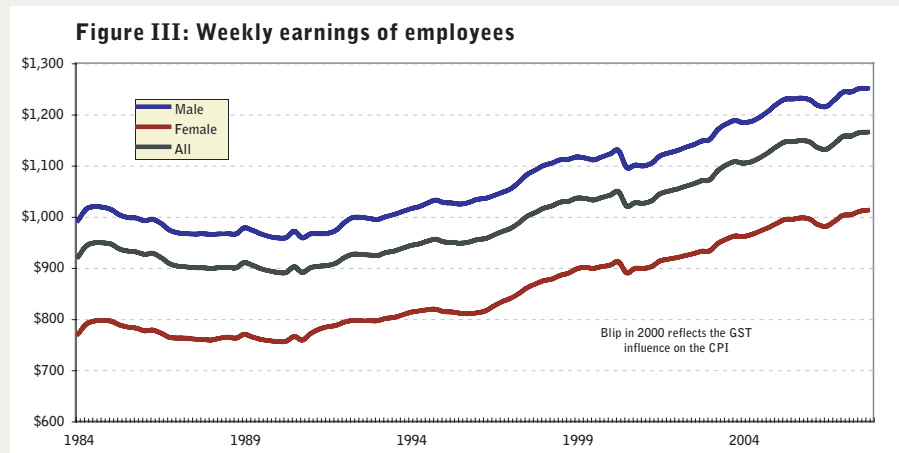


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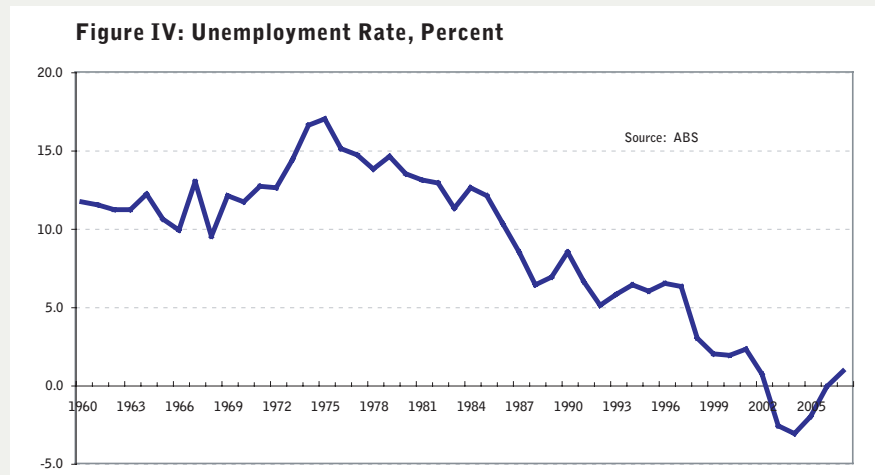
The benefits of growth and structural change

Most Australians are better off than at any time in the past, but this improvement has not been without cost. Many, particularly indigenous Australians living in remote communities, have been left behind. Structural changes which contributed to higher living standards took time to take effect. Many bore the costs of displacement and long periods of unemployment (“transitional unemployment”). And, because some people have kept up standards of consumption by drawing down on assets and extending personal debt, there could be some reversal of living standards, particularly if there is a fall in the market value of assets on which debt is secured.

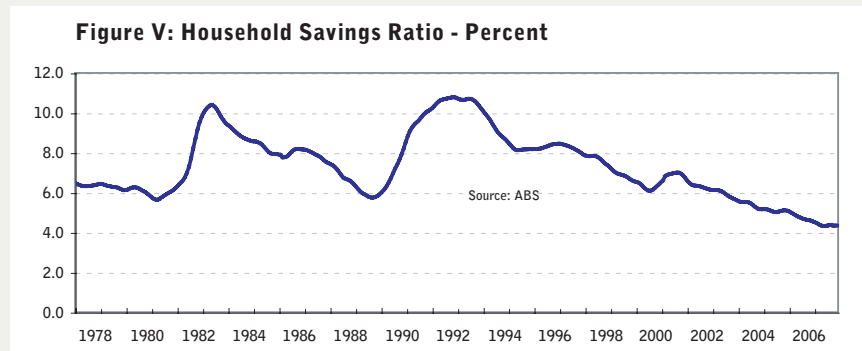
Wages have risen, slightly faster for women than for men, although this convergence has slowed in recent years:



Unemployment has fallen:



But debt has risen, as people have tried to improve their living standards through borrowing.



Economic performance – the influence of government policy

Economic performance is guided very much by public policy.

Governments have a technical function, in keeping an economy stabilized. The key stabilization levers are monetary policy (now largely delegated to the Reserve Bank with its one big lever of setting the basic interest rates) and fiscal policy (the size of government demand and the

balance between government receipts and outlays – the deficit or surplus).

A great deal of media discussion is focussed on this technical function, particularly on the annual Commonwealth and state budgets.

But there is much more to the government's economic role than budgetary policy. First, the provision of public goods – education, roads, policing, environmental protection etc – is no less crucial to our economic health than

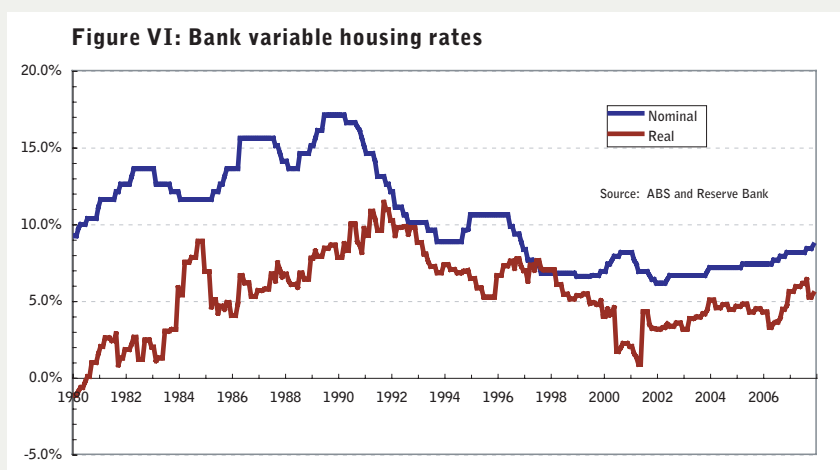
Housing and interest rates

Australia, once celebrated for its high home ownership, now has some of the world's most unaffordable housing.

There are many factors driving up house prices. Demand is high: our demographic structure is such that there is high growth of people in the age brackets where they are forming new households. Greenfield development on our suburban fringes is becoming more expensive in terms of infrastructure, and we have shifted many of these costs on to developers and therefore house buyers rather than our general public budgets. Our taxation structure, particularly a set of capital gains taxes changes introduced in 1999, have encouraged speculative investment in housing. Skills shortages, some resulting in inadequate skills investment and some resulting from the demand from the mining sector, have left the house building sector stressed.

One of the major factors has been the lowering of interest rates from a peak in the late 1980s. The Commonwealth Government (for political reasons) and the banks spruiked up this reduction in rates. But at the same time inflation was falling. When nominal interest rates (as posted by the banks) were high, so too was inflation. People's rising nominal incomes rapidly diminished the burden of mortgage debt. When inflation fell, nominal interest rates fell, but incomes were not rising so quickly (particularly for those whose skills were not in high demand).

The key indicator of one's mortgage burden is the *real* interest rate, being the interest rate after inflation is taken into account. (Roughly equal to the nominal rate minus inflation.) Real rates have risen and fallen, but not so much as nominal rates (and hence they lack the political salience). Falling nominal rates led many to take on mortgage burdens, which have persisted in the face of low rises in nominal incomes.



High house prices have contributed to an illusion of increasing wealth. As house prices have risen, many people have used increased equity in their houses as collateral for increased debt. (In reality the "wealth" represented by a house – its shelter, convenience and comfort – stays fairly constant, or even falls away with wear and tear.) If, as has happened in Japan and The Netherlands, and more recently in Ireland and Germany, housing prices fall, this wealth illusion could work in the opposite direction, particularly as lenders start calling in loans when the security value of the loans reduces.

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the provision of private goods in private markets. Second, through social security payments, governments provide a buffer of social insurance against the vicissitudes of private markets. And third, governments have a strong influence on economic structure, not only through specific industry policy, but also through education, foreign, environment, regional and other policies. As pointed out in this brief, immigration policy has been one of the prime determinants of our present economic structure.

The balance between an economy's division between public and private goods is a contentious subject, not resolved by simple decision rules. There are often emotive debates about the size of the public sector – many calling for more government services while others call for “smaller government”.

In fact there is no discernable relationship between the “size” of the public sector (in itself difficult to measure) and economic performance. There are countries with large public sectors and strong economic growth, such as the Nordic countries. There are countries with very small public sectors and very low growth. (Figure VII shows growth and the size of government expenditure for OECD countries.)

By any measure Australia has “small” government compared with other developed countries. Among OECD countries only Ireland and Korea have smaller public sectors (as measured by government expenditure as a percentage of GDP).

There are signs that Australians are less receptive to the idea of “small government” than they were in the 1980s,

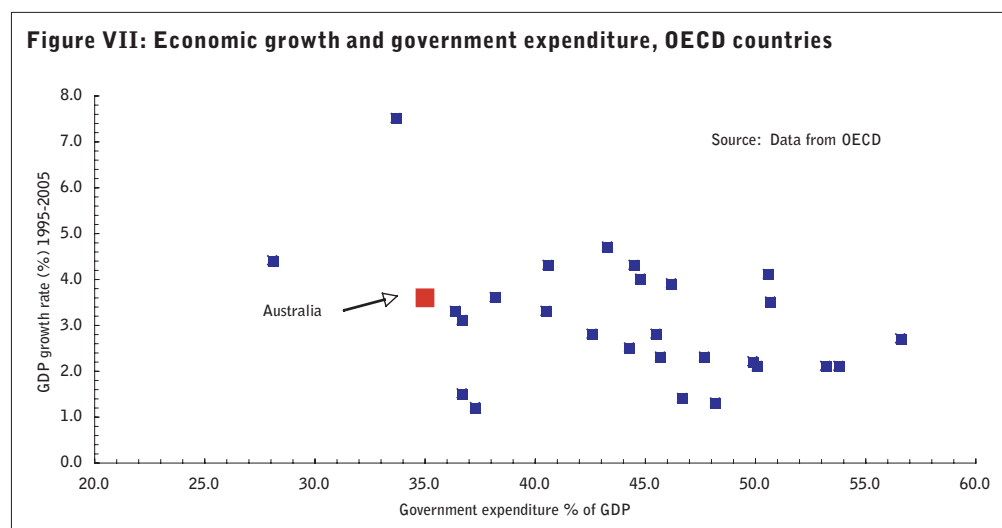
when globally there was a notion of the benefits of “small” government. Tax cuts, although believed by some politicians to be popular, have lost much of their political appeal. When asked by opinion pollsters if people wish to pay more tax, there are few positive responses, but when respondents are asked if they would be willing to pay more taxes for specific public services, particularly health, education and environmental protection, the results are very strongly positive.

It is difficult for governments to respond quickly to such demands, however. A sudden injection of funds into health care, for example, is likely to do little more than to increase the incomes of doctors and nurses, for these skills are in short supply. Governments can change their budget outlays every year (or more often), but re-allocation of resources often takes a long time.

In terms of economic performance, what counts more than the “size” of government is the composition of government expenditure. It is reasonable for public budgets to be directed to outlays on “public goods” – that is, goods and services which are in demand but which the private sector cannot supply or cannot supply efficiently. Some public goods, such as health care, deliver immediate benefits. Some others, such as transport and communication infrastructure and environmental repair, are investment goods which yield both immediate and future dividends.

Australia, like most developed countries, has had to devote an increasing proportion of its public budget to social security transfers such as age pensions, family allowances and sickness benefits. In 1972-73 only 21 percent of the

Figure VII: Economic growth and government expenditure, OECD countries



Commonwealth Budget was devoted to personal transfers; in 2007-08 that proportion has risen to 35 percent. Similarly, outlays on health care have risen from 8 percent to 15 percent over the same period.

This growth in outlays has many sources. One is population ageing, placing demands on age pensions and health care. Another is a switch from use of income taxes to direct social security payments to achieve income redistribution. Australia once had a very progressive income tax scale, with marginal tax rates for high income earners as high as 67 percent; the top rate now is 45 percent and will

probably go down to 42 percent. And another is a widening disparity in private (pre-tax and pre-social security) incomes, even for those in employment. As the Australian economy has opened to international competition, wage disparities have risen and employment has become less secure for many. In times past tariffs and secure well-paid employment allowed the Conciliation and Arbitration Commission to keep a relatively high floor on wages.

This is not to suggest wages would be higher had we retained a protected economy. They would be lower but there would be dispersion of incomes. Social security

Advocacy by numbers – the use and abuse of statistics

Politicians and many opinion leaders use economic indicators to score political points. Among those indicators to regard with scepticism are:

GDP

GDP is often used as a scorecard of a nation's economic progress. But we should remember that it accounts only for monetarized transactions in our economy. According to the ABS, if the value of unpaid work (most of which is done by women) were added to official figures, our GDP would be 50 percent larger. Another limitation of GDP is that it does not account for depletion of natural resources. And not all economic activity measured by GDP indicates well-being. A serious car accident, for example, creates economic activity in smash repair and medical treatment, but it can hardly be called a "good".

Productivity

"Productivity", like its relative "efficiency", is measured as a division between two numbers – some indicator of output in the numerator and some indicator of input in the denominator, and both of these need careful definition. For example, if people work longer hours, output per worker may rise, but output per hour worked will probably fall. If unemployment rises, output per employed person will probably rise (on the assumption that the least productive people are the first to lose their jobs), but output per person in the labour force (employed + unemployed) will fall. And those problems simply refer to labour productivity. Estimates of capital productivity raise many more problems and opportunities for political manipulation.

Unemployment

The unemployment rate is officially measured as the percentage of the unemployed (people out of work but seeking work) divided by the labour force, which is the sum of the employed and unemployed. The "unemployed" do not include discouraged job seekers who have given up looking for work, or those on disability benefits, and the "employed" include many who are working part-time but would prefer to be working full-time. (For an excellent explanation, showing the assumptions in labour force statistics, see the ABS publication *Labour Statistics: Concepts, Sources and Methods*.)

Inflation

Inflation is strictly measured by the price movements of all goods and services in the economy, but is most often measured by movements in consumer prices, as published in the *Consumer Price Index (CPI)*. One warning in interpretation is that the CPI is influenced by changes in taxes and subsidies. Also, it measures *average* price movements for people in capital cities. In Australia's case prices for many items which most would regard as "necessities" – education, health care, gasoline, rents – have risen strongly in recent years, but the average has been held in check by relative falls in items such as appliances, cars, electronic goods and clothing, most of which are imported from low labour-cost countries, have been subject to reductions in tariff protection, and have had the benefits of product and process innovation.

transfers have become the means to restore some distributional equity to compensate for disparities in private incomes.

The policy question which this growth in transfers raises is whether this is sustainable. Are we using transfers to compensate for our economy's inability to provide well-paid jobs? Have we invested adequately in human skills and infrastructure to ensure our economy is strong and resilient in dealing with future shocks, particularly global warming? Climate change, the Garnaut Report warns, is proceeding faster than previously believed, is already having consequences and carries the risk of catastrophic consequences. It therefore requires immediate and urgent action, which, if taken, will place stresses on public budgets.

Australia has kept total government outlays in check largely by allowing personal transfers to crowd out other areas of public expenditure. Physical infrastructure, education, and environmental protection are all suffering from constraints in public outlays.

Public sector capital expenditure has been constrained by a perceived virtue in sustaining a budget surplus. Since 1977-78 the Commonwealth has sustained a cash surplus (a surplus of receipts over expenditure) of around one percent of GDP, and most states have been running similar small surpluses. (The OECD average is a deficit of around two percent of GDP.)

It has become a political creed that running a deficit is a sign of poor management and that cutting public debt is an unquestionably desirable objective, reflecting sound fiscal management. By 2007 Australian governments, in aggregate, had no net debt, compared with an OECD average of around 40 percent of GDP. It's an easily communicated message that debt is bad and that saving is good.

Budget surpluses have been easy to achieve, for, since 1991, Australia has had a run of strong economic growth, partly resulting from the economic reforms of the 1980s and partly spurred on by China's demand for mineral commodities. In a growing economy, public revenues generally grow at an even faster rate than the economy as a whole, as company and personal tax receipts rise, and some demands for social security payments ease as more people find work.

In Australia's case not only budget surpluses but also cash receipts from the sale of government assets have allowed governments to reduce debt. But governments have failed

to point out, as a corporation would be obliged to point out, that they were also reducing the balance sheet valuation of the public sector's net worth. A balance sheet has two sides.

These budgetary practices have been at some cost, particularly in relation to the nation's physical infrastructure and environmental resources. The debt obsession has caused governments, state and Commonwealth, to hold back on capital expenditure. In some cases governments have resorted to off-balance-sheet finance deals, such as public-private-partnerships, and build-own-operate schemes, which, while helping government report lower debt, still make demands on capital markets and are generally more costly in the long run because of the higher cost of funds in the private sector and because of the need for complex regulatory arrangements. A small example is provided by the cost of governments paying high rents to private corporate landlords for purpose-built public buildings. As a domestic analogy, few people sell their own houses and rent them back.

And there are limits to shift activities off government balance-sheets. Many public goods, such as surface transport networks, and environmental works, are unattractive to the private sector, because there is no way the benefits can be captured in terms of user payments.

The notions of the desirability of budget surpluses and the undesirability of debt have become politically entrenched. It is hard for any government or opposition party to break from these binds. Yet the time will come when governments should go into deficit (a deficit on current revenue and outlays) when the business cycle downturns; otherwise we could face an unnecessarily prolonged period of hardship without the stimulus of fiscal expansion. Even conservative economists suggest that it is acceptable for governments to stimulate an economy when there is a business cycle downturn (a surplus being achieved only over the course of a business cycle), but that notion of temporary counter-cyclical stimulation is rarely mentioned these days.

The debt obsession is standing in the way of desirable public capital investment. To use another domestic analogy, we consider it to be acceptable to borrow to finance a capital purchase such as our house, but we are wary when we borrow for consumption, such as a holiday financed by heavy credit card debt.

To re-frame the recent presentation of budget documentation, Australia could have another \$400 billion of debt-funded public assets without exceeding the average debt burden of the OECD. Or, in business terms, Australia has a weak public balance sheet, with a very low asset base.

Economic challenges – more structural change needed

Structural change has been a driver of economic growth, and will need to be employed to drive future growth.

Australia needs to develop an economic structure which will sustain prosperity once the resource cycle has run its course, particularly when, inevitably, commodity prices fall. Adjustment to such a structure will almost certainly require investment – public, corporate and private. Some needs to be in human capital to develop the skills and adaptability to cope with the demands of global competition and to provide well-paid jobs less dependent on social security transfers. Our public revenues are needed for other purposes, and, in any event, it is doubtful if a policy of using social security to compensate for structural weaknesses in the economy is sustainable. Some investment needs to be in physical infrastructure, including telecommunications and surface transport.

A related set of adjustments requiring private and public investment is necessitated by climate change to reduce our atmospheric contribution of CO₂ and to deal with the local environmental consequences of global warming, particularly in agriculture. Australia's annual emissions of CO₂ at 8 tonnes per capita are already among the highest of OECD countries and they are growing much faster than the OECD average. One particular urgent need is for investment in electricity transmission networks, for even if alternative energy resources such as large scale solar and geothermal sources materialize, they will need transmission networks.

The economic implications of environmental pressures are well described in the Collaboration's document *Living standards, economic growth and environmental pressure*. The important point is that it makes no sense to suggest there is some tradeoff or "balance" between environmental and economic outcomes. Economics is concerned with the allocation of all scarce resources, and few are as scarce or as under threat as our atmosphere and water.

The Australian economy has undergone a great deal of structural change during its short life. Structural change brings benefits, but these benefits are usually delayed, and the costs are generally concentrated, often on people who are already disadvantaged. Unless structural change can bring benefits for all, it will eventually be resisted. There is always a risk that the stresses of structural change will be so significant that resistance will set in, and political parties will become fearful of reform. "Big bang" structural change is likely to bring a political backlash. At the other extreme complacency means we do not deal with emerging problems (our denial, until recently, of global warming, is a case in point). The process requires careful political management.

In this regard, designing a response to global warming is the most significant test for the Rudd Government, particularly now it has the strong advice of the Interim Garnaut Report, which stresses the risk of catastrophic change, points out Australia's particular vulnerability, and shows that growth in greenhouse gas emissions is proceeding faster than previously believed. Urgent action is required, and that action will require a costly reallocation of resources.

Medium term prospects for the Australian economy

Also, there are medium-term pressures on the Australian economy, some arising from overseas developments (particularly a slowdown in many of the world's older economies), and some arising from misdirected public policy over the last ten years which has left severe capacity constraints. These problems are manifest mainly in rising inflation. Some of the strongest inflation has been in housing prices. (See the box "Housing and interest rates".)

In short, the last ten years have seen strong rises in our material prosperity, but these gains have not been sustainable. We have been drawing down on accumulated assets, some of which are irreplaceable (particularly some environmental assets), and have been extending personal debt to finance present consumption. This cupidity has been at both an individual and government level. In particular, housing price inflation has contributed to a wealth illusion, encouraging many to borrow against rising house values.

In the medium term, therefore, some reduction in material living standards is inevitable. There will be some combination of rising unemployment, falling real wages, lower immediate returns from investments (affecting, among others, retirees), higher prices (particularly for domestic and transport fuel) and higher interest rates.

Government policy over the next few years will have to steer a delicate course. There has to be some expansion in public expenditure to overcome capacity constraints and to adjust to climate change. But fiscal stress on households will continue to exert pressure on budgets. If governments operate a loose fiscal policy, however, the Reserve Bank will raise interest rates, which will have a generally dampening effect on the economy, and will cause hardship to many, including those with significant mortgages and to exporters, for an immediate result of high interest rates is a high exchange rate.

The clear responses to such pressures are some increase in taxes and redirection of welfare transfers. There is scope for both: on the revenue side there could be taxes on CO₂ emissions. Even if Australia does not fully go down the carbon tax route, there would be wisdom in applying higher taxes on specific commodities. There are also many tax concessions which could be changed, such as the very generous concessions to self-funded retirees introduced in 2007. On the expenditure side some welfare payments available to the well-off, such as the private health insurance incentives, could be cut, and other benefits could be subject to tighter means tests.

Such fiscal stringency would provide room for much needed expenditure in areas which will strengthen the economy, not only in physical infrastructure and environmental repair, but also in health and education, where we are starting to realize the costs of social exclusion.

The main message for governments and political advocates is that economic management is a means to an end, that end being social welfare and protection of environmental assets. The notion of some tradeoff between economic, social and environmental objectives should be unthinkable, for economics which does not contribute to human well-being and preservation of natural resources is pointless.

Further sources

To obtain a working appreciation of economic concepts there are many courses run by university extension services and not-for-profit organizations such as the University of the Third Age.

There is no shortage of data on the Australian economy. Some of the most useful sources are:

The Australian Bureau of Statistics www.abs.gov.au. The ABS provided a wealth of snapshot and time series statistics on all topics, with a strong emphasis on economic and demographic data, as well as education on their interpretation.

The Reserve Bank of Australia www.rba.gov.au. The Reserve Bank's statistics and research papers have a strong focus on financial trends, including issues such as debt and housing affordability.

The Productivity Commission www.pc.gov.au. The Commission produces economic reports on particular topics, usually in response to specific references sent to it by the Commonwealth.

The *Australian Financial Review*, while having a financial focus, also has a large amount of economic coverage. In the opinion pages of the quality daily papers there are often well-written economic pieces by writers such as Ken Davidson, Ross Gittins and Peter Martin. Many of the ABC Radio National Programs such as *Background Briefing* and *Saturday Extra* cover economic issues, bringing together economic commentators with very different perspectives – www.abc.net.au/rn

Some recent publications of particular relevance include:

Australian Industry Group *How fast can Australia Grow?* – www.aigroup.asn.au This document analyses recent trends and developments in Australian productivity, pointing to factors which will put an upper bound on Australia's economic growth.

The Garnaut Climate Change Review presented its Final Report to the Prime Minister of Australia and the eight states and territories in September 2008. <http://www.garnautreview.org.au> The Review examined developments in climate change resulting from CO₂ emissions, updating previous more conservative estimates. The Interim Report set the scene for urgent action, but the Final Report contained much weaker targets.

T H E A U S T R A L I A N C O L L A B O R A T I O N

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