“A combination of sound economic management and an abundance of mineral resources has allowed Australia to avoid the problems which have been plaguing so many other countries. But what are the costs of our commodity boom, and do we have the economic structure to sustain our prosperity when the boom ends?”

In *The Australian economy: Will our prosperity be short-lived?* Ian McAuley argues that abundant mineral resources and cautious fiscal management have allowed Australia to ride out the global financial crisis and its repercussions with remarkably little pain. Commodity booms, however, have a limited life. They are not an unmitigated good, because they disrupt existing economic structures through their requirements for labour and capital and because of their effect on the exchange rate. The rapid improvement in Australia's terms of trade have brought fortune to some sectors and difficulties to others.

If our prosperity is to endure past the boom we need to re-engage with economic reform. Around the turn of this century our governments lost the zeal for reform, and were it not for the commodity boom we would now be facing severe economic difficulties.

Our most pressing need for reform is to adapt our economy to lighten its dependence on fossil fuels. The recently introduced carbon price is a modest first step. We also need to invest in those public assets which strengthen our economy, so that Australians can enjoy well-paid and meaningful employment. In particular we need to invest in education, environmental protection and infrastructure. That will require a strengthening and re-allocation of our public finances, which over a long period have been diverted from public investment to distributive welfare.

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The Australian Economy

Will our prosperity be short-lived?

Ian McAuley

THE AUSTRALIAN COLLABORATION

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Contents

Preface

The Australian economy: Will our prosperity be short lived? forms part of a series of books, essays and reports published by the Australian Collaboration. These materials are devoted to political, societal and environmental issues facing Australia.

The Australian Collaboration is an association of six leading national community organisations:

Australian Council of Social Service
Australian Conservation Foundation
Choice (Australian Consumers' Association)
Federation of Ethnic Communities' Councils of Australia
National Council of Churches in Australia
Trust for Young Australians.

The Australian Collaboration aims to contribute to the development of a sustainable society on many levels: ecologically, socially, culturally and economically.

In addition to *Books, Essays and Reports*, other materials to be found on the Collaboration's web site include some *40 Fact and Issue Sheets* on societal, economic and environmental issues; *Democracy in Australia*, with many issue sheets devoted to the enhancement of public accountability, transparency and democratic practice; and *School resources* including a series of *Study Guides* related to the Fact and Issue Sheets, together with listings of key national and international web sources of statistical and other information. All can be freely down loaded.

Recent essays published by the Collaboration include:

Global poverty by Michelle Sowey, independent researcher and writer in the humanities and social sciences

Corruption: The abuse of entrusted power in Australia by Tim Smith, a recently retired Supreme Court judge.

The views expressed in this essay are those of the author and do not necessarily reflect the views of the Australian Collaboration or its member organisations.

David Yencken
Chair, The Australian Collaboration

www.australiancollaboration.com.au

Short Description

Abundant mineral resources and cautious fiscal management have allowed Australia to ride out the global financial crisis and its repercussions with remarkably little pain.

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SUMMARY AND OUTLINE

Summary

It is hard to find a clear picture of the Australian economy. Partisan perceptions, misrepresentations and misunderstandings abound. Politicians seeking political advantage and radio talkback hosts take delight in talking down the economy, and many journalists, under pressure to file, are superficial in covering economic issues.

Common myths are that prices are running out of control (the reality is that for almost all Australians incomes are running ahead of inflation), that we have crippling government debt (our government debt is very low by both world and historical Australian standards), that government policies are stifling mining investment (if anything there is more mining investment than we can absorb), that the economy is shedding jobs (layoffs command media attention but there is offsetting job creation) and that a carbon price will cause severe hardship (its influence on prices will be slight).

Australia, almost alone among the "developed" nations, has come through the recent Global Financial Crisis (GFC) and its ongoing disruptions with remarkably little pain.[1] Much of the credit goes to the current Government for a quick and well-targeted response in 2008. Credit also goes to the previous Government for building up a budget surplus and for putting the Reserve Bank at arm's length from the Government. And some credit goes to luck – the luck of having huge reserves of minerals needed by large and growing economies in East Asia.

This run of good fortune, however, masks vulnerabilities in the Australian economy, and the mining boom has its costs. It has sent our exchange rate to high levels, to the detriment of our trade-exposed industries such as manufacturing, and it has covered over accrued problems elsewhere in our economy, particularly our declining productivity. Were it not for the mining boom, our run of good economic performance would have lost momentum well before the GFC hit in 2008. Until the turn of the century the Australian economy benefited from the structural reforms of the Hawke, Keating and early Howard gove rnments, but there has been a long period without any serious economic reform, between the Howard Government's introduction of the Goods and Services Tax (GST) in 2000 and the present Government's recent introduction of a carbon price.

As an extractive economy, we are not well-placed to compete in a world where the countries that succeed are those which can do so on the basis of their skills and flexibility, and which have supporting public infrastructure – both the "hard" infrastructure of transport, energy and environmental infrastructure, and the "soft" infrastructure of education, effective governance and other productive public services. We have under-invested in these public assets, in part because we have been unwilling to raise taxation revenue to pay for them, and in part because we have diverted public revenue to social security payments, including generous concessions for many who are reasonably well-off.

We have increasingly been using social security payments to meet people's income expectations, making up for our economy's inability to provide adequately-paid employment. This is not sustainable: we need an economic structure which, drawing on people's energies and capabilities, can provide meaningful and well-paid employment, thus reducing our dependence on redistributive welfare and allowing our taxes to fund productive public assets.

The world in which we must compete is one where the economic balances are shifting towards countries with large populations, particularly China and India, which, as they industrialise, will place a great deal of pressure on natural resources which are already significantly depleted, including the capacity of the atmosphere's temperature regulatory system. Future economic growth will necessarily be based on radically different production techniques and on radically different patterns of consumption, not only in industrialising countries as they reach prosperity but even more so in countries like Australia, a country which has squandered so many of its its natural resources and which has been contributing much more than its share of greenhouse gas (GHG) pollution.

1. I use the term "developed" for want of a better adjective. It is shorthand to refer to a loosely-defined set of prosperous countries, including Australia. It's a relic of a time when there were clearer economic divisions in the world, and when there was little recognition of the many dimensions of "development", of which economic prosperity is only one.

Countries which try to shield themselves from these challenges by protecting existing economic structures or preserving natural resource intensive lifestyles will face slow economic decline. It is tempting for populist politicians to pretend we can avoid difficult change, and to suggest that there is some tradeoff between environmental and economic objectives, but such a presentation demonstrates either a naive misunderstanding of economics, or a deliberate distortion for public consumption. Australia needs strong political leadership to counter such destructive populism.

Outline

Part 1 "Report card for 2011" is a summary of Australia's conventional short-term and medium-term economic indicators. It reports on economic growth (gross domestic product and incomes), employment and inflation, and finds all in strong shape. It is a sign of good fortune and good management when all three – sometimes called the "trifecta" of economic indicators – are pointing in the right direction.

One weak indicator is the distribution of income, which has been widening over many years, resulting in even wider distribution of wealth. The benefits of economic growth have not been shared fairly. The other weak indicator is productivity: our output per hour worked has ceased rising. We may be working harder but we aren't working smarter. Were it not for the mining boom our material living standards would be stagnant or falling. Some possible causes for this drop in productivity are examined, including a common claim that it relates to labour market inflexibility, but there are many other possible causes. There is a case for improved labour market flexibility, but the simplistic claim that we need to strip the labour market of all protections is not supported.

Part 2 "Economic structure" starts with a brief survey of global developments, including the turmoil in European and US financial markets, and what is coming to resemble a world-wide drying up of credit, before presenting an analysis of Australia's economic structure.

In Australia, as in many other developed countries, we have been living beyond our means. For more than 200 years we have exploited many of our biological resources, including soils, ecosystems and rivers at rates well in excess of their rate of replenishment. Having damaged those biological resources, we are now living off plentiful but non-renewable mineral resources.

Our export composition is that of an extractive economy – more akin to an oil-rich sheikhdom rather than a nation with a modern, diversified economy. We are heavily dependent on a small number of East Asian markets for a limited range of commodity exports, which, for now, are experiencing high demand and therefore high prices. While there is no reason to expect any immediate collapse of these markets, such dependence carries many risks.

One already manifest consequence of the mining boom is a strong exchange rate. That has allowed us to enjoy the benefits of low-cost imports, but it has also put huge pressure on our trade-exposed industries, including manufacturing, tourism, agriculture and educational services. Not only is our exchange rate high; it is also volatile, subject to the whims of global currency and commodity speculators. Volatility, in itself, is unsettling for businesses which need to make long-term plans.

In spite of our strength as a commodity exporter (many would say it's a weakness), we almost always run a deficit on current account. That is, we import more than we export, the gap being filled by foreign investment. There are costs and benefits of foreign investment. While there is controversy over the loss of iconic brands to overseas buyers, the most significant issues relate to loss of autonomy and to foreign investment in our extractive industries. We need to ask whether our policy of making it easy for foreign companies to take away our coal, gas and iron ore carries net national benefits.

One basic issue of economic importance is immigration. Australia has sustained a high rate of immigration for most of its recent history. Benefits of immigration abound, not only for businesses enjoying a growing domestic market and for the building industry, but also for public revenue because immigration keeps the population relatively young, easing pressure on health care and age pension budgets. The greatest benefit of immigration has been its contribution to cultural diversity which in turn has widespread economic benefits. Against these benefits must be considered the carrying capacity of an old and arid continent, already suffering strains on its natural systems. There is still the legacy of the nineteenth century image of Australia as a vast land waiting to be populated.

Finally there is an examination of household behaviour. After a long period of reducing savings, households are once more in a saving mode. The reasons are not clear: it may be as a result of nervousness and insecurity, but it started well before the GFC. It may be to do with income distribution, or it may be about people finding that there are limits to consumption. If applied wisely, our savings should be able to reduce our dependence on foreign investment in our most productive sectors.

Part 3 "Public Policy" considers two self-imposed constraints on economic policy – constraints which get in the way of making necessary public investments and re-engaging with economic reform.

The first constraint is an obsession with "small" government. Even though, in relation to its size, Australia has one of the smallest public sectors of all OECD countries, there remains the popular and largely unquestioned notion that we must keep taxes low and constrain public expenditure. This aversion to supposed "big government" includes an obsession with government debt, even though, with government net debt at around 7 to 13 percent of GDP (the range of estimates results from definitional issues), Australia's government debt is way below the level of almost every other developed country.

This constraint on public expenditure has meant that, in order to satisfy the demands for personal transfers (pensions, family allowances and similar social security payments), we have imposed cuts in government services, including infrastructure, education and environmental protection, all of which are important investments if we are to have a prosperous economy in the future, capable of holding our own in a world where national competitiveness rests on wise use of human and natural resources. Unless we make those investments, particularly in education, income disparities will widen, placing even more demands for personal transfer payments to compensate for our inability to provide wellpaid employment.

This loop of destructive positive feedback must be broken, and, unless we are to cut benefit payments drastically, we have to raise taxes. That may appear to be politically difficult, but research suggests that the public are accepting of higher taxes provided they can see value for money. Similarly we must overcome our phobia about government debt. We have a one-sided view of the public balance sheet – the debt side. We don't give adequate thought to the asset side, and therefore don't regard debt as a legitimate means to finance productive public assets.

The second self-imposed constraint is nervousness about economic reform. To its credit, the Government has embarked on the major reform of pricing carbon, but this came about more as a result of a political bargain rather than from firm conviction. Yet as our experiences with initiatives such as tariff reductions illustrate, even quite disruptive reforms have not been politically costly for the governments concerned. The public may complain about proposed reforms, and there will always be lobbying to impede reforms, but if a government constantly yields to narrow interests it loses the respect of the electorate, and if a political party does not have a reform agenda, it brings into question why it's worth the struggle to win public office.

A reform agenda must be in the context of a vision and a set of consistent principles. A vision is not something that emanates from on high. Rather, in a democracy it emerges from a government's engagement with the people, so that the community's adaptive challenges can be identified and progress can be made towards dealing with them. In Australia's case political leadership in the past has seen us meet difficult adaptive challenges successfully: these include our transition to multiculturalism, opening the economy to competition, and re-defining our identity from a transplanted European one to a part of the Asia-Pacific region.

Our main adaptive challenges now are about overcoming two immobilising forces – complacency and fear. A long run of good fortune, as Australia has enjoyed, breeds complacency, while at the same time the niggling feeling that it all may collapse breeds a fear which is nurtured by talkback hosts and populist politicians, who either deny the existence of problems, or who propose simple and easy solutions.

Facing up to necessary structural reform is a difficult task but we have done it before and must do it again if we are not to find our few years of plenty are followed by a gradual slide into poverty.

PART 1. REPORT CARD FOR 2011 – GENERALLY HIGH MARKS

Australia has been one of few developed countries to remain largely unscathed by the GFC – a crisis which erupted in 2008 and which has left in its wake seemingly intractable problems of unemployment, large government debts, financial fragility and political unrest in Europe, Japan and North America.

By comparison with these countries Australia stands out as a beacon of economic success. Australia's performance is strong not only in terms of traditional economic indicators – economic growth, employment and inflation (sometimes called the economic "trifecta") – but also on other indicators collected by the UNDP which include factors such as life expectancy and education as measures of well-being. In 2011 Australia was ranked second out of 187 countries for which the UNDP compiles its human development indicator. We were just pipped by Norway, another prosperous democracy with the benefit (or maybe the burden) of natural resources.

The figures which form the three core indicators are GDP (gross domestic product – a measure of monetarised transactions), unemployment, and inflation as indicated by household cost of living (the CPI – consumer price index). Other important indicators are incomes (including income distribution) and productivity. By most of these indicators Australia is doing well, but not without some damage from the GFC. The downturn associated with the GFC and its aftermath, as with any downturn, exposed weaknesses in some sectors of the economy including retailing and airlines, and saw a temporary rise in unemployment, before the Government's fiscal stimulus measures came into effect.

Some may consider that a problem resides in our interest rates, which are high in comparison with those in other developed countries. Our official interest rate, at 4.25 percent, is much higher than that in the US (0.13 percent) and in the Euro zone (1.00 percent). But our comparatively high rate is a sign of economic health: these other countries have had to lower their rates to absurdly low levels to try to stimulate their economies, while Australia has been able to keep its rates at around their normal historical levels. That gives Australia considerable leeway in using a monetary stimulus (lowering interest rates) should the need arise, while these other economies have no remaining leeway.

Our immediate weak spots are income and wealth distribution, and declining productivity. As will be pointed out in Part 2, this declining productivity is indicative of longer-term structural problems – our material living standards have been growing as a result of the minerals boom, rather than through improvements in productivity.

GDP – recession avoided and strong recovery

GDP is generally used as the strongest single indicator of a nation's economic performance. It measures the value of all transactions for which there is an exchange of money. (For an outline of some of the limitations of GDP as an economic indicator, see the box "Advocacy by numbers – the use and abuse of statistics".) Those who developed standards of national accounts never intended the GDP to be elevated to the dominant indicator of economic progress and there is a large amount of work in progress to develop other indicators of economic and general social progress. But it remains an important economic measure, in part because of its objectivity, and even if it is supplemented with other indicators it does at least give some guide to our material well-being.

Movements in GDP over the last 30 years are shown in Figure 1. By this measure, Australia enjoyed high economic growth from 1992 until 2008: over that period the economy grew at 3.8 percent a year – a rate which, if sustained, would see the economy doubling in size every twenty years. This experience of a long growth cycle without recession was not unique to Australia; globally there had developed a belief that the business cycle (the ten to twenty year swing between growth and recession) was a phenomenon of the past – a belief which contributed to the exuberance fuelling the GFC.

When the GFC hit in 2008, Australia, almost alone among developed countries, avoided recession (defined as two quarters of decline in GDP), but only just. If a recession were defined in terms of decline in per capita GDP, however, Australia would have been in recession over most of 2008-09: our high population growth of around 1.4 percent a year means that economic growth has to be distributed over

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 caution are:

GDP

GDP is often used as a scorecard of a nation's economic progress. But we should remember that it accounts only for monetarised transactions in our economy. According to the Australian Bureau of Statistics (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, which is particularly relevant in Australia's case. 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". Growth in the economy's "overheads" – financial, insurance and legal services, and other private and public sector bureaucracies – contributes to measured GDP, but many would question whether that growth contributes to well-being.

Another limitation of GDP is that it measures production occurring within a given country, rather than production by the country's citizens or corporations (measured by "Gross National Product"). In a closed economy GDP and GNP would equate, but in an open economy they can differ. Of relevance to Australia is the fact that profits accruing to foreign-owned mining operations contribute to GDP, but not to GNP.

In recent years many countries, with Australia in a leading role, have been working on developing more comprehensive indicators of well-being. The ABS regularly produces a document , which brings together (but does not consolidate) a number of indicators. More recently, the Treasury has been developing a framework for wellbeing, based on five indicators – opportunity and freedom, level of consumption opportunities, distribution, risk and complexity. One private sector initiative is by the insurer Australian Unity, which has developed separate indicators of personal and national wellbeing.

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 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 apply to labour productivity. Estimates of capital productivity raise many more problems and opportunities for political manipulation.

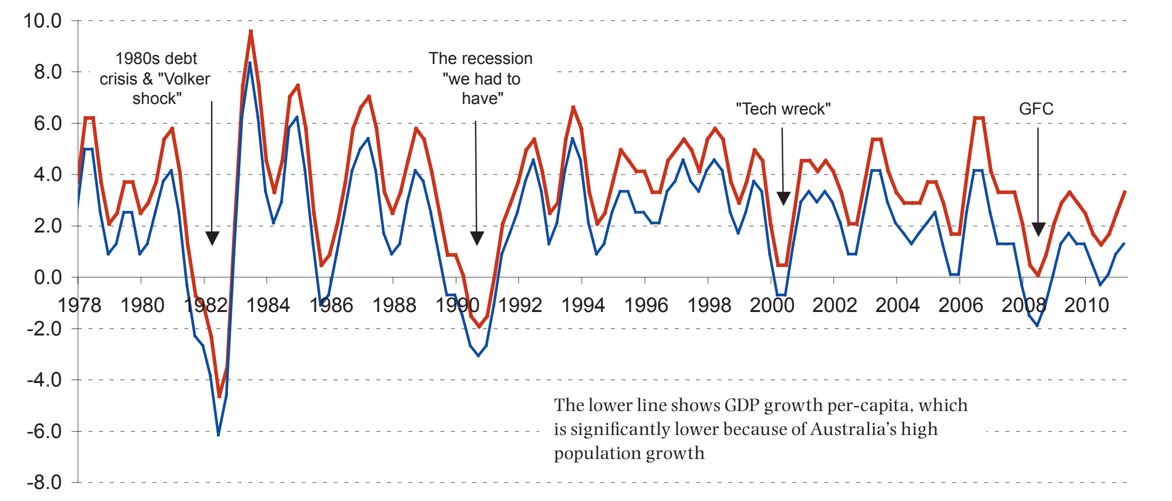
Unemployment

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 for those using the CPI is that it is influenced by changes in taxes and subsidies. Also, it measures average price movements only for people in capital cities.

Figure 1: GDP: annual percentage change



a growing number of people. Unless we achieve at least 1.4 percent annual economic growth our per capita GDP does not increase. Note, in Figure 1, that our per capita GDP growth is much more often in the negative zone than our GDP.

The impact of the GFC is clear in Figure 1, with a fall in 2008, and the downturn in the first half of 2011 stems in part from the European and American debt crisis, and in part from the influence of flooding in the summer of 2010-10. It is notable, however, that these shocks are minor compared with those of last century. The last twenty years have seen a reasonably stable pattern of economic growth.

This improved stability results in part, from successive governments having delegated monetary policy (the setting of interest rates) to an increasingly independent Reserve Bank, away from political interference. If we were to look back into earlier history we would see even greater instability during the first half of the twentieth century, before governments learned how to apply counter-cyclical economic management, and when Australia was much more dependent on agricultural production.

The Reserve Bank is forecasting strong growth (four percent) in 2012, and slightly slower growth (three to four percent) over the following two years. The OECD is forecasting that Australia's growth over 2012 and 2013 will be the highest of all the established developed countries.

Many people question the desirability of economic growth, pointing to the planet's resource limits and to the environmental consequences of over-consumption. Few would question these concerns, but it is worth remembering that not all economic growth has to draw heavily on natural resources. Many economic activities, such as caring for the aged, teaching and entertaining are not natural resource intensive, and such activities have contributed strongly to recent economic growth. As prices of natural resources rise, either as a result of growing scarcity or through measures to incorporate their true economic costs (such as carbon prices), we can expect to alter our patterns of production and consumption to be less dependent on scarce natural resources.

Employment and unemployment – catastrophe avoided

Economists focus on unemployment for two reasons. First, unemployment imposes obvious costs on the people concerned: even generous social security payments cannot compensate for the loss of social and economic participation. As Voltaire pointed out, besides being the means by which most people receive income, work, be it paid or unpaid, also protects us from "boredom and vice". We seek meaning and purpose in our lives, which work helps us find. Second, unemployment of both labour and capital resources represents lost opportunities for our productive capacity. In Australia's $1.3 trillion economy, each one percent of unemployment costs roughly $13 billion a year in lost output – an equation often

overlooked by those who believe that unemployment is beneficial in disciplining the workforce.

To date, Australia's workforce has been growing faster than its population, mainly because more people of working age have been becoming engaged in the workforce – either in work or looking for work. While men's workforce participation has been falling over the long-term, women's increasing participation has offset the male fall. After rising for many years, since 2006 the total workforce participation rate has stayed between 65 and 66 percent.

"Each one percent of unemployment costs roughly $13 billion a year in lost output.

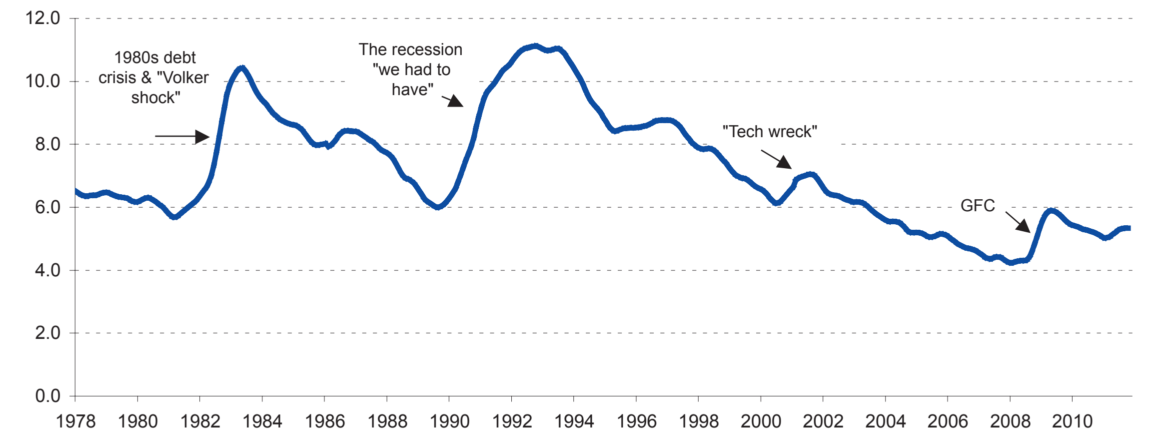
There has been a strong growth in part-time employment: in 1980 only around 15 percent of jobs were part-time, by 2011 that proportion had risen to 30 percent. Only 5 000 of the 25 000 new jobs in 2011 were full-time. Some people working part-time prefer to work full-time, but for many part-time employment is a matter of choice. Once confined largely to women, part-time employment is becoming an expanding option for men: 16 percent of men are now employed part-time.

Unemployment tends to reflect economic conditions. The unemployment rate since 1978 is shown in Figure 2. The long fall in unemployment starting in 1992 is attributed to the strong economic growth up to the time of the GFC.

Unemployment usually rises steeply during a recession (sometimes with a lag), and recovers only slowly as economic conditions improve: these steep rises and slow falls are clearly shown in Figure 2. Firms which close or lay off staff during a downturn do not necessarily re-open or re-hire during the subsequent recovery. Once people have lost employment it is difficult for them to find work again, even in a growing economy. That is why the Australian Government put such emphasis on sustaining employment when the GFC hit. At around five percent Australia's unemployment rate compares with rates of around ten percent in the USA and Europe – and even up to twenty percent in some individual European countries. But there are employment risks in Australia's boom, because mining provides little employment, while it elevates the exchange rate, putting at a disadvantage import-competing labour-intensive industries, such as tourism and some aspects of manufacturing. Some commentators attribute the recent low rate of full-time job creation to this phenomenon.

Unemployment is an aggregate indicator. Even when national unemployment is low, there can be areas of stress. Unemployment among young people not engaged in education is 18 percent, and there are pockets of comparatively high unemployment in some outer metropolitan areas and singleindustry rural areas. There are state variations, reflecting in part the uneven incidence of the mining boom: in

Figure 2: Unemployment rate, percent



late 2011 Western Australia had an unemployment rate of 4.3 percent and a participation rate of 68.0 percent, while Tasmania had unemployment of 5.3 percent and participation of 60.5 percent.

Also, figures on employment do not say anything about the quality of work or its distribution. For example, around a quarter of employed Australians would prefer to work fewer hours, while among those in low-paid, casual or part-time work many would prefer to work longer hours.

While unemployment is always of concern to policymakers, the Australian Government has also become concerned about labour force participation, particularly among older people still able to work, such as people in their fifties and early sixties. (Figure 3 shows our employment trend as a proportion of population of working age.) This concern is prompted by labour shortages, skilled and unskilled, in industries ranging from fruit picking through to mining, and by demographics. One result of increases in life expectancies (Australia has one of the world's longest life expectancies) is the presence of a healthy older population. In promoting labour force participation the short-term policy objective is to ensure that economic growth is not impeded by labour shortages, while the long-term objective is to ensure the dependency ratio (the ratio of older people dependent on public or private pensions to working people) does not become too high. Over the last few years, in spite of falling unemployment, the proportion of the adult population in employment has tended to stabilise. The Government's concern is to put it once again on an upward trajectory.

Getting people into work is one way of generating economic activity. The other is ensuring that those who are working are doing so productively, and in that regard Australia's performance has been less than impressive in recent years.

Productivity – the weak spot

There are many ways to measure productivity – the returns from our efforts at work. (See the box "Advocacy by numbers" for some of the limitations and qualifications around productivity measures). The most generally used measure is GDP per hour worked. In common parlance, if people are working smarter rather than harder, productivity will rise.

Indicators of productivity are notoriously volatile. In times of recession, for example, productivity actually rises, because the least productive workers are the first to lose their jobs. Also, in some sectors of the economy not subject to market prices, such as the public sector, there is no reliable measure of productivity.

The longer-term trend in productivity, shown in Figure 4 (on the next page), reveals a general rise from around 1985 until 2000, largely explained by economic re-structuring (tariff reductions and competition) and the uptake of information technology. Productivity seems to have peaked, however, and to have been falling since.

Part of the explanation for the decline in productivity relates to the mining boom. Mining firms have been employing labour in advance of production and this has contributed to an apparent fall in labour productivity – which is already showing signs

Figure 3: Employment to population percentage (percentage of people employed)

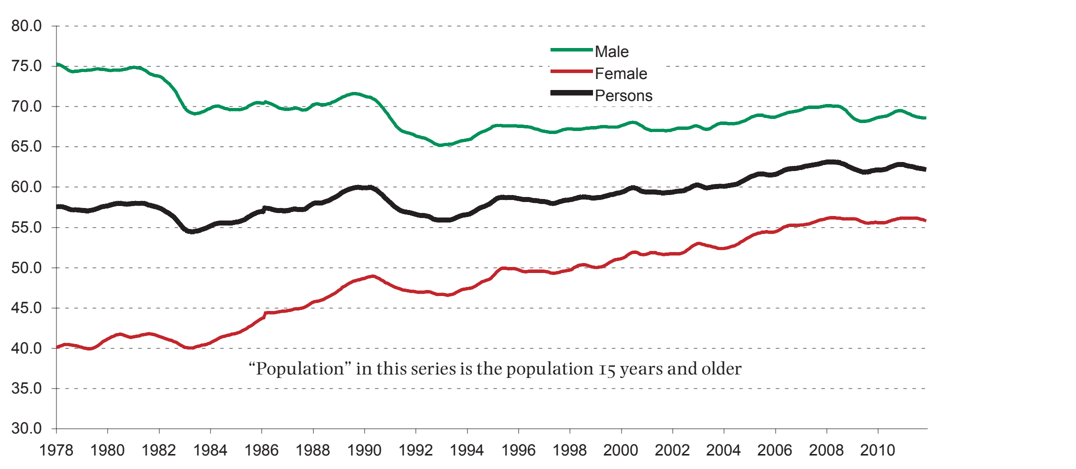
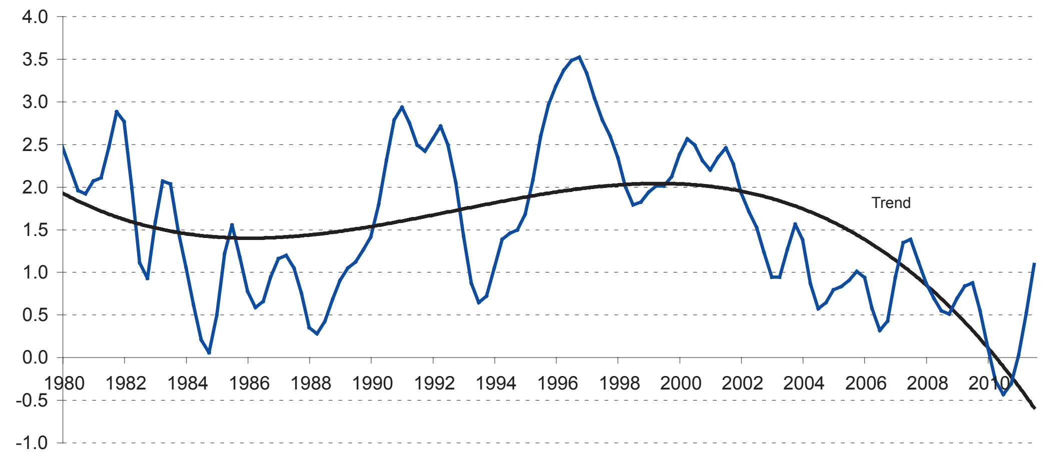


Figure 4: Productivity – annual percentage change in GDP per hour worked



of reversing in that sector. This probably explains the sharp fall and sharp recovery over the last two years. But the longer-term fall in productivity is not fully explained by this statistical artefact; it is across many sectors of the economy.

Contending explanations for this fall abound, many with a partisan bias. Some blame the partial reregulation of the labour market when the Rudd Government abandoned the previous government's deregulatory "Workchoices", but the fall in productivity started well before 2007, and, in any case, there is no evidence that suppressing wages encourages productivity. (Lower wages may encourage employers to take on more employees, but they allow employers to under-invest in capital and work practices which would increase labour productivity.)

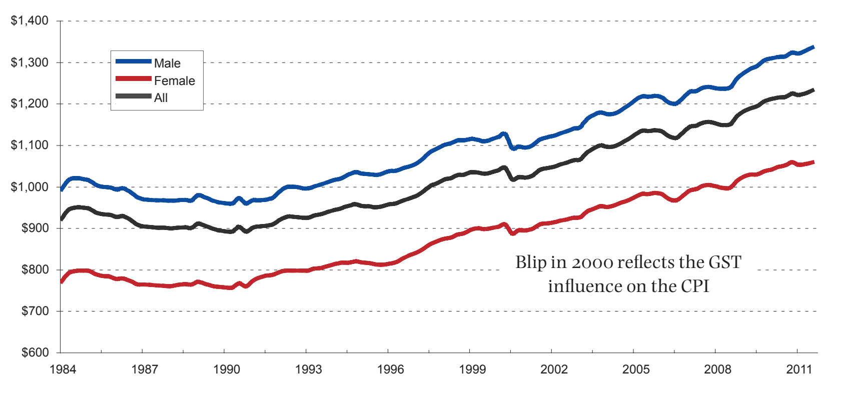
Unfortunately, in a polarised political environment, the debate around productivity is centred on "labour market flexibility", a term which to some has come to mean cutting wages and conditions. This interpretation has provoked a defensive reaction from unions and other parties, impeding reforms which could improve flexibility without compromising wages and conditions. This polarised, narrowly-focussed debate about productivity is distracting attention from two broader questions about our working arrangements.

The first question is whether employers or the community at large (through the taxation system) should cover the costs of certain entitlements such as sick leave, and income security. Employers reasonably want flexibility to take on and to reduce staff in response to changing economic conditions, while employees, who invest heavily in their own training and often in locating themselves close to employment, reasonably expect some degree of income security. By any reasonable standard employers should be discouraged from capriciously disrupting people's lives and passing off all business risk to employees, but there is not even any significant debate about employees' and employers' obligations of loyalty to one another. The second and more basic question is whether our "employer/employee" model of labour relations, rooted in traditions of "master/servant" relationships and class struggle, are still relevant. Many innovative enterprises are based on more cooperative forms of relationship.

> "We need to improve our productivity.

There is no one explanation for our productivity decline. Explanations include diminishing returns from information technology improvements, the slowed pace of economic reform, lowering unemployment (meaning firms take on less productive workers), under-investment in skills and education, and under-investment in public infrastructure. Poor management is also a possible explanation. A 2011 survey by Ernst & Young found that 54 percent of workplace respondents identified "people management" as the biggest factor influencing productivity. Some 40 percent of respondents believed that their organisations did not have the right technology or training on how to use it, and 20 percent said their organisations were too bureaucratised. Whatever the causes, if our living standards are to continue improving once the mining boom runs down, we need to improve our productivity.

Figure 5: Weekly earnings of employees – full time adults, 2011 prices



Incomes – strong growth

For the last 25 years average incomes have risen strongly, interrupted only by a recession in the early 1990s – the recession "we had to have". Over that period average salary and wage incomes, shown in Figure 5, have risen by about 30 percent in real (inflation-adjusted) terms. Because labour force participation has risen and unemployment has fallen, household income has risen a little faster than individual employee income. It's an impressive achievement.

> "Australia is now becoming more unequal not only in income but also in wealth.

Average figures, however, do not reveal changes in the distribution of income. Up to around 1980 Australian incomes were generally becoming more equal, but inequalities have re-emerged, particularly at the very top. Australia is now becoming more unequal. In the mid-eighties the top one percent took around 5 percent of all income; now their share is around 9 percent. More generally, over the last 60 years the distribution of Australians' "private income" – income before tax and government social security payments such as pensions – has widened. Many factors have contributed to this widening, including higher unemployment than in the early postwar era, ageing, privatisation of government enterprises, a breakout of managerial salaries and the opening of the economy to domestic and international competition.

Progressive income taxes and government social security payments have closed the gap somewhat, but even so the distribution of income after taxes and social security payments has continued to widen: between 1994-95 and 2009-10 the share of income going to the highest income 20 percent of households increased from 38.4 percent to 40.2 percent, while falling for other income quintiles, particularly those in the middle income groups. In terms of international comparisons most indicators suggest Australia's income distribution (after taxes and transfers) is somewhat narrower than for the UK and the USA, but significantly wider than for the Nordic countries. The institutions and practices that supported an egalitarian distribution of economic rewards over most of the twentieth century, known as the "Australian Settlement", have given way to institutions and practices aimed more at supporting economic growth as a guiding principle. (See the box on the next page.)

As income disparities endure, disparities in wealth also widen. In 2003-04 there were 10 000 households with more than $10 million in wealth (in 2009-10 prices); by 2009-10 there were 24 000 such households. This widening disparity is not only at very the top end: in 2003-04 households at the 90 percentile point of wealth distribution had 45 times the wealth of those at the 10 percentile point. By 2009-10 they had 49 times the wealth.

These figures on wealth relate to all assets, including housing. The poor have a much larger proportion of their wealth tied up in housing than the well-off, who have much more of their wealth in financial assets, giving them more liquidity to make their purchases and the capacity to avoid expensive debt, such as car loans and outstanding credit card balances, and to make outlays for personal emergencies. As an indicator of liquidity, among the poorest 20 percent of households 43 percent report that they would be unable to raise $2000 in emergency money within a week – an indicator not only of financial fragility but also of a lack of social connection. (In response to a similar question in the USA, it was found that 47 percent of *all* households would be unable to raise $2000 in 30 days. In Australia the figure across all households is 14 percent.)

The rise and fall of the "Australian Settlement"

Over the first half of the twentieth century Australia pursued policies consciously directed to an egalitarian distribution of income, including tariff protection, centralised wage fixing and restraints on competition – a set of policies which political journalist and historian Paul Kelly has called the "Australian Settlement".

These policies contributed to economic growth, but at the cost of developing rigidities. By the 1970s these had run their course: Australia's industries which had been sheltered behind protective tariffs and restraints on competition were incapable of responding to emerging challenges, particularly the international turmoil associated with the collapse of the postwar "Bretton Woods" agreements and rapidly rising oil prices. Government policy, particularly during the Hawke-Keating years (1983-1996) turned to opening and liberalising the Australian economy through structural reform which removed or lessened the support given by the pillars of the Australian Settlement.

No consideration of disparities is complete without recognising the persistence of concentrations of deep poverty, most particularly among indigenous Australians and in many struggling small rural and remote communities. Australia is generally free of the broad regional disparities which exist in other countries, which means these concentrated pockets of poverty are easily overlooked.

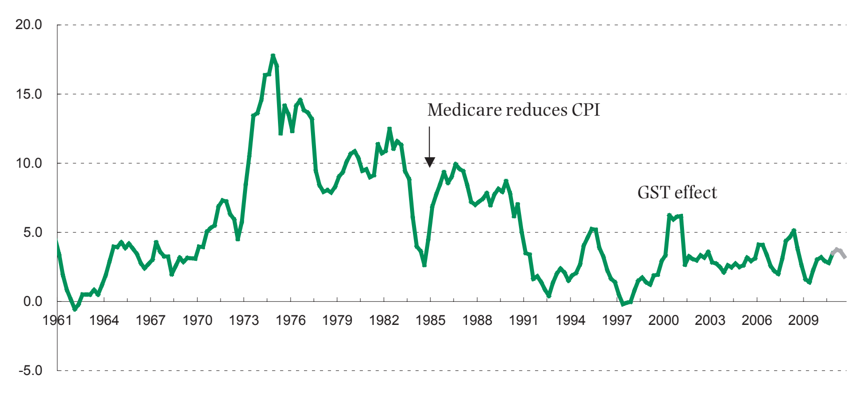
Some commentators claim that disparities, in themselves, do not matter, just so long as those who are most disadvantaged do not lose out in an absolute sense. "A rising tide lifts all boats" is the popular justification of this view. But disparities do matter. When a disproportionate share of economic returns accrues to a small, privileged minority, the normal economic incentives which encourage economic participation and effort are weakened. The economic system starts to lose its legitimacy. Also, wide disparities lead to wasteful "arms race" style competition for scarce resources – "positional goods" in the terms of economists – such as access to the "best" schools, or priority treatment in health care. Some others suggest that just so long as social welfare payments can close the gaps, disparities do not matter, but this view overlooks people's desire for financial autonomy and their distaste for welfare dependence.

Inflation – well-tamed

Inflation is generally measured in terms of increases in household prices, or the CPI, shown in Figure 6. (There are more rigorous definitions, but these attract little attention.) Over the last ten years annual CPI inflation has been in a range of two to three percent, which corresponds to the Reserve Bank's comfort zone.

Raw figures on inflation mask some significant trends. Because of tariff reductions, new manufacturing technologies and rises in the Australian dollar exchange rate, prices of some items, particularly electronics, electrical appliances, cars, overseas travel and clothing, have

Figure 6: Consumer price index – Annual Percentage Change



risen much more slowly than the "all groups" CPI. (In the case of electronic goods, prices have tumbled even in nominal terms.) By contrast the prices of some other items, particularly health care, education, electricity, gas, and gasoline have risen very strongly.

> "Prices of health care, education, electricity, gas, and gasoline have risen very strongly.

While the world economy remains in a state of over-capacity in the wake of the GFC, supply-side competition should exert a moderating influence on prices, but in the longer-term there may be greater pressure on prices than in the last few years. Tariff reductions have gone almost as far as they can go, and now that prices of electronic and electrical goods have fallen to such low levels they will not have much future influence on overall prices. As the Chinese economy grows it will no longer be a source of low-cost labour for manufactures such as electrical goods. And the Australian dollar exchange rate will almost certainly not rise as strongly as it has in recent years – a rise which has given us easy means to increase our material standards of living.

Among items which have had rising prices in recent years, those involving energy-intensive manufacture are bound to experience ongoing price rises, quite apart from the effects of carbon pricing. (In fact, if carbon pricing results in some certainty in energy policy and investment in new electricity capacity, household electricity and gas price rises should moderate somewhat.) If the mining boom is sustained, upward pressure on wages will keep on exerting pressure on domesticallyproduced goods and services; if (when) the mining boom runs out of steam, exchange rates are bound to fall, putting upward pressure on the prices of imported goods and services. The unknown factor is the effect of climate change on food prices; few are expecting it to be benign. Damage to food crops in the summer of 2010-11 demonstrates our vulnerability to extreme weather events.

The CPI only partially includes housing prices, because it excludes land prices. As shown in Figure 7, since around 1996 prices of established houses, in both nominal and real terms, have risen strongly, almost doubling in real terms over that period. Only in the last two years have they stopped rising, with a small fall in real terms. Prices of new project homes, mainly in new developments on urban fringes, have not risen so strongly, but for those buying houses in the outer suburbs lower purchase prices are offset by higher travel costs.

As a result of high house prices, Australians face a problem in housing affordability. The proportion of income that house buyers must devote to mortgage repayment on a median-priced house rose from 15 percent in 1996 to 25 percent in 2010. This figure

Figure 7: House price indices, established houses (base 2003-04 = 100)

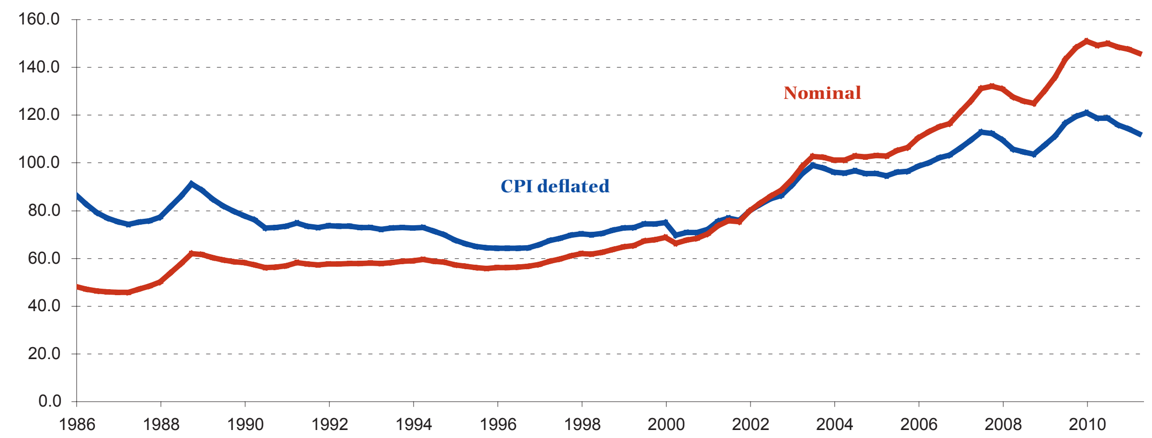
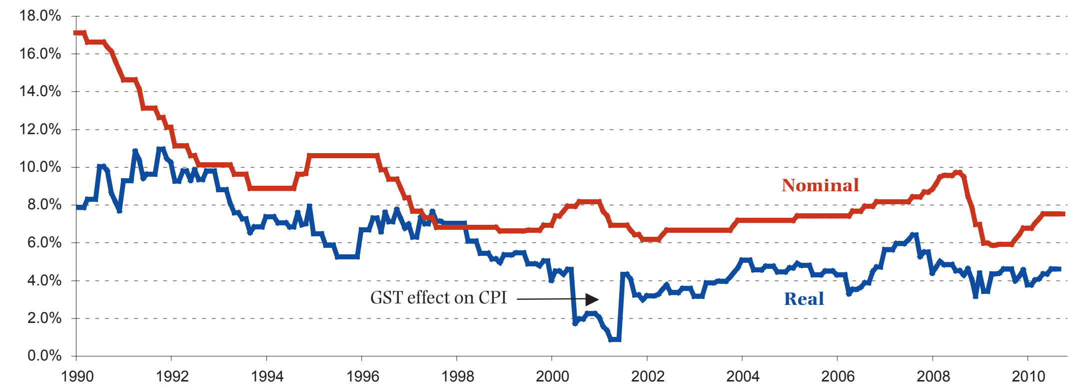


Figure 8: Bank standard variable housing interest rates



is sensitive to both house prices and interest rates, but over the long-term interest rates hover around a mean (see the next section); house prices are the dominant influence on affordability. International indices, such as *The Economist* housing price indicator, suggest that Australia has among the most over-priced houses of all developed countries, suggesting a serious problem of affordability.

> "Australia has among the most over-priced houses of all developed countries.

Those who already own houses and have repaid all or most of their mortgages do not necessarily see high house prices as problematic. In fact many considered the rise in the market value of their house to represent increased wealth, and were attracted to financial instruments such as mortgage-redraws, essentially borrowing against the increased nominal value of their houses. There are risks in such activity: as experience in countries as diverse as Japan and the Netherlands shows, housing prices can fall, even in nominal terms, and stay low for many years. After all, the price rise in established houses is simply inflation, even if it is not always recognised as such. The recent easing in house prices may be contributing to a newly-found financial conservatism, covered in Part 2.

Interest rates – not really an issue

There is often a great deal of partisan comment on interest rates. Opposition parties blame the government for rises in interest rates; governments claim credit for falls in interest rates. It is correct that over the long-term poor fiscal management can raise interest rates, but Australian governments of both persuasions have been fiscally conservative for many years, and in any case since the Howard Government set the Reserve Bank at arm's length from executive government in 1996 the setting of official interest rates has been quite independent of the government.

Essentially, the Reserve Bank operates so as to keep real interest rates – the interest rate after inflation – reasonably stable, and it aims to keep inflation in the two to three percent range. It has succeeded in this task. Figure 8 shows nominal and real housing interest rates in Australia, and while nominal rates tend to fluctuate in line with inflation, real rates since 2000 have been reasonably stable at around four percent. Unfortunately, the media and politicians almost exclusively talk about nominal rates (the rates offered by banks), but real rates count. Lenders seek a return which clears inflation – if a lender is earning 7 percent nominal and inflation is 3 percent, then the real return is 4 percent. Similarly, the borrower of that same loan would find that inflation erodes 3 percent of its value, leaving a real liability of 4 percent.

High interest rates discourage economic activity: firms do not borrow to invest when rates are too high; similarly individuals do not borrow to finance housing and other domestic capital purchases. The problems of high interest rates are well-known. But low interest rates have their own problems, particularly for conservative investors who seek the security of interest-bearing investments. Worse, it was an extended period of very low interest rates which encouraged massive over-investment in housing in the USA, which led to the housing price collapse, a reduction of mortgage securities to junk status, and the subsequent GFC.

The Reserve Bank does not directly set housing or business interest rates. It sets only the short-term cash rate, and, theoretically at least, all other rates should move in accordance with that rate. That theory held until the GFC resulted in a severe global drying up of credit. In Europe and the USA official rates are close to zero, but banks are still not lending, preferring the perceived safety of government bonds. Australia is not fully immune to these pressures; since the GFC we have had to lower official rates by much more than normal in order to keep credit flowing. In late 2011 our Reserve Bank cut official (nominal) rates from 4.75 percent to 4.25 percent, in part because of lower inflation expectations, and in part because of the widening gap between official and market rates. At 4.25 percent, the Reserve Bank still has plenty of leeway to lower rates further should overseas economic conditions deteriorate. In economists' terms, while monetary policy is stretched to its limits in Europe and the USA, Australia still has capacity for a monetary stimulus should the need arise.

Overall a good report card – but with weak spots

Understandably, Australia's Government claims credit for having passed through the GFC with far less pain than other developed countries. In view of its deft response to the crisis, the 2011 Euromoney award to our Treasurer as "Finance Minister of the year" may be well-earned, but credit also goes to previous administrations for granting the Reserve Bank a large degree of political independence, for instituting effective financial regulation and for leaving the government fiscal balance in sound shape – even though that was achieved through neglecting pubic investment. And some credit goes to luck: when the GFC came our banks had little exposure to toxic foreign assets, we did not have a housing over-supply, and China had become our major destination for exports.

But a national economy has many actors. For a relatively unskilled young person driving a dump truck at a mine site, the economy appears to be in great shape as Australia looks forward to a decade or more of Chinese commodity demand. The perspective of a farmer, struggling with runs of droughts and floods and a high exchange rate, is very different.

These indicators of growth, employment, prices and incomes are gross measures; not all parts of the economy are travelling at the same speed. When he was head of the Treasury Department, Ken Henry referred to the "three-speed" economy. In the fast lane are the mineral industries, doing well from demand in Asia, particularly China, and looking forward to continued high demand, particularly as India's economic growth quickens. In the slow lane are trade-exposed industries hurt by the strong and fluctuating Australian dollar – manufacturing, farming, tourism, and educational services to name the main ones. In the middle lane are many domestic-oriented industries, such as health care, construction, and retailing.

Even these domestic-oriented industries are experiencing disruptions from various quarters. Health care is the subject of a major reform push from the Commonwealth Government; construction is still affected by the drying up of credit in the wake of the GFC; retailing is having to take on new business models dealing with on-line trade and to cope with consumer caution. Australians are spending less and saving more – in itself no bad thing, but it does have particular implications for retailing. As a result of global and domestic pressures, almost all sectors of the Australian economy are undergoing some degree of structural change.

This report card indicates performance to date, and like most economic reports is more about indicators than the forces which drive economic performance – our economic structure. Will Australia maintain its strong economic performance in a world where the financial crisis looks like dragging on, where the traditional "locomotive" economies of Europe, North America and Japan are at risk of prolonged recession, where there are huge re-alignments of economic power, and where natural resource limits are becoming a binding constraint on economic growth in the manner to which we have become accustomed? The next part examines the structure of the Australian economy, revealing some of its main strengths and vulnerabilities.

PART 2. ECONOMIC STRUCTURE – STILL AN EXTRACTIVE ECONOMY

An assessment of a nation's economy should consider not only its immediate past performance, but also its capacity to perform in coming years. Is its performance sustainable, and does it have the resilience to adjust to external developments, including shocks such as further financial crises, or changes in commodity prices?

It is possible that the very factors which helped Australia avoid the GFC – our commodity abundance, our links to fast-growth Asian markets, and our strong budgetary situation resulting from earlier cuts in government expenditure – are those which leave us at longer-term risk in a world where there is a steady economic convergence between old "developed" countries and what were once known as "developing" countries, particularly China and India. Australia has the living standards of a prosperous industrialised country, but in some respects the structure of a technologically undeveloped country.

Figures on the structure of Australia's economy and on recent workforce change are shown in the boxes

The composition of Australia's GDP and employment.

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

GDP and Employment

	Contribution to GDP 2010-11	Employment August 2011
Agriculture, Forestry and Fishing	2.8%	2.8%
Mining	8.5%	2.0%
Manufacturing	9.6%	8.4%
Electricity, Gas, Water and Waste Services	2.6%	1.3%
Construction	9.1%	9.2%
Wholesale Trade	4.9%	3.6%
Retail Trade	5.3%	10.9%
Accommodation and Food Services	2.7%	6.9%
Transport, Postal and Warehousing	6.0%	5.1%
Information Media and Telecommunications	3.8%	1.9%
Financial and Insurance Services	11.4%	3.8%
Rental, Hiring and Real Estate Services	2.4%	1.7%
Professional, Scientific and Technical Services	7.7%	7.7%
Administrative and Support Services	2.9%	3.5%
Public Administration and Safety	5.8%	6.4%
Education and Training	5.2%	7.5%
Health Care and Social Assistance	6.6%	11.5%
Arts and Recreational Services	1.0%	1.9%
Other Services	2.0%	4.0%
	100.0%	100.0%

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.

Structural change in Australia – 20 years of employment changes

When a large firm closes its doors and hundreds of workers lose their jobs, or when an industry such as forestry undergoes job losses because of changes in land use policy, there is understandably a great deal of media attention.

But these changes take place in an environment of much greater ongoing change. Every month about 40 000 full-time employees become unemployed, and a roughly equal number of unemployed gain full-time employment. (A small number would be new entrants and retirees, but these people would not normally be counted as moving through unemployment.) Of course these changes cause disruption and hardship for many, but they tend to pass unnoticed in the wider community.

Over the last twenty years there has been a large shift in the composition of Australia's employment. There have been absolute job losses in agriculture and manufacturing and stagnation in wholesale trade, while employment in mining, construction, administration, arts and recreation, health care and the professions has doubled.

Associated with these changes have been large changes in the occupations of employed Australians. Strongest growth has been among people classified by the ABS as "professionals" and "community and personal service workers", while there has been very slow growth among those classified as "labourers" and "clerical and administrative workers".

The sources of these changes are many – technological changes, changes in competitive conditions (manufacturing), changes in the terms of trade (minerals), organisational change (the bypassing of retailers), ageing (health care) – to name a few.

Employment changes 1991 to 2011 ('000)

	Employment 1991	Employment 2011	Change '000
Agriculture, Forestry and Fishing	409	327	-82
Mining	89	239	151
Manufacturing	1,043	946	-98
Electricity, Gas, Water and Waste Services	117	154	37
Construction	517	1,045	529
Wholesale Trade	411	425	14
Retail Trade	836	1,219	383
Accommodation and Food Services	475	773	298
Transport, Postal and Warehousing	415	580	165
Information Media and Telecommunications	168	204	36
Financial and Insurance Services	337	432	95
Rental, Hiring and Real Estate Services	112	194	82
Professional, Scientific and Technical Services	386	866	480
Administrative and Support Services	180	400	219
Public Administration and Safety	436	738	302
Education and Training	539	859	320
Health Care and Social Assistance	693	1,343	651
Arts and Recreational Services	105	213	109
Other Services	356	453	97
	7,624	11,411	3,787

The global environment

At the time of preparation of this report, in early 2012, the old industrialised countries – North America, Western Europe and Japan – are experiencing economic difficulties, with two related dimensions.

The first, and over-riding problem, is that for many years many countries have been consuming more than they have been producing. In other words, people have been living beyond their means. Most notably in the USA, where real incomes for most people have hardly moved over the last 40 years, people have been using more and more debt to finance their increasing levels of consumption.

> "There is nothing wrong with government debt, provided it is used to finance productive assets.

Governments too have been spending more than they have been raising in taxes. "Left" leaning governments have tended to increase spending without raising taxes to match, while "right" leaning governments, particularly the recent Bush Administration in the USA, have tended to cut taxes while making comparatively minor cuts in expenditure. Either way, in economic terms, the effect is the same – a large increase in government debt.

Contrary to some poorly-informed notions, there is nothing wrong with government debt, provided it is used to finance productive assets such as physical infrastructure or conservation of environmental resources, and it is quite normal for governments to run up temporary deficits to stimulate an economy during a business downturn. But running a continuing deficit to finance consumption expenditure is unsustainable.

If government debt is simply an exchange between a government and its own citizens who are lending it money, as is the case in Japan, it is not of great concern. But if both households and governments are accumulating debt, as has been happening in the USA and some European countries, some other party must be financing it. That's unlikely to be the business sector. That leaves foreign sources to fill the gap, and over the last few years that role has been filled by East Asian countries, particularly China, and to a lesser extent by oil-exporting countries in the Middle East. Consumers in the old industrialised countries running foreign deficits have had the benefit of cheap appliances, toys and clothing, while Chinese firms have had the benefit of access to large overseas markets.

It's an unsustainable model – a bizarre situation when one realises that it's based on poor countries lending to rich countries so that consumers in rich countries can employ workers in poor countries. It cannot go on: governments in rich countries have to divert more and more public revenue to debt servicing, and, because the private sector isn't saving either, those countries accumulate more and more foreign debt. The only reason the system hasn't collapsed altogether is that the US dollar is still the dominant currency of world trade: Americans can accrue debt in their own currency, and the Chinese (and others) are holding substantial US dollar assets. Dumping the dollar would result in a serious US devaluation and recession, damaging China's markets. But it's a reasonable assumption that China will progressively become less dependent on foreign markets, and will therefore have less stake in propping up the US and other economies.

The other and related immediate problem is an ongoing financial crisis. The GFC is yet to play out fully. In the USA high and growing levels of household debt were fed by low interest rates, which in turn led to aggressive lending as banks tried to expand their asset bases. Financial institutions traded in mortgages, and in bundled products ("derivatives"), which became more and more detached from the physical assets that were supposed to secure them – generally houses in an oversupplied market, with mortgages in excess of any reasonable valuation. When the crash came in 2008 it did so suddenly; there was a rush for the exits as it became clear that there were no more parties gullible enough to carry on the game. Bank bail-outs and fiscal stimulus measures helped for a time, but the Government soon ran out of fiscal capacity, and of political support for rescuing the financial sector.

The European situation is different. In Europe the borrowers weren't households but profligate national governments, most notably Ireland and the Mediterranean countries. But the consequences are the same – a financial crisis. Financial institutions holding Greek or Portugese debt are in the same situation as the US banks holding worthless mortgages. Banks face a write down of their assets, but to do so would send them broke, with repercussions throughout the economies not only of the creditor nations but, given the way financial markets are interconnected, throughout the whole world.

European governments are under understandable political pressure not to bail out the banks. Banks, with their asset bases already fragile because of high-risk loans to foreign governments, become fearful of other banks' financial positions, and stop lending to one another and to businesses. That's when damage occurs to the real economy; a financial crisis becomes an economic crisis. The governments of the leading and healthier European economies – Germany and France – are attending to the structural issues which gave rise to the European crisis, but they are having much more difficulty in overcoming the immediate problem of preventing the region from sliding into a deep recession. Attempts to stimulate their economies through quantitative easing (figuratively "printing money") are failing, because the banks are simply re-investing in government bonds, rather than putting the money into circulation in the real economy.

That's why problems in a few troubled Euro zone countries, which together account for only about six percent of the world economy, can have such wide repercussions.

How this will play out is not clear, but there is no realistic scenario which sees the old industrialised economies returning to steady growth for many years. If governments apply aggressive deficit reduction policies there will be major recessions, and possibly even worsening deficits because recessions reduce governments' revenue base. If there are national defaults there will be severe strains on the finance sector resulting in a worsening of liquidity, and inevitable further pressure on public budgets to bail out the banks.

The most fearsome scenario is a turn to beggar-thy-neighbour policies of competitive devaluations and erection of trade barriers. That was the disastrous response to the Great Depression in the 1930s, which contributed to the hostilities of the 1930s and the 1940s. At the time of writing some US Congressmen are calling for tariffs on Chinese imports; in Britain politicians are talking about breaking off from the European Union (the British have refused to cooperate with other European countries seeking stronger fiscal discipline and controls on financial speculation) and there is talk of Europeans abandoning their single currency – developments which could lead, once again, to a round of competitive devaluations.

The wisest course requires strong government action, applying mildly stimulatory measures to restore employment, diverting public budgets from social security to investment in education and infrastructure, attending to economic rigidities, rooting out corruption and tax evasion, regulating the financial sector firmly, and in the US increasing taxes as economies resume growth. In the Euro zone binding agreements on fiscal discipline are needed – so far the first steps are promising, but there is a long way to go. Technically these are not difficult but they require bold political actions. No wonder the IMF chief Christine Lagard remarked that "feeble politicians" are putting the world economy at risk. If governments do not handle these problems well – if they yield to the temptations of populism or appeasement of interest groups, or if they do not bring their communities along with them when they make hard decisions – the risk is that Europe will slip into political and economic turmoil, as it has at times in the past century.

In simple terms, these developments are about China, and with a slight lag India, re-emerging to the relative positions in the global economy they held until 200 years ago, and some other countries such as Brazil emerging as significant economic players. The problems of public debt are not just about profligate governments; they are also about financiers putting too much faith in the governments of the economies of the old industrialised "west", not realising that their economic growth, which should have generated the revenue to service that debt, was slowing. Even if there is not closure for a long time, there will be significant convergence in economic performance and living standards between the old industrial economies and the emerging or re-emerging economies. One consequence of that convergence is increased competition for the planet's limited natural resources, including food and, most importantly, the capacity of the atmosphere to absorb greenhouse gases without catastrophic consequences. We return to these global resource challenges in Part 3.

Australia – living off natural resources

If Australia's national accounts were to deduct the depletion of natural resources from our GDP, our economic report card would come to resemble that of an indebted Mediterranean country.

> "We have been living beyond our means.

Ever since John Macarthur introduced his flock of merinos in 1795, we have been imposing a heavy burden on our natural resources. Our unsustainable grazing and farming practices have washed and blown precious soils and their nutrients to the sea, scarred the land with salination, overloaded creeks and rivers with nutrients, and damaged fragile arid ecosystems. We have released feral animals – rabbits, cats, pigs, goats, camels and horses to name a few – and exotic weeds on to the landscape. We have cleared woodlands and forests for agriculture; in other places we have replaced complex native forest ecosystems with forest monocultures. We have overused our only long river system. We have pushed many fisheries to and beyond their limits. We have built cities on our estuarine plains – some of our few reserves of soil suited to horticulture.

Only belatedly are we coming to understand that many of our agricultural practices have been based on exploiting non-renewable resources, more akin to quarrying rather than sustainable farming.

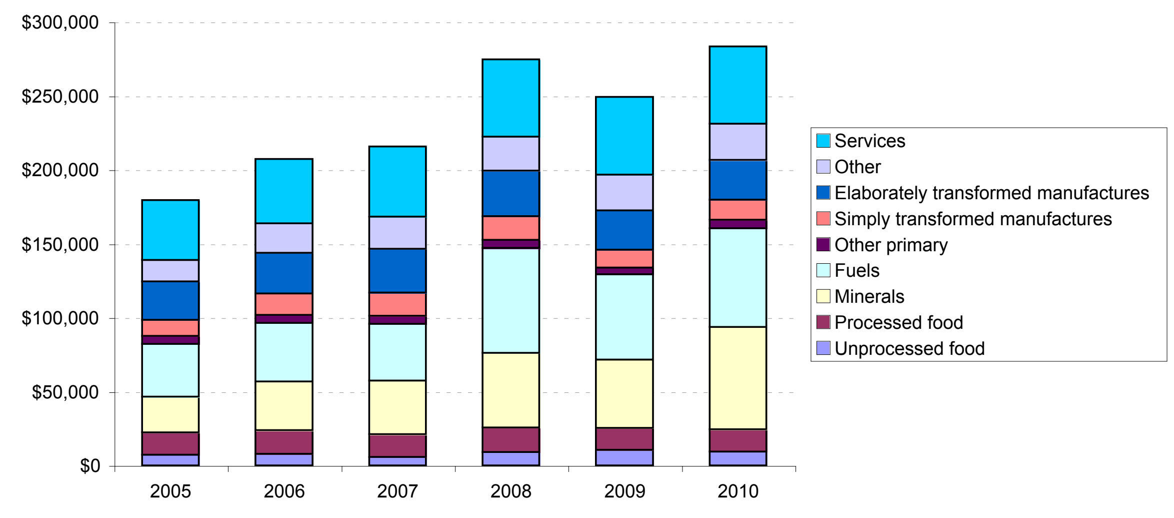
Even more recently are we realising that we are living off the planet's resources. More than 80 percent of our electricity is generated from coal, a third of which is brown coal. Our per capita CO_2 emissions from fuel combustion are 18 tonnes a head – the same as the USA and twice the OECD average – by some counts the highest among all developed countries.

We have been living beyond our means. The only reason we have been getting away with it is that the natural environment, unlike the IMF or the Bundesbank, doesn't send us an account demanding payment. Our reminder notices are in the form of diminishing resource productivity – decreasing fish catches, requirements to add even more fertilisers to already overloaded soils, lower protein yields in crops, the periodic parching of the Murray-Darling system, and the occasional dust storm darkening the skies of Sydney and Melbourne.

Commodity dependence – still a narrow export base

A hundred years ago agriculture accounted for 32 percent of our national economy and more than half of Australia's exports. Now it accounts for 3 percent of the economy and 12 percent of exports. That's a phenomenon common to many other developed countries, except that they went through the process earlier and switched to manufacturing. For a time Australia followed that path: our manufacturing sector peaked between 1950 and 1970 at about 25 percent of the economy and 10 percent of exports. But as our mining industry has developed we have reverted once again to commodities for our export base.

Figure 9: Australia's exports, $m



While mining has immediate environmental impacts – open cut mining and coal seam gas extraction are notable cases in point – it does not bear the same costs of rapid depletion as many agricultural activities. Even at the current rate of extraction Australia is at no foreseeable risk of running out of iron ore or coal.

Mining now accounts for nine percent of GDP and only two percent of employment (see Box 1, page 21), but its trade significance is far greater. In 2010 half of Australia's exports were fuels and minerals, mainly coal and iron ore – Figure 9 (previous page) shows this growing dependence. Over the first ten years of this century the value of Australia's exports other than minerals and fuels has fallen from 15 to 11 percent of GDP. This growth in mining revenue, so far, has been mainly because of higher prices rather than increased volumes. Most economists believe that prices will fall back (they already have fallen a little) but that volumes will increase as mines and associated infrastructure expand.

Australia's exports are concentrated both in terms of commodities and regions: 38 percent of exports are of fuels, ores and metals to East Asia – mainly to China, but also to Japan, Korea and Taiwan.

Our pattern of trade is not that of a normal developed country. Most developed countries are heavily reliant on manufactures for their exports. While labour-intensive manufactures such as clothing and domestic hardware have shifted to low-labour cost countries, developed countries generally have a strong presence in what are known as "elaborately transformed manufactures" such as industrial machinery, aircraft and medical technologies. Australia, by contrast, has only a small internationally competitive manufacturing sector. For a comparison with selected other countries, see Table 1.

This commodity dependence exposes several vulnerabilities.

The first vulnerability is the high dependence on one market. China for now is enjoying strong growth, but there comes a time when growth slows, and there also comes a time when growth becomes

> "Our pattern of trade is not that of a normal developed country.

more directed to services rather than manufacturing or construction, which are the main destinations of Australian mineral imports. Also, China's immediate problem is its dependence on weak US and European markets. China itself has something of a boom atmosphere, and booms have a nasty habit of busting. It has undergone a boom in speculative property development, with associated strong rises in housing prices – in some aspects similar to America's housing boom which triggered the GFC, and Chinese housing prices are now falling. Very few economists are predicting a Chinese bust, but we don't have to look very far in history to recall the notions of the never-ending Japanese miracle or the unstoppable South East Asian "tigers".

The second vulnerability is that Australia isn't the world's only richly mineralised country. High mineral prices encourage investment in new mines in other countries. These take time to develop, but as they come on stream the global market for minerals will become more competitive. In fact, once mines are developed, commodity prices tend to stay low for many years, because the ongoing costs of keeping mines operating are comparatively low. China

Table 1. Composition of Exports 2009

	Agricultural Products	Fuels and mining products	Manufactures	Other Merchandise	Services	total
Korea	2%	7%	74%	1%	17%	100%
Germany	6%	4%	72%	2%	17%	100%
Japan	1%	4%	72%	6%	18%	100%
European Union	5%	5%	57%	3%	30%	100%
USA	8%	6%	52%	3%	31%	100%
Canada	12%	25%	42%	6%	15%	100%
Norway	5%	52%	15%	4%	24%	100%
Australia	12%	45%	12%	10%	21%	100%

itself has large reserves of coal and iron ore, and has diversified sources of supply from other countries. Australia may be a low-cost producer, but for sound reasons countries tend to diversify their sources of supply, and if demand falls, foreign sources are likely to take the first cut.

The third and perhaps most serious vulnerability is Australia's heavy dependence on coal, a major contributor to greenhouse gases. Coal is Australia's largest export, and is a major input to other exports such as aluminium – it takes three tonnes of coal to generate the electricity to smelt one tonne of aluminium. Although the world has been slow to put a price on carbon, individual countries are moving to reduce their carbon dependence, and alternative energy technologies are falling in price. Almost half by volume and a third by value of Australia's coal exports are of thermal coal used for power generation. (The balance is of metallurgical coal.)

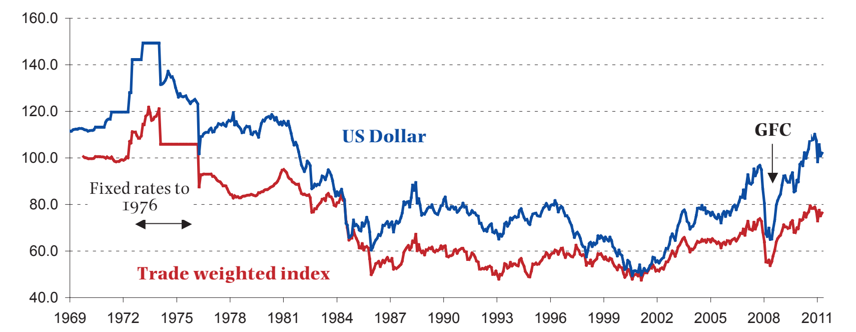
None of these developments will happen quickly. Unless there is a global economic catastrophe, rapidly modernising countries, including but not limited to India and China, will continue to have high demand for minerals. But for Australia a long period of comfort in one trading pattern can breed complacency.

Besides these international vulnerabilities, there are broad domestic macroeconomic effects of such strong dependence on commodities. A boom in one sector of an economy has many effects on other sectors, and these are not always benign.

When a boom is in an export sector the most pervasive effect is on the exchange rate. A high exchange rate is attractive to consumers buying imported cars and appliances or taking overseas holidays, and it allows living standards to rise with little effort, but it damages the competitiveness of import-competing industries such as the domestic automobile industry and exporting industries, such as agriculture, tourism, and foreign education – an effect known as the "Dutch Disease". (The Dutch actually coped quite well with their burst of natural gas income, because they were already highly industrialised and were well-integrated with the German economy. We do not have such protective buffers.)

The Australian dollar, because of its link to commodity prices, has become a speculator's currency, and has tended to track base metal prices. It has become the world's fifth most traded currency, even though Australia accounts for only two percent of world GDP. Figure 10 shows the movement of the Australian dollar over the last 40 years, starting with a previous commodity boom in the early 1970s. The swings are wild. Even over a short period the Australian dollar can move strongly, as can be seen in the sharp dip and recovery during the GFC, and in less than four weeks in late 2011 the $A/$US exchange rate fell by eleven percent before slowly recovering. Figure 10 also shows movements against the "trade weighted index" of currencies – a set of currencies weighted in accordance with our trade.

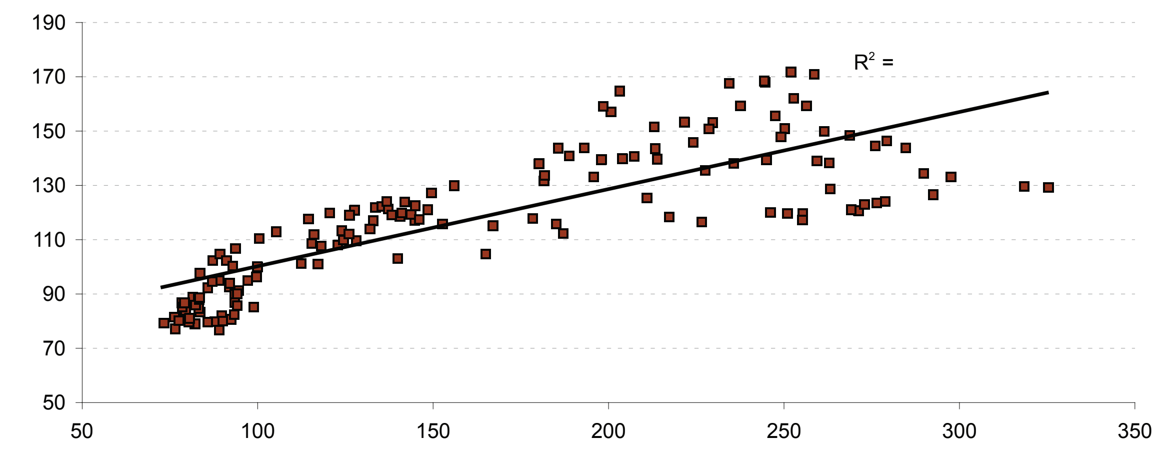
Figure 10: Australian dollar exchange rates



> "The Australian dollar has become a speculator's currency.

These movements in exchange rates have little to do with the economists' models which suggest that exchange rates should relate to the relative strength of economies. Rather, they move with the whims of speculators, and can be in the opposite direction to economic logic. If the US economy is perceived to weaken, the value of the $US actually rises, as speculators seek the "safe" haven of the $US. Conversely, if speculators believe inflation is about to rise in Australia, the $A exchange rate rises on the basis of

Figure 11: Commodity prices and $A/$US exchange rate (Base Jan 2000 = 100)



expected higher interest rates, while in economic logic it should fall.

Figure 11 plots more recent moves, since 2000, illustrating the strong linkage between base metal prices and Australia's exchange rate, confirmed by a high coefficient of correlation (66 percent) between metal prices and the Australian dollar. In other words, two thirds of the movement in Australia's currency has to do with changes in world metal prices, rather than any factors to do with Australia's own economic structure. Australia's strong dependence on mining means it has limited control over its exchange rate, and therefore diminished control over other economic variables such as its interest rate. For firms in the non-mining sector exchange rate volatility makes long-term planning difficult. Decisions such as where to locate facilities, whether to make or import, where to source imports, and how to negotiate prices all become very difficult. For short-term trades there are hedge markets, but such cover is very expensive.

Our manufacturing industries in particular seem to have been unable to insulate themselves from these influences. It is notable from Table 1 that two other countries with heavy mineral dependence, Canada and Norway, have manufacturing sectors which have a stronger export presence than Australia's. Both have high labour costs and both largely abide by World Trade Organization rules on subsidies. We seem not to have developed the specialised high value-added manufacturing activities that could be expected to be relatively immune to pressures arising from volatile exchange rates.

Another effect of a boom is on rewards and incentives. High investment returns in mining ventures tend to inflate investors' expectations of what constitutes a reasonable return on capital, making investments in other sectors less appealing, and high wages in mining, even for relatively low-skill jobs such as driving trucks, attract young people away from engaging in or completing postsecondary studies, and can lead them into lifestyle choices which they will find unsustainable in the long run. And, of course, the sector's need for tradespeople puts pressure on all other sectors of the economy.

The Government has tried to deal with the instability resulting from the mining boom with a resource rent tax (initially called a "super profits tax"). Its initial proposals were for a reasonably strong tax, gathering about an extra $13 billion a year at times of high commodity demand. It would have helped ease the fluctuations of the commodity cycle, bringing in high public revenue in times of high prices, and easing back when prices are low – what economists know as a counter-cyclical stabiliser. The watered-down version which passed the House of Representatives in late 2011, with lower rates and applying only to iron ore and coal, will be far less effective. Even this measure, which will gather only $3 billion to $6 billion of public revenue a year, has met with stiff opposition. (Mining industry profits in 2009-10 were $51 billion, and will almost certainly be higher as projects get developed.)

If the mining boom were to end tomorrow, Australia would find itself with an industrial structure incapable of thriving in a world where nations compete with one another on the basis of their human capital, particularly the entrepreneurial and technical skills of their workforces. These skills generally reside in high technology manufacturing and service sectors, which are under-represented in Australia's industrial structure. Of course the exchange rate would fall, and there could well be a lower cost of finance, but industries take time to develop, and the very risk of another destabilising commodity boom could deter investors.

> "If the mining boom were to end tomorrow, Australia would find itself with an industrial structure incapable of thriving.

Reliance on foreign investment

Like the heavily indebted Europeans and Americans, we too are importing more than we export. Only briefly over the last fifty years has our current account – the difference between exports and imports – been in surplus. Even when we run a small surplus on physical goods (as has mostly been the case since 1998), we are almost always in deficit on services. Our balance on current account is shown in Figure 12.

By definition, any imbalance on current account is exactly offset by capital inflows from foreigners, mainly in the form of bank borrowing and direct investments by foreign firms. Accumulated foreign investment in Australia, debt and equity, as at September 2011, was just over $2 trillion – a quarter from the USA, another quarter from the UK, and the balance spread widely. About 30 percent of foreign equity investment is in mining, and a further 20 percent is in manufacturing, with the balance spread across other industries. Partly offsetting this position is $1 243 billion of overseas investment held by Australians. About 40 percent of Australians' equity investment overseas is in mining. Table 2 (on the next page) shows Australia's gross and net debt positions.

At $741 billion Australia's net foreign debt is about 50 percent of GDP. (This is the *nation's* foreign debt, not to be confused with government debt – a confusion often made by journalists and politicians.) In Australia around 75 percent of foreign debt is owed by private financial institutions. Most government debt in Australia is held with local banks.

So long as our foreign liabilities are matched by productive assets, we do not have an immediate problem. In this regard our situation is much healthier than that of countries where foreign debt is largely government debt, with no assets to offset the balance sheet. (Australia's government debt is very low by international standards.) And we are fortunate, perhaps, that our financial sector is a net

Figure 12: Balance on current account – percent of GDP

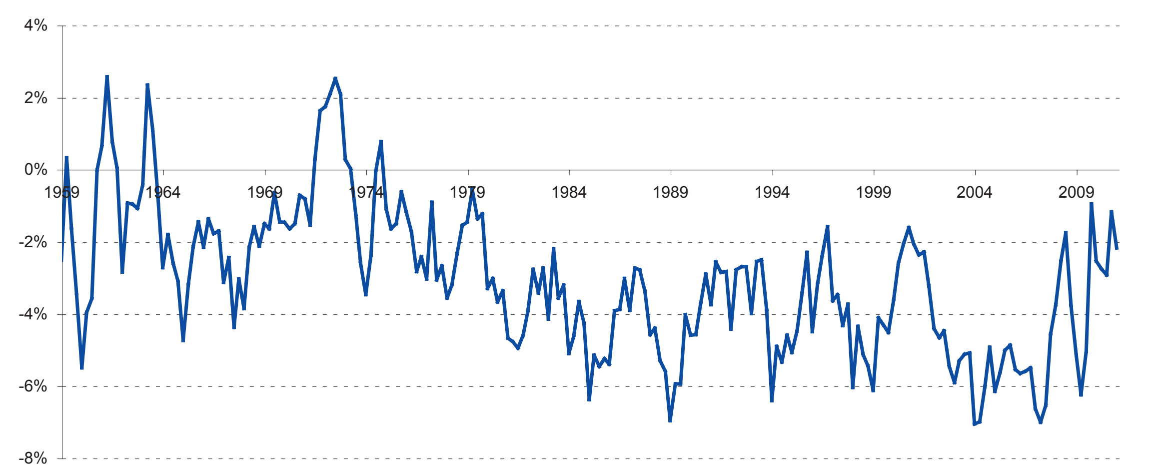


Table 2: Foreign investment September 2011 $billion

	Equity	Debt	Total
Investment in Australia by foreigners	689	1 403	2 092
Less foreign investment by Australians	581	662	1 243
Net foreign investment in Australia	108	741	849

importer of capital, rather than a holder of high-risk foreign assets such as Greek bonds or American mortgage debt.

Yet foreign investment is a contentious issue. Some consider foreign investment to be an unmitigated good, a welcome supplement to domestic investment, and a tangible sign of confidence in our business prospects. Some others, however, see foreign investment in terms of "selling the family farm". There is a sense of loss when iconic brands, such as Arnotts or Fosters, pass into foreign hands.

> "Some forms of foreign investment do little more than give a foreign party access to Australian resources.

Most would agree that foreign investment brings benefits when it comes with technology transfers and access to global markets. At the other extreme are forms of foreign investment which do little more than give a foreign party access to Australian resources. It is hard to see what net national benefit there is in certain capital-intensive mining projects, employing few people (many of whom may be foreign workers), and using foreign-sourced equipment. At most we may receive a stream of royalty and taxation income from such projects. (Even our taxation revenue may be low because of firms' transfer pricing.) There are also cases where Australian firms with good growth prospects consider that they have no option but to find a foreign suitor if they are to continue to grow – a problem relating to foreign ownership but possibly resulting from a poorly developed domestic financial sector. Other problems with foreign ownership are to do with a loss of domestic autonomy. In general, Australian subsidiaries of foreign-owned firms are subject to franchise restrictions. That is, they are not free to seek export markets without the authority of their head offices. And there is some concern about foreign ownership of essential utilities, such as water monopolies.

In relation to foreign debt one development to be borne in mind is a recent large increase in national saving, both in compulsory superannuation and in household saving, a trend covered further on. Provided these trends continue, and provided we or our fund managers invest wisely, we may become less dependent on foreign debt.

Immigration and population – staying young

Population policy is, or at least should be, one of the main concerns of economic policy, because population determines the size of our domestic market and, depending on our lifestyle choices, it influences the demands we make on our environmental resources.

Over the last 30 years Australia's population growth has averaged 1.4 percent a year. There was a recent short-lived increase in 2008 and 2009, largely associated with immigration, but the most recent data shows population growth reverting to more normal levels. In the year to March 2011 our population rose by 310 000 persons (that's at the long-term average of 1.4 percent), comprising 45 percent natural increase and 55 percent net immigration. This growth rate is high for a developed country: many developed countries have growth rates just above zero, and some, such as Italy, have negative population growth.

Australia has sustained high immigration for most of the past 60 years (see Figure 13 for immigration rates since 1976) and 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 peaked 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 immigration: a high in 1988, a rapid fall in the early 90s during the recession of that time, and a strong rise until a reduction in 2009 – immigration is influenced by economic conditions. In relation to our population, now around 23 million, the rate of immigration is only about a third of its 1950s peak.

Traditionally, Australia has relied on immigration to boost economic growth. In times of less awareness of environmental constraints, and of a xenophobia about the crowded nations to our north, there was a "populate or perish" philosophy influencing population policy.

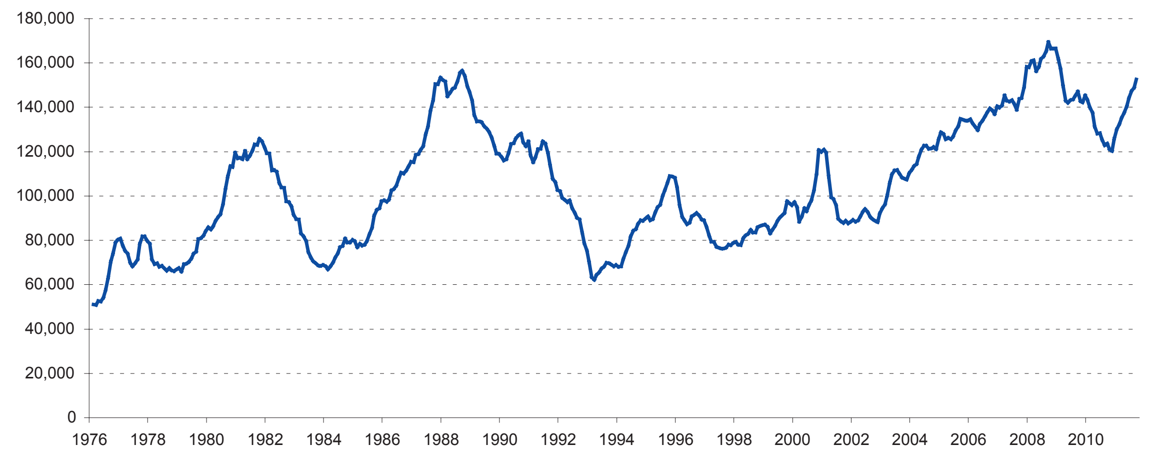
Those ideas have largely dissipated, but there is still a strong demand from business for a "big Australia". For most industries population growth means market growth, and some industries, particularly the residential construction industry, have a very strong interest in high immigration. Governments, too, find immigration attractive, in that it helps keep the population young, thus maintaining a high proportion of tax-paying working Australians and a comparatively lower number of older Australians drawing pensions and health care benefits. 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 high fertility. Thus, in a secondary way, immigration helps keep Australia's population young. Yet such a policy cannot be sustained indefinitely. Immigrants themselves eventually age.

Another benefit of immigration is that it provides skills in short supply. In recent years there has been a strong emphasis on work skills for immigration eligibility. Again, it is questionable whether this practice is sustainable. Many prosperous countries are filling their skills gap by hiring immigrants or people on temporary work visas (including Australia's 457 visa), but not all countries can free-ride on others' skills. Also, there is the question whether it is morally right to be hiring professionals such as doctors from poor countries where there are such severe shortages.

One further benefit of immigration is its contribution to Australia having become culturally and linguistically more diverse, particularly since there was a broadening of sources of immigration from around 1970. Multiculturalism is more than a proliferation of restaurants and ethnic festivals. It has a strong economic dimension as immigrants provide personal commercial links to a variety of markets and destinations for foreign investment, and as they help break the economic rigidity which can arise in a social monoculture. Many immigrants, particularly refugees, almost by definition are get-up-andgo people, likely to be more entrepreneurial than the native population.

In recent years there has been more awareness of the costs associated with immigration, but these costs are not specifically about immigration. Rather, they are problems of population growth, to which immigration makes such a large contribution. There is growing awareness of population pressures on

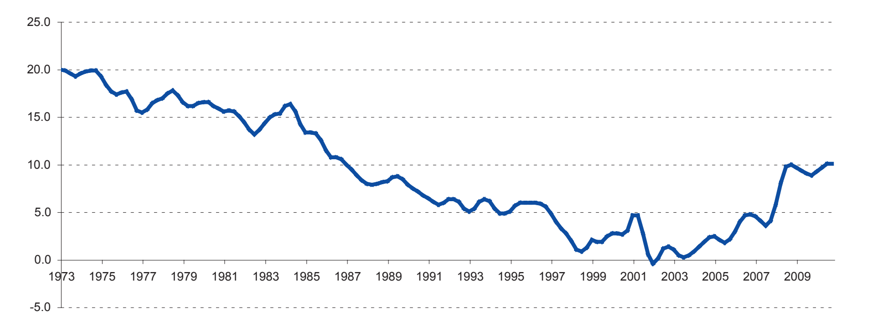
Figure 13: Permanent settler arrivals – persons/year



Australia's natural resources, particularly water. Also, there is awareness of GHG emissions from a larger population, but it not logical to link this awareness to immigration, for it is a global problem, and there is no inevitability that an immigrant to Australia will have a greater GHG footprint than in his or her original country. This is a contentious point, but it should be remembered that what is happening globally, particularly in relation to Asia and the old developed countries such as Australia, is a steady convergence of living standards. Unless the world fails to constrain GHG emissions in the old developed countries, there will be a convergence of per capita emissions between the "old" and "new" developed countries.

One problem exposed by immigration is stress on urban infrastructure. Immigrants are the most visible newcomers in our major cities, adding to demands on transport, water supply and other urban systems. These stresses would occur whatever the sources of population growth, and they relate to our under-investment in urban amenities, particularly infrastructure which provides community returns rather than commercial returns and which therefore should be publicly funded and provided.

Figure 14: Household saving – percentage of disposable income



The lack of a settlement policy is another problem exposed by immigration. Australia has two thirds of its population crowded into five sprawling cities which are exhibiting scale diseconomies, and is under-represented in medium sized cities in the 30 000 to 300 000 population range.

There may well be resource constraints which require Australia to reduce its population growth, but that does not automatically mean we should cut immigration, and immigrants should not be the scapegoats for policy failures which they expose.

Households – domestic frugality

Households – i.e. people – are the major actors in the economy; collectively their activities, particularly in relation to whether or not to work, reproduce, save and consume, have significant immediate and long-term economic influence.

One of the most striking changes in recent years has been a recovery in household saving (see Figure 14).

> "Australians are now spending less and saving more.

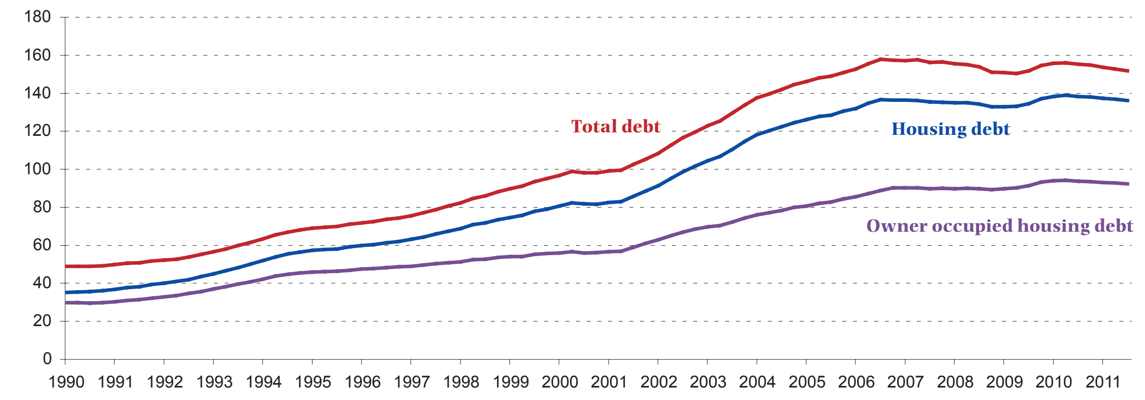
Until the early 1970s, households were saving up to 20 percent of their disposable (after tax) income. Then savings started to decline, bottoming out early this century, when, for a short time, households were spending more than their incomes – a situation sustainable only until households meet their credit limits.

Some people attribute the recent recovery in savings to uncertainty resulting from the turmoil of the GFC, but it started earlier – around 2004. In fact, when the GFC hit in 2008, household saving temporarily fell, as would normally be expected because our consumption has a certain inertia even as our income falls.

Now household saving is back up to the 10 percent range, as is shown in Figure 14, and this ABS data does not include employer-financed superannuation, which would add another four or five percent. As a result, the long-term trend of increasing household indebtedness has ceased – but debt is still high and falling very slowly, as is shown in Figure 15. It takes many years of saving to bring debt down to low levels.

The causes of the turnaround in savings are disputed. Maybe it's because of the end of the "easy money" culture, a culture which contributed to the GFC. Maybe it's the emergence of what marketers call a "post-materialist" lifestyle, as those who are well-

Figure 15: Household debt as percentage of disposable income



off tire of over-consumption. Maybe it reflects widening income disparities: because those with higher incomes generally save more, a widening income gap almost automatically adds to saving. Maybe it's concern about asset values, as people see the market value of their share portfolios, superannuation balances and houses stagnate or fall back, and try to restore the value of their assets. And maybe it's about fear and uncertainty: in recent times there has been no shortage of nervous talk about a global recession.

Whatever the causes, this zeal for saving is having an effect on retail sales, because savings are almost inevitably being achieved through cutbacks in discretionary expenditure. In turn it's having an effect on government GST revenue, which is levied on consumption, with exemptions for some largely non-discretionary items such as food and health care. Given the reliance of state governments on GST revenue – a formula negotiated with the Howard Government when the common belief was that the GST would provide a growing stream of revenue – state governments are left in a difficult position. Because states are the dominant providers of education, transport and many other economic services, this fiscal stress could have significant economic consequences.

While retailers and state governments see this frugality as problematic, and while the Commonwealth Government is concerned that one of the drivers of economic activity is subdued, there are clear benefits to people who have a buffer of savings. People with strong reserves can reduce their dependence on the financial sector, for example. They can shop in wider and more competitive markets, they can be less dependent on high-cost loan finance for cars and other major outlays, they can afford some level of self-insurance for minor contingencies (becoming less dependent on high cost commercial insurance), and they can feel more independent in the labour market if they know they can bear some time to seek alternative employment. And, to the extent that saving reflects a conscious choice by some, it may be indicative of a slowing of consumption as a lifetime "aspiration".

Higher saving translates to higher investment, but not all investments are of the same quality. Many Australians seek "safe" investments in bank deposits or housing – a conservatism resulting in part from the poor recent performance of equities and extremely generous tax concessions for investment in housing. (One may believe that in a country with housing shortages it is useful to encourage investment in housing, but small investors generally buy existing properties, contributing to house price inflation.) There is a risk that we will conservatively invest in low-growth assets while foreigners invest in high-return assets.

All of these structural variables are dependent, to a greater or lesser extent, on government policy, and the final part considers Australian and global policy and the public ideas underpinning policy.

PART 3. PUBLIC POLICY – BUILDING RESILIENCE

A nation's economic performance is largely shaped by public policy. Even governments ostensibly committed to leaving economic decision-making to the private sector exert huge influences on economic performance and structure. In Australia's case most of the instruments of economic policy are wielded by the Commonwealth Government.

> “A government's main task is to nurture and strengthen all of a nation's shared resources, its common wealth.

We tend to compartmentalise "economic policy" as somewhat distinct from, and even in conflict with, other policies such as social policy and environmental policy, but ultimately, by any reasonable proposition, all public policy should be about human well-being. A government's main task is to nurture and strengthen all of a nation's shared resources, its *common wealth* in the truest sense. This clearly includes shared physical assets such as minerals and transport infrastructure, but the common wealth also includes assets harder to bring to account – human capital (education and skills), institutional capital (financial, legal and cultural institutions), environmental capital (the state of natural resources and ecosystems) and social capital (particularly the level of trust between individuals, institutions and governments).

The means to achieve these ends are subject to ideological dispute, of course. Unfortunately, in the political din, important questions about economic structure – such as how to adjust to climate change, what our population policy should be, how to prepare for a post-mining boom era – get pushed aside or trivialised. The debate on climate change becomes one about who gets what from the carbon tax and its compensation payments; population policy and immigration are pushed into the background by concern about "border security" associated with a trickle of asylum-seekers; the debate about the mining boom is largely about the regional distribution of benefits and immediate skills shortages.

Even if they are not made explicit, however, public ideas count. Two strong ideas influencing economic policy are that "small" government is intrinsically desirable, and that economic reform is politically difficult. Both ideas can be costly in the long run.

Small government – it's not really a benefit

It's an almost unchallenged notion that "big government" is a burdensome impost on the economy, and that therefore, to use Ronald Reagan's terms, the beast must be starved. A related idea is that all public debt is undesirable.

Contrary to some perceptions, Australia has a small public sector, and a low level of government debt. Successive governments have kept taxes and deficits down by keeping expenditures down. As a result Australia has one of the smallest public sectors of all developed countries.

Table 3 (on the next page) shows taxes and government expenditures for OECD countries, averaged over the years 2002 to 2008. Because over this period most governments were spending at a rate much higher than they were gathering revenue, figures on taxation probably provide a better indication of the sustainable rate of expenditure than figures on expenditure over the period when deficits were accruing. By whichever indicator is used, however, Australia is a country of small government.

> “The notion that "small government" is a prerequisite for economic prosperity is not borne out by the evidence.

Table 3 also shows those same countries' rankings on the World Economic Forum's global competitiveness index. The political ideology that "small government" is a prerequisite for economic prosperity is not borne out by this or other evidence. There is no

Table 3. Size of Government and global competitiveness

	Taxes as % of GDP average 2002-2008	General government outlays as % of GDP, average 2002- 2008	Average annual growth in GDP per capita 2000- 2009	Global competitivene ss ranking 2011
Denmark	49	53	0.8	8
Sweden	48	54	1.9	3
Belgium	44	50	1.1	15
Finland	44	49	2.2	4
France	44	53	0.7	18
Norway	43	44	1.2	16
Austria	43	51	1.5	19
Italy	42	48	-0.2	43
Iceland	39	45	2.3	30
Hungary	38	50	2.8	48
Netherlands	38	46	1.4	7
Slovenia	38	45	3.5	57
Czech Republic	37	45	3.9	38
Luxembourg	37	40	2.2	23
Germany	36	46	1.0	6
Israel	36	50	1.6	22
United Kingdom	35	44	1.4	10
Spain	35	39	1.2	36
New Zealand	35	39	1.5	25
Portugal	34	44	0.3	45
Poland	33	43	4.4	41
Canada	33	40	1.1	12
Greece	32	46	3.2	90
Slovak Republic	31	38	5.8	69
Ireland	30	35	1.8	29
Australia	29	34	1.7	20
Switzerland	29	35	1.1	1
Japan	27	37	1.0	9
United States	27	37	1.0	5
Korea	25	27	3.8	24
Turkey	25	34	3.6	59
OECD total	35	40	0.9	

discernable relationship between the size of public expenditure and economic competitiveness or prosperity. It is notable from Table 3 that Australia, at 20th place on the global competitiveness ranking (a fall from 16th place in 2010), is a long way behind the "big government" northern European countries – Germany, Netherlands and the Scandinavian countries, all of which have managed to sustain strong rates of economic growth.

What counts, rather than the "size" of government, are the uses to which public revenues are put and whether government services are provided efficiently.

Public expenditure splits two ways – into *public goods* and *transfer payments*. Public goods include physical assets such as roads and services such as health care, while transfer payments are cash outlays such as pensions, child allowances and industry subsidies. In many countries, including Australia, expenditure on personal transfer payments ("welfare" in common terminology and "social security" in public policy parlance) has tended to crowd out expenditure on public goods and services. (We have few industry subsidies.).

Expenditure on public goods and services is generally directed to areas where private markets do not provide or do not provide efficiently. These areas of "market failure" include education, health care, security, environmental protection and physical infrastructure (including networks such as national broadband). Much of such expenditure, particularly infrastructure, is investment, expanding a nation's productive capacity. In this regard it is notable that in its detailed analysis of competitiveness the World Economic Forum notes two broad areas where Australia's performance is poor – labour market flexibility and transport infrastructure.

While public investment is important, some public expenditure, while classified as recurrent, is by nature capital. Most importantly education expenditure is classified as recurrent, but it is largely an investment in future productivity – building up the nation's capacity to adapt to change. Expanding public expenditure on universities, for example, can show annual returns in the order of 14 to 15 percent, attributable to a more productive workforce, a more employable workforce and the benefits of research. These returns are well above those achieved in other public or private investments.

> "The idea that there is some tradeoff needed between environmental and economic activities is flawed thinking.

By international standards, however, Australia's post-secondary education participation is slipping. According to OECD statistics covering the period up to 2008, participation in education among people aged 15 to 19 years has been rising in most developed countries. In northern European countries and Korea it is now between 84 and 90 percent, while our rate is only 82 percent. This difference is not great, but we have sat on the same level for many years, while these other countries have been increasing their post-secondary education participation and have now overtaken us. And there is some evidence that while our overall participation in education is being sustained, students are shying away from mathematics and physical sciences in favour of less demanding courses.

Tertiary education has suffered heavily from stringencies in public expenditure. While most developed countries fund tertiary education primarily from public budgets – the OECD average is 78 percent – Australia funds only 51 percent of tertiary education from public budgets. Our public funding for tertiary education fell sharply between 1995 and 2000, and has stayed low since.

As a result Australia's universities have had to divert resources from teaching and research to fundraising, including attracting overseas students (our universities now have a much higher foreign to native student ratio than those in other developed countries). When tertiary education imposes high costs on students, there are obvious equity consequences, and there is an opportunity cost on the community in the form of the unrealised potential of people who miss out on tertiary education because of financial constraints. Social mobility, one of the features of a dynamic economy, is reduced.

Just as education is an investment in future prosperity, expenditure on environmental protection and restoration is largely about sustaining the nation's future productive capacity. Conserving and protecting environmental resources is a practical investment – the notion that there is some tradeoff between environmental and economic activity, an argument used by opponents of a carbon price, is flawed thinking. Sound economic management should be concerned with all scarce resources and should not classify "environmental" resources into some inferior category.

We are letting our important public expenditures fall because we are diverting expenditures to personal transfer payments. In many countries, including Australia, as economies have opened up to competition, income disparities have widened, and these disparities have been rectified to a greater or lesser extent with personal transfer payments from government. (See Part 1 on widening disparities.) When this demand for transfer payments is combined with a policy objective of keeping public expenditure within a low bound (such as the current Commonwealth Government's objectives of keeping taxes at 23.5 percent of GDP and balancing the budget), the inevitable outcome is that growth in personal transfers must come at the expense of funding for public goods.

In Australia's case this trend is manifest in a large increase in the proportion of Commonwealth budgets dedicated to "social security and welfare". Going back in history to 1972, only 21 percent of the Commonwealth Budget was devoted to such personal transfers. By 2011 this had risen to 33 percent, crowding out other areas of expenditure.

This does not count revenue foregone in the form of tax concessions for individuals, including superannuation, private health insurance incentives, a low rate of capital gains tax on speculative investments, and tax subsidies for investment in housing. These concessions have grown strongly in recent times and have tended to favour the comparatively well-off. Also public outlays on health care have risen, putting even further pressure on budgets for education, infrastructure and other purposes.

In short, Australia has allowed personal transfer payments to crowd out public services. Clearly, any country needs to provide pensions and unemployment benefits, and for health care tax-funded public insurance is the most equitable and efficient way to share health care costs, but the long-term trend in Australia has been for government transfer payments to become more widespread and for people to become more dependent on them; even among many who are reasonably well-off a sense of entitlement has arisen. As shown in Figure 16, social assistance payments (a statistical measure of personal transfers) have risen from just 5 percent of household income a generation ago to 12 percent now. (The 2009 jump is an outlier reflecting the GFC stimulus payments.) Governments have increasingly been using transfer payments to compensate for the economy's inability to provide wellpaid employment for all.

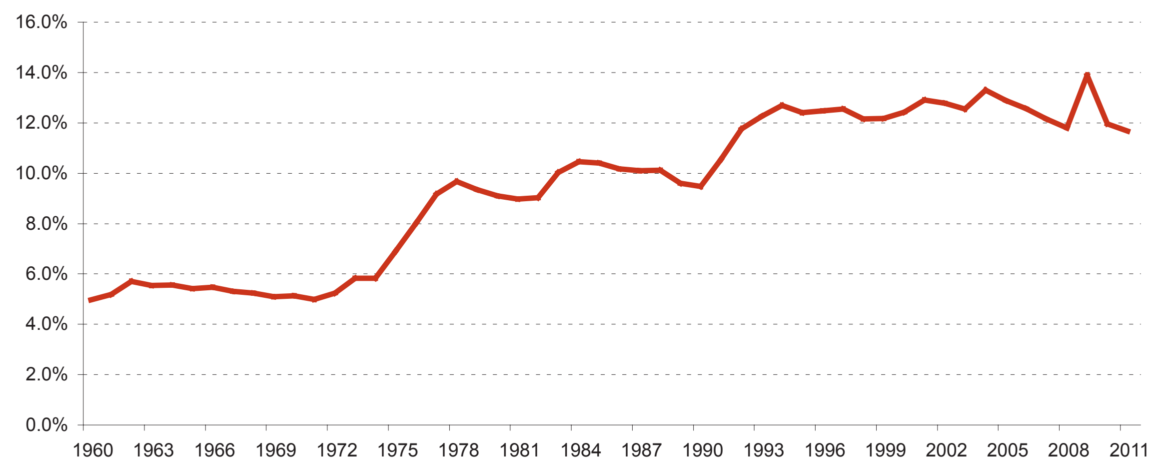
If this trend continues, there is a risk that there will develop a destructive loop of positive feedback. As disparities in private incomes widen, and as even the well-off become more accustomed to welfare payments, more public revenue necessarily becomes directed to personal transfer payments at the expense of public investment, which further weakens the economy's assets of physical, human and environmental capital, and therefore weakens the economy's capacity to provide well-paid employment (which would reduce the need for personal transfers). Eventually this system collapses – a collapse of both public services and of the welfare state – a collapse similar to that which occurred in Argentina in the twentieth century (another country which once had a period of extraordinary resource prosperity). Breaking this loop is essential.

One possibility is that compulsory superannuation, in time, will reduce the demand for age pensions, which now take 13 percent of the Commonwealth budget. Any such relief, however, will be offset by an ageing and longer-living population, and by likely demands to increase the pension as disparities between government pensioners and other retirees widen.

In the medium-term there should be the option of financing infrastructure and other capital through debt rather than current revenue. Politically, Australia has developed an extreme aversion to public debt: political parties have tended to define economic competence on the single criterion of budget balance. This has been a serious distraction from more basic issues concerning economic structure and long-term sustainability.

There are definitional issues related to measuring a country's public debt, but by any measure

Figure 16: Social assistance payments as a proportion of household disposable income



Australia's net public debt is no more than 13 percent of GDP, while most other developed countries have public debt in the range of 50 to150 percent of GDP – levels which have been boosted by fiscal stimuli and bank bail-out packages. These levels are burdensome for the countries concerned, but even Australia has experienced those high levels in the past: coming out of the Pacific War in 1946 Australia's public debt was 130 percent of GDP, and it fell steadily over the following decades as economic growth restored public budgets.

What is important economically is not so much the level of debt as the use to which that debt is put. If governments borrow to fund current consumption (as has happened in many countries), then that is unsustainable over any extended period. Counter-cyclical economic management can justify a short-term consumption boost funded by debt, but such debt should be repaid over a business cycle. There is no reason, however, to avoid using debt to finance productive infrastructure. Well-chosen infrastructure can provide good returns. Public infrastructure does not necessarily provide direct financial returns, but the indirect economic returns accrue across the community, and the resulting higher national income provides the taxation revenue to service the debt.

To take a corporate analogy, managers of a publicly-listed corporation would be considered to be irresponsible if they did not use debt in the mix of funding for the firm's capital requirements. Australia is like a corporation with a weak balance sheet – low debt matched by low assets – with a *de facto* but hidden liability to renew tired and inadequate assets.

To provide some perspective on the opportunity lost through Australia's debt phobia, Australia could spend at least $500 billion on public assets without exceeding the average debt-to-GDP ratio of OECD countries. We could have decent rail passenger and freight systems, we could have a safe highway between Sydney and Brisbane, we could have modern metropolitan transport systems. That is not to advocate immediate outlays on such projects: any sudden increase in expenditure on infrastructure would put a severe strain on the nation's physical resources. But it is to indicate what is being missed by the obsession to avoid debt.

Such debt would need to be financed, but even at a debt level of 50 percent of GDP and a real longterm bond rate of 5 percent (a high estimate for a real rate), the servicing cost would be only 2.5 percent of GDP. Well-chosen public investment, such as investment in physical infrastructure and tertiary education, should boost the economy to the extent that it would easily provide the public revenue to service the debt used to finance it.

Economic reform – it's really not so hard

Conventional wisdom is that economic reform is politically costly. Yet recent history shows otherwise. The Hawke/Keating Government's vigorous programs of tariff reduction, financial market deregulation, labour market reform and extension of competition policy caused a great deal of dislocation, and contributed to a severe recession in the early 90s (the recession "we had to have"), but the government kept getting re-elected; in fact it lost office only when it seemed to have run out of reform enthusiasm. When the Howard Government introduced the GST, it was widely believed to be a politically suicidal move, but once implemented it met with acceptance and the government was re-elected. Similarly the Howard Government's decision to make the Reserve Bank largely independent didn't cost it support, even though the Reserve Bank often makes interest rate moves at politically inopportune times.

The only reforms which do meet with strong opposition are privatisations, by both state and national governments. But it may be a misnomer to call privatisations "reforms". Privatisation has often been a lazy and expensive alternative to modernising public enterprises, such as electricity utilities, while imposing large costs on the community, not the least of which are the nuisance costs ("transaction costs") such as road tolls, and shopping for competing electricity retailers. In many cases, such as public transport, the efficiencies of network integration have been forgone. In some cases when user charges are imposed the privatised facilities remain under-utilised, a waste economists know as "deadweight loss". (Sydney's little-used cross-city tunnel is a textbook case in point.)

There are sound economic reasons for keeping natural monopolies and large networks in public ownership. There is a superficial attraction in the argument that the government cannot afford to invest in roads and railroads, but whether the capital is raised through government bonds or through corporate fund-raising, the same demands are made on financial markets; in fact the demands on financial markets associated with private capital are generally higher than those associated with public finance, for private investors expect higher returns and there are often high underwriting costs.

There are three general impediments to economic reform, but they are all surmountable.

The first is that reform generally means scrapping entrenched privileges. When a group has gained an economic benefit from past political favours it has the means to campaign against reform. Recent campaigns by mining interests and licensed clubs provide examples. Governments come under pressure to yield to such campaigns, but such appeasement does not win governments public respect, and only encourages others to mount similar campaigns. Worse, it means that businesses devote their efforts to gaining and sustaining economic privilege ("rent seeking" in economic terminology) rather than the more difficult task of innovating and developing new markets.

The second impediment is that reform often involves some loss for particular workers or regions – the Murray-Darling basin provides a strong case in point – and some reforms may require a level of sacrifice across the whole community. Rather than pretending that reform is painless, governments have more chance of political acceptance if they explain the need for reform, particularly if it can be incorporated into a consistent economic vision, and if the government helps people bear the costs. Otherwise the public becomes resistant to economic change.

For example there is a great deal of understandable fear about employment insecurity, a fear which was heightened when the Howard Government went a long way towards de-regulating the labour market. As a policy reaction, firms have been required to take on more responsibility for protecting employment, through regulatory provisions which make it hard for companies to shed staff. If it is hard to shed staff, firms can be reluctant to hire staff. An obsession with job security overshadows the opportunities for employers and employees to seek job mobility. One possible way around this problem would be to allow employers more flexibility in hiring and firing staff while supporting the unemployed with generous income-replacement and re-training, as is done in Denmark – destigmatising unemployment and overcoming the notion that unemployment benefits are "passive welfare".

The third impediment is the pattern of adversarial politics, endemic to Westminister-type democracies. The present Opposition is adept at ridiculing economic reform with simple slogans, and with promises of technical and economic conservatism, presenting a vision of imagined economic stability and security. In Australia's case the situation is aggravated by a large part of the media with a partisan agenda, and a general inability to present economic issues to the public. There is no simple answer to this problem, but again a strong, consistent and well-articulated economic vision helps, and a Government which lets its agenda be set by the Opposition, the tabloid press or focus groups leaves the public with the notion that they may as well vote for the Opposition and get the real package.

In spite of these impediments, the present Government is putting some reforms in place, even while it falls short in explaining them. The most far-reaching reform is its introduction of a carbon price. It wasn't on its election platform, but it came about as a political deal with the Greens. While its immediate effect in relation to global climate change will be minor (a carbon tax of $23 a tonne is well below the $80 per tonne level many suggest is necessary to achieve significant switching to other modes of power generation), it should help to modernise our energy-intensive sectors and should provide an inspiration to other countries – Australia has often been a world leader in policy innovation. Some people complain that we put ourselves at a disadvantage by moving before the rest of the world, but that argument does not hold. Other places *are* moving: the European Union has emissions trading, and Italy has recently imposed a new tax on energy consumption. California, an economy about twice the size of Australia's, is taking strong moves on dealing with climate change. In any event, there is probably an advantage for early movers, because however other countries deal with climate change, there is likely to be a competitive advantage for those nations which are first to modernise their industries and export their know-how. We once had a world lead in photovoltaic technologies, but through a combination of neglect and capricious policy changes, by governments of both main persuasions, Commonwealth and state, lost that momentum. It is important that we avoid such policy uncertainty in relation to carbon pricing.

Another significant contributor to structural change is the Commonwealth's ambitious broadband program, which will enable adoption of new and emerging communication and information technologies, and will almost certainly remove some of the regional disadvantages which have contributed to our high urbanisation. It too has its opponents, but restricting internet capacity to current needs would be akin to the lack of vision of those town planners of earlier times who never provided adequate easements for future public and private transport.

These exceptions aside, the present Government has been nervous about economic reform (as was the previous Coalition Government in its last terms in office). Obsessed with fiscal impression management, it has tied itself to a promise of a balanced budget by 2012-13 without any new taxes. This means, for example, holding back on investments in education and transport, even as our global competitors catch up on their education and infrastructure investments. In spite of having received numerous recommendations to make our taxation system fairer and more supportive of economic modernisation, it has done little more than to tinker at the edges of our byzantine tax code – a code which tends to privilege speculation (particularly in its concessions for short-term capital gains) and real-estate investment over innovation and industrial productivity, and which draws most heavily from young working-age Australians.

An agenda for economic reform – restoring productive public services

The most difficult general reform challenge, which if not met will see our common wealth wither, remains the problem of personal transfer payments crowding out productive public expenditure, described above. The public revenue options facing Australia are:

(A) to keep taxes low and continue to increase personal transfer payments, crowding out expenditure on needed public services;
(B) to keep taxes low, cut social security expenditure severely, and provide needed public services;
(C) to raise taxes, sustain personal transfer payments, and provide needed public services.

Option A is the political default. Both the other options appear politically difficult because, in different ways, they require some medium-term reduction in personal consumption – either lower personal transfer payments or higher taxes. Option B may appeal to a right-leaning government and Option C to a left- leaning government, but neither would appeal to a government whose policies are driven by opinion polls and focus groups; nor do they seem to appeal to the present Opposition. Even small cutbacks in personal transfer payments in the 2011-12 Budget were met with strong protests, including from the once right-leaning Liberal Party, and the Coalition Opposition has consistently thwarted the Government's attempts to reduce tax breaks for the well-off, such as the proposals to reintroduce some modest means-testing for private health insurance subsidies.

> “The public readily accepts tax increases when they can be assured that their taxes will be directed to specific benefits.

The Opposition, under its current leadership, has stated its preference for Option A – to increase or sustain personal transfer payments while cutting public services. In a key speech to the Sydney Institute in November 2011 the Opposition Leader made a clear commitment to “deliver personal income tax cuts and a fair deal for pensioners without a carbon tax”, to cut company taxes and to repeal the mining tax – while sustaining a commitment to a balanced budget. By any calculation such a set of commitments would require deep cuts in spending on public services – much more than could be achieved by tinkering around the edges with efficiency campaigns and cutting public service numbers. It would require deep cuts in areas such as education, infrastructure, defence and health care. That's on top of abandoning the Government's national broadband network , which, being classified as capital, would represent no saving – in fact a loss if the eventual opportunity to sell an up-and-running network were lost.

One political appeal of Option A is the lack of media and audit scrutiny applied to personal transfers, while expenditure on public services is usually subject to intense scrutiny. For example the first round of the Government's fiscal response to the GFC was a $900 handout, and even though a significant proportion of this was undoubtedly spent frivolously and some would have gone to savings or imports, thus failing to stimulate the economy, it was generally well-received. By contrast the Government's school building and home insulation programs were subject to intense scrutiny, and minor instances of waste and maladministration were represented in the media as “debacles”. They proved to be politically costly for the Government. The Government's most effective and least wasteful programs came in for most criticism, because waste in government programs is far more visible than waste in personal transfers. Part of the blame must be taken by the Government for not explaining its policies – a lesson to be considered by any government expanding its programs.

Option C is the only path which is both politically feasible and economically responsible. At first sight, any rise in taxes appears to be politically impossible. There is a large body of research, Australian and international, which shows that the public reacts strongly against tax increases. That finding aligns with conventional wisdom on taxation. The same research, however, shows that the public readily accepts tax increases when they can be assured that their taxes will be directed to specific benefits, the perennial favourites being health and education. The public is strongly opposed to expenditure on public administration, and is generally negative about expenditure on social security and welfare (but happy to spend on “age pensions”). Generally, when people think about tax increases they think of income tax, but, as the Henry Review has pointed out, there are other untapped sources of public revenue, including inheritance taxes, more neutral capital gains taxes, and road user charges.

The other more specific reform challenge is about handling the mining boom. The temptation is clear – to let income from mining support our present living standards. While a high exchange rate is damaging to our trade-exposed industries it provides a consumer windfall. Also the profits from mining will boost superannuation accounts and company tax revenues, which can be spent on personal transfers to compensate for the inequalities which result from our three-speed economy.

Rather than spending these benefits now, however, we could look to the future. We could choose deliberately to reduce the risk of boom/bust economic cycles. The original mining tax proposal, which would have collected much more public revenue when mining profits were high, could have acted as an economic stabiliser, allowing the Government to accrue a fiscal surplus in times of high mining revenue, thereby keeping the exchange rate and interest rates low. And to the extent a super profits tax would dampen any expansion in mining activity, it would allow us to preserve more of our mineral reserves for future use. It would also ensure that some of the skilled labour and specialised equipment employed in mining could be available for other purposes, for example developing neglected urban infrastructure. Other countries would take up some of the supply, but we shouldn't see it as an Australian problem if other countries are depleting *their* resources, and some of the revenue would accrue to us through our own mining multinationals.

Alternatively, we could let the boom go ahead, but, through taxation or other means, invest a large part of the surplus in a sovereign wealth fund of global assets. This has been Norway's approach, and one of the most impressive features of Norway is that it has retained its commitment to social cohesion – Australia easily outdoes Norway in conspicuous consumption such as oversized houses and luxury cars. Rather, while enjoying sound public services (as they did even before the North Sea oil and gas boom), Norwegians continue to live comparatively modest lifestyles while maintaining many of their traditional industries.

But whatever economic policies we adopt, with an economy exposed to the world, and with a stake in the planet's shared environmental resources, our economic sovereignty is limited. We are very much dependent on how the governments of the world handle serious global problems, particularly climate change.

Priorities for global public policy – food supply and climate change

The immediate worries of policymakers concerned with international cooperation are to do with fiscal imbalances and the associated failures of financial systems, described in Part 2. These are clearly important, because unless the financial sector can be restored to its rightful place as a service function to the real economy, there will most probably be widespread economic collapse. While these are of such immediate concern, it is difficult to get attention focussed on the more serious and related problems of global food supply and climate change.

Food supply problems result from many factors including inefficiencies in distribution, diminishing yields from the "green revolution" high yield crops, and distorted global markets, but the most serious emerging food-supply problems have to do with population pressures and climate change.

Hardly any developed countries have achieved the GHG reductions they agreed to when they ratified the Kyoto Protocol in 1997 (Denmark stands out as a notable exception), and by now the scientific consensus is that global warming is more rapid than was suggested in earlier models. Within the range of uncertainty in those predictions, we seem to be heading towards the upper estimates. The earlier agreed target of limiting the global average temperature increase to two degrees now looks like an unachievable aspiration.

The International Energy Agency has warned that without new policies to address climate change we are on track to a temperature rise of six degrees or more. The GFC saw a temporary lull in the rate of growth of GHG emissions, but they have now bounced back. As world economic activity recovers, GHG emissions are rising at an even faster rate, particularly from developing countries.

Even temperature rises well below six degrees could be catastrophic. One clear effect would be an increase in extreme weather events such as hurricanes and droughts: those as we have experienced over the last few years may be early stage manifestations of the effects of global warming. Ocean acidification would have severe effects on ocean productivity, aggravating the already present problem of over-exploited fisheries. Mean sea levels would rise slowly, but there would also be more extreme storm surges, and if there is significant melting of the Greenland and Antarctic ice caps, there could be a runaway process of positive feedback as the planet's natural solar reflectors melt away. High sea levels would inundate coastal cities where a large proportion of the world's population lives and where so much industry is located, and would ruin a large part of the world's low-lying food producing regions.

For a small-scale impression of the economic consequences of innundation the recent Bangkok floods provides an example, as does our own experience of severe flooding in early 2011. Although these events may have nothing to do with climate change, they provide clear illustrations of the economic consequences of weather-related damage to economically productive regions. One consequence of climate change is a change in rainfall patterns, and these are unlikely to be benign for food production. Even if rainfall simply shifts in latitude, it will not necessarily be to areas where there is adequate soil for food production.

At the same time the demands humans are making on the planet are continuing to grow. Over the last hundred years the population has soared – from 1.7 billion at the turn of the twentieth century to 7.0 billion now, with a further 2.0 billion expected before there is any stabilisation.

Of those seven billion people, around three billion, mainly in Africa and South Asia, are subsisting below the "two dollar a day" poverty line, and more than a billion are living without access to electricity. Quite reasonably, those presently in poverty have a reasonable right to expect their living standards to improve, as has happened in East Asia. Per capita annual CO_2 emissions in very poor countries are typically less than one tonne. Middle income countries such as China have emissions in the order of five tonnes, and the best of the high-income countries such as Singapore and Denmark have emissions of about eight tonnes, which, in turn, are about half the emissions of the USA and Australia. Even with the most efficient technologies we must expect a significant rise in GHG emissions as poor countries lift themselves out of poverty. The industrial structures of rapidly developing countries are such that they are in an energy-intensive stage of development, and, in the case of China in particular, a large proportion of their production is directed to exports for highincome countries: much of their GHG contribution relates to consumption in countries like Australia. That all means that the heavy lifting in cutting emissions must fall to the high-income countries.

Leaving aside an idiot fringe which denies the existence of any problem, there are many parties advocating their preferred means to arrest global warming. Economists place high reliance on prices, pointing out that natural scarcity of some fuels, particularly oil, will raise prices and encourage substitution, while carbon taxes applied to plentiful fuels such as coal will have the same effect. Engineers complement the economists' models, pointing to the high gains in the efficiency of lowemission technologies, particularly solar, and some put their faith in yet-to-be-discovered technologies, extrapolating from previous trends in scientific progress. Many on the "right" advocate the wholesale adoption of nuclear power and technologies such as capture and storage of CO_2, while many on the "left" call for a drastic reduction in material consumption. And for every proposed solution, there is a naysayer pointing out its limitations.

Most probably, while all the foregoing means have their limitations, all can make a contribution.

Prices can help, but there is a great deal of inertia in existing practices – people and corporations are often unaware of the economic benefits of energy saving products and processes. As behavioural research shows, without education, moral suasion and establishment of norms, prices alone can be ineffective.

High prices, which should theoretically discourage use of existing technologies, do not necessarily encourage investment in new technologies: there is a need for large public investment in research and development of new technologies, particularly in energy storage, substitute materials (particularly for cement), electrical conductors, and further down the track, nuclear fusion power.

Engineering solutions are often geographically-specific: wind power and tide power for example are suited only for certain locations and cannot necessarily be scaled up. Hydro power, once installed, is GHG neutral, but often imposes high costs on food production and other natural systems.

Nuclear fission power is the most contentious. All power generation has some level of personal danger and environmental cost. The incidents at Chernobyl, Three Mile Island and Fukushima are vivid reminders of problems with nuclear power, but coal-fired generation has been a far worse killer. The problems of nuclear power have more to do with its waste – its storage over very long time periods which are outside the reasonable lifetimes of nation states or international organisations, and the need to keep it out of the hands of those who would transform it into weapons. The other constraint on nuclear power relates to its cost – a carbon price which makes nuclear power attractive is easily high enough to make lower cost alternatives, such as solar, much more economical.

Opponents of fossil fuels may have to accept natural gas as a useful peak load supplement to renewable systems. And those who call for huge changes in consumption patterns need to think carefully through the energy and GHG equations – for example not every expansion of public transport is GHG friendly.

Perhaps the two greatest impediments to progress are political ones. One is a popular notion that there is some necessary tradeoff between economic progress and saving the planet. The other is that it is politically too hard.

Both supporters and opponents of strong action embrace the notion of a tradeoff. Such thinking is flawed, however. Those who say we must stop or reverse economic growth in order to save the planet have a constrained way of thinking about economic growth. They are locked into thinking that economic growth is necessarily based on exploitation of natural resources, and tend to overlook or ignore other patterns of economic growth. They fail to see that dealing with climate change in itself is a massive economic project, and they fail to give credit to low-emission technologies which can provide the same benefits as many high-emission technologies. More realistic advocates, rather than calling for an end to economic growth, are calling for a radical de-carbonisation of the economy.

Those who say we must attend to the economy first fail to understand that catastrophic climate change would be the most economically destructive development imaginable.

The conventional view of the political situation is that politicians have no incentive to deal with climate change. Dealing with climate change involves short-term costs, while the benefits are many electoral cycles away. And as with so many international economic issues, there is always the temptation to free-ride off others' initiatives – wouldn't it be just great if everyone else could make those investments while we continue our GHG-intensive lifestyle? The easy excuse for inaction is that global agreements are too difficult to achieve, as illustrated in the weak accord that emerged at the 2009 Copenhagen Climate Change Conference.

That brings us back to the current fiscal problems facing Europe and the USA. These too are problems in international economic cooperation, with all the same free-rider incentives. If, for these comparatively minor problems with reasonably clear solutions, agreement cannot be found, it is hard to imagine that anything can be done on climate change. That's why it is mistaken to see these fiscal concerns only as a distraction to action on climate change. International cooperation in one arena facilitates such cooperation in others. With the European Union as the only large economic entity pushing for strong action on climate change, it would be a severe setback if the Union were to fragment.

The political challenge is to develop a shared sense of urgency. It would help if action on climate change could progress from being seen as a "left" vs "right" issue and become seen as an urgent problem transcending such politics – just as threats of terrorism or epidemics manage to bring a degree of political agreement. In this regard those traditionally seen as on the "right", such as multinational insurance companies, may need to make their voices heard more loudly. It would help, too, if there could develop a "coalition of the willing" – after all, only 18 countries, including the rapidly developing economies of China, India and Brazil, and including Australia, contribute 75 percent of all CO_2 pollution. They could come to a set of arrangements among themselves, and through a suitable combination of incentives and penalties, bring along the world's other 170 or so countries.

This would be similar to the mechanism developed at the 1944 Bretton Woods Conference in which a limited number of countries hammered out a régime of international economic cooperation – a régime which has remained largely intact to this day. America provided leadership for those initiatives. In 1944 the USA was the only big power standing; now power is more distributed, but cooperation among a small number of high GHG countries could precipitate wider cooperation.

The other possibility is that a global multilateral deal can still be achieved. The agreement negotiated in Durban in late 2011 has its critics. It is no more than an agreement to agree – to develop by 2015 a way of reducing emissions by 2020. But it does include the major emitters, particularly the USA and China, without whose cooperation any agreement would be meaningless. On paper at least it acknowledges the need for direct adjustment assistance to poorer countries.

CONCLUSION – WE NEED MORE THAN LUCK

Donald Horne (who was for a time Chancellor of the University of Canberra) wrote in 1964 that Australia was a "lucky country".

Luck has indeed been on Australia's side, right from 1788. Colonisation was a brutal experience for those who had been living here for 40 000 years, but it was fortunate that Australia's colonisation was by people who were the boat people of the time – (initially unwilling) refugees from the brutal social conditions of the Old World. Among free settlers and administrators were people enthused by Enlightenment thinking. Gold was another strike of luck; its random returns helped break what remained of the transplanted British class system. The strife-torn twentieth-century went well for Australia: although we took dreadful losses in those conflicts we have been lightly touched by war on our own soil, and have benefited from the contributions of refugees from war, right up to the present day. Now we happen to be located in the area where most of the world's growth is occurring, and we have an abundance of minerals needed by those high-growth countries.

> "Adequate investments in education, infrastructure and environmental protection won't be made by the private sector.

We have also had the benefit of good public policy. Had our governments not made major economic reforms in the 1980s and 1990s we would almost certainly now be in an economic backwater. Foreigners would still be digging up our minerals, but the benefits would be even more concentrated than they are now. Those reforms have their critics. Some, such as privatisations, brought more costs than benefits. But the package of reforms saved us from economic stagnation.

Those reforms, while being achieved mainly through specific economic measures, were part of a wider opening of Australian society to the world, and particularly to our region. We became more open to trade, immigration, and to regional diplomatic and defence cooperation. The social attitudes that allowed our government to pull down our wall of protective tariffs were the same attitudes that allowed our government to throw out the White Australia Policy and to engage with the region.

Good public management has steered us through the recent and ongoing financial crises, and we are riding another of our resource booms at the most fortunate time.

That good fortune runs the risk of complacency – the temptation to defer doing anything about our economic structure to see us past the end of the boom, and the temptation to defer facing up to the challenge of a world of growing natural resource scarcity. It has been only through an extraordinary outcome of elected politics that we have been able to introduce a small carbon price. Many Australians still cannot grasp the reality that the future is one in which success will go to those countries which use their human capital to the fullest, rather than relying on others to come and buy their natural resources.

As with any economic challenge, our economic modernisation will require investment, and it's a simple economic equation that investment for the future requires some forgoing of present consumption. These investments in education, infrastructure and environmental protection are ones which won't be made by the private sector – markets aren't very good at providing public goods and in many cases cannot provide them at all. That means higher taxes, a tightening of social security (particularly for the well-off), and, to the extent that we can identify new assets on our public balance sheet, some higher level of public debt.

Of course, this modernisation can be deferred while we enjoy high mineral incomes, low taxes, and the wealth illusion of high housing prices, but the longer such reforms are deferred the more difficult and costly will be the eventual adjustments. Complacency is the easy but expensive option.

Responsible political leadership should be able to head off that complacency – presenting the community with a clear assessment of problems and opportunities, and drawing on the community's capabilities to deal with these adaptive challenges with confidence. The alternative political approach, which doesn't earn the title "leadership", is to engender fear of change, and to advocate a return to an imagined age of stability and security – the policy equivalent of the cultural cringe which is always lurking in the background, threatening to sap our vigour and to break off our engagement with the region and the world.

Even if Australians are slow to engage in that debate, others, not burdened by our political distractions, are raising these questions. In a recent supplement dedicated to Australia *The Economist* said:

> It is benefiting from a resources bonanza that brings it quantities of money for doing no more than scraping up minerals and shipping them to Asia. It is the most pleasant rich country to live in. … And, since Asia's appetite for iron ore, coal, natural gas and mutton shows no signs of abating, the bonanza seems set to continue for a while, even if it is downgraded to some lesser form of boom. However … the country's economic success owes much less to recent windfalls than to policies applied over the 20 years before 2003. Textbook economics and sound management have truly worked wonders.

Australians must now decide what sort of country they want their children to live in. They can enjoy their prosperity, squander what they do not consume and wait to see what the future brings; or they can actively set about creating the sort of society that other nations envy and want to emulate. California, for many people still the state of the future, may hold some lessons. Its history also includes a gold rush, an energy boom and the development of a thriving farm sector. It went on to reap the economic benefits of an excellent higher-education system and the knowledge industries this spawned. If Australia is to fulfil its promise, it too will have to unlock the full potential of its citizens' brain power.

SOURCES

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Most Australian statistical data is drawn from the Australian Bureau of Statistics time series. www.abs.gov.au.

There are many ways of measuring government debt – precise definition is difficult. The Commonwealth Budget papers place Commonwealth net debt for 2011-12 at 7.2 percent of GDP. This ignores state and local government debt, which are both very low. The OECD estimates Australia's net debt for 2010 at 11 percent of GDP www.oecd.org, while the IMF estimates Australia's net debt for 2011 at 8 percent of GDP and gross debt (which does not add back government financial assets) at 24 percent of GDP www.imf.org. The OECD estimate is the highest, but it is for 2010, and according to Australian Treasury estimates debt will be 1.3 percent higher in 2012. That would indicate 13 percent as a reasonable upper estimate for Australia's current net debt.

Data on Australians' working preferences is drawn from the Workplace Research Centre, University of Sydney. Their "Australia at work" research publications are available at http://www.australiaatwork.org.au.

Details of the historical shares of top incomes are from a 2006 Australian National University discussion paper by AB Atkinson and Andrew Leigh *The Distribution of Top Incomes in Australia* available at http://www.andrewleigh.com/blog/, with updated data. International comparisons of income distribution are available in the 2011 OECD publication *Divided we stand: why inequality is rising* www.oecd.org.

Housing debt, commodity prices and exchange rate data are derived from the Reserve Bank statistical database www.rba.gov.au. The Reserve Bank is also the source of short-term economic forecasts. Some of the historical data on structural change is drawn from an article by Ellis Connolly and Christine Lewis "Structural Change in the Australian Economy" in the *Reserve Bank Bulletin* of September 2010. Data on the composition of Australian exports is derived from the Department of Foreign Affairs and Trade www.dfat.gov.au.

The survey on factors influencing productivity is the Ernst & Young Australian Productivity Pulse, October 2011 www.ey.com.

Research on American households' ability to raise $2000 is from Annamaria Lusardi, Daniel J. Schneider and Peter Tufano *Financially Fragile Households: Evidence and Implications* National Bureau of Economic Research Working Paper 17072, May 2011.

There are many (and sometimes conflicting) data series on housing prices. The ABS provides the longest time series, used to generate Figure 7 (which splices two series on established prices). One series on affordability is provided by the Housing Industry Association www.hia.com.au. *The Economist* produces a regular international house price indicator www.economist.com (Paywall).

Estimates of revenue from minerals taxes are taken from the report of the Senate Select Committee on the Scrutiny of New Taxes *The Mining Tax: A bad tax out of a flawed process* June 2011. Data was supplied to the Committee by the Commonwealth Treasury.

Comparative data on public revenue, international export comparisons, tertiary education expenditure and general background on comparative economic performance, is drawn from the OECD www.oecd.org. References to the returns from education are drawn from studies commissioned by Universities Australia **www.universitiesaustralia.edu.au**.

Historical and comparative data on Australia's public debt can be found in Katrina Di Marco, Mitchell Pirie and Wilson Au-Yeung "A history of public debt in Australia" produced for the Treasury in 2009. **www.treasury.gov.au**.

The clearest statement so far of the Opposition's economic policy is in a speech to the Sydney Institute on November 21, 2011. A transcript is available at Australianpolitics.com **http://australianpolitics.com/2011/11/21/tony-abbott-speech-to-sydney-institute.html**.

The most comprehensive Australian research on attitudes to public expenditure was by Glenn Withers, David Throsby and Kaye Johnston in a 1994 Economic Planning Advisory Commission publication *Public Expenditure in Australia*. Later data, supporting this earlier research but less comprehensive, is compiled in the Centre for Policy Development publication *The State of the Australian Public Service: An Alternative Report* **www.cpd.org.au**.

Data and warnings on climate change are drawn largely from the 2011 World Energy Outlook of the International Energy Agency **www.iea.org** and from the Global Carbon Project **www.globalcarbonproject.org**. An excellent outline of some of the policy options to deal with climate change is in Andrew Charlton's 2011 Quarterly Essay *#44 Man-Made World: Choosing between progress and planet*. (Charlton argues convincingly that the "choice" is a false one.)

The political leadership model, based on dealing with adaptive challenges, is most clearly articulated by Ronald Heifetz Senior Lecturer in Public Leadership at Harvard's Kennedy School of Government. His book *Leadership without easy answers* (Harvard Press 1994) outlines his theory.

The concluding quote on Australia's options is from *The Economist* 26 May 2011, which has a long supplement on Australia.