Economic *Roundup*

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The Australian economy and the global downturn
Part 1: Reasons for resilience

Tony McDonald and Steve Morling[1]

The Global Financial Crisis was followed by the deepest recession in the world economy since World War II. The Australian economy slowed, but did not fall into recession, performing better during this period than most other advanced economies on nearly all relevant indicators. This article documents the financial and economic developments during that episode and examines a range of factors that have been put forward for the relatively strong performance of the Australian economy.

1 The authors are from Macroeconomic Policy Division and Domestic Economy Division, the Australian Treasury. This article has benefited from comments and suggestions provided by David Gruen, Simon Duggan, Phil Garton and other colleagues from the Domestic Economy Division and Macroeconomic Policy Division of Treasury. Assistance was provided by Alistair Peat, Janelle Hanns, David Stephan, Deepika Patwardhan, Jonathan Olrick and Sarah Woods.

Introduction

The Global Financial Crisis (GFC) was followed by the deepest recession in the world economy since World War II. The Australian economy performed better during this period than other advanced economies on nearly all relevant indicators. Financial conditions were stressed, but the financial system held up remarkably well; the economy slowed, but did not fall into recession; and while unemployment rose, it did so by far less than in many other advanced economies.

A range of factors have been put forward to explain the relatively strong performance of the Australian economy over this period. These include the strength and stability of the Australian financial system, the fiscal and monetary policy response, the flexibility of the exchange rate and the performance of our major trading partners, particularly China.

This article looks at each of these different factors and makes an assessment of the role that each may have played. It begins with a brief recap of the GFC and the subsequent global downturn, including a look at some of the key channels through which the shock was transmitted to the Australian economy. It then discusses a range of explanations that have been put forward for the Australian economy's resilience during this period. A more detailed analysis of the evolution of the economy during this period including, where possible, a quantitative assessment of the impact of the various factors described in this article, is provided in Part 2 of this paper (Morling and McDonald, 2011).

The global downturn

In the second half of 2008, the world economy experienced a severe financial and economic shock. The US sub-prime crisis of 2007 degenerated into the GFC: financial conditions deteriorated quickly, financial and real asset prices collapsed, and business and consumer confidence fell sharply. The world economy sharply changed course from a five-year period of above-trend growth to the deepest recession since World War II.[2]

A key feature of the crisis was the sharp deterioration in global financial conditions, with global financial markets highly stressed and financial institutions coming under extreme pressure. Financial markets were extremely volatile, with equity prices falling precipitously at different stages under the weight of heightened uncertainty and risk aversion (Chart 1).

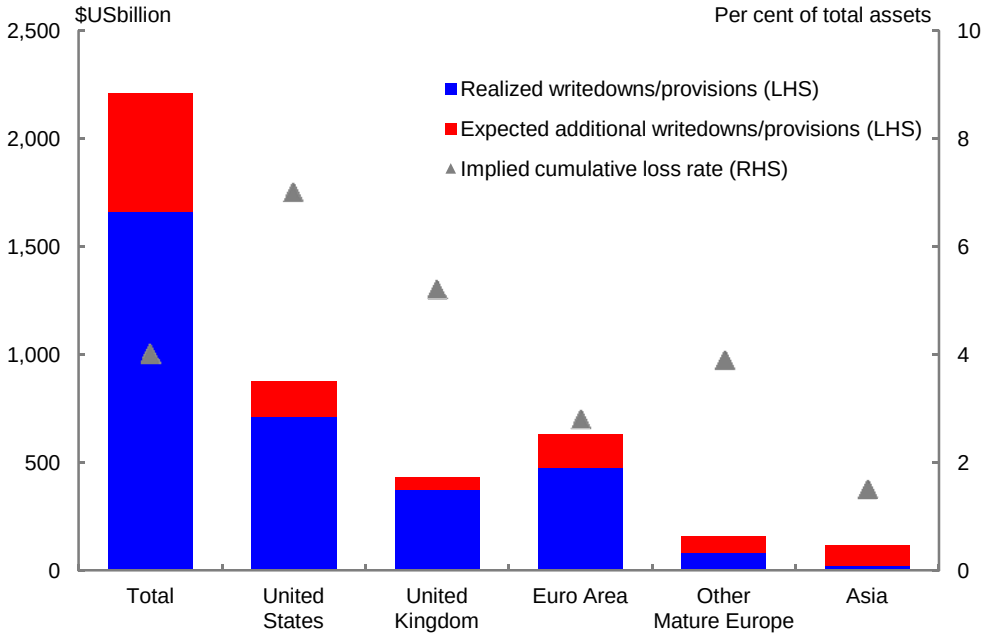
2 See Gruen (2009a) for a more detailed explanation of these events.

Chart 1: Equity prices

Source: Reuters.

The crisis had a substantial impact on the solvency and liquidity of a significant number of financial institutions globally, causing share prices of banks to fall sharply, and some major financial institutions to collapse. Global bank writedowns and loss provisions are estimated to have exceeded $US2 trillion by the end of 2010, requiring significant recapitalisation of the banking sector including, in many advanced economies, a government injection of funds (Chart 2).

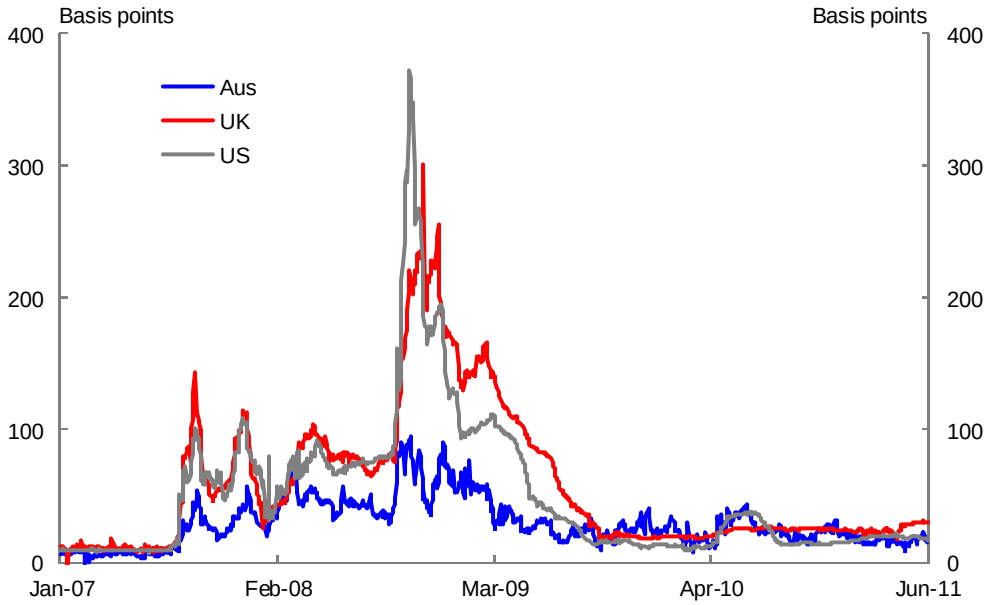
Chart 2: Bank writedowns or loss by region



Source: *Global Financial Stability Report*, International Monetary Fund (IMF).

There was an extraordinary increase in the difference (spread) between the yields on short-term inter-bank instruments and the expected official cash rates, reflecting the collapse in confidence in the credit-worthiness of financial institutions and a huge increase in the perceived value of hoarding liquidity. From below 10 basis points before the onset of the sub-prime crisis in mid-2007, global inter-bank spreads increased sharply. This situation deteriorated dramatically following the onset of the GFC in September 2008, with spreads on bank instruments over the expected cash rate reaching nearly 400 basis points in the US, around 300 basis points in the UK, and nearly 100 basis points in Australia (Chart 3).

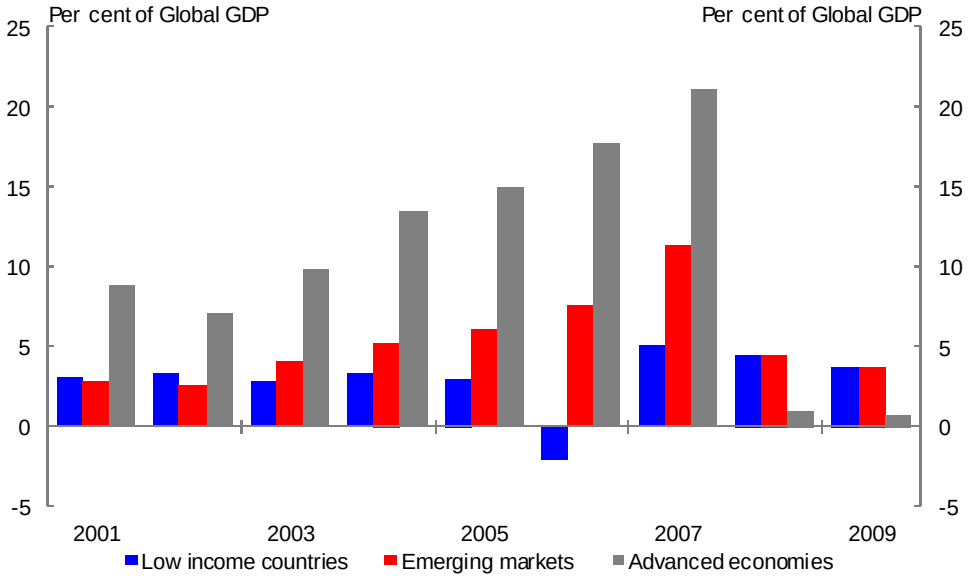
Chart 3: Interest rate spreads



Source: Reuters.

The crisis in the financial sector was also evident in the collapse of global capital inflows, particularly in advanced economies (Chart 4). After rising from around 6 per cent of global GDP in 2002 to 18 per cent of GDP in 2007, global capital inflows fell to around 2 per cent of global GDP in 2009. While this fall largely reflected developments in advanced economies, with gross capital inflows falling from 21 per cent of GDP in 2007 to around 0.7 per cent of global GDP in 2009, emerging market economies were also affected.

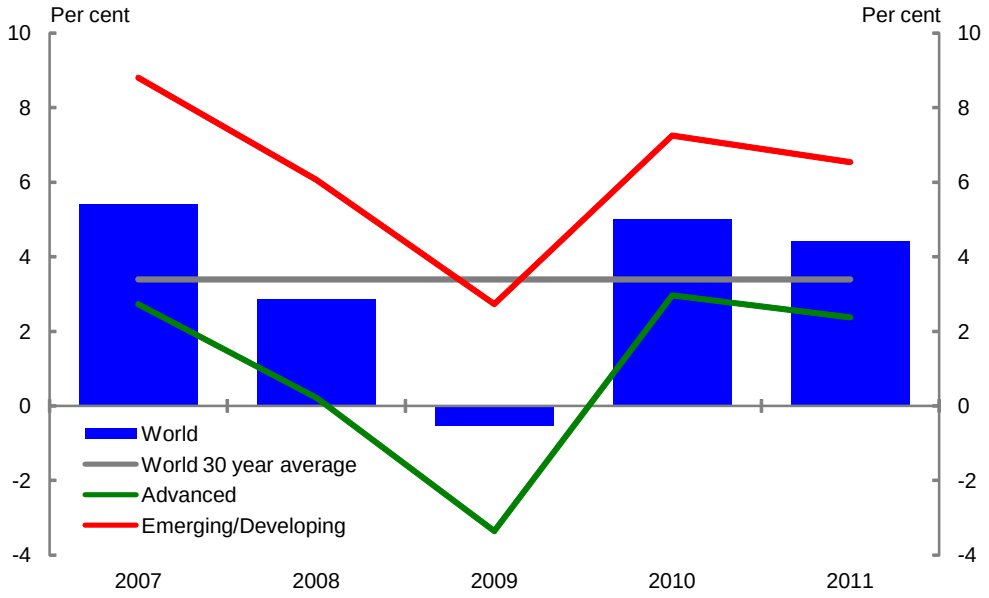
Chart 4: Global capital inflows



Source: IMF.

The deterioration in financial conditions was quickly followed by a sharp deterioration in economic conditions. World economic growth fell from over 5 per cent in 2006 and 2007 to -0.5 per cent in 2009 — the first contraction in the global economy since World War II (Chart 5) — with economic activity in advanced economies contracting by 3.4 per cent in 2009. While emerging and developing economies performed more strongly, growing by 2.8 per cent in 2009, there was still a large turnaround in their growth outcomes.

Chart 5: World economic growth (annual)



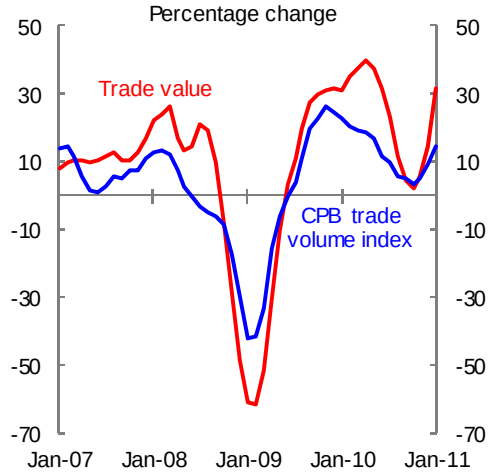
Source: IMF.

As stark as these annual growth figures are, they disguise the speed and extent of the decline in the second half of 2008. In through-the-year terms, world growth fell from 3.8 per cent in the June quarter 2008 to -2.8per cent in the March quarter 2009, a 6.6 percentage point turnaround.

The extent of the slowdown over this period was quite similar in the advanced and emerging economies. In through-the-year terms, advanced economy growth fell from 1.4 per cent in the June quarter 2008 to -5.0 per cent in the March quarter 2009, a 6.3 percentage point turnaround. While starting from a higher base, the turnaround in growth in emerging economies was even greater, falling from 7.7 per cent in the June quarter 2008 to 0.6 per cent in the March quarter 2009, a 7.1 percentage point turnaround.

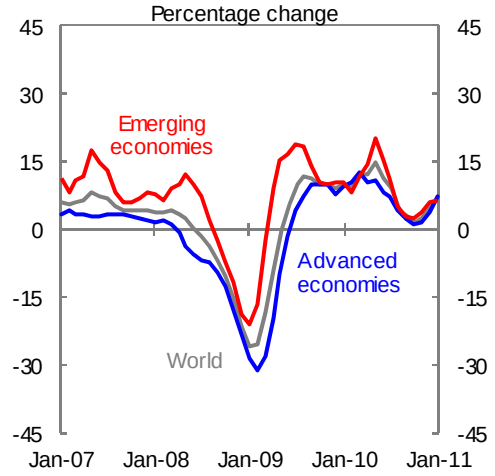
The global nature of the downturn was reflected starkly in its impact on world trade. The volume of world trade fell sharply, with trade in the three months to January 2009 in annualised terms around 40 per cent lower than the previous three months. The value of world trade fell by even more, reflecting a sharp decline in prices (Chart 6).

Chart 6: World trade



Source: IMF.

Chart 7: Industrial production



Source: IMF.

Note: Both charts are annualised per cent changes of three-month moving average over previous three-month moving average.

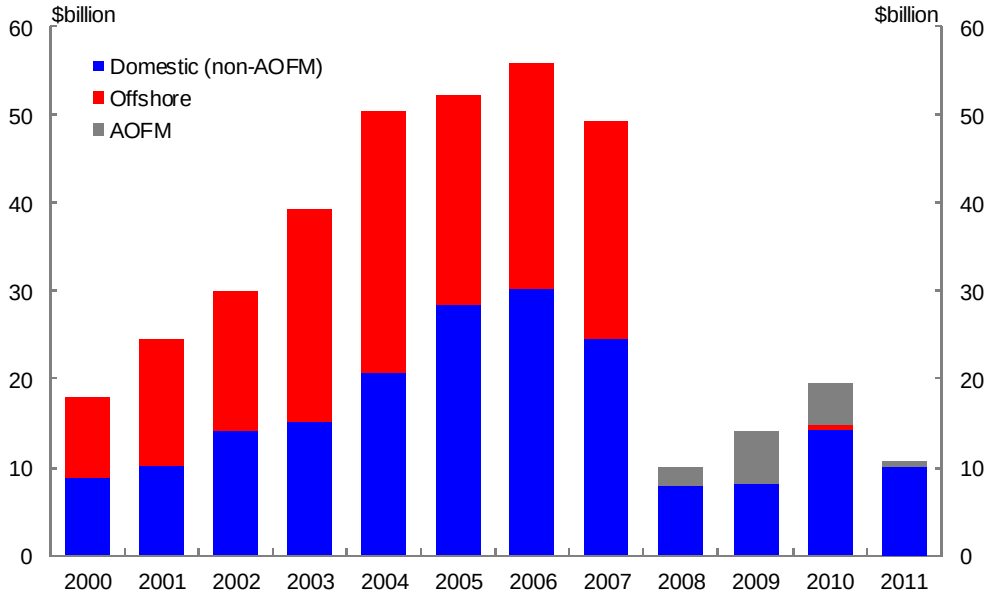
The pace of global industrial production growth slowed in the first half of 2008, from around 4 per cent at the end of 2007 to around ½ per cent in June 2008, reflecting a fall in advanced economy industrial production. In the second half of 2008 global industrial production contracted sharply in both emerging markets and advanced economies, falling by over 20 per cent in annualised terms in December 2008. However, while advanced economy industrial production continued to decline in the first half of 2009, it rebounded quickly in emerging markets (particularly emerging Asia), recording annualised growth of 17 per cent in the three months to June 2009 (Chart 7).

Impact on the Australian economy

The globally connected nature of financial markets meant that the shock in international markets was quickly felt in Australia. Financial asset prices declined sharply and accessing international capital became increasingly difficult. More broadly, business and consumer confidence fell, as did external demand, and domestic spending weakened.

By November 2008 Australian equity prices had fallen by about 50 per cent from their peak a year earlier, and they fell further in early 2009. Australian equity markets fell further than US and global equity markets over this period. The collapse in international capital flows also meant that access to funding became more difficult. The most acute domestic example of this contagion was the cessation of issuances into the Australian Residential Mortgage-Backed Security (RMBS) market, despite the very low default rate on Australian mortgages (Chart 8).

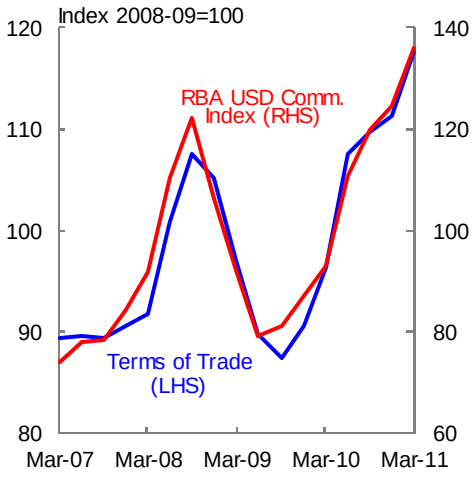
Chart 8: RMBS issuance



Source: RBA.

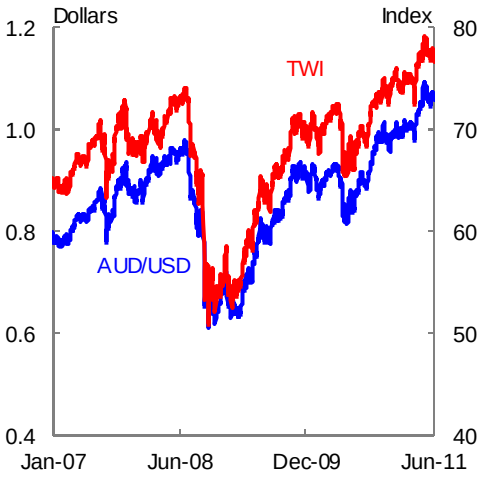
The weaker global economy also resulted in a reduction in demand for Australia's exports, with resulting falls in volumes and prices leading to subsequent falls in Australia's terms of trade, and the exchange rate. The terms of trade fell by around 10 per cent over the course of the December 2008 and March 2009 quarters, with further sharp falls in the June quarter 2009, largely reflecting movements in prices of our key commodity exports (Chart 9). The Australian dollar fell by around 10 per cent on a trade-weighted basis in the December 2008 and March 2009 quarters. In US dollar terms it fell from around 80 cents per US dollar to around 70 cents per US dollar over roughly the same period.

Chart 9: Terms of trade and commodity prices



Source: ABS Cat. No. 5302.0 and RBA.

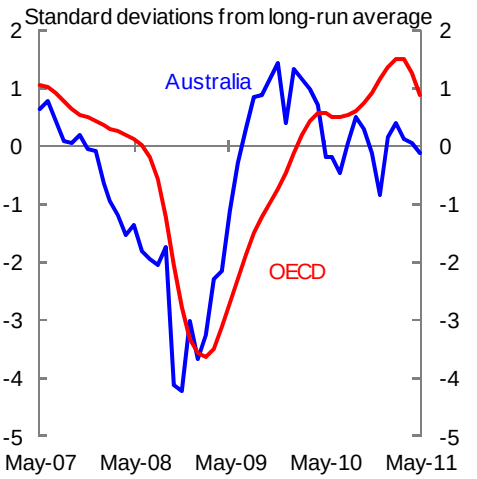
Chart 10: Exchange rate



Source: Thomson Reuters.

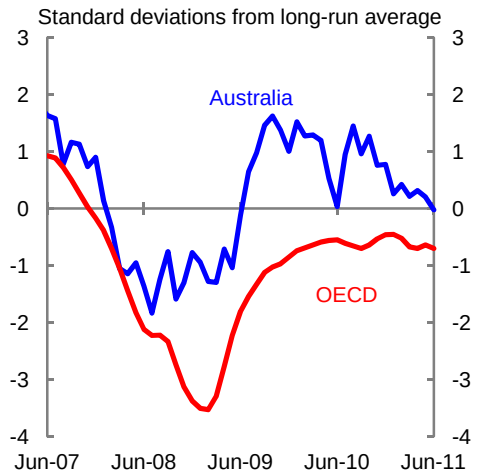
A key transmission mechanism of the GFC to the Australian economy was through its effect on confidence. By the end of 2008, business confidence had fallen dramatically and investment intentions had plummeted (Chart 11). Survey measures suggested that business conditions were at their lowest level since the 1990-91 recession. Consumer confidence had also fallen dramatically (Chart 12).

Chart 11: Business confidence



Source: National Australia Bank and OECD.

Chart 12: Consumer confidence



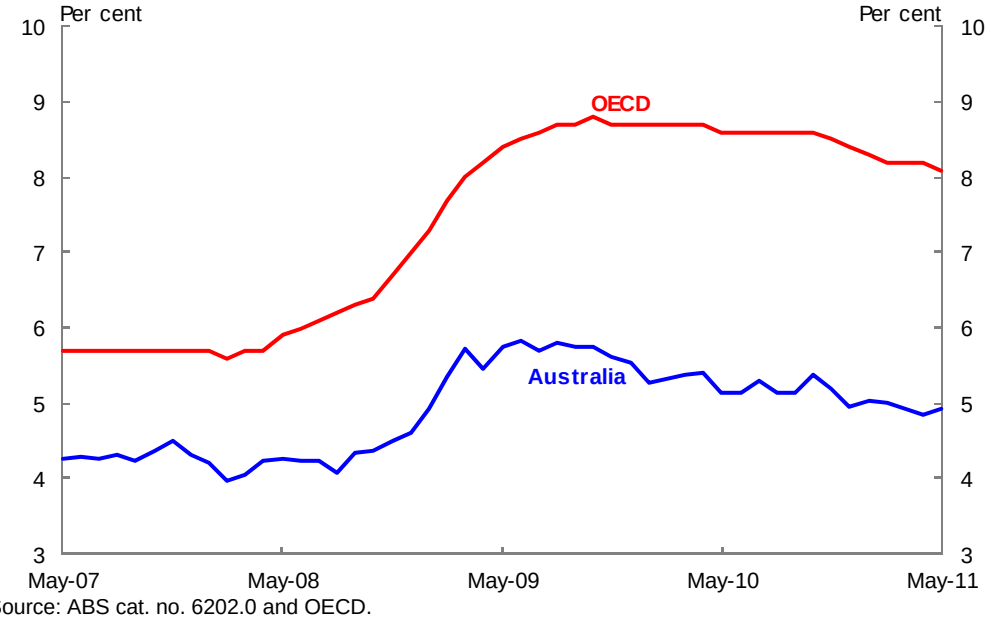
Source: Westpac-Melbourne Institute and OECD.

The Australian economy slowed under the weight of these global forces, but the slowdown was much more moderate than in most other advanced countries and the economy recovered more quickly.

Confidence recovered faster in Australia than in other OECD countries (Barrett, 2011). Business confidence started to recover from February 2009, following the announcement of the *Nation Building and Jobs Plan* and a further cut in the official cash rate. Consumer confidence rebounded sharply in June 2009 following the announcement of the March quarter 2009 GDP outcome, where the economy recorded solid positive growth, avoiding two consecutive quarters of falling real GDP (a so-called technical recession).

The rise in Australia's unemployment rate was much more muted than in other advanced economies, peaking at 5.8 per cent compared with the OECD average peak of 8.8 per cent (Chart 13).

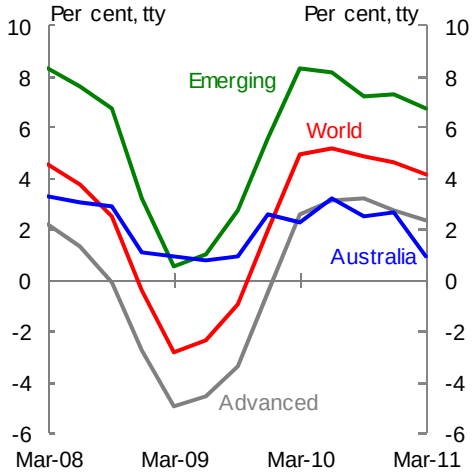
Chart 13: Unemployment rate



Source: ABS cat. no. 6202.0 and OECD.

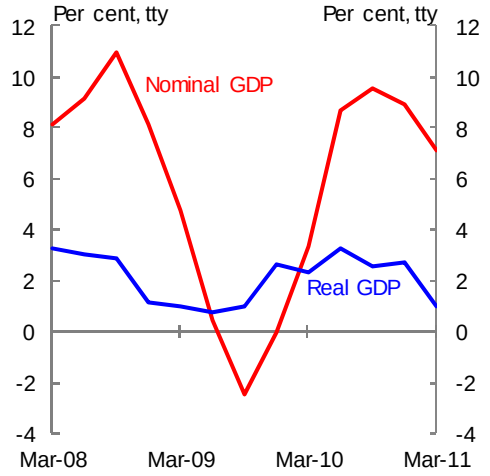
After falling sharply in the December quarter 2008, economic activity rebounded in the March quarter 2009 (Chart 14). The comparatively strong performance of the Australian economy was even more remarkable given the size of the shock to nominal incomes. Nominal GDP had been growing 8.1 per cent through the year to the March quarter 2008, but contracted by 2.5 per cent through the year to the September quarter 2009, driven in part by the large fall in the terms of trade (Chart 15).

Chart 14: Real GDP comparison



Source: IMF and ABS cat. no. 5206.0.

Chart 15: Nominal and real GDP growth



Source: ABS cat. no. 5206.0.

A more detailed analysis of the performance of the Australian economy during this period is provided in Part 2 of this article (Morling and McDonald, 2011).

Possible explanations for the Australian economy's resilience

Australia's resilience during the global downturn has been attributed to a range of factors. While there is some agreement that a number of mutually reinforcing factors likely contributed to this outcome, there is considerable disagreement about the extent to which the different factors, either individually or collectively, were important.

In some respects Australia's policy approach was similar to that of other advanced economies whose performance during the global downturn was significantly worse. A challenge in these circumstances is to explain why certain policies worked in Australia when they didn't seem to work as well elsewhere.

Financial system stability

A key factor underpinning the resilience of the Australian economy during this episode was the resilience of the Australian financial system. Australia's financial system was appropriately regulated and well supervised in the lead-up to the crisis, and the underlying strength of the system was buttressed at a key time by both the Reserve Bank of Australia and the Government.

In sharp contrast with many other advanced economies, no major Australian bank failed during the financial crisis. Australian banks remained profitable, and were able to access capital markets, enabling them to continue to lend (Edey, 2009). Australia and

Canada were the only advanced G20 countries not to provide a Government injection of funds to the banking system.

A key factor behind the stability of the Australian financial system during the crisis was its strong state before the crisis. Unlike many banks in advanced economies, Australian banks had not built up large exposures to exotic tradeable securities that were responsible for the bulk of losses at banks in other advanced economies. In particular, 'Australian financial institutions had little exposure to complex structured instruments collateralised by US sub-prime mortgages' (Laker, 2009).

Australian banks were also much more circumspect in their use of special investment vehicles and other devices that sought to transfer assets and liabilities off balance sheet through 'shadow banking' type activity. Household credit growth in Australia was underpinned by rising incomes and employment rather than declining credit standards, with relatively few low-doc or no-deposit mortgages compared with the United States.

A key reason for the strong position of the Australian financial system entering the crisis was the effectiveness of financial regulations and regulators in the lead up to the crisis.

It is also striking that 'while all significant countries were operating on more or less the same minimum standards for bank supervision, some countries had serious financial crises, but many — in fact most — did not' (Stevens, 2010).

OECD analysis has found that banks in countries with stricter prudential regulation seemed to experience less of a run-up in share prices before the financial crisis but also less of a collapse afterwards with the net effect being positive overall (Ahrend et al., 2009).

However indicators of the level of financial regulation are an imperfect measure of the effectiveness of regulators and regulations. In particular, Australia and Canada had less 'strict' regulation than most other OECD countries and, as noted above, were among the few advanced economies whose banking systems did not require capital injection from the public sector. This highlights the importance of implementation.

Another explanation for the strong performance of the Australian and Canadian financial systems during the GFC is the restrictions on competition for corporate control in the banking sector in both countries (Macfarlane, 2009). Under this view, the effective protection from takeover or merger reduced the pressure on bank management to take bigger — and ultimately unsustainable — risks.

Nevertheless, it is clear that institutional and regulatory arrangements for the financial sector — following from both the implementation of the recommendations of the Wallis Inquiry and reforms following the collapse of HIH — were a key reason why the Australian financial system was better placed than those in many other advanced economies to cope with the global downturn.

Moreover, the sharp differences in experiences of countries with similar regulatory arrangements highlights the critical nature of supervisory practice and implementation, which in turn emphasizes the importance of the quality of financial regulators (Stevens, 2010). Australia's experience during the global downturn strongly suggests that it has 'benefited from years of rigid supervision by "better than world-class" financial regulators' (Henry, 2011).

Financial policy response

Despite the strong state of the Australian financial system in the lead up to the GFC, the extent of disruption in global financial markets, combined with actions of other countries, meant that Australian financial institutions' access to the wholesale funding needed to continue lending was sharply impaired.

Moreover, at the height of the GFC the sudden lack of liquidity in key financial markets — including short-term debt securities and foreign exchange markets — and the resultant greater volatility in markets, posed risks even for highly rated solvent institutions.

In this context, measures put in place to support the financial sector over this period were clearly important for maintaining financial system stability and growth (and employment) in the economy.

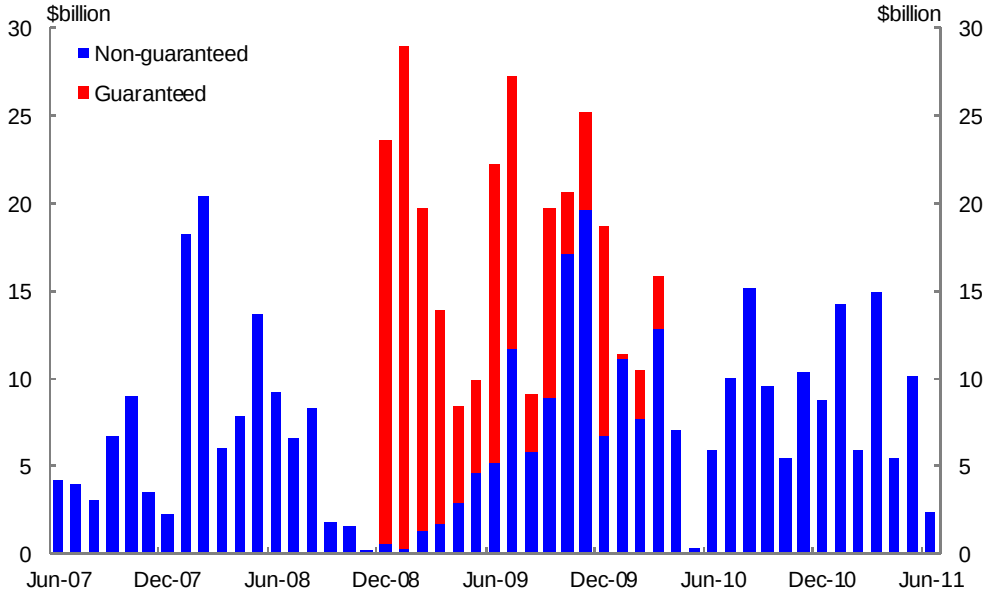
The Reserve Bank acted appropriately to ensure continued liquidity in the Australian banking system and foreign exchange markets. The range of securities accepted from authorised deposit-taking institutions (ADIs) as collateral for the RBA's Exchange Settlement facility was expanded and the RBA entered into a swap agreement with the US Federal Reserve to address the elevated pressures in US dollar short-term funding markets in the Asian time zone.

The Government put in place a range of other measures to support the financial sector, including providing government guarantees for deposits and for wholesale debt securities issued by ADIs, and directing the purchase by the AOFM of a substantial package of mortgage-backed securities.

The option for banks to issue securities with a government guarantee (for a commercial fee) was important in maintaining the continued flow of funding to banks

during the GFC (Chart 16).[3] In turn, this supported the continued flow of credit to the economy, avoiding a potentially damaging credit squeeze.

Chart 16: Bank bond issuance



Source: RBA.

It is difficult to quantify the economic impact of maintaining the stability of the financial system during the GFC, but it was no doubt a key factor.

IMF research has found that recessions associated with financial crises are both more severe and last longer than 'typical' recessions (IMF 2009). Indeed, countries with weak banking systems, such as the United States and the United Kingdom, experienced severe downturns in economic activity during the crisis, although other factors are also likely to have been at work (Henry, 2011).

This suggests that the relative strength of the Australian financial system during the GFC is likely to have been a significant factor in the relatively strong performance of the Australian economy during the global downturn. Moreover, it is likely that the monetary policy response would have been considerably less effective had Australia's financial system succumbed to the crisis in the manner of many other advanced economies.

3 As at 30 April 2011, cumulative fee revenue received under the Guarantee Scheme had reached $2.7 billion.

Of course, this relationship is not just in one direction. One reason for the continued strength of the financial system was likely to have been the resilience of the Australian economy (Laker, 2009).

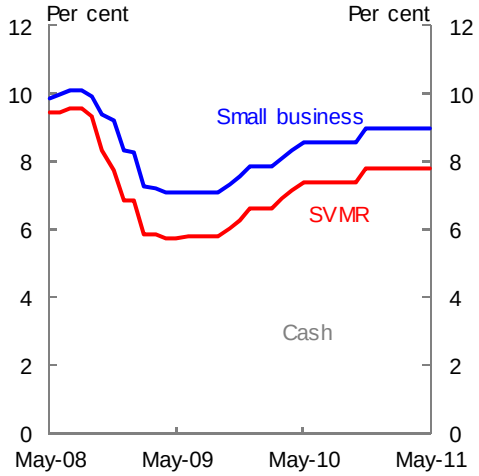
Monetary policy

The Reserve Bank of Australia eased monetary policy significantly in response to the global downturn, with the official cash rate falling from 7.25 per cent at the start of September 2008 to 3 per cent in April 2009, a reduction of 425 basis points over seven Board meetings, with the bulk of this easing (375 basis points) occurring in the four Board meetings from October 2008 to February 2009 (Chart 17).

Importantly, the bulk of this easing in the official cash rate flowed through to lending rates. With most households and business loans in Australia being variable, monetary policy was rapidly translated to a change in household disposable income (muted somewhat by many households choosing to maintain their regular repayments).

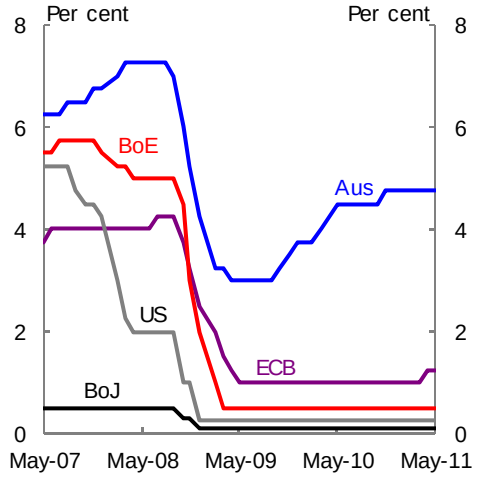
In contrast, in most advanced economies interest rates were already low at the start of the global downturn, leaving much less scope for monetary policy to respond (Chart 18 and 19).

Chart 17: Interest rates (Australia)



Source: RBA.

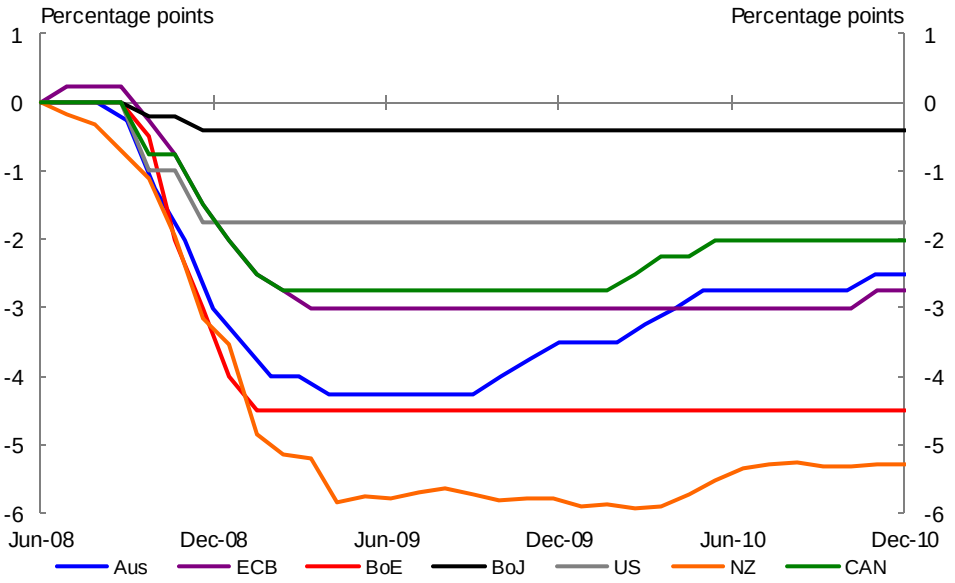
Chart 18: Interest rates (G7)



Source: RBA, Reuters.

Of the major advanced economies, only the Bank of England reduced the official cash rate by as much as Australia, although the reduction was slightly slower at the start. New Zealand is one of the few countries which reduced interest rates sooner and to a greater extent than Australia (Chart 19). Different countries have different shares of fixed and variable rate mortgages and Australia benefits from a high share of floating rate mortgages. Under these conditions, changes in official cash rates are likely to flow through more quickly to changes in mortgage interest rates.

Chart 19: Reduction in Official Cash Rate from June 2008



Source: RBA, Reuters.

The impact of the sharp easing of monetary policy is difficult to quantify. Monetary policy works through a variety of transmission channels and typically affects the economy with 'long and variable lags'. A consistent research finding is that while some of the effects will be felt immediately, it can take around two years for the full effect of monetary policy decisions to be felt on the real economy.

Prior research undertaken by the RBA by Gruen, Romalis and Chandra, 1997, provides some broad guidance as to its likely impact during the downturn. Nominal bank lending interest rates fell by around 3.3 per cent and real rates fell by 2½ from September 2008 to April 2009. The RBA research suggests that a reduction of this magnitude would add about 0.85 percentage points to GDP growth in the first year. The effect could have been greater than this, as household debt levels were significantly higher in 2008-09 than over the period covered by the study. On the other hand, while interest rate reductions may have had a minor effect in the December quarter 2008 (particularly following the sharp cut of 100 basis points in October 2008), the bulk of the impact of interest rate reductions would have been progressively more marked over the course of 2009.

The extent to which monetary policy was able to support the economy may have been muted somewhat because of the nature of the shock. Financial institutions became more cautious in extending credit during, and to a lesser degree, after the downturn, and business and consumers became more cautious in their borrowing and spending behaviour.

One intangible, but nonetheless important transmission channel for monetary policy is through effects on confidence. Business and consumer confidence plunged in the early part of the crisis, but they recovered earlier and much more strongly than in other countries. It is reasonable to assume that the sharp cuts in interest rates, and the early and substantial fiscal policy response, contributed to this rebound, reinforcing the direct first-round effects.

Movements in the Australian dollar

The impact of the global shock is likely to have been ameliorated somewhat by the sharp fall in the Australian dollar. The fall in the currency was partly due to the sharp reduction in Australian official interest rates, although this effect was muted somewhat by the cuts in interest rates in other countries, which saw the interest differential fall by less than the fall in official cash rates. More generally the sharp decline reflected a much weaker global outlook and expectations of a steep decline in Australia's terms of trade.

In July 2008 the Australian dollar was close to its post-float peak (74 on a TWI basis; 98 cents against the US dollar). By October 2008, the dollar had fallen to a low of around 55 on a TWI basis and around 65 cents against the US dollar.

The sharply lower Australian dollar buttressed the Australian economy, moderating the Australian dollar impact of sharply lower global prices for Australia's commodity exports, and improving the competitiveness of Australia's manufacturers and services exports, and import-competing industries. That said, the relatively short duration of the exchange rate trough, the volatility and the subsequent sharp reversal mean that the contribution to growth during the downturn, while positive, is likely to have been modest.

The exchange rate appreciated sharply during 2009 to be around 68 against the TWI or around 88 US cents against the US dollar by the end of September 2009 (an appreciation of around 35 per cent).

Fiscal policy

The role of fiscal policy during and since the downturn has been the subject of considerable discussion and debate. Australia entered the crisis in a stronger fiscal position — with a budget surplus and negative net debt — than most advanced economies. The additional flexibility and credibility this gave Australia's fiscal response to the crisis may have increased its effectiveness (Blanchard, 2010).

Australia's fiscal space gave the Government room to allow the automatic stabilisers to act and to put in place a substantial discretionary stimulus, while still maintaining a strong fiscal position.

Automatic stabilisers of the budget

A key element of the Government's Medium Term Fiscal Strategy is that the budget balance should be able to vary in the short term with economic conditions — that is, that the automatic stabilisers of the budget should be allowed to operate. The main channel of the automatic stabilisers during the global downturn was in a sharp downward revision to tax revenue.

The 2008-09 Budget forecast taxation receipts of $292.6 billion in 2008-09 and $310.1 billion in 2009-10. However the actual level of taxation receipts in 2008-09 was $272.6 billion ($20 billion, or 1.6 per cent of GDP lower than forecast) and the most recent estimate of taxation receipts for 2009-10 is $261.0 billion ($49 billion or 3.8 per cent of GDP lower than expected at the time of the 2008-09 Budget). Among other things, falling commodity prices due to lower global demand eroded revenue, contributing to the decline in tax receipts. Were the Government to have offset these variations it would have been contributing to, rather than leaning against, the macroeconomic instability arising out of the GFC.

Discretionary fiscal policy

From October 2008 to February 2009 the Australian Government announced significant fiscal stimulus packages. Further infrastructure initiatives were announced in the 2009-10 Budget.

In October 2008 the Government announced a $10.4 billion fiscal stimulus package in its *Economic Security Strategy*, largely comprising cash transfers to low and middle income earners. In November 2008 the Government announced a $15.2 billion COAG funding package, with funds to be delivered over a five year period, including a substantial amount in the first half of 2009. A further $4.7 billion stimulus was announced in the December 2008 Nation Building package. The $42 billion *Nation Building and Jobs Plan* announced in February 2009 included payments to low and middle income earners and investment in schools, housing, energy efficiency, community infrastructure, roads and support for small businesses.

Estimated impact of fiscal stimulus

In the 2009-10 Budget, Treasury published estimates of the economic impact of fiscal stimulus measures. These estimates were based on fiscal multipliers of 0.6 for transfer payments and 0.85 for direct government spending. Underpinning the transfer payment multiplier was an assumption that about 50 per cent of the fiscal stimulus would be spent during the first two quarters after receipt of payment with roughly another 20 per cent spent during rest of the forecast period.

As was acknowledged at the time, fiscal multipliers 'depend on a wide range of factors' and different studies provide estimates over a wide range. The multipliers

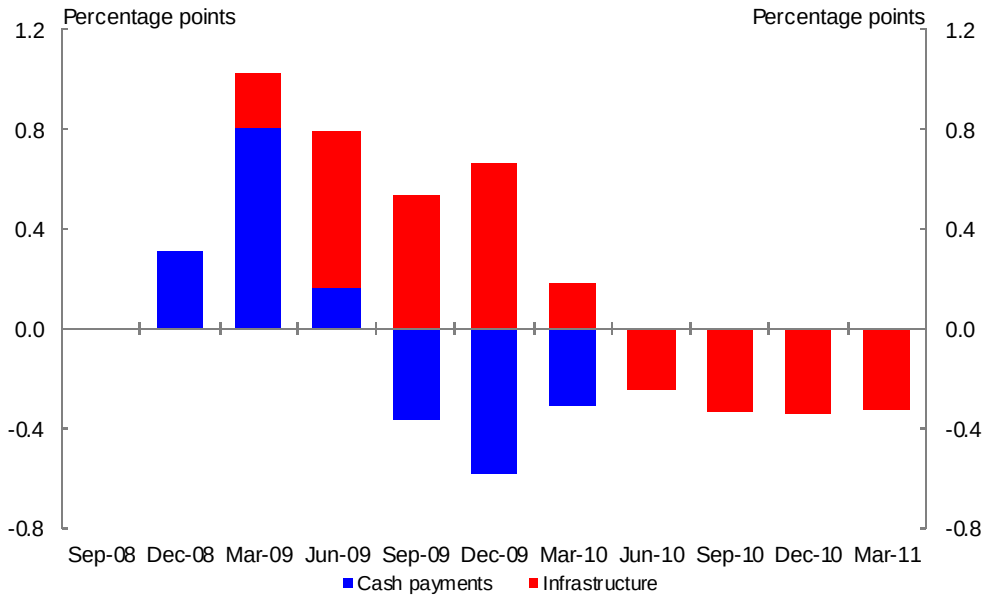
used in the Treasury estimates are within the range estimated in major cross-country studies by the IMF and OECD, and are consistent with empirical evidence from the United States on spending out of temporary tax rebates (Johnson et al., 2006; Agarwal et al., 2007; Broda and Parker, 2008; Gruen, 2009b).

Importantly, the 2009-10 Budget papers argued that fiscal multipliers could vary with the economic cycle, noting that:

> Where the economy is operating with a large amount of excess capacity, stimulus measures are expected to have a larger impact on activity. In contrast, where the economy is close to full employment, the multiplier would be close to zero as a result of exchange rate and price movements and the reaction of monetary policy.[4]

Overall, the fiscal stimulus was forecast to increase GDP growth by 2 percentage points in 2009 and to detract around 1 percentage point from growth in 2010. The most recent data suggest that the greatest impact was in the December 2008, March 2009 and June 2009 quarters (Chart 20). Fiscal stimulus estimates imply that growth would have been negative for three consecutive quarters absent fiscal stimulus.

Chart 20: Estimated contribution of discretionary fiscal policy to GDP growth



Source: Treasury.

4 Page 4-6, 2009-10 Budget Paper No. 1.

These estimates have changed only slightly since then, due to data revisions and new information, with the underlying methodology remaining the same.[5]

Criticism of Australia's fiscal stimulus

Australia's fiscal stimulus was among the largest as a share of GDP among advanced economies, second only to South Korea. At the time, the OECD estimated that fiscal stimulus would have a larger impact on the level of GDP in 2009 in Australia (1.6 per cent) than in any other OECD country (the next highest was the United States at around 1¼ per cent) because of the timing, composition and magnitude of Australia's fiscal stimulus (OECD, 2009a).

Nevertheless, critics of the importance of fiscal stimulus point out that some countries which had large fiscal packages (such as the United States) were among the worst performers during the global downturn, while some countries that had relatively small, or no, fiscal packages performed relatively strongly during the crisis (for example, Brazil, India and Indonesia).

One view is that fiscal transfers from Government to households have no impact on aggregate economic activity, with households looking through a temporary shock to the economy (McKibbin and Stoeckel, 2009). This assumes that most households are forward looking and not liquidity constrained.

A related argument is that rational households would save rather than spend the additional income from fiscal transfers (in the knowledge that they would have to pay higher taxes in the future as a result) (Taylor, 2009). Household saving did indeed rise during the downturn, but it is difficult to tell whether this was due to forward looking consumers anticipating higher taxes, or, as appears more likely, consumers becoming more cautious during a period of heightened uncertainty and in the face of increased international evidence of the risks associated with high levels of gearing. With the benefit of hindsight, it is also evident that the earlier long-run downward trend in household saving was not sustainable. Indeed, the saving rate had started to recover even before the financial crisis (Stevens, 2011; Freestone et al., 2011).

Another view is that the impact of fiscal stimulus would be fully offset by an appreciation of the exchange rate, this being the standard result in mainstream macroeconomic models of a unilateral fiscal shock, in a world with perfect capital mobility (see, for example, Makin, 2009; Makin, 2010b, Valentine, 2011). Of course, rather than appreciate, the exchange rate fell sharply during the downturn. That said, many countries undertook fiscal stimulus at roughly the same time, presumably muting some of the exchange rate offset; and the assumption of perfect capital mobility is difficult to sustain in a global financial crisis. Part 2 of this paper suggests that

5 Further detail on these calculations is provided in Treasury (2009).

factors other than the decline in the exchange rate played an important role in the significant contribution of net exports to GDP growth. While much of the reduction in imports during this period was due to a sharp fall in car imports, import penetration of cars actually increased. That is, it was not the exchange rate spilling domestic demand from foreign production to domestic production, at least for this sector of the economy (Morling and McDonald, 2011).

The muted impact of the exchange rate on the fiscal stimulus is not surprising. The (negative) impact of the exchange rate on fiscal multipliers is significantly greater with countries with larger trade shares (Ilzetski et al., 2009). As Australia has a relatively low trade share compared with other advanced economies, fiscal policy could be expected to be relatively more effective (Gruen, 2009b).There have been suggestions that, to the extent that fiscal stimulus was effective in adding to demand, this task could have been achieved at least as effectively and more efficiently by monetary policy (through lower interest rates). Standard estimates of the transmission lags of monetary policy imply that additional monetary stimulus alone could not have had an effect quickly enough to mitigate the need for a quick and substantial fiscal response. In addition, the potential transmission difficulties of monetary policy during a financial crisis suggest that the effect could have been smaller than standard estimates imply.

International financial institutions have strongly endorsed the effectiveness of Australia's fiscal stimulus response to the GFC.

The IMF commended the 'quick implementation of targeted and temporary fiscal stimulus', considering that it provided a sizeable boost to domestic demand in 2009 and 2010 (IMF, 2009). IMF modelling suggested that stimulus would raise real GDP by 3 per cent in both 2009 and 2010 before dissipating in later years (Hunt, 2009).

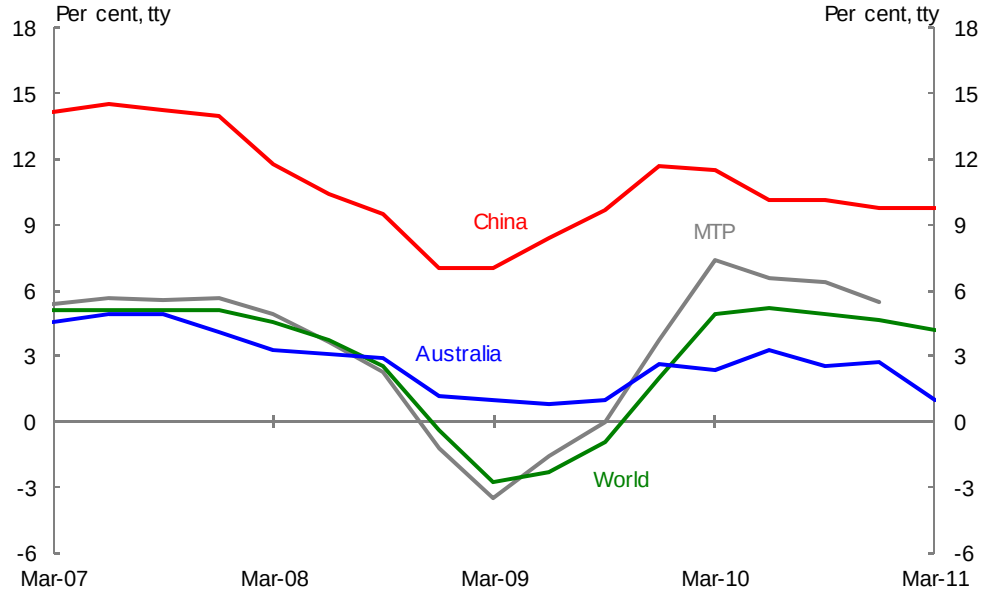
Similarly, the OECD concluded that Australia's fiscal stimulus package 'was among the most effective in the OECD' and not only 'helped to avoid a recession as usually defined' but also that it 'had a pivotal role in boosting overall confidence' (OECD, 2010). The OECD attribute the effectiveness of the stimulus to both the size of the measures and the speed with which it was introduced (OECD, 2010b).

Performance of major trading partners (including China)

While Australia's major trading partners were affected by the global downturn, they recovered more quickly than the world economy as a whole (and advanced economies in particular) in the first half of 2009 (Chart 21). This was particularly evident in China. While official quarterly estimates of GDP are not published by Chinese authorities, Treasury estimates that growth fell from around 2 per cent in the September quarter

2008 to be broadly flat in the December quarter 2008, before rebounding in the March quarter 2009.

Chart 21: Major trading partner GDP growth



Note: MTP growth is calculated using export trade weights.
Source: Treasury, IMF.

Over the past decade the large emerging and developing economies in Asia have become an increasingly important destination for Australia's merchandise exports. Australia's greater exposure to the fast growing Asian region than other advanced economies has been cited as an important factor underpinning its strong performance during the crisis (see Treasury 2009). The relatively early recovery of demand from Australia's major trading partners will have contributed to Australia's stronger performance during the global downturn.

Australian commodity exporters have traditionally been price takers — with the volume of exports reflecting the productive capacity, and fluctuations in demand being reflected primarily in variations in export prices. However the collapse in global demand in late 2008 was sufficient to have a significant impact on the volume, as well as price of Australia's commodity exports — particularly those (such as iron ore and coal) where Australia has a large share of global trade.

However, while global demand for Australia's commodity exports declined, the fall was not as steep as would have been the case without strong demand from China.

A key reason for the early recovery of demand in China was substantial and rapid monetary and fiscal stimulus (McKissack and Xu, 2011). Nevertheless some have

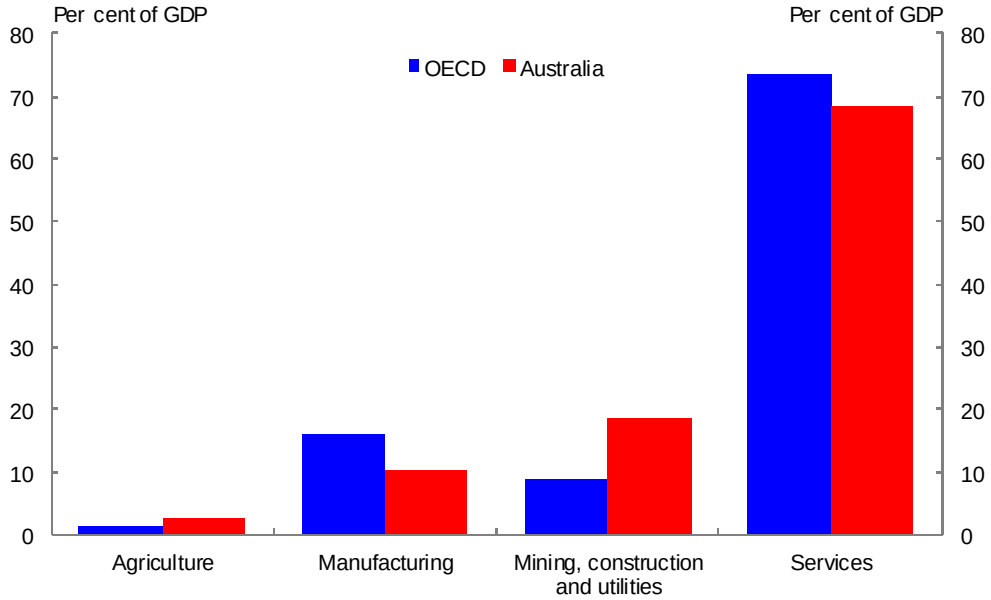
argued that the strength of demand from Australia's major trading partners, particularly China, is a competing — rather than complementary — factor with the importance of fiscal stimulus, in explaining the resilience of the Australian economy over this period (Day, 2011). The estimated contribution to growth from China's demand for Australia's key commodity exports during the downturn — reported in Part II of this paper — does not support this argument. While demand from China provided considerable support the economy during this period, it was not the only factor, nor the main factor, underpinning the resilience of the Australian economy.

Structure of the Australian economy

The global downturn affected the volume of trade across products unevenly, with trade in consumer non-durables affected least and capital and consumer durable products most affected by the global downturn (IMF, 2010a).

A possible contributor to the resilience of the Australian economy during the crisis is that it has a relatively small manufacturing sector — and a relatively large commodity sector — compared with the OECD average (Chart 22).

Chart 22: Sectoral composition (Australia and OECD average)

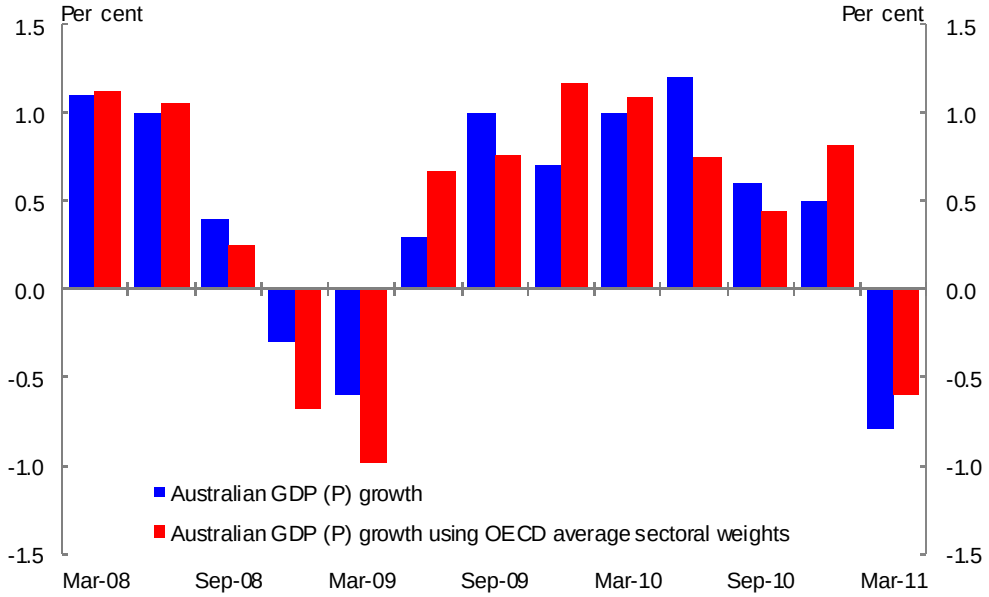


Note: The World Bank provides data on the proportion of the economy added by three sectors: agriculture, industry and services. The share of manufacturing (a subset of the industry sector) is also provided, with the residual of the industry sector comprising mining, construction and electricity, gas and water supply.
Source: World Bank and Treasury.

The global shock appeared to fall heavily on the manufacturing and related sectors, so having a relatively smaller proportion of activity concentrated in those sectors could

help explain Australia's relatively strong performance during the global downturn (Black and Cusbert, 2010). Chart 23 compares quarterly growth in industry gross value added in Australia with what it would have been if Australia had the same industry structure as the OECD average. While Australia's industry structure helped to limit the impact of the global downturn, the performance within industries was a more important factor.

Chart 23: Impact of Sectoral Composition on GDP growth



Note: Actual GDP(P) growth by sector in Australia is aggregated using the OECD average sectoral weights to estimate what GDP(P) growth would have been in Australia had its industrial structure been the same as the OECD average in 2008.
Source: ABS cat. no. 5206, World Bank and Treasury.

In estimating the relative importance of this factor it should be noted that services represents around two-thirds of the Australian economy, about the same proportion as for advanced economies as a whole.

Flexibility of markets

The market-based reforms of the past thirty years have combined to transform Australia's economy from being an insular and inflexible one, to one that is much more open and dynamic. There is little doubt that — taken as a whole — these reforms have contributed to the improved resilience of the Australian economy to external shocks (see, for example, Gruen, 2006). What is less clear-cut is whether this means that Australia was better placed than other countries to withstand the global downturn.

OECD empirical evidence finds conflicting effects of structural policy settings on resilience. While the initial impact of a common negative shock is almost twice as large

in countries with relatively flexible labour and product markets than in counterparts with more stringent regulation, the cumulative output loss is lower in less regulated countries (OECD, 2010a).

Product market flexibility

While Australia has significantly more competitive product markets now than a quarter of a century ago, so do most other OECD countries, with Australia around the OECD median for the OECD's product market regulation indicator (OECD, 2009b; Wolfl et al., 2009). So this is unlikely to be a relevant factor in explaining Australia's relative outperformance of OECD countries during the global downturn.

Labour market flexibility

Australia also has a more flexible labour market today than it did in previous shocks. It can be argued that a more flexible labour market results in a lower increase in the unemployment rate, as the adjustment from a reduction in labour demand need not occur just through a lower number of people employed, but also through lower hours worked per employee, and/or greater multi-tasking of employees or lower wage growth.[6]

However, it can also be argued that increased labour market flexibility results in a sharper increase in the unemployment rate in an extended downturn, as employers find it easier to reduce their number of employees, with the effect of prolonging the downturn.

One — albeit imperfect — proxy for labour market flexibility is the OECD indicator of Employment Protection Legislation (EPL). A comparison of the EPL indicator prior to the global downturn with the change in the unemployment rate between 2007 and 2009 highlights this ambiguity. Australia had a relatively low EPL before the global downturn and a relatively low increase in the unemployment rate. On the other hand, the United States which had the lowest EPL of the OECD had among the highest increases in the unemployment rate. This highlights the importance of the rapid restoration of confidence in the economy and financial system in economies with relatively flexible labour markets.

Population growth

Demand in the Australian economy during the downturn is likely to have been supported by continued strong population growth. In the context of a negative global

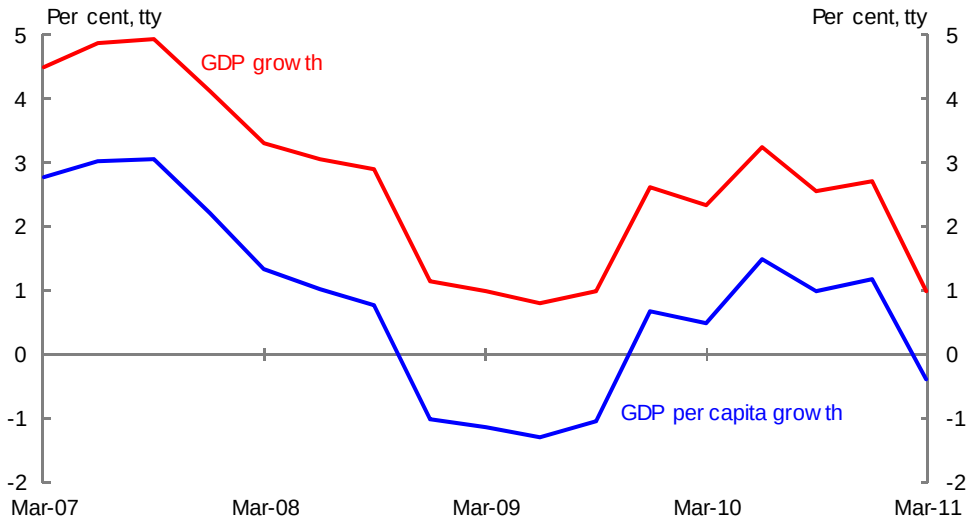
6 Through-the-year growth in the Wage Price Index fell from around 4 ¼ per cent in the June quarter 2008 to a little below 3 per cent in the December quarter 2009, before recovering to around 3 ¾ per cent in the March quarter 2011. This decline was particularly stark in the private sector, from around 4.4 per cent in June quarter 2008 to 2.6 per cent in the December quarter 2009, the lowest growth rate since the series began in 1997.

demand shock, strong population growth helps to reduce excess capacity by filling in the demand gap. As population rises, demand for goods and services rises irrespective of whether people are actually in employment (that is, irrespective of whether the supply-side expands).

Australia recorded population growth of over 2 per cent through the year to December 2008, well above the average of other advanced economies. Population growth added close to 1.6 percentage points to cumulative GDP growth over the September quarter 2008, December quarter 2008 and March quarter 2009 — the three quarters of global contraction — and a further 1.3 percentage points over the subsequent three quarters.

Thus, while Australian real GDP held up during the global downturn, in per capita terms it fell (Chart 24).

Chart 24: Real GDP and GDP per capita growth



Source: ABS cat. no. 5206.0.

Conclusion

This paper has presented a range of possible explanations for the strong performance of the Australian economy during the GFC. The conclusion, unsurprisingly, is that a number of mutually reinforcing factors helped Australia outperform other advanced economies during the downturn, albeit some more important than others.

In particular, the Australian policy response appears to have been an important contributor to the outperformance of the Australian economy during the downturn.

Rapid and large monetary and fiscal policy stimulus played a critical role in increasing effective demand and the early recovery of consumer and business confidence in

Australia. The strength of Government's fiscal position meant that it was well placed to undertake an appropriate fiscal policy response to these developments. Fiscal stimulus estimates imply that growth would have been negative for three consecutive quarters absent fiscal stimulus.

Measures to support the financial system were important in ensuring continued financial stability in Australia, allowing the flow of credit to households and businesses to continue (albeit at a slower pace).

It is also clear that improved policy and institutional arrangements in Australia following a quarter century of reforms have made the Australian economy much more resilient to external shocks.

The regulatory framework for the financial system, implemented by high quality regulatory institutions, helped Australia avoid the excesses that resulted from lax or ineffective prudential regulation in many other advanced economies.

More competitive and flexible product and capital markets — along with the weakness in domestic demand — meant that the sharp depreciation in the exchange rate helped cushion the impact of the downturn on the real economy, rather than simply resulting in higher prices and wages.

The Australian economy also benefited from the relatively early, and strong, recovery in growth in most of our major trading partners throughout 2009, which in turn was driven by substantial macroeconomic policy stimulus in those countries.

Australia's relatively strong performance would have been assisted by its industrial structure, with a relatively low share of the sectors hardest hit by the downturn compared with most other advanced economies.

In practice, these explanations complement one another, with the combination of factors — both institutional and policy — working together to support the economy.

Part 2 of this article looks in detail at the evolution of the components of output during the key quarters of the downturn, providing supporting evidence for some of the arguments presented above (Morling and McDonald, 2011).

References

Agarwal, S, Liu, C, and Souleles, NS, 2007, 'The Reaction of Consumer Spending and Debt to Tax Rebates — Evidence from Consumer Credit Data', *Journal of Political Economy*, vol. 115, no. 6, pp 986-1018.

Ahrend, R, Arnold, J, and Murtin, F, 2009, 'Prudential Regulation and Competition in Financial Markets', OECD Economics Department Working Papers, No. 735.

Barrett, C, 2011, 'Australia and the Great Recession', Woodrow Wilson International Center for Scholars, Washington DC.
<http://www.wilsoncenter.net/events/docs/Australia%20and%20the%20Great%20Recession.pdf.>

Black, S, and Cusbert, T, 2010, 'Durable Goods and the Business Cycle', *Bulletin*, September quarter 2010, pp 11-18, RBA, Sydney.

Blanchard, O, Dell'Ariccia, G, and Mauro, P, 2010,'Rethinking Macroeconomic Policy', IMF Staff Position Note, SPN/10/03, IMF, Washington DC.

Broda, C, and Parker, JA, 2008, 'The Impact of the 2008 Tax Rebates on Consumer Spending: Preliminary Evidence', Working Paper, University of Chicago Graduate School of Business. <http://faculty.chicagogsb.edu/christian.broda/>.

Day, C, 2011, 'China's Fiscal Stimulus and the Recession Australia Never Had: Is a Growth Slowdown Now Inevitable?', *Agenda*, vol. 18, no. 1, pp 23-34.

Edey, M, 2009, 'Financial System Developments in Australia and Abroad', *RBA Bulletin*, September 2009, pp 26-34.

Freestone, O, Gaudry, D, Obeyesekere, A, and Sedgwick, M, 2011, 'The Household Sector in Australia', *Economic Roundup*, current edition.

Gruen, D, Romalis, J, and Chandra, N, 1997, 'The Lags of Monetary Policy', *RBA Research Discussion Paper*, No 97-01, Sydney.

Gruen, D, 2006, 'A Tale of Two Terms-of-Trade Booms', *Economic Roundup*, Summer, pp 1-10.

Gruen, D, 2009a, 'Reflections on the Global Financial Crisis', Address to the Sydney Institute, *Economic Roundup*, Issue 2, pp 51-65.

Gruen, D, 2009b, 'The Return of Fiscal Policy', Address to the Australian Business Economists Annual Forecasting Conference 2009, 8 December, http://www.treasury.gov.au/contentitem.asp?NavId=008&ContentID=1686

Gruen, D, and Clark, C, 2009, 'What Have We Learnt? The Great Depression in Australia from the Perspective of Today', The 19th Annual Colin Clark Memorial Lecture, *Economic Roundup*, Issue 4, pp 27-50.

Henry, K, 2011, 'The Australian Banking System — Challenges in the Post Global Financial Crisis Environment', Address to the Australasian Finance and Banking Conference, *Economic Roundup*, Issue 1, pp 13-26.

Hunt, B, 2009, 'The Effectiveness of Fiscal Stimulus Measures', *Australia: Selected Issues*, August, IMF, Washington DC.

Ilzetski, E, Mendoza, EG, and Vegh, CA, 2009, 'How big are fiscal multipliers?', *Centre for Economic Policy Research, Policy Insight,* no. 39.

IMF, 2009a, *World Economic Outlook*, April, IMF, Washington DC.

IMF, 2009b, *Australia Article IV Staff Report*, August, IMF Country Report No 09/248, Washington DC.

IMF, 2010a, 'The Fund's Role Regarding Cross-Border Capital Flows', IMF Policy Paper, 15 November, IMF, Washington DC.
http://www.imf.org/external/np/pp/eng/2010/111510.pdf

IMF, 2010b, *Global Financial Stability Report*, October, IMF, Washington DC.

Laker, J, 2009, 'The Global Financial Crisis — Lessons for the Australian Financial System', Address to the Australian Economic Forum, 19 August 2009.
http://www.apra.gov.au/Speeches/upload/03-Aust-Economic-Forum-Opening-Remarks-19-Aug-09.pdf

Johnson, D, Parker, J, and Souleles, N, 2006, 'Household Expenditure and the Income Tax Rebates of 2001', *The American Economic Review*, vol. 96, No. 5, pp 1589-1610.

Macfarlane, I, 2009, 'The crisis: causes, consequences and lessons for the future: The Australian perspective', *ASIC Summer School 2009 Report*, pp 41-46.

McKibbin, W, and Stoeckel, A, 2009, 'Modelling the Global Financial Crisis', *Oxford Review of Economic Policy*, vol. 25 (4), pp 581-607.

McKissack, A, and Xu, J, 'Chinese Macroeconomic Management Through the Crisis and Beyond', *Asian-Pacific Economic Literature*, vol. 25, issue 1, pp 43-55.

Makin, A, 2009, 'Fiscal 'Stimulus': A Loanable Funds Critique', *Agenda*, vol. 16, no. 4, pp 25-34.

Makin, A, 2010a, 'Did Fiscal Stimulus Counter Recession? Evidence from the National Accounts' *Agenda*, vol. 17, no. 2, pp 5-16.

Makin, A, 2010b, 'How Should Macroeconomic Policy Respond to Foreign Financial Crises?' *Economic Papers*, vol. 29, no. 2, pp 1-10.

Morling, S, and McDonald, T 2011, 'The Australian Economy and the Global Downturn Part 2: The Key Quarters', *Economic Roundup*, current issue.

OECD, 2009a, *Interim Economic Outlook,* Chapter 3: The Effectiveness and Scope of Fiscal Stimulus, OECD, Paris.

OECD, 2009b, *Going for Growth*, Chapter 7, 'Reform of Product Market Regulation in OECD Countries: 1998 — 2008, OECD, Paris.

OECD, 2010a, *Going for Growth*, OECD, Paris.

OECD, 2010b, *OECD Economic Surveys: Australia*, November 2010, OECD, Paris.

Stevens, G, 2010, 'The Role of Finance', The Shann Memorial Lecture, *RBA Bulletin*, September quarter 2010, pp 77-87.

Stevens, G, 2011, 'The Cautious Consumer', Address to the Anika Foundation Luncheon, 26 July, http://www.rba.gov.au/speeches/2011/sp-gov-260711.html

Taylor, J, 2009, 'The Lack of an Empirical Rationale for a Revival of Discretionary Fiscal Policy', *American Economic Review, Papers and Proceedings*, 99(2), May 2009, pp 550-555.

Treasury, 2009, *Treasury Briefing Paper for the Senate Inquiry into the Economic Stimulus* Package, available at:
www.aph.gov.au/senate/committee.economics_ctte/eco_stimulus_09

Valentine, T, 2011, 'An Accelerator Tied to a Brake: Fiscal Stimulus Under a Floating Exchange Rate', *Agenda*, vol. 18, no. 1, pp 35-40.

Wolfl, A, Wanner, I, Kozluk, T, and Nicoletti, G, 2009, *Ten Years of Product Market Reform in OECD Countries: Insights from a Revised PMR Indicator*, OECD Economics Department Working Papers, No. 695, OECD, Paris.

The Australian economy and the global downturn
Part 2: The key quarters

Steve Morling and Tony McDonald[1]

The Australian economy performed better than most other advanced economies during the global economic downturn that followed the Global Financial Crisis. This paper looks back at the two key consecutive periods during this episode — the period of global contraction and the early period of global recovery — providing detailed information about how the economy evolved during this episode and drawing inferences from the data about what factors might have been behind the economy's resilience.

It concludes that the strong performance of the Australian real economy during the key quarters of the global *contraction* largely reflected the strength of the Australian financial system, the rapid deployment of fiscal stimulus measures, the first effects of a significant easing in monetary policy and a pickup in demand from China which partly offset pronounced external weakness elsewhere.

The performance of the Australian economy during the early stages of the global *recovery* reflected the shift in the structure of fiscal stimulus from transfers to direct expenditure measures, the impact of monetary policy easing on household consumption and business investment and the rapid recovery in Australia's major trading partners.

Finally, it concludes that the influence of these different factors was likely to have been mutually reinforcing.

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1 The authors are from Domestic Economy Division and Macroeconomic Policy Division of the Australian Treasury. This article has benefited from comments and suggestions provided by David Gruen, Simon Duggan, Phil Garton and colleagues from Treasury's Domestic Economy Division and Macroeconomic Policy Division. Assistance was provided by Janelle Hanns, Alistair Peat, David Stephan, Alex Beames, Hien Tran, Jonathan Olrick, Deepika Patwardhan and Sarah Woods.

Introduction

The Global Financial Crisis was followed by the deepest recession in the world economy since World War II. The Australian economy performed better during this period than other advanced economies on nearly all relevant indicators. A range of policy and institutional factors have been put forward for the relatively strong performance over this period (see, McDonald and Morling, 2011).

A key challenge in testing the importance of different explanations for the resilience of the Australian economy during the global downturn is that the counterfactual — what would have happened in the absence of each factor — cannot be measured directly. It follows that the full impact of the various policy measures that were taken to support the Australian economy during the crisis may never be known with certainty.

That said, as more and better quality economic data become available to show what actually happened in the economy over this period, it is possible to draw some reasonable inferences about the extent to which the different factors may have played a role.

Periods of analysis

Given the potential importance of the choice of time periods examined to the conclusions of the paper, it is important to explain at the outset the basis on which the periods were chosen.

The first period of analysis in this paper is the three key quarters of the global contraction: the September quarter 2008, December quarter 2008 and the March quarter 2009. World GDP contracted over these three quarters, falling by nearly 2.7 per cent. Australia's main trading partners' GDP contracted by about 3.5 per cent in the three key quarters.

The second period covers the three quarters of the early stages of the global recovery: the June quarter 2009, September quarter 2009 and the December quarter 2009. The choice of the December quarter 2009 as the end point for this period is somewhat arbitrary, but the period picks up the first three quarters of solid and strengthening global recovery, and is clearly distinguishable from the previous period of contraction. Global growth was above 1 per cent in each of the three quarters, with the pace of growth peaking in the December 2009 quarter.

This approach has the advantage of avoiding the inherent volatility involved in analysis of individual quarters, while comparing periods within which global economic trends were broadly comparable. Further, it is analytically convenient to compare two periods of equal length.

Notwithstanding this, it is important to recognise that there is a degree of arbitrariness in the choice of any period of analysis (for example, calendar year compared with financial year). It is therefore appropriate to note that detailed analysis of different periods (either individual quarters or different aggregation of quarters) may produce different results. This caveat should be borne in mind when interpreting the results of this paper.

The Australian economy: September quarter 2008, December quarter 2008, March quarter 2009

This section analyses economic growth in the Australian economy during the three quarters representing the most acute period of the global downturn — the September quarter 2008, December quarter 2008 and the March quarter 2009.

Over these three quarters, the Australian economy grew by a little over 0.3 per cent — or an average of around 0.1 per cent per quarter, well below 'trend' or 'potential' growth of around 0.8 per cent per quarter.

The pattern of growth was uneven over this period, with growth of 0.5 per cent in the September quarter 2008 followed by a sharp contraction of 0.9 per cent in the December quarter 2008, with economic activity rebounding by 0.8 per cent in the March quarter 2009.

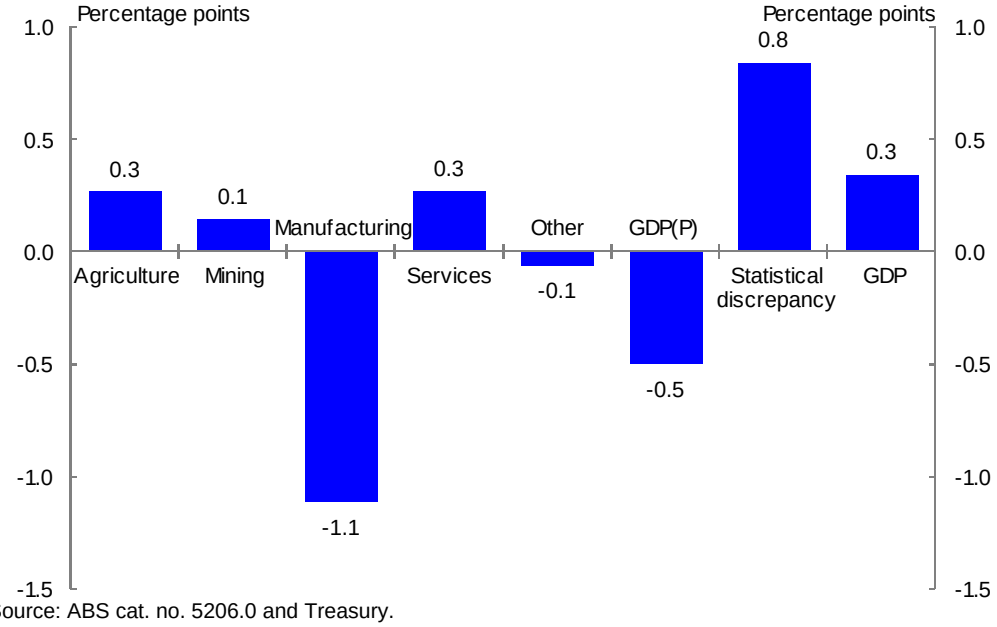
Australia was one of the few advanced economies that avoided recording at least two negative quarters of economic growth over this period. During the most acute period of the global recession Australia's economy slowed but it did not experience the large sustained contractions experienced in many other countries over the same period.

Industry contributions — GDP (P) components

There were significant differences in the performance of different sectors of the Australian economy over the period of the global contraction (Chart 1). There was a sharp decline in output from the manufacturing sector, detracting 1.1 percentage points from economic activity over the period. The weakness in manufacturing was partly offset by growth in other sectors. Despite a reduction in output in the insurance and other financial services sector of around 1.3 per cent over the period (detracting 0.1 percentage points from growth) the services sector as a whole contributed around 0.3 percentage points to growth in activity in the period. Primary industry conditions started to improve with agriculture, forestry and fishing contributing 0.3 percentage points and mining contributing 0.1 percentage points to economic growth in the period. Unfortunately, a large statistical discrepancy in the National Accounts data

masked some of the other sectoral developments.[2] Overall, the production measure of GDP declined by 0.5 per cent over the period.

Chart 1: Sectoral contributions to growth
(September qtr. 2008, December qtr. 2008, March qtr. 2009)



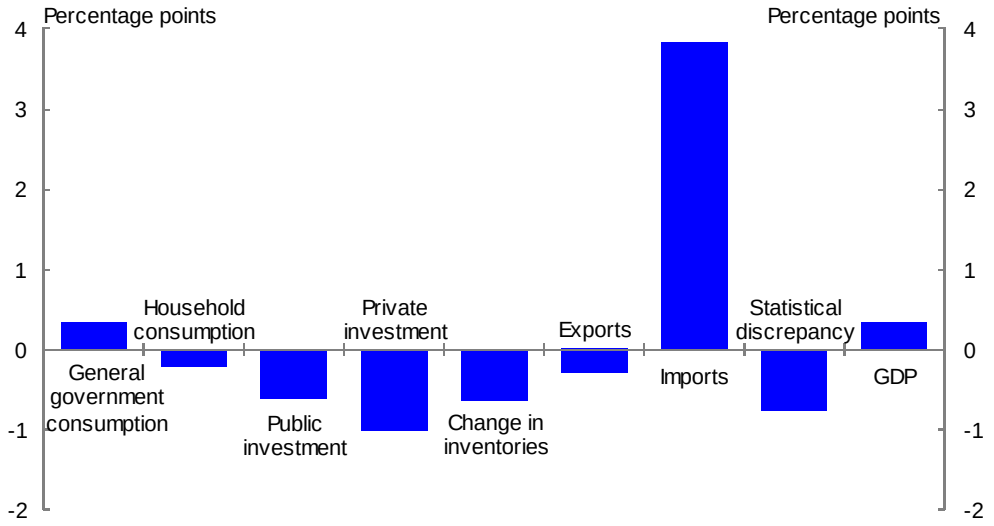
Source: ABS cat. no. 5206.0 and Treasury.

Expenditure contributions — GDP (E) components

In a mechanical sense, the positive growth in the expenditure measure of GDP over this period primarily reflected a reduction of expenditure on imports. Overall growth was weak, but it would have been much weaker still if much of the slowdown in spending had not been borne by a large reduction in imported goods. The only growth in expenditure during these three quarters came from government consumption. Each of the other components — household consumption, private and public investment, changes in inventories and exports — fell over that period, detracting from GDP growth (Chart 2).

2 GDP is the average of three conceptually equivalent measures based on expenditure, income and production. The period of the global downturn saw a marked increase in the difference between these measures – referred to as the statistical discrepancy – with the production measure of GDP falling further and for longer over the initial period of the downturn. Over time, as additional data becomes available, the ABS will seek to reconcile these measures, effectively eliminating the statistical discrepancy. However, until this process is complete, interpretation of the performance of the Australian economy over this period should be tempered by the potential impact of data revisions.

Chart 2: Contribution to GDP growth
(September qtr. 2008, December qtr. 2008, March qtr. 2009)

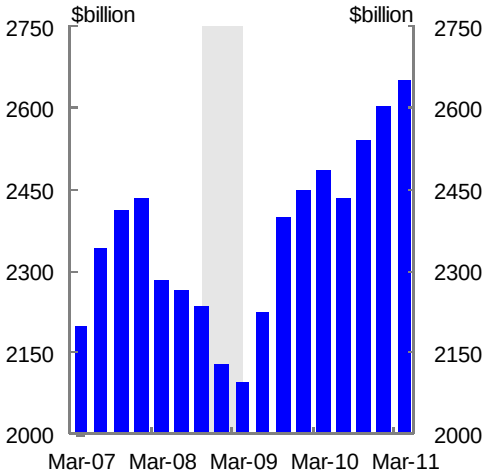


Source: ABS cat. no. 5206.0 and Treasury.
Note: Declining imports do not contribute to domestic output growth (see page 47).

Consumption

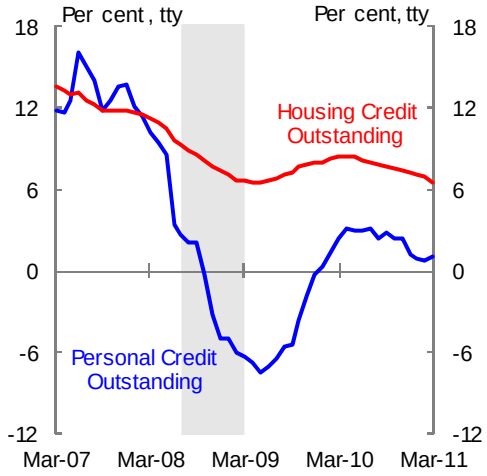
In real terms, household consumption fell by around 0.3 per cent over the period, reflecting a sharp deterioration in consumer confidence, deteriorating employment prospects and a sizeable fall in household wealth, underpinned by a decline in financial asset holdings of about $337 billion between December quarter 2007 and March quarter 2009 (Chart 3). Current price household primary income (which includes compensation of employees, household gross operating surplus from dwellings, gross mixed income and property income) was weak in the three quarters ending March 2009, with wage growth subdued and hours worked falling; real household primary income declined by around 1 per cent. As personal credit also declined, households' capacity and preparedness to increase spending was limited (Chart 4).

Chart 3: Household financial assets



Source: ABS cat. no. 5232.0.

Chart 4: Household credit



Source: RBA.

Notwithstanding the weakness in household primary income, household disposable income received a substantial boost from fiscal and monetary policy over this period (Chart 5).

Household gross income, which includes the transfer payments made under the fiscal stimulus, rose sharply in the December quarter 2008, reflecting a $9 billion (2.8 per cent of current price quarterly GDP) increase in social assistance benefits — largely the fiscal stimulus (Chart 6). Household gross income declined by $6.1 billion in the March quarter 2009 before picking up again sharply in the June quarter 2009 (by $6.4 billion) on the back of the next round of cash stimulus payments.

Household interest payments rose by $0.4 billion in the September quarter 2008 but declined by about $4.5 billion (1.4 per cent of current price quarterly GDP) in the December quarter 2008 and by a further $3.2 billion in the March quarter 2009 — largely due to the monetary policy easing (Chart 6).[3]

3 There are difficulties measuring actual interest payments since some households may maintain interest payments at existing levels even as interest rates change, and the quarterly profile is typically based on indicators, so caution should be used in interpreting these data.

Chart 5: Impact of macro stimulus on household gross disposable income

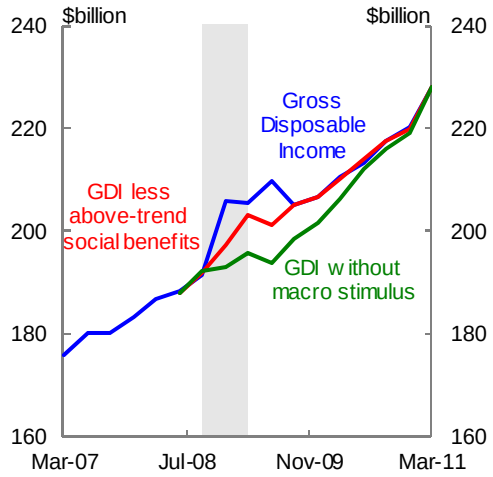
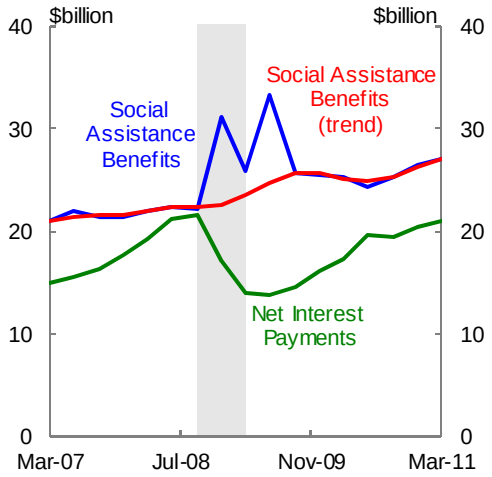


Chart 6: Social assistance receipts and (net) interest payments



Note: Household gross disposable income (s.a.) is adjusted for the impact of macroeconomic policy stimulus by using the proxy of subtracting the dollar value of the difference between the seasonally adjusted and trend measures of social assistance benefits and assuming that net interest payments were held constant at their June quarter 2008 level.[4]

Source: ABS cat. no. 5206.0 and Treasury.

Source: ABS cat. no. 5206.0.

A key question is whether or not household consumption would have been weaker still in the absence of this boost to income, or whether the additional disposable income was simply saved. The evidence suggests that consumption was boosted substantially by the temporary increase in income, notwithstanding the rise in saving that occurred during, and subsequent to, the global financial crisis.

The household saving ratio rose sharply in the December quarter 2008, as household consumption rose by less than the jump in household disposable income (Chart 7), similar to the result observed in the United States in 2008 (Taylor, 2009).

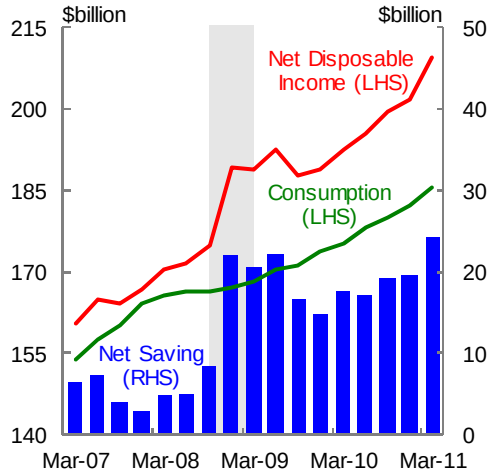
While this could be seen as consistent with at least some of the additional disposable income in the period from fiscal and monetary stimulus being saved, it implicitly assumes that household consumption activity would have been largely unchanged in the face of the global downturn. There are good grounds to believe that this would not have been the case. The heightened uncertainty of that period (and reduction in financial wealth) would have seen households become more cautious, rebuilding balance sheets through increased saving and reduced reliance on debt. So the

4 For an explanation of the method used by the Australian Bureau of Statistics to calculate a trend series during a period of large irregular movements in the data (as during the Government's intervention during the GFC) see http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1350.0Feature+Article1Aug+2009

counterfactual — what the level of saving would have been during that period without the stimulus — is not clear.[5]

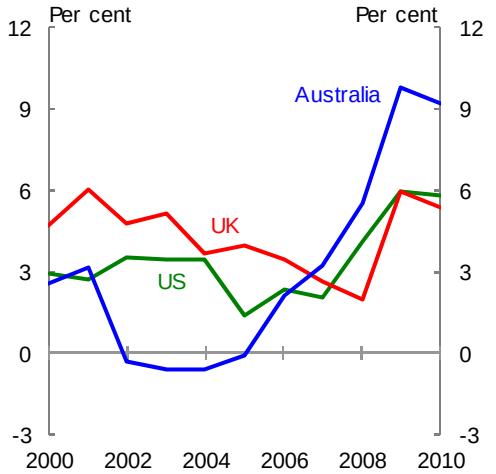
Indeed, the increase to the household saving ratio has been sustained well past the period of the boost to household incomes from fiscal and monetary stimulus (Chart 8). If the preferred level of saving from non-stimulus income at that time was around post-stimulus averages, the evidence suggests that nearly two thirds of the temporary boost to household income from the fiscal stimulus and lower interest rates in the December quarter 2008 and the March and June quarters of 2009 was spent. The household saving rate rose by an even greater extent than in most other advanced economies over the same period (Chart 8).

Chart 7: Household income and consumption



Source: ABS cat. no. 5206.0.

Chart 8: International comparison of household saving



Source: ABS cat. no. 5206.0 and IMF.

As an aside, it should be noted that the household saving ratio is a residual measure and as such has several limitations as a measure of household saving (Treasury, 1999). Among these, it compares data from the income measure of GDP with data from the expenditure measure of GDP — although, as noted above, there can be significant differences between these measures of GDP.

The weakness in household consumption over this period is at odds with the sharp rise in retail sales. A possible explanation lies in the behaviour of the different components of household consumption over the period (Table 1). The decline in household consumption was driven by a sharp decline in the purchase and operation of vehicles (down 14 per cent and 6 per cent) and (unsurprisingly in a financial crisis) in consumption of insurance and financial services (down 4 per cent). Other

5 See Freestone et al. (2011) for a more detailed explanation of this point.

components of household consumption (such as food and rent) rose modestly over the period.

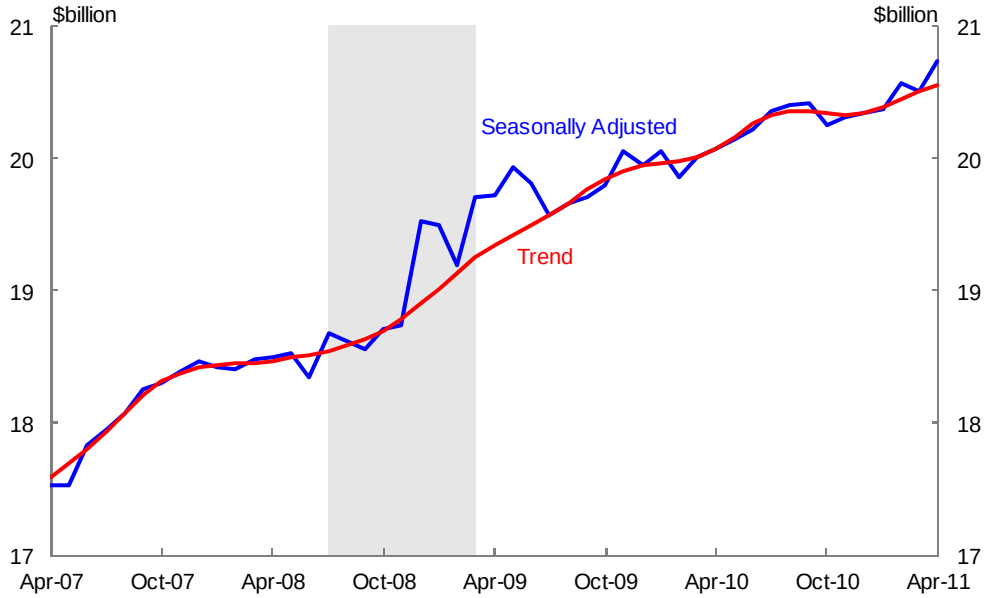
Table 1: Components of household consumption
(September qtr. 2008, December qtr. 2008, March qtr. 2009)

Household Consumption	Growth	Cont. To GDP Growth
Insurance and other financial services	-3.9	-0.2
Purchase of vehicles	-13.9	-0.2
Fuel-related items	-4.3	-0.2
Durables and other goods	0.5	0.0
Services (excluding financial services)	0.5	0.1
Food, tobacco and alcohol	1.9	0.1
Rent and other dwelling services	2.0	0.2
Total	**-0.3**	**-0.2**

Source: ABS cat. no. 5206.0 and Treasury.
Note: Fuel-related items is the sum of Operation of vehicles and Electricity, gas and other fuel.

Interestingly, the monthly (current price) retail trade data, which do not include the purchase or operation of vehicles, consumption of insurance and other financial services or fuel-related items — each of which declined — clearly show the impact of fiscal stimulus payments (in particular) on consumption (Chart 9).

Chart 9: Monthly retail trade
(Nominal)



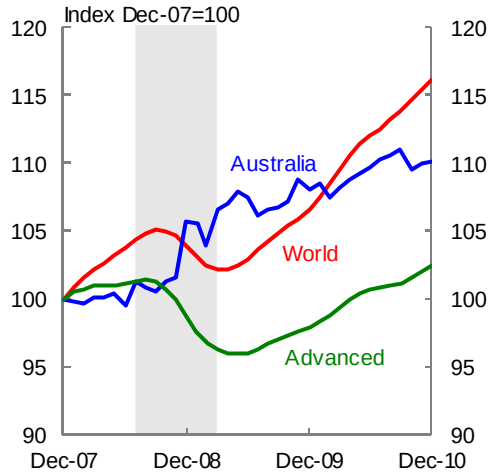
Source: ABS cat. no. 8501.0.

Overall, the most plausible explanation of the data is that, while some of the fiscal and monetary stimulus appears to have been saved, consumption would have been significantly weaker without the timely boost to incomes from the stimulus.

Retail trade and consumption recovered sooner in Australia than in other advanced economies that were slower in implementing tax or transfer payments to households and/or for which monetary policy easing had little effect on household income in the period (Charts 10 and 11).

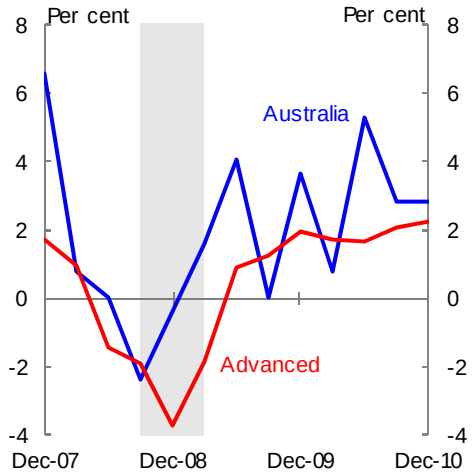
The sharp rise in retail trade during this episode is in stark contrast to the sharp decline in Advanced countries as a group. By March 2009 Australia's retail trade was around 6.0 per cent higher than its pre-crisis level; Advanced countries' retail trade was about 3.7 per cent lower than its pre-crisis levels. It seems reasonable that the relatively large fiscal and monetary stimulus in Australia was at least partly behind this divergence.

Chart 10: International retail trade
(Monthly)



Note: World and Advanced data based on three-month moving average.
Source: ABS cat. no. 8501.0 and IMF.

Chart 11: International consumption
(Annualised)



Source: ABS cat. no. 5206.0 and IMF.

Investment

In real terms, investment fell by around 5.4 per cent over the period, detracting around 1.6 percentage points from GDP growth, with declines in both public investment (10.9 per cent) and private investment (4.2 per cent).[6]

6 The main drivers in the large decline in public investment in this period were defence investment (down 38.3 per cent; accounting for around 60 per cent of the fall in public investment) and state and local general government investment (down 8.7 per cent; accounting for around 34 per cent of the fall in public investment).

The fall in private investment detracted 1.0 percentage point from cumulative GDP growth over these quarters.

Notwithstanding this, the decline in private investment was significantly lower than that experienced in previous global downturns. In the 1980s and 1990s recessions private investment detracted 3.6 percentage points (over 6 quarters) and 4.2 percentage points (over 10 quarters) from GDP growth respectively.

Table 2: Components of investment
(September qtr. 2008, December qtr. 2008, March qtr. 2009)

Investment	Growth	Cont. to Growth
Public Investment	-10.9	-0.6
Private Investment	-4.2	-1.0
Dwelling Investment	-5.0	-0.3
Business Investment	-3.5	-0.6
Other Buildings and Structures	5.6	0.4
Machinery & Equipment	-12.2	-0.9
Other	-0.6	0.0
Total	**-5.4**	**-1.6**

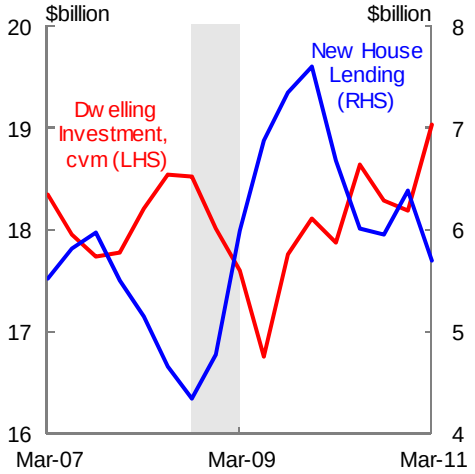
Source: ABS cat. no. 5206.0 and Treasury.

Dwelling investment

Dwelling Investment fell by around 5 per cent over the three quarters of the global contraction, detracting around 0.3 percentage points from GDP growth. This was a more modest fall than might have been expected, given the experience of past recessions (dwelling investment detracted 1.3 percentage points from economic activity during the early 1990s recession) and considering that a key catalyst for the global downturn was a collapse in the US housing market (and to a lesser extent the fall in the Spanish, UK and Irish housing markets).

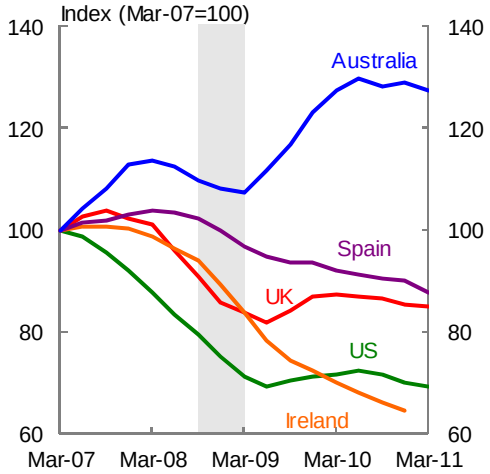
Indeed the housing sector proved particularly resilient during this episode. While the pace of housing credit slowed, Australian banks continued to provide finance to new housing investment (Chart 12). Further, the fall in house prices was much more muted than in many other countries, reflecting continued strong demand from population growth and supply restrictions, the support provided by the First Home Owners Boost and the early effects of lower mortgage interest rates (Chart 13).

Chart 12: New housing finance



Note: New Housing Finance is new housing loans to owner occupiers for construction of dwellings or purchase of new dwellings.
Source: ABS cat. no. 5206.0 and 5609.0.

Chart 13: House prices

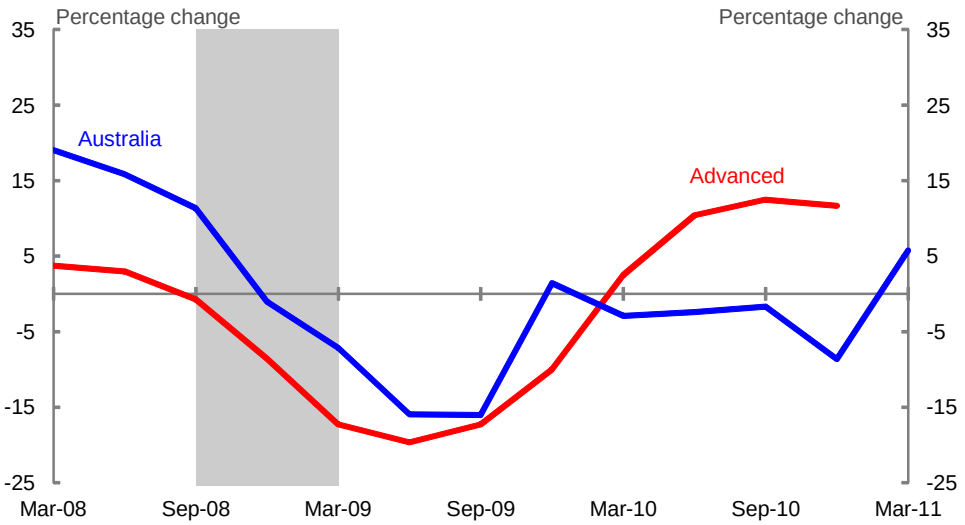


Source: ABS cat. no. 6416.0, Halifax, S&P Case-Shiller and national statistical agencies.

Business investment

Private business investment fell 3.5 per cent over this period, detracting 0.6 percentage points from GDP growth. This decline was entirely due to a sharp 12.2 per cent decline in business investment in machinery and equipment. Nevertheless, the decline in machinery and equipment investment was less than in other advanced economies (Chart 14). Non-dwelling construction held up for longer, probably because these types of large projects take longer to respond, but subsequently weakened.

Chart 14: Machinery and equipment investment
(Through the year)



Source: ABS cat. no. 5206.0, Treasury and IMF.

Net Exports

Net exports contributed a cumulative 3.5 percentage points to growth over the September 2008, December 2008 and March 2009 quarters, with imports contributing 3.8 percentage points to growth and exports detracting 0.3 percentage points from growth. The strength of net exports has led some commentators to assert that the relative resilience of the Australian economy over this period can be fully explained by the strength of external demand and/or the effect of a lower real exchange rate. (See McDonald and Morling, 2011 for a summary of these arguments.) To test this view, it is useful to separately analyse the contributions of exports and imports.

Exports

Exports fell by 1.2 per cent over the three key quarters and detracted 0.3 percentage points from GDP growth. While rural commodities grew by nearly 20 per cent, this was more than offset by sharp falls in the volume of elaborately transformed manufactures (ETM) exports (down 17.3 per cent) and non-rural commodity exports (down 3.8 per cent), with services exports also falling slightly (down around 0.5 per cent).

Rural commodity growth was positive, driven by an improvement in weather conditions with improved production, particularly in cereal grains and cereal preparations (up 35.9 per cent).

The extent of the global downturn is evident in the sharp fall in the volume (as well as the prices) of non-rural commodity exports. The volume of metal ores and minerals fell by 9 per cent in the December quarter 2008, so that, despite a rebound in the March quarter 2009 it fell by 6.4 per cent over the three quarters. The volume of coal, coke and briquettes fell sharply in both the December quarter 2008 and the March quarter 2009, to be over 16 per cent lower over the three quarters. On the other hand, exports of non-mineral fuels (that is, oil and gas) increased over the period, up by around 6 per cent over the three quarters.

There was significant variation in the volume of non-rural commodity exports to different countries. In particular, the fall in export volume (and price) would have been greater over this period had it not been for continued growth in demand from China partly offsetting sharply lower demand from other major trading partners. Despite weakness in the December quarter 2008, the cumulative contribution to Australia's GDP growth from exports of iron ore and coal to China over the three quarters was 0.8 percentage points.[7]

The significant depreciation of the exchange rate over the period (the Trade Weighted Index fell around 23 per cent between June 2008 and March 2009) meant that Australian ETM exports became more competitive, as the Australian dollar price of ETM imports rose while the foreign currency price of Australia's ETM exports fell sharply.

Despite this, Australia's ETM export volumes fell sharply over this period, reflecting a global decline in demand for machinery and consumer durables over this period.

On the other hand, the relatively muted decline in services exports over this period is likely to have been partly due to the decline in the exchange rate. The Australian dollar price of service exports rose by around 2 per cent in the period, compared with the more than 20 per cent fall in the exchange rate, implying a significant decline in the foreign currency price of service exports, supporting volumes to a greater extent.

7 Contribution to GDP growth was calculated using unpublished ABS trade data of exports to China. A 2008/09 price for each commodity was calculated using total volumes and values for that financial year. This price was used to then calculate a chain volume export number for each commodity. Seasonal adjustment was based on ABS Balance of Payments (catalogue number 5302.0) seasonal factors for the categories of *metal ores and minerals* applied to iron ore, and *coal, coke and briquettes* applied to thermal and metallurgical coal. GDP growth was sourced from the seasonally adjusted chain volume GDP series (catalogue number 5206.0). In 2009-10, iron ore, metallurgical coal and thermal coal accounted for 63 per cent of Australia's goods exports to China. The trade of these three commodities to China accounted for 15 per cent of Australia's total goods exports.

Overall, while it is clear that the volume of Australia's exports over this period was supported by the lower exchange rate, this effect appears to have been swamped by the impact of the global downturn on demand for exports over the period.

Imports

Mechanically, the decline in the volume of imports over the period contributed a massive 3.8 percentage points to growth over the three quarters. Clearly, then, understanding the behaviour of imports over this period is a key part of understanding the relative resilience of the Australian economy during the global downturn.

It is useful to consider the conceptual underpinning of a reduction of imports adding to GDP growth. In theory and practice, imports do not contribute to GDP — rather, it is an accounting treatment to allow for the fact that the other expenditure elements of GDP include spending that is not met by domestic production. The ABS does not provide a direct attribution of imports to the categories of domestic spending. However it were able to do so, it is likely that the growth rate in domestic production to meet these expenditures would have been higher than the unadjusted growth rate, particularly for investment spending which has a higher import elasticity.

The large fall in imports was broadly dispersed across consumption, capital and intermediate goods, and services.

Imports of consumption goods

Imports of consumption goods fell by nearly 20 per cent over the period, contributing 1.1 percentage points to GDP growth. While all categories of consumption good imports fell sharply, imports of 'non-industrial transport equipment' (that is, cars) fell by over 40 per cent, contributing 0.6 percentage points to GDP growth over the period.

Imports of intermediate goods

Imports of intermediate goods fell by around 14 per cent over the period, contributing 1.2 percentage points to GDP growth. While imports of some categories increased (fuel and lubricants, food and beverage for industry), many categories involving goods used as inputs to manufacturing processes fell sharply. These included processed industrial supplies and parts for transport equipment which contributed 0.4 and 0.3 percentage points to GDP growth respectively.

Imports of capital goods

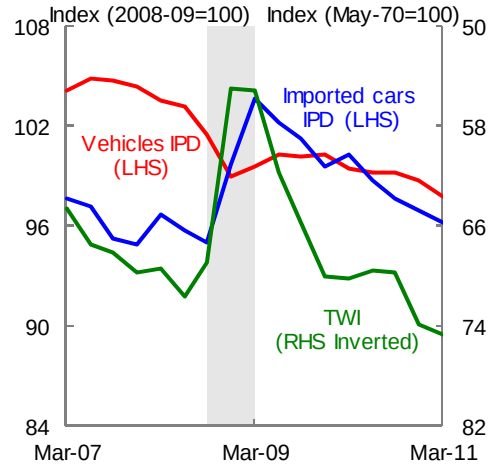
Imports of capital goods fell 17.8 per cent in the period, contributing 0.8 percentage points to GDP growth. While many categories experienced significant declines, by far the largest was 'Industrial transport equipment', which fell by 44 per cent, adding

0.3 percentage points to GDP growth, with this being only partly offset by increased imports of telecommunication equipment and civil aircraft over the period.

Overall, three categories of transport equipment — 'non-industrial transport equipment', 'parts for transport equipment' and 'industrial transport equipment — explain over 40 per cent of the decline in imports of goods over this period.

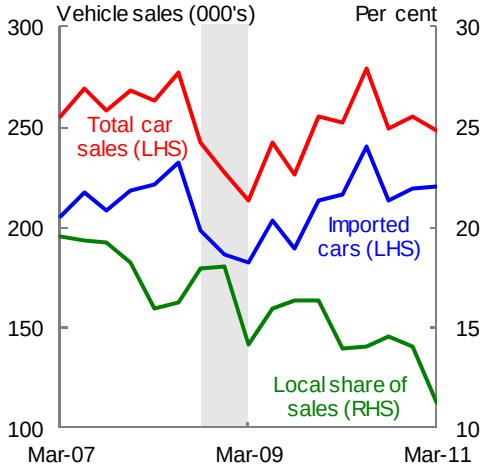
It appears unlikely that this sharp decline in imports of transport equipment can be attributed to the depreciation of the Australian dollar. While the fall in the exchange rate was clearly a key factor responsible for the rise in producer prices of imported cars over this period, there was no corresponding increase in consumer car prices (Chart 15).[8]

Chart 15: Exchange rate and car prices



Source: ABS cat. no. 5206.0, 5302.0 and RBA.

Chart 16: Composition of car market
(Quarterly)



Source: VFACTS.

Rather, the sharp fall in demand for imported cars mirrored a more general fall in motor vehicle sales in Australia (and globally), reflecting the impact of confidence and liquidity effects, and the big increase in the risk premium, associated with the global downturn (Chart 16).[9]

While sales of imported cars fell by around 20 per cent over the period, sales of domestically produced cars fell by even more (over 30 per cent), contrary to what would be expected if the currency depreciation was driving the reduction in car imports. Indeed, the collapse in sales of imported cars did not spill demand to

8 Consumer car prices are proxied by the vehicles IPD from the National Accounts.

9 The *Economist*, reported *Automotive News* data showing that sales of cars and light trucks in the year to December 2008 fell by 35.5 per cent in the US, 16 per cent in France, nearly 50 per cent in Spain, and 22.3 per cent in Japan.

domestically produced cars as it would have had it been a relative price effect (from the sharply lower currency). The local share of sales fell over the three quarters, from around 16 per cent in the June quarter 2008 to a little over 14 per cent in the March quarter 2009.

More broadly across the economy, the decline in the volume of imports is likely to largely reflect weaker domestic demand in the Australian economy (associated with contagion effects from the global downturn), along with a contribution from the improved competitiveness of domestically produced substitutes of imports due to the depreciation of the exchange rate (Chart 17).

Chart 17: Import penetration ratio

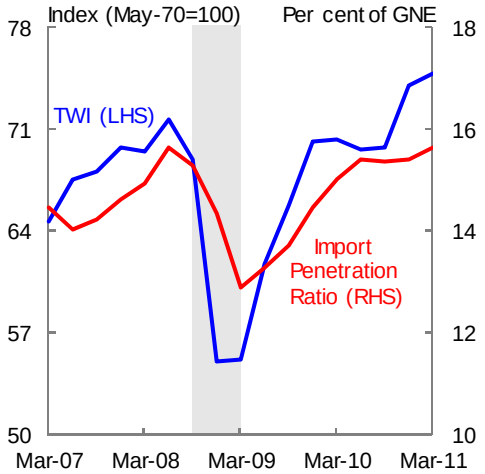
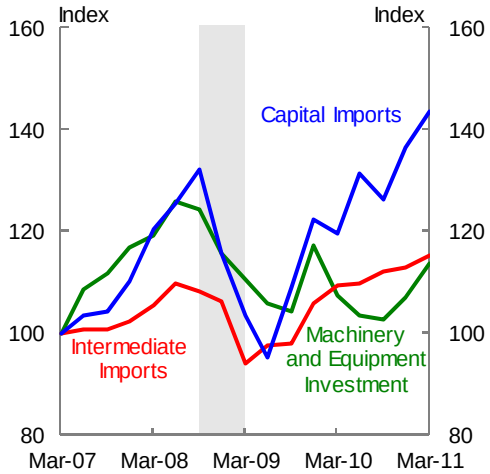


Chart 18: New machinery and equipment investment, and imports



Note: The import penetration ratio is the volume of goods imports (excluding fuels and lubricants, civil aircraft, non-monetary gold and goods procured in ports by carriers) divided by the volume of gross national expenditure.

Source: ABS cat. no. 5206.0, RBA and Treasury.

Source: ABS cat. no. 5206 and 5302.0.

The pattern of decline in import volumes over this period broadly mirrors the pattern of domestic demand over this period, with the fall in business investment in machinery and equipment reflected in lower capital and intermediate imports (Chart 18).[10]

Imports of services fell by 17.2 per cent over the period, contributing 0.9 percentage points to GDP growth, reflecting significant falls in transport services (especially passenger services), travel services and other services. Over the same period, services import prices (as measured by the implicit price deflator) rose by 13.9 per cent, largely reflecting the impact of the depreciation of the exchange rate.

10 The change in the mix of GNE components explained about 0.4 percentage points of the decline in the import penetration ratio.

Inventories

In the classic business cycle, in the early stages of a downturn an unexpected slowdown in demand results in an involuntary increase in inventories, as firms produce more than required by consumers. In the next stage, firms reduce production by even more than the reduction in demand, drawing down on their stock of inventories. Where the reduction in production results in firms shedding labour, this then exacerbates the initial reduction in demand, resulting in a further increase in inventories and reduction in production.

One of the most volatile individual components of GDP over this period was the contribution of inventories. The September quarter 2008 saw an increase in inventories, contributing around 1.1 percentage point to GDP growth, before a sharp turnaround in inventories in the December quarter 2008 saw inventories detract 1.8 percentage points from GDP growth. While to this point the behaviour of inventories reflected the classic business cycle, a slight rebound in the March quarter contributed 0.1 percentage points to GDP growth. Over the three quarters, the change in inventories detracted around 0.7 percentage points from GDP growth, at least part of which would be offset by the reduction in import volumes over this period.

GDP deflator

Changes in the terms of trade during this period also affected the economy. The terms of trade increased in the September quarter 2008 but then declined by around 10 per cent in the next two quarters (and a further 10 per cent in the following two quarters). Real GDP does not measure the change in real purchasing power of the income generated by domestic production. Instead, the real purchasing power of income generated by domestic production is GDP adjusted for changes in the terms of trade, which is real gross domestic income. Growth in real gross domestic income was a percentage point lower than growth in real GDP in September quarter 2008 to March quarter 2009 (and a 1½ percentage point lower during the early stages of the recovery).

The effects of the sharp falls in the terms of trade were moderated by the sharp falls in the Australian dollar. The trade weighted index fell 25 per cent from peak to trough. Holding everything else constant, the fall in the dollar mechanically added about $16 billion to the Australian dollar value of key commodity exports during the critical three quarters.

The Australian economy: June quarter 2009, September quarter 2009, December quarter 2009

This section assesses the performance of the Australian economy over the three quarters covering the early stages of the global recovery: the June quarter 2009, September quarter 2009 and the December quarter 2009.

The Australian economy grew by around 1.8 per cent in the June quarter 2009, September quarter 2009 and December quarter 2009, an average of 0.6 per cent per quarter, or only a little below 'trend' or 'potential'.

The pattern of growth was much more even over this period, with growth of 0.4 per cent in the June quarter 2009 followed by growth of 0.7 per cent in both the September quarter 2009 and December quarter 2009.

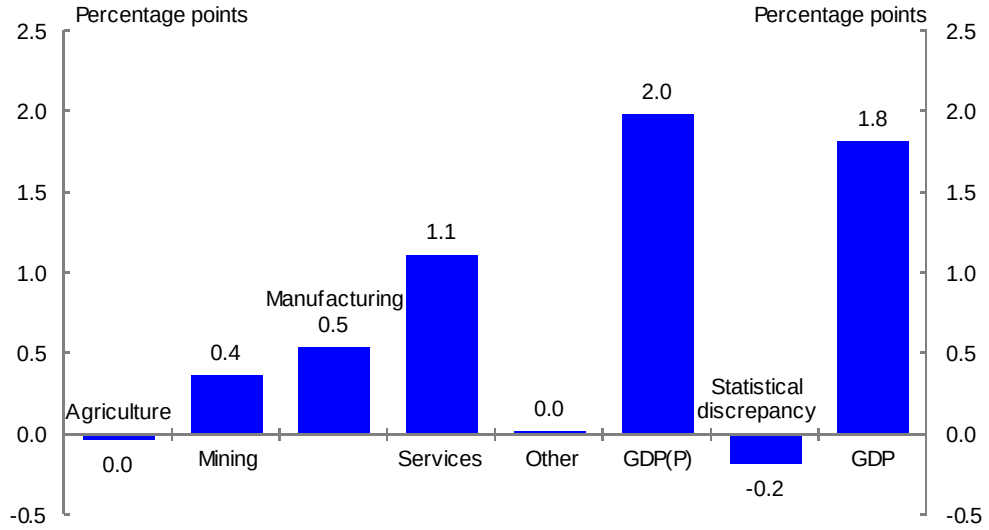
This period saw a moderate recovery in the global economy, although progress was uneven, with strong growth in emerging economies (particularly China) over this period, but a weaker recovery elsewhere.

Industry contributions — GDP (P) components

The contribution of different sectors of the Australian economy was also more even during this period (Chart 19).

Production in the manufacturing sector started to recover, with the sector growing by 6.4 per cent in the period, contributing 0.5 per cent to economic growth. Output also picked up in the mining sector (ex-services), which grew by 4.2 per cent in the period, to contribute 0.4 per cent to growth as a whole. The largest contributor to economic growth in the period was the services sector (at 1.1 per cent), despite growing by a relatively modest 1.9 per cent. The agriculture sector detracted slightly from growth. Overall, the production measure of GDP rose by 2.0 per cent over the period.

Chart 19: Sectoral contributions to growth
(June qtr. 2009, September qtr. 2009, December qtr. 2009)

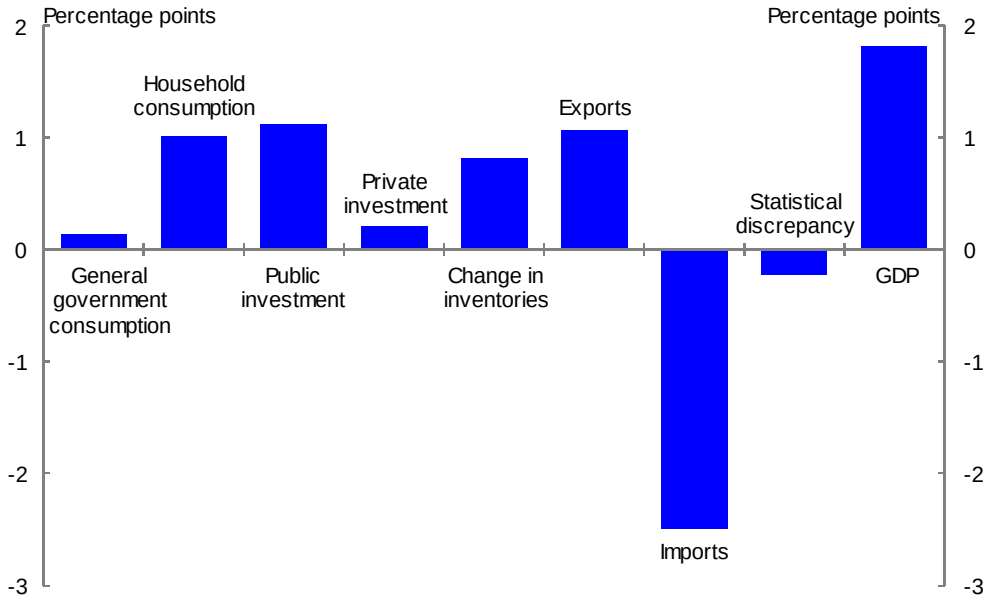


Source: ABS cat. no. 5206.0.

Expenditure contributions — GDP (E) components

GDP growth was supported by solid household consumption growth, strong growth in stimulus-related public investment, inventory rebuilding, and a rise in exports, offset partly by a strong rise in imports (Chart 20).

Chart 20: Contribution to GDP growth
(June qtr. 2009, September qtr. 2009, December qtr. 2009)



Source: ABS cat. no. 5206.0 and Treasury.

Consumption

Household consumption contributed 1.1 per cent to GDP growth over this period. Household consumption in the June quarter 2009 was underpinned by the second round of the cash stimulus payments which boosted household incomes (Chart 21). The value of household financial assets rose by around $350 billion over these three quarters, providing additional support for spending. Retail sales fell shortly after the period when the stimulus payments were made and the fall in household saving in the September 2009 (around $5½ billion) and December 2009 (around $1½ billion) quarters is consistent with the view that these payments would have continued to support the level of consumption over subsequent quarters. It is also consistent with international evidence (Agarwal et al., 2007). Household interest payments fell a little in the June quarter, but subsequently rose as credit growth picked up a little and interest rates were increased from October 2009 (Chart 22).

Chart 21: Impact of macro stimulus on disposable income

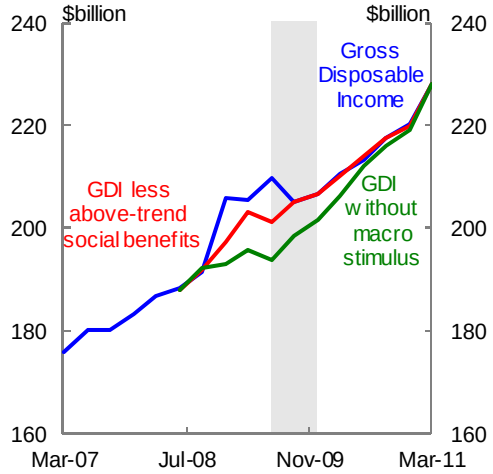
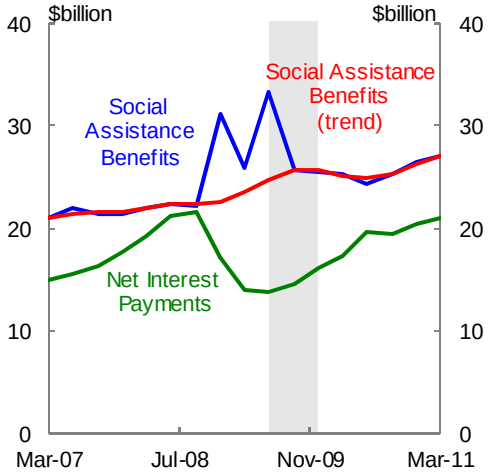


Chart 22: Social assistance receipts and (net) interest payments



Note: Gross disposable income (s.a.) is adjusted for the impact of macroeconomic policy stimulus by using the proxy of subtracting the difference between the value of the seasonally adjusted and trend measures of social assistance benefits and assuming that net interest payments were held constant at their June quarter 2008 level.

Source: ABS cat. no. 5206.0 and Treasury.

Source: ABS cat. no. 5206.0.

The direct effects of the stimulus were augmented by the early rise in consumer confidence, and increasing evidence that the deterioration in labour market conditions was likely to be less than expected. Although the unemployment rate rose, a substantial part of the labour market adjustment occurred through workers working fewer hours. By mid 2009, the unemployment rate had levelled off at under 6 per cent, and there was increasing confidence that, unlike in the US and Europe, the worst had passed. This is reflected in the broadly-based growth in household consumption.

Investment

In real terms, investment rose by 4.8 per cent over the period, contributing 1.3 percentage points to GDP growth, with public investment contributing 1.1 percentage points and private investment contributing 0.2 percentage points (Table 3).

The contribution to growth from private investment during this period, while relatively modest, was substantially larger than the large detractions that had been factored into Treasury's forecasts in the 2009-10 Budget (Gruen and Stephan, 2010).

Table 3: Components of investment
(June qtr. 2009, September qtr. 2009, December qtr. 2009)

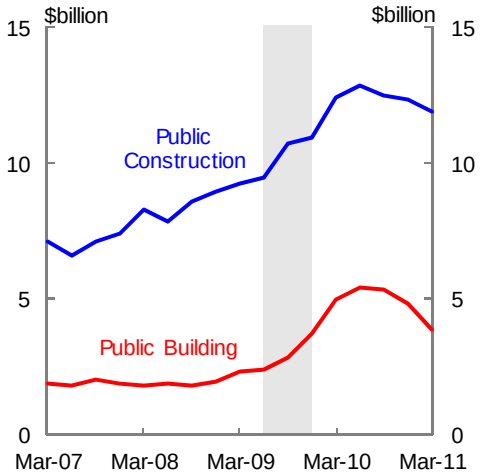
Investment	Growth	Cont. to Growth
Public Investment	22.8	1.1
Private Investment	0.9	0.2
Dwelling Investment	2.8	0.2
Business Investment	-0.5	-0.1
Other Buildings and Structures	-7.9	-0.5
Machinery & Equipment	6.1	0.4
Other	1.8	0.0
Total	**4.8**	**1.3**

Source: ABS cat. no. 5206.0.

Public investment

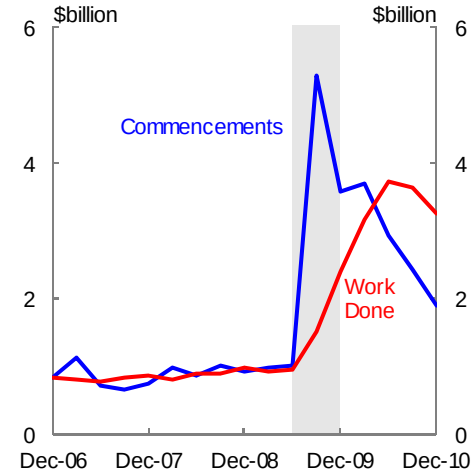
The dominant contributor to investment growth in the period was public investment, which grew by 22.8 per cent, and contributed 1.1 per cent of cumulative growth in the period, much of which was fiscal stimulus related. The BER program (parts of which are recorded as public investment spending and parts as private investment spending) picked up sharply in the latter part of the period, although the largest impact was during the first half of 2010 (Charts 23 and 24).

Chart 23: Public investment



Source: ABS cat. no. 8755.0.

Chart 24: Education investment



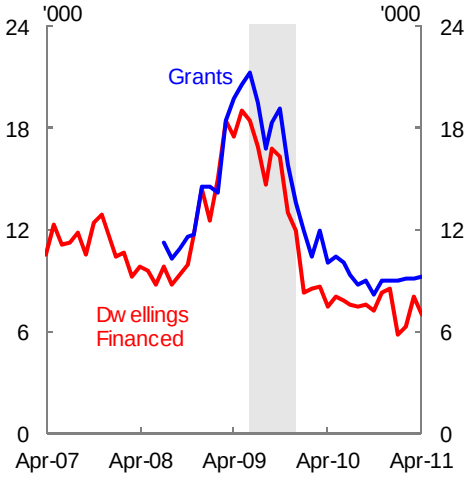
Source: ABS cat. no. 8752.0.

Dwelling investment

Dwelling construction grew by 2.8 per cent over the period, contributing 0.2 percentage points to GDP growth. The level of dwelling construction was supported over this period by the lift in the number of first home buyers, reflecting the

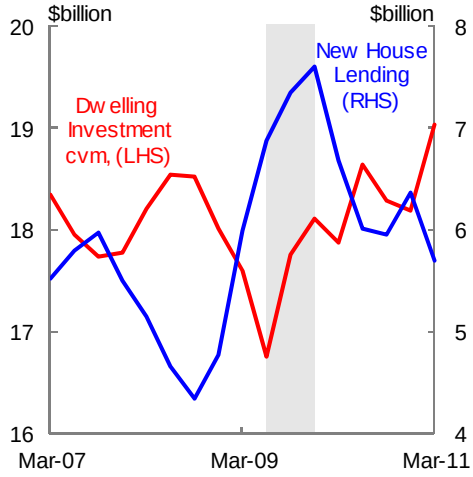
temporary increase in the First Home Owners Grant as part of the fiscal stimulus (Chart 25). The continued provision of housing credit, higher house prices and lower interest rates would have also contributed to the solid performance of the dwelling construction sector over the period (Chart 26).

Chart 25: New home buyers



Source: ABS cat. no. 5609.0.

Chart 26: New housing finance



Source: ABS cat. no. 5206.0.

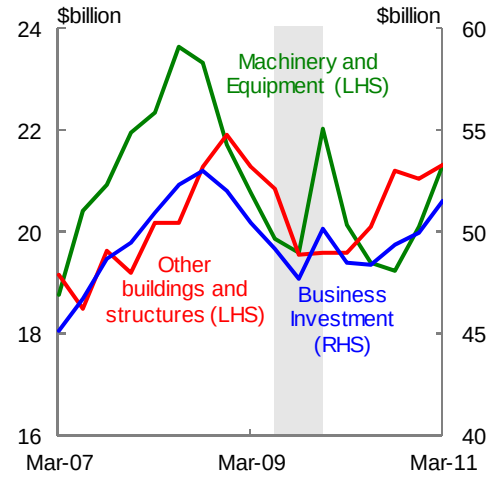
Business investment

Business investment fell over the period, as a sharp 7.9 per cent decline in investment in other buildings and structures was partly offset by a strong 6.1 per cent growth in business equipment in machinery and equipment (Chart 27).

A key question is whether the decline in private investment in other buildings and structures over this period reflected weaker market conditions or 'crowding out' by the surge in public investment. As always, the counterfactual is difficult to determine. Nevertheless, if public investment had indeed 'crowded out' private investment in the period, then it would be expected that the price of private investment in other buildings and structures would have risen — whereas in fact, it fell by around 2 per cent over the period, a result more consistent with weak demand in the sector as a whole. It is also worth recalling that there was considerable concern over this period over the availability of finance for commercial property developments.

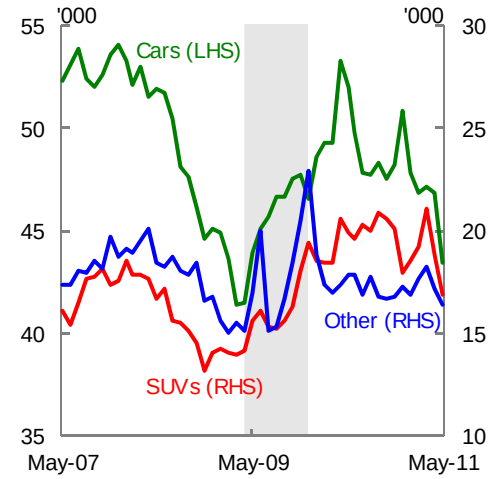
The temporary investment allowance introduced as part of the fiscal stimulus appears to have been an important contributor to the recovery of machinery and equipment investment. In particular, other (light and commercial) vehicle sales jumped noticeably both in the June and December quarters of 2009, the cut-off quarters for eligibility for large and small businesses respectively (Chart 28). Of course, the response to the tax incentive would have been considerably more muted had business not been able to access credit over this period.

Chart 27: Business investment



Source: ABS cat. no. 5206.0.

Chart 28: Vehicle sales
(Monthly)



Source: ABS cat. no. 9314.0.

Net exports

Net exports detracted significantly from growth over the period, with the strong recovery of exports being more than offset by a surge in imports.

Exports

Exports grew 4.7 per cent in the period and made a solid contribution to growth (1.1 per cent). As with private investment, this was substantially stronger than the large detraction from growth that had been factored into Treasury's forecasts in the 2009-10 Budget.

A significant driver of the recovery of exports over this period was the surge in non-rural commodity exports to China. Exports of iron ore and coal to China contributed 0.8 percentage points to GDP growth over this period, supported by strong stimulus-related infrastructure spending; exports to other destinations were weak.

Elaborately transformed manufactures (ETM) exports picked up a little following their sharp decline over the previous period, as demand from Australia's major trading partners picked up ahead of the world economy as a whole. On the other hand, services exports fell by 3.8 per cent, as the exchange rate appreciated resulting in a significant increase in the foreign currency price of services exports in the period. Exports of rural goods also fell, reflecting lower production.

Imports

The volume of imports rose strongly over this period, recovering over half the sharp decline of the previous three quarters, detracting 2.5 percentage points from GDP growth. The recovery in imports — like the fall — was broadly dispersed among consumption, capital and intermediate goods and services.

The impact of the temporary business tax break is reflected in many of the categories of business imports. The three categories of transport equipment — 'non-industrial transport equipment,' 'parts for transport equipment' and 'industrial transport equipment'— grew by 55 per cent, 26.3 per cent and 34.4 per cent respectively, detracting 0.7 of a percentage point from GDP growth. Imports of automatic data processing equipment (that is, computers) grew by around 50 per cent in the period, to detract a further 0.3 per cent from GDP. Overall, this suggests that the business tax break contributed to both domestic output and imports in the period.

The appreciation of the exchange rate over this period would also have contributed to the recovery in imports. However, the variation in growth of different import categories in line with the pattern of domestic demand suggests that the recovery in domestic demand was probably the key influence.

Inventories

The early recovery of demand is evident in the recovery in inventories over the period with firms ramping up production in the face of an improved outlook. Over the three quarters, the change in inventories added 0.8 of a percentage point to GDP growth.

Conclusion

The analysis of the two key periods — covering the contraction in the global economy and the early stages of recovery — suggests that a combination of factors explain the extraordinary resilience of the Australian economy during this episode, albeit some were more important than others.

The strong performance of the Australian real economy during the three key quarters of the global *contraction* (September quarter 2008, December quarter 2008 and March quarter 2009) largely reflected the strength of the Australian financial system, the rapid deployment of fiscal stimulus measures, the first effects of a significant easing in monetary policy from October 2008 and a pickup in demand from China which partly offset weaker external demand elsewhere.

The Australian policy response appears to have been an important contributor to the outperformance of the Australian economy during the downturn. Measures to support the financial system were important in ensuring continued financial stability in Australia, allowing the flow of credit to households and businesses to continue (albeit

at a slower pace). The rapid deployment of fiscal stimulus appears to have been effective in increasing domestic demand, with transfers in late 2008 and the first half of 2009 boosting household consumption and putting a floor under business and consumer confidence. The first effects of rapid and timely reductions in interest rates in Australia and the fiscal stimulus started to be reflected in increased household cash flow. Fiscal stimulus estimates imply that growth would have been negative for three consecutive quarters absent fiscal stimulus.

The performance of the Australian economy during the early stages of the global *recovery* reflected the shift in the structure of fiscal stimulus from transfers to direct expenditure measures, the impact of monetary policy easing on household consumption and business investment and the rapid recovery in Australia's major trading partners (particularly China).

More generally Australia's relatively good performance during both of the key periods was underpinned by the sound institutional and regulatory arrangements that were in place at the time of the crisis and the flexibility of Australia's product and labour markets following nearly three decades of reform.

In practice, it appears that the interaction between these different factors was also particularly important, as they operated in a mutually reinforcing manner to support confidence in the Australian economy during the global downturn and the early stages of the global recovery.

References

Freestone, O, Gaudry, D, Obeyesekere, A, and Sedgwick, M, 2011, 'The Household Sector in Australia', *Economic Roundup*, current edition.

Gruen, D, and Stephan, D, 2010, 'Forecasting in the Eye of the Storm', *Economic Roundup*, Issue 3, pp 29-49.

McDonald, T, and Morling, S, 2011, 'Reasons for Resilience: The Australian Economy & the Global Downturn Part 1', *Economic Roundup*, current edition.

Treasury, 1999, 'The Measurement of Saving in Australia', *Economic Roundup,* Spring edition.

Taylor, J, 2009, 'The Lack of an Empirical Rationale for a Revival of Discretionary Fiscal Policy', *American Economic Review, Papers and Proceedings*, 99(2), May 2009, pp 550-555.

The rise in household saving and its implications for the Australian economy

Owen Freestone, Danial Gaudry, Anthony Obeyesekere and Matthew Sedgwick[1]

This paper looks at the increase in saving and the more subdued borrowing by households in recent years, exploring how this has been reflected in the household sector's financial transactions and balance sheet. The paper outlines a number of possible reasons for the turnaround and discusses the implications for the Australian economy, including the current account balance, bank funding, households' sensitivity to shocks and interest rates.

1 The authors are from the Macroeconomic Policy and Domestic Economy Divisions of the Australian Treasury. This article has benefited from comments and suggestions provided by Simon Duggan, Phil Garton, David Gruen, James Kelly, Tony McDonald and Steve Morling. Assistance was provided by Janelle Hanns, Bonnie Li and Alistair Peat. The views in this article are those of the authors and not necessarily those of the Australian Treasury.

Introduction

Households have been saving a significantly larger proportion of their disposable incomes in recent years than in the previous two decades. This turnaround in saving has been accompanied by a moderation in the household sector's borrowing behaviour, which has seen the household sector's gearing ratio stabilise after two decades of increases.

These changes seemed to intensify following the onset of the global financial crisis (GFC), with households reducing their accumulation of debt and re-allocating their savings towards lower risk assets such as deposits.

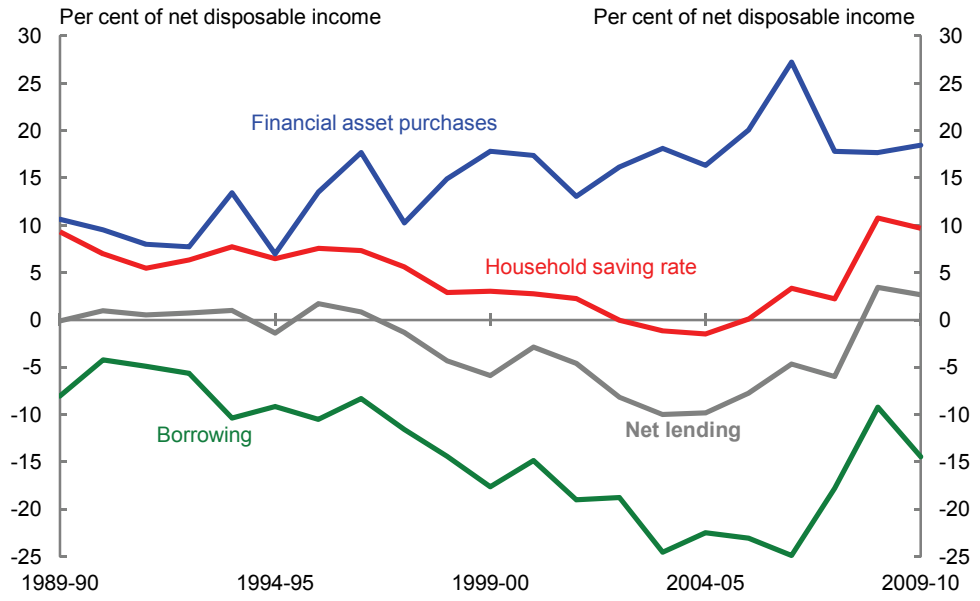
These developments have a range of implications for the Australian economy.

Higher household saving — and lower household spending — in the context of Australia's mining boom means that record levels of business investment can be accommodated with less reliance on overseas sources of funds than would otherwise be the case. By reducing aggregate demand, higher rates of saving and lower household spending may also reduce pressure on prices and wages and therefore interest rates, while more moderate rates of gearing will reduce households' exposure to negative economic shocks.

The recent turnaround in household saving and borrowing

The household saving rate in Australia declined steadily from the mid-1970s to the mid-2000s, falling below zero for the first time on record in the early 2000s (Chart 1).[2] Declining household saving over this period was accompanied by a related decline in household net lending, as strong growth in net borrowing (new borrowing less repayments) more than offset growth in net financial asset purchases (also Chart 1).[3]

Chart 1: Household saving and net lending[(a)]



(a) Household borrowing is inverted.
Source: ABS cat. no. 5204.0 and 5232.0.

Household net lending has recovered in recent years, in line with household saving, underpinned by a moderation in net borrowing and broadly stable net asset purchases as a share of household disposable income (abstracting from the one-off effect of superannuation policy changes).[4]

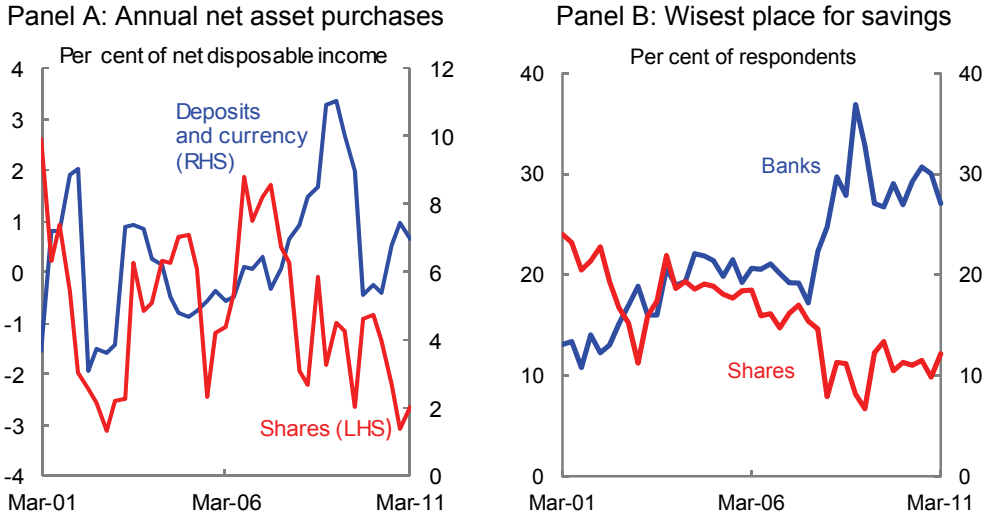
2 Decreasing household saving during the 1990s also reflected a trend of corporatisation, with a re-allocation of saving from households to corporations (Treasury 1999).

3 Net lending in the financial account (or the household sector's change in financial position) equals net financial asset purchases less net borrowing. It is conceptually equivalent to net lending in the capital account, but differs in practice due to errors and omissions. Net investment in fixed assets – which is the difference between net lending and net saving – remained broadly stable as a share of household income over this period. Appendix 1 sets out the key national accounting and related definitions for the household sector.

4 The spike in financial asset purchases in 2006-07 is likely to have been influenced by legislative changes that provided incentives to make voluntary superannuation contributions before 1 July 2007.

While broadly stable in aggregate, there was a significant change in the composition of asset purchases during the crisis. Households shifted towards deposits and divested themselves of riskier assets such as shares (Chart 2, Panel A). The increase in deposits reflected a number of factors. On the supply side, a probable increase in households' risk aversion has seen a preference shift in favour of less risky assets, with higher interest rates on deposits supporting greater supply (Chart 2, Panel B). On the demand side, banks and other deposit-taking institutions shifted their funding base towards domestic deposits as credit availability in international capital markets tightened, and have continued to rely more heavily on deposits even as conditions have improved.

Chart 2: Shift towards safer assets

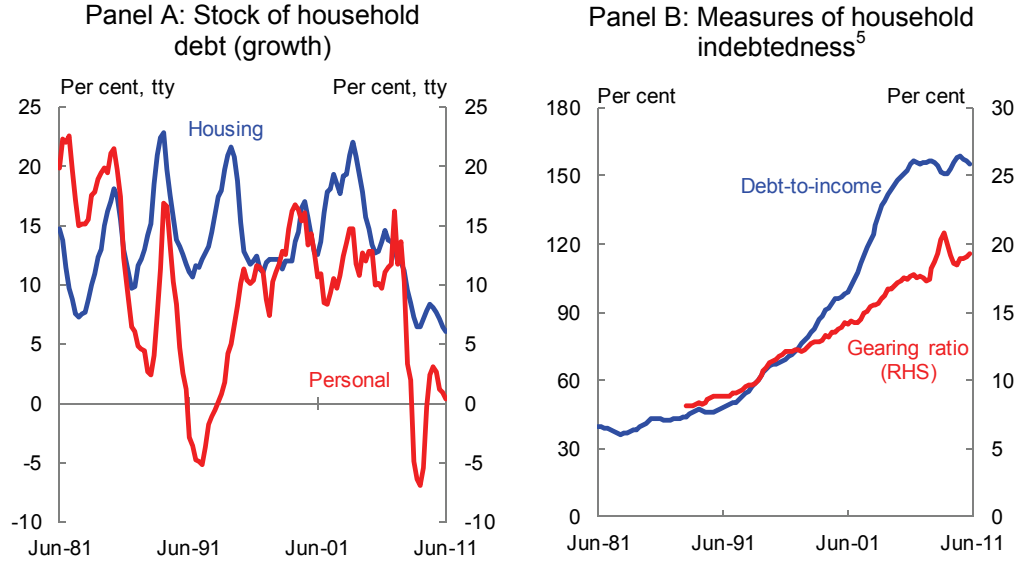


Source: ABS cat. no. 5232.0; Westpac-Melbourne Institute Survey of Consumer Sentiment.

On the borrowing side, the moderation has reflected a tightening in lending standards (which has, for example, resulted in a fall in the share of housing loans with loan-to-value ratios greater than 90 per cent since the crisis) and a moderation in household demand for credit, which is discussed further below.

More subdued borrowing has resulted in the stock of household debt, both personal and housing, growing at much lower rates than in the previous decade (Chart 3, Panel A). This has seen a stabilisation in key measures of household indebtedness in recent years, following two decades of increases (Chart 3, Panel B).

Chart 3: Household debt



Source: RBA.

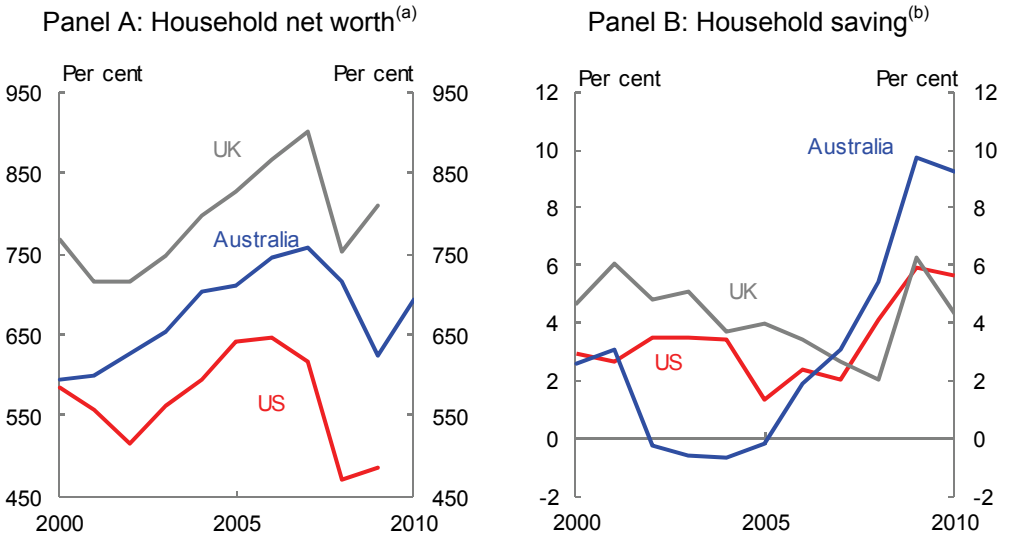
The significant rise in household saving rates and more cautious approach to borrowing likely reflects a combination of factors.[6]

The sharp rise in household saving in 2008-09 was underpinned by a significant fall in consumption, as Australian households responded to the adverse effects of the GFC on wealth, with similar responses seen internationally (Chart 4).[7] In Australia, the GFC resulted in household assets declining around $500 billion by early 2009, with higher saving in 2008-09 helping to offset some of this decline.

The rise in the household saving rate in 2008-09 was underpinned by a temporary boost to the growth in household income, with a significant contribution from the cash transfers paid to households as part of the Government's fiscal stimulus. Treasury's estimate of the economic impact of the fiscal stimulus assumed that part of the cash payments to households would be saved.[8] While the initial increase in the household saving rate is consistent with this analysis, the ongoing elevated rates of saving over the past two years suggest a more fundamental change in household behaviour. These issues are discussed further in Morling and McDonald (2011).

5 The gearing ratio is the value of household debt as a percentage of assets.
6 See Cropp and Thorne 2008 for a related discussion of higher household saving.
7 While household wealth fell significantly in Australia, household income growth was relatively strong in 2008-09. This may partly explain the somewhat larger rise in household saving in Australia.
8 The estimates assumed that 70 per cent of the cash transfers would be spent over the horizon of the 2009-10 Budget forecasts (Gruen 2009).

Chart 4: International comparison of net worth and saving



(a) International data are in calendar years while Australian data are in financial years. Net worth is expressed as a per cent of disposable income.
(b) All data are expressed in calendar years. Saving is expressed as a per cent of disposable income. UK saving is gross, others are net saving.
Source: ABS cat. no. 5204.0 and OECD Economic Outlook.

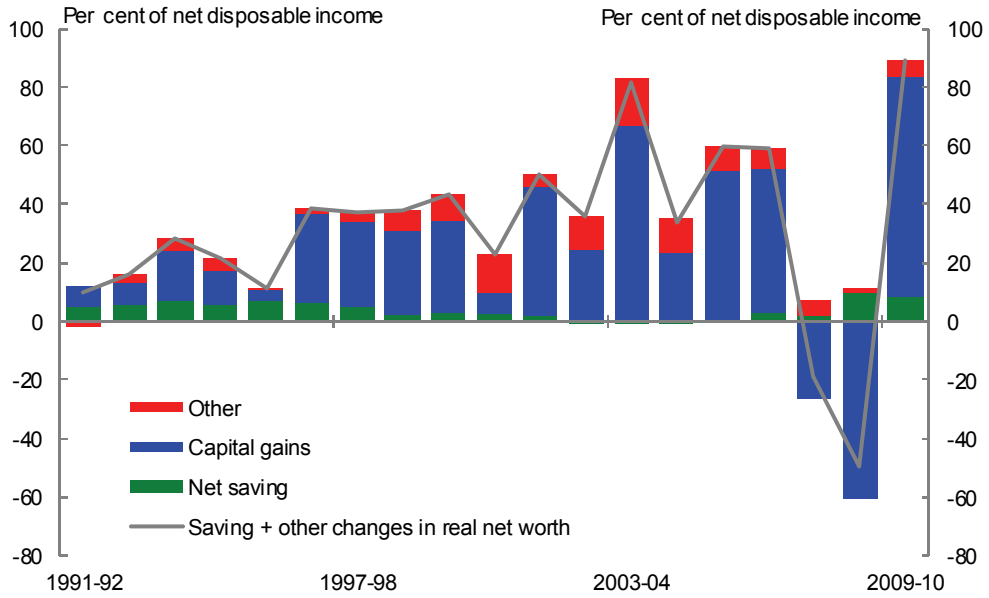
Higher saving rates, a shift towards safer assets and more moderate growth in debt in recent years could also reflect heightened caution among Australian households following the GFC. The damage inflicted on other advanced economies, and the ongoing economic uncertainty, may have highlighted the risks associated with high rates of private sector gearing.

Alternatively, the shift in saving and borrowing in recent years may simply reflect households returning to more normal patterns of behaviour.[9] The low saving rates and high levels of borrowing during the 1990s and early 2000s may have reflected households transitioning to a desired level of debt consistent with the new structure of the economy brought about by the reforms of the 1980s and 1990s, including financial market deregulation and inflation targeting.[10] Among other things, these reforms resulted in strong capital gains in household assets (or increases in expected future

9 A related explanation is that the decline in household saving and its subsequent rebound are a reflection of measurement issues, particularly the exclusion of capital gains from household income (Treasury 1999).
10 These earlier trends were driven by a range of economic reforms and related changes that occurred primarily throughout the 1980s and 1990s, with similar trends occurring in many advanced economies (OECD 2006).

incomes), allowing households to enjoy rising asset values and wealth, even with low rates of saving (Chart 5).

Chart 5: Net saving plus capital gains and losses



Source: ABS cat. no. 5204.0.

Given that these persistently strong capital gains are unlikely to be repeated in the near future, it also seems unlikely that households will revert to the very low saving rates seen in the first half of the 2000s.[11] The latest national accounts and household credit data indicate that households continue to behave more cautiously with their spending and borrowing, with the household saving rate remaining elevated.

That said, it is likely that household sentiment will improve over time, as households begin to feel more secure and the effects of the GFC fade, which may lead to a strengthening in consumption growth and a modest decline in the household saving rate.

11 The equilibrium price of an asset should reflect the present value of the future income stream from the asset. This implies that asset prices on average cannot grow faster than GDP indefinitely. While past asset price growth may be justified by financial deregulation and the reduction in interest rates as low inflation was re-established, these are one–off shifts that cannot be repeated in future.

Implications of higher household saving for the economy

Higher household saving in recent years has already been reflected in the broader macro-economy, including Australia's current account, banking sector funding arrangements and household sector indebtedness. The prospect of sustained higher household saving rates has a range of important implications for the Australian economy.[12]

The current account deficit

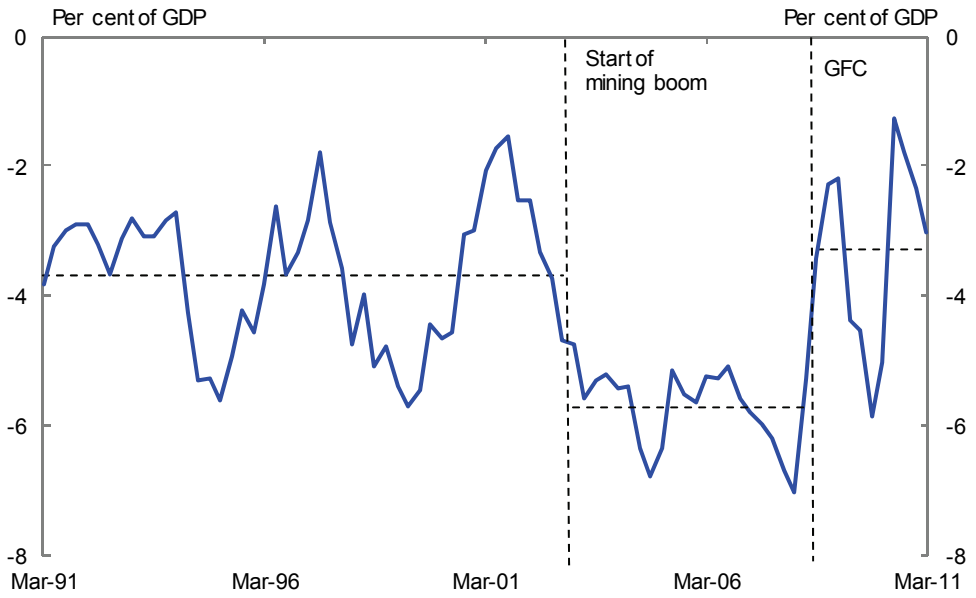
Australia has persistently run a current account deficit (CAD). This reflects high levels of investment that have consistently exceeded national saving, even though Australia's saving rate has been around the OECD average.

The increase in household saving has reduced the impact of the mining boom on the CAD. Large increases in commodity prices, which have pushed the terms of trade to their highest sustained levels in 140 years, have increased profits in the resources sector and led to a surge in mining-related investment. As a result, national investment since the start of the mining boom in 2003 has averaged around 28 per cent of GDP, 3 percentage points higher than its average over the preceding decade.

As the CAD is the difference between a country's gross investment and gross saving, this large increase in investment would have resulted in an increase in the CAD in the absence of a matching increase in saving. Indeed, this is what happened in the initial phase of the mining boom (Chart 6).

12 The 2011-12 Budget forecasts the household saving rate to average 9 per cent over the forecast period.

Chart 6: Current account balance[(a)]

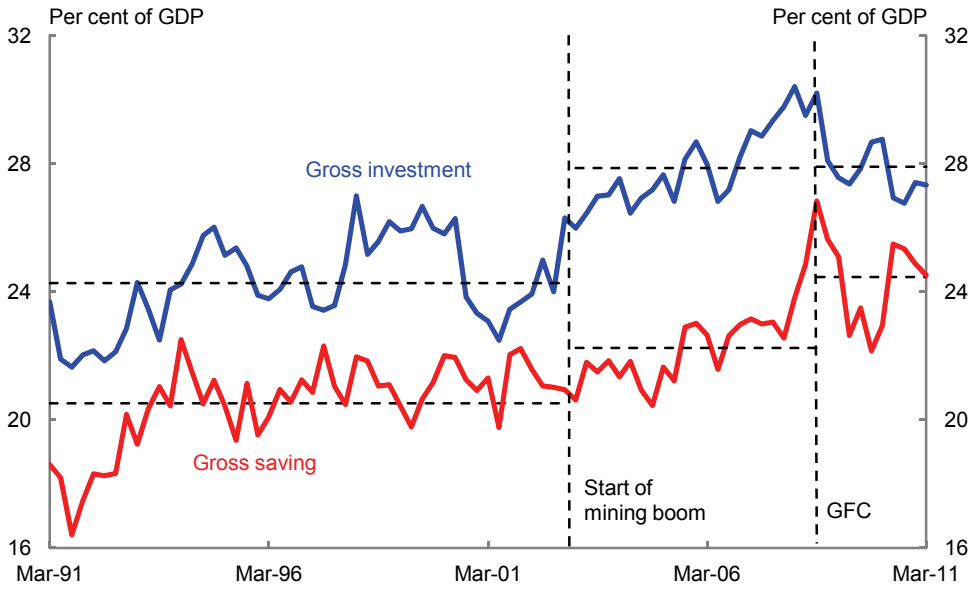


(a) Horizontal dotted lines are averages over the relevant periods.
Source: ABS cat. no. 5206.0.

However, since the GFC Australia's CAD has averaged 3.3 per cent of GDP, which is lower than the pre-mining boom average of 3.7 per cent of GDP, and significantly lower than the average during the mining boom prior to the GFC of 5.7 per cent of GDP.

The narrowing of the CAD has occurred despite a high level of investment, which has fluctuated around its pre-GFC mining boom average of 27.9 per cent, well above its pre-mining boom average of 24.3 per cent (Chart 7). The narrowing has been driven by a large increase in gross saving between these periods, which has increased from 22.2 per cent of GDP to 24.5 per cent of GDP.

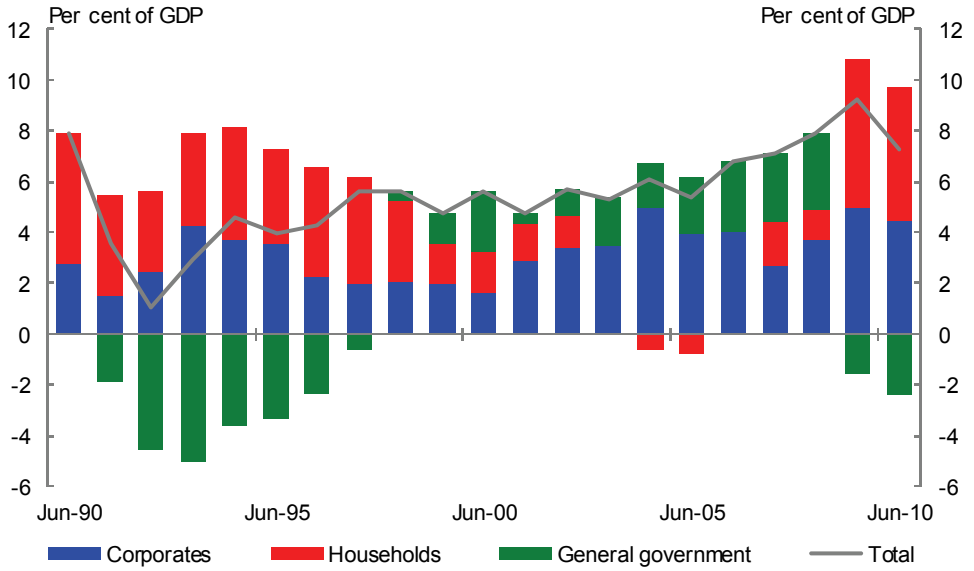
Chart 7: Gross investment and gross saving[(a)]



(a) Horizontal dotted lines are averages over the relevant periods.
Source: ABS cat. no. 5206.0.

Data from the annual national accounts provide a breakdown of national saving by sector, although the latest available data are for 2009-10 (Chart 8). These data show that higher household saving in 2008-09 and 2009-10 made an important contribution to national saving following the GFC. Saving by corporates as a share of GDP also increased in 2008-09, albeit much more modestly, before declining a little in 2009-10, while government saving fell as a result of automatic stabilisers and fiscal stimulus.

Chart 8: Net saving by sector



Source: ABS cat. no. 5204.0.

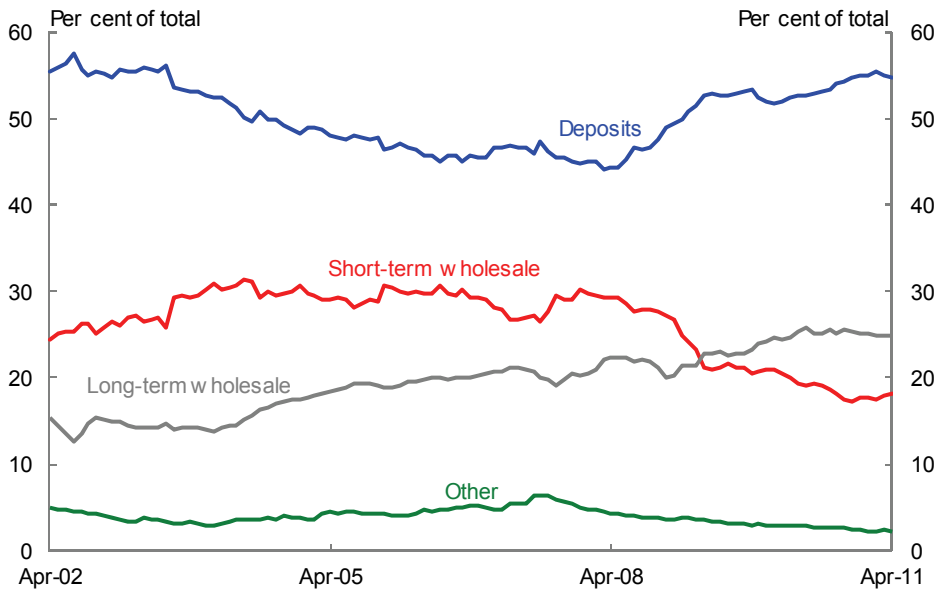
Looking to the future, the 2011-12 Budget forecasts that the current account balance will widen to 5¼ per cent in 2012-13 driven by the expected further increase in investment from the mining boom. While national saving should also remain high, supported by the Government's fiscal consolidation and household saving, it is not expected to rise to match the increases in investment. In the absence of the higher household saving rate, however, the surge in investment would result in a wider CAD.

Bank funding

The rise in the household saving rate and the associated increase in deposits have helped the Australian banking sector move towards a more reliable funding pattern.

The problems that may arise as a result of an over-reliance on short-term wholesale funding were highlighted during the GFC when international and domestic funding markets tightened and banks encountered difficulties when attempting to roll over their short-term debt. As a result of this experience, banks have recently moved away from short-term wholesale funding towards long-term wholesale funding and deposits (Chart 9). This shift has been accompanied by a moderation in household borrowing, which has meant that banks' overall funding needs have been growing at a much slower rate than in the pre-GFC period.

Chart 9: Sources of bank funding



Source: RBA and Australian Prudential Regulation Authority.

Thus, increased household saving, particularly in the form of increased deposits, has helped to increase the resilience of the Australian banking system to disruptions in short-term wholesale funding markets.

Resilience to shocks

As previously shown, the higher saving rate has been associated with slower growth in household debt and a stabilisation in the debt-to-income ratio (Chart 3). This has a range of important implications for the macro-economy.

Where households are highly geared, they are more vulnerable to adverse changes in their circumstances, such as job losses or reduced wages.[13] On the other hand, higher savings provides households with more of a buffer to draw on if needed and, similarly, lower levels of debt are easier to service when finances becomes stressed.

High debt levels also result in greater sensitivity to interest rate changes. In Australia, housing debt accounts for 90 per cent of total household debt, the majority of which is tied to variable interest rates. This means that interest rate increases transmit quickly to households, increasing debt servicing costs and thus reducing the amount of

13 That said, most household debt is held by higher income households that are generally better able to deal with adverse economic shocks. HILDA data show that in 2006 the top two income quintiles held around 80 per cent of total household debt while the bottom quintile held just 3 per cent.

disposable income available for consumption. It should be noted that household sensitivity to interest rates is well understood by the Reserve Bank of Australia (RBA) and considered when setting interest rates.[14]

While the stabilisation of household indebtedness may not last, it is important to consider the impact it has on household financial vulnerability. While debt stabilisation does not reduce vulnerability to the shocks discussed above, it has meant that vulnerability has not continued to rise over recent years.

Household indebtedness

The increase in household saving in recent years has been primarily reflected in a reduction in net borrowing (new loans less repayments on existing loans).[15] It is useful to consider the relationship between the flow of net borrowing and the stock of debt as a share of household gross disposable income (GDI) in order to assess whether current flows are consistent with a continued stable debt-to-income ratio. In a simple framework, household debt evolves according to the following equation:

$$Debt_t = Debt_{t-1}(1+r) + (New\ borrowing_t - Principal\ payments_t) - Interest\ payments_t$$

where r is the interest rate on household debt. Higher household saving can enter through either increased principal payments or reduced new borrowing, resulting in lower household debt accumulation, all else being equal.

After dividing through by GDI and rearranging, the change in the debt-to-income ratio is given by:

$$\Delta \frac{Debt}{GDI} = \left(\frac{r-g}{1+g}\right)\left(\frac{Debt}{GDI}\right)_{t-1} + (Net\ borrowing - Interest\ payments)/GDI$$

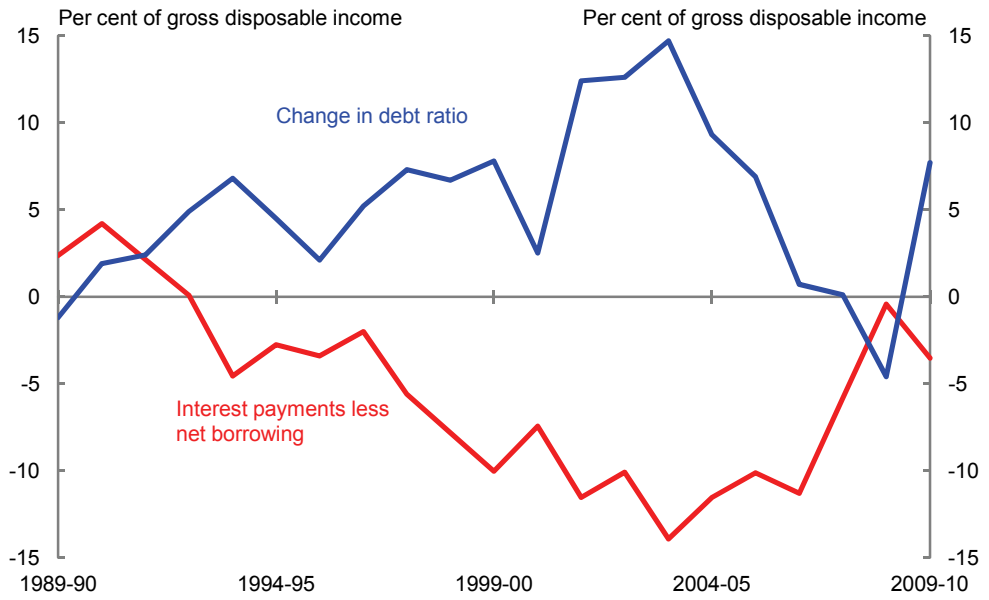
where g is the annual growth rate of GDI. Thus, when the interest rate exceeds growth in GDI (which is normally the case), interest payments must exceed net borrowing in order to stabilise the debt-to-income ratio. For example, consider the case where the difference between r and g is 1½ to 2 percentage points (that is, the average gap since lower inflation was established in the early 1990s). Then, households' interest and principal payments would need to exceed new borrowing by 2 to 3 per cent of gross disposable income each year to stabilise the debt-to-income ratio at around its current level of 155 per cent.

14 See Stevens 2010.

15 Saving equals net investment in fixed assets plus net purchases of financial assets less net borrowing (new borrowing less principal payments). Therefore, higher saving can be reflected in increased net investment, increased net asset purchases, decreased net borrowing, or some combination of these.

Chart 10 shows that household interest payments less net borrowing has been negative since the early 1990s, although it has approached a balanced position in recent years supported by a considerable moderation in net borrowing. This, together with interest rates being below the rate of income growth, saw a stabilisation in the debt-to-income ratio between 2006-07 and 2009-10.

Chart 10: Net borrowing, interest payments and the debt-to-income ratio



Source: RBA and Treasury.

However, as is it unusual for interest rates to remain below growth in GDI for extended periods, it is likely that some further adjustment in net borrowing will be needed to see a sustained stabilisation in the debt-to-income ratio. Such an adjustment would likely require a higher saving rate.[16] That said, given the substantial adjustment in household borrowing that has occurred in recent years, the further adjustment needed to stabilise the debt-to-income ratio is not overly large, and could occur over a number of years.

16 This would need to be in addition to the expected increases in saving from the planned increases in the superannuation guarantee rate, which will lead to an increase in asset purchases, rather than a reduction in net borrowing.

Easing pressure on interest rates and the exchange rate

The rise in the household saving rate means that consumption is lower than it would otherwise be.

To illustrate the macroeconomic impact of this shift in consumption behaviour, it may be useful to consider a counterfactual scenario in which behaviour had not changed. Had the household saving rate remained at its 2004-05 level, and assuming disposable income was unaffected, consumption would have been 11 per cent higher than its current level (equivalent to around 6 per cent of GDP).

Higher consumption in this counterfactual scenario would not have translated into significantly higher GDP growth as the economy is now close to full capacity and was evidently operating above full capacity in the period prior to the GFC. The primary effect of the turnaround in household saving has therefore been to reduce the extent to which interest rates and the exchange rate have needed to rise to maintain macroeconomic balance.

In the context of Australia's mining boom, the rise in household saving, along with the improvement in the government's fiscal position, should be seen as a net positive, as it is providing room for rising investment in the resources sector, helping to moderate price and wage pressures, and alleviating upward pressure on interest rates. However, subdued household spending will present challenges to other sectors of the economy, including the retail and the residential construction sectors.

If the household saving rate stabilises around its current level, consumption will resume growing in line with incomes. In this case, the dampening effect on demand growth would be less than it has been over recent years when the saving rate was rising. Nonetheless, the level of household demand would be lower than if household saving had remained at the low rates seen throughout much of the 2000s.

Conclusion

The 1990s and 2000s saw major changes in the structure of the household sector's balance sheet. Fuelled by a number of structural reforms in the 1980s and 1990s, household indebtedness and gearing rose to unprecedented levels. Over the same period, household saving fell while real net worth rose, primarily as a result of large capital gains.

The saving rate has increased and household indebtedness has broadly stabilised since the mid-2000s, possibly as a result of households reaching their desired levels of gearing after a protracted period of adjustment.

Following the GFC, households increased their saving sharply and shifted from riskier assets such as shares, to safer assets such as deposits.

On the whole, this change in behaviour has assisted macroeconomic management. In particular, without the higher household saving, the CAD would be wider, the banking system's dependence on short-term wholesale funding markets would be greater and there would have been additional upward pressure on interest rates and exchange rates. Increased household saving and debt stabilisation have also reduced households' vulnerability to adverse economic shocks, which has helped to limit macroeconomic vulnerability.

Appendix 1: Key concepts and definitions

Households

- The Australian Bureau of Statistics (ABS) definition of the household sector includes persons, unincorporated businesses and non-profit institutions serving households.[17] The RBA definition of the household sector excludes unincorporated enterprises.

Measures of household saving

- Household saving is not measured directly by the ABS. Instead, gross saving is calculated by deducting household final consumption expenditure from gross disposable income. This indirect measurement and the inaccuracies associated with measuring consumption means that saving data are subject to large revisions and should be interpreted with caution.

- The net saving ratio is calculated using the following formula:

$$Net\ saving\ ratio = \frac{(Gross\ disposable\ income - Depreciation) - Consumption}{Gross\ disposable\ income - Depreciation}$$

- While net saving provides a conceptually more accurate picture of saving, it is dependent upon the method used to calculate depreciation. International variation in the measurement of depreciation results in net saving not being directly comparable across countries. In some cases, it may be better to compare gross saving.

- The national accounts measure of household saving does not take into account capital gains and losses, as these are not considered part of household disposable income. A broader measure of income — and therefore saving — can be constructed based on the idea that income is the maximum amount that a household can consume without reducing its real net worth. To this end, the ABS publishes an 'analytical measure of household saving', which applies this broader definition, incorporating real capital gains (and losses) in addition to conventional net saving from current income.

17 See Treasury 1999 for a discussion on the impact of corporatisation on the national accounts measure of household saving.

Net lending

- Household net lending can be measured in two ways. In the capital account, net lending is gross saving less gross investment. Thus, the household sector is a net lender when it provides funds to other sectors of the economy. Alternatively, in the financial account, net lending is the difference between the household sector's net acquisition of assets and its net incurrences of liabilities (or debt) in a given period. Net lending in the financial account is known also as the *change in financial position*. Conceptually, the capital and financial account measures of net lending should be equal. However, in practice they differ because of errors and omissions associated with their having different data sources.

Financial account

- The financial account records transactions that involve financial assets and liabilities that take place between the different sectors of the Australian economy (for instance, between households and financial corporations) as well as between the sectors of the domestic economy and the rest of the world.

The balance sheet and net worth

- The household sector balance sheet records the end of period value of assets and liabilities. Household net worth (or net wealth) is the excess of household assets over liabilities. The ABS measure of household net worth includes dwelling assets, the capital stock held by unincorporated enterprises, financial assets and financial liabilities.

Links between the balance sheet and flow accounts

- Changes in the values of assets and liabilities between periods can be decomposed into changes stemming from valuation (or price) movements and changes stemming from transaction flows.

- The income, financial and capital (or flow) accounts are linked to each other and the balance sheet through saving and investment flows. When households have income leftover after spending on consumption, fixed assets and depreciation, the resultant saving is reflected in a net acquisition of financial assets or a net reduction in financial debt, or some combination of both:

$$\begin{aligned} Net\ saving\ &= Gross\ fixed\ capital\ investment - depreciation \\ &+ net\ financial\ asset\ acquisitions - net\ incurrence\ of\ liabilities \end{aligned}$$

References

Cropp, J and Thorne, S 2008, 'Household Saving in Australia', *Treasury Economic Roundup,* Issue 4.

Gruen, D 2009, 'The Return of Fiscal Policy', address to the Australian Business Economists Annual Forecasting Conference, 8 December 2009.

Morling, S and McDonald, T 2011, 'The Australian Economy and the Global Downturn – Part 2: The key quarters', *Treasury Economic Roundup,* Current Issue.

OECD 2006, 'Economic Outlook 80', December 2006.

Reserve Bank of Australia 2011, 'Financial Stability Review', March edition.

Stevens, G 2010, 'Opening Statement to House of Representatives Standing Committee on Economics', 19 February 2010.

Treasury 1999, 'The Measurement of Saving in Australia', *Treasury Economic Roundup*, Spring edition.

Treasury 2001, 'The Household Balance Sheet in Australia', *Treasury Economic Roundup,* Spring edition.

Australia 2011: opportunities, challenges and policy responses

Dr Ken Henry, AC[1]
Former Secretary, Australian Treasury

Dr Henry's final speech as secretary, delivered at the 2011 Giblin lecture at the University of Tasmania on 4 March 2011.

1 Dr Henry would like to acknowledge the contribution of former Treasury colleagues Shane Johnson and Tim Wong. The views in this article are those of the author and not necessarily those of the Australian Treasury.

Introduction

Let me start by thanking the University of Tasmania for inviting me to give this lecture, which commemorates a truly outstanding Australian — indeed a truly outstanding Tasmanian.

Lyndhurst Falkiner Giblin (1872-1951) and three of his colleagues (James Brigden, Douglas Copland and Roland Wilson) formed a personal and intellectual bond at the University of Tasmania between 1919 and 1924. This was the group that would later be known as 'Giblin's Platoon' (Coleman, Cornish and Hagger, 2006).

The Platoon was pivotal in the shaping of economic thought and policymaking in Australia.

Their intellectual achievements stimulated, and arguably anticipated, the leading currents in contemporaneous economic thinking — even the likes of a certain John Maynard Keynes.

It was this same Platoon that first introduced the economist to Australian public life, constructing a bridge of public debate between academia and policy making.

And all of them, in their various ways, had a major impact on the Treasury. While Giblin himself spent only a couple of years in the department, he was surely its most influential adviser over a long period including World War II, and he recruited others, including Roland Wilson who went on to become the Treasury's longest serving Secretary. Wilson credited Giblin with the founding of Australian political economy.

Some of Giblin's written works exemplify his legacy.

In 1930, Giblin wrote a series of articles in the *Melbourne Herald* called *Letters to John Smith*. These letters attracted widespread attention, becoming influential in developing a broad understanding of the challenges facing Australia during the Great Depression. In a series of ten letters, Giblin explained, in simple language, the economic issues facing Australia at the start of the Depression and described a pathway by which the country could find its way back to prosperity.

In Giblin's honour (talk about standing on the shoulders of giants!) I will try, in this short address, to outline some of the challenges facing the Australian economy today and make some remarks on our pathway to future prosperity.

At a time of extraordinary upheaval for Australian society, when the fears of mass unemployment, inflation and economic instability gripped the world, Giblin's ability to explain economic issues clearly and simply proved to be of immense value.

Today, we are again going through a period of unusual upheaval in the global economy: a historic transition in economic power from west to east that, having been in progress for a couple of decades, then accelerated abruptly in 2007-08 with the onset of what we call a global financial crisis; a crisis that, more accurately, would have been labelled a Western financial crisis. That crisis hasn't played out fully as yet. Many globally significant financial institutions remain weak and heavily reliant on government support arrangements. And questions are now being asked about the sustainability in several Western countries, not only of those government financed support arrangements, but of government finance itself.

So I'd like to take this opportunity, in delivering the 2011 lecture in Giblin's honour, to take a look at the nature of the economic transformation occurring in Australia in his time, and consider the relevance of the lessons learned then for us today, in another period of economic transformation.

A perspective on Giblin's Australia

It is impossible to do justice, in a 30 minute address, to the mammoth topic of Australia's economic evolution during Giblin's lifetime. We'll have to do with a rough sketch.

Economic advancement — the rise of manufacturing

The three decades prior to the Great Depression that hit Australia from 1929 set the scene for Australia's economic development through the rest of the 20th century.

Despite the interruption, forced adjustments and price instability caused by the Great War, Australia experienced steady population growth; the uptake of new technologies in areas such as automotive engineering and heavy industry; and increasing openness to foreign investment.

Buoyed by those currents, the manufacturing sector was destined to become one of the most significant performers in the Australian economy in the 20th century.

It had been one of the major beneficiaries of the dismantling of interstate tariffs at Federation. Employment in manufacturing expanded rapidly — almost doubling in the first decade of Federation, rising from around 190,000 to 361,000 people by 1910-11 — accounting for more than 20 per cent of total employment.

The dominant categories of manufacturing during this time included the processing of clothing and textiles, metal, wood, food and drink, and agricultural products.

In the two decades that followed, however, that is the teens and the 1920s, manufacturing only broadly held its share of total employment, despite a number of factors that might have been expected to assist it. These factors included:

- the industrial requirements of war;
- isolation from foreign competition afforded by the war;
- heavy tariffs being imposed to nurture and protect an emerging diversity of domestic manufactures;
- improvements in technology and economic infrastructure; and
- the establishment of large automotive plants to meet a burgeoning demand for motor vehicles.

While statistics about production for the early periods of Australia's history should be read with caution, estimates of manufacturing's share of domestic output in those decades would suggest a broadly similar story to that told by the employment numbers.

While manufacturing as a share of GDP doubled between 1866 (six years before Giblin was born) and 1910 — it only broadly held its share over the period between 1925 and 1930.

What was going on?

Economic advancement — moving to 'newer' more advanced manufacturing activities

Drilling down into manufacturing industry detail yields some useful insights.

What was happening within the manufacturing sector was part of a longer term trend — a 20th century gradual 'changing of the guard' if you like.

While manufacturing's share of output and employment did not substantially increase much in the second and third decades of the 20th century, the composition of the sector changed dramatically. Broadly, more advanced manufacturing activities developed at the expense of the more traditional, lower value industries.

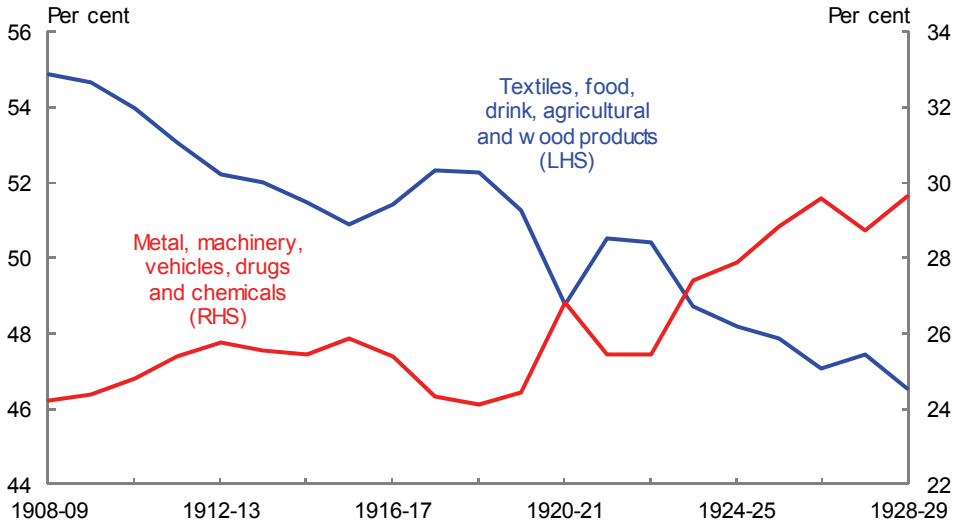
Processing industries that were relatively intensive in manual labour experienced a long-term relative decline. One reason for this was that wage costs facing producers in Australia were very high relative to its trading partners. During the mid-1920s, coincident with a surge in the terms of trade, from trough to peak more than

130 per cent, Australian wages were 50 to 100 per cent higher than those paid to workers in comparable activities in the United Kingdom (Griffen, 1967, p 250). Low skills manufacturing was simply uncompetitive; or, to put it in more technical language, the real exchange rate was too high to accommodate continued expansion of these sorts of manufactures. This may have been an early example of a large terms of trade induced real appreciation affecting the structure of the Australian economy.

On the other hand, more advanced, emerging industries like motor vehicles, metals, engineering, drugs and chemicals, were expanding.

Chart 1 shows employment in selected manufacturing sub industries as a proportion of total employment in manufacturing between 1908 and 1929. Since the second half of the first decade, employment in more traditional activities — the processing of agricultural and pastoral products, clothing and textiles and wood products — recorded a trend decline. In fact, even during the Roaring Twenties, a number of these industries were actually shedding labour, especially those associated with rural exports.

Chart 1: Share of manufacturing 1908-1929



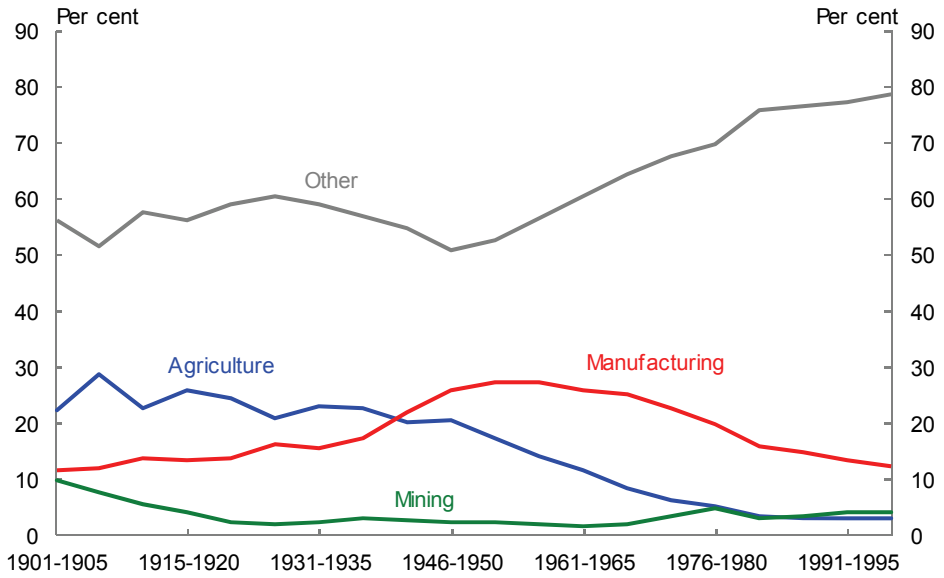
Source: Official yearbook (various years), Commonwealth Bureau of Statistics.

The grey line, on the other hand, represents the 'newer', higher value, industries which took off post war — like motor vehicles, machinery assembly, drugs and chemicals.

While the Great Depression hit these more advanced activities hard, they were the ones that led the recovery and the surge in manufacturing's relative importance in the thirty years following.[2]

Consider the following chart on industry GDP shares over time (Chart 2).

Chart 2: Industry GDP share, 1901-2000



Source: Economic Roundup Centenary Edition, 2001.

Boosted by the heavy production requirements of World War II, the 1940s saw manufacturing overtake the traditionally dominant agriculture sector.

In the 1950s and 60s manufacturing remained buoyant (Sinclair, 1976, pp 211-262), while services provided the engines of growth, with economic growth in these two decades some way above the 20th century average (Commonwealth of Australia, 2001). In contrast, primary industries declined gradually as a share of GDP.

Incidentally, this shift had been keenly anticipated by Giblin and Brigden in the 1930s. Through productivity gains and deregulation rather than protection, it was thought that the relative expansion of the secondary industries would absorb more people, lift employment and drive the recovery (Coleman, Cornish and Hagger, 2006, pp 113-114).

2 For example, industrial metal and machinery shed more than a quarter of its employees in two years.

From Giblin's Australia to the present day

It turns out that the 'changing of the guard' observed in Giblin's time is just one among a large number of historical examples of large scale structural change in the Australian economy. Structurally, this is an economy that has never sat still.

Economic advancement — embracing the trend towards knowledge industries

Just as the more advanced parts of the manufacturing sector overtook primary and lower value industries towards the end of Giblin's life, the second half of the 20th century saw a rise (relative to manufacturing) in the higher productivity, higher value, knowledge based goods and services.

This experience is common to the economic development of virtually all advanced economies over the past half century. The shift towards higher value, including knowledge-based, services has been driven largely by changing tastes and preferences arising from higher incomes, technological change and demographic change.

But the pattern of comparative advantage was also shifting in the second half of the 20th century, as rapidly industrialising Asian nations emerged as labour-abundant competitors.

And the trend toward services persisted, despite the impost of heavy protectionist measures in advanced economies.

There were two key features of Australian protectionism. One was a naïve desire to promote exports, depress imports and shield economies from external fluctuations. This was an argument primarily mercantilist in nature: a protective wall comprised of tariffs, import controls and other regulatory features was considered necessary in order to grow an Australian manufacturing industry and protect the economy from swings in commodity markets.[3]

The second feature of Australian protectionism arose from a far more considered exposition of trade theory. The Brigden enquiry, 'The Australian Tariff: An Economic Enquiry', was prepared by Brigden, Copland, Dyason, Giblin and Wickens at the request of Prime Minister Bruce (Brigden et al., 1929). The report alluded to many of the insights of trade theory that were popularised subsequently by the Hecksher-Ohlin-Samuelson trade model and, in particular, it foreshadowed the key results of the celebrated Stolper-Samuelson theorem.

3 Volatility in global capital markets was also a concern of economists and the broader public.

The report had three key conclusions: tariffs have costs that can outweigh the benefits; real wages are not necessarily higher under free trade; and the available evidence doesn't allow a more precise statement on either of these two effects.

Today we understand that the imposition of a tariff can increase the real (producer) wage if the import-competing sector of the economy is relatively labour-intensive. This is the standard Stolper-Samuelson result established in 1941. One can imagine the power of the theorem in the early 1950s with movements in the terms of trade advantaging capital-intensive exports, and a concern that slower real wages growth would undermine the pursuit of rising living standards.

In fact, protectionist measures proved unsuccessful in holding back the tide of economic development. It seems likely that they simply shifted the pain of adjustment to those workers and businesses not shielded from foreign competition and hurt consumers generally.

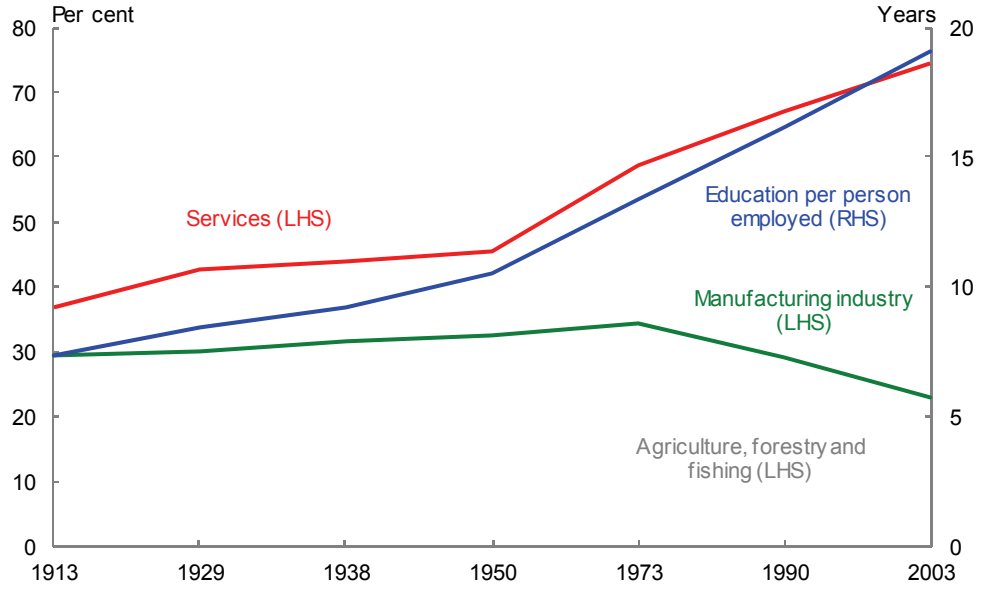
Today, the services sector — capturing many of the new knowledge-based activities, including information and communications, professional, health, finance and scientific services as well as more traditional services like retail, hospitality and tourism — has risen to almost 80 per cent of total Australian output and employment.

Manufacturing, which peaked mid-century, has since declined over time as a share of GDP to a level similar to that at Federation.

This trend is typical of the advanced economies against which we usually compare ourselves.

Chart 3 compares employment shares by industry for the United States, the United Kingdom and Japan against education per person employed.

Chart 3: Employment share by industry and overall education level



Source: Maddison, 2007.

As those employed in services tend to have a higher incidence of post-school qualifications than other sectors, it is not surprising that the services industries have expanded with improvements in education levels.[4]

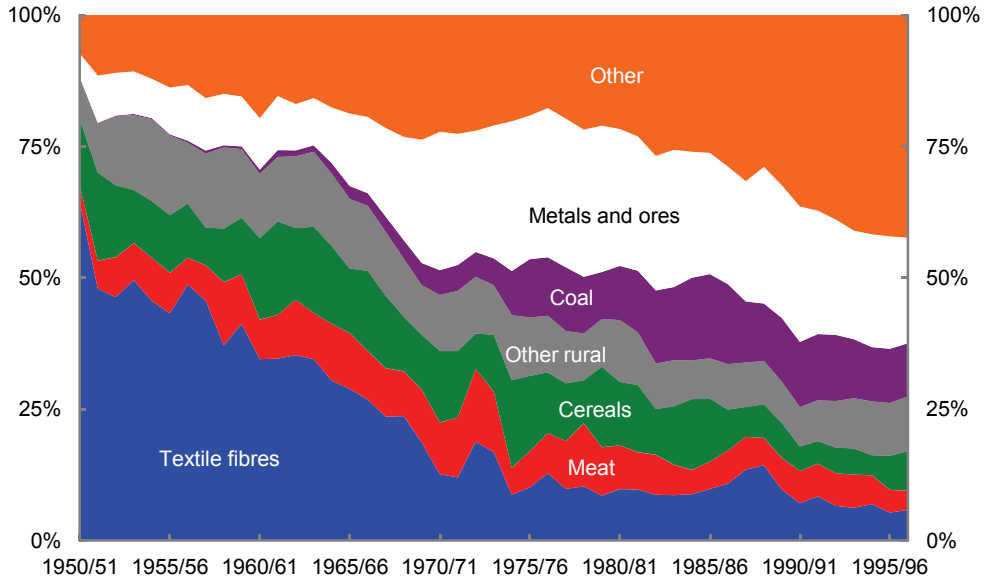
In these countries, primary and manufacturing industries, on the other hand, have declined in relative importance in the latter half of the century — following a similar trend to that seen in Australia.

At the risk of gross over-generalisation, it seems fair to say that trends in industrial structure tend to be of long duration and fairly immune to policy intervention — with the probable exception of those policies that affect rates of factor accumulation, including policies affecting education and training, immigration and levels of capital investment.

While our industrial structure has shown a marked trend decline in manufacturing and agriculture post-World War II, with flat mining output, trends in export shares have been very different. In the 1950s commodities made up more than 85 per cent of goods exports. Textile fibres — which is predominantly wool — alone represented nearly 50 per cent of goods exports (Chart 4).

4 For the services sector in Australia, 62 per cent of those employed in services between the age of 15 and 74 have some form of post school qualification in 2010. On the other hand, 54 per cent of those employed in manufacturing, agriculture and mining have post school qualifications. (ABS cat. no. 6227.0).

Chart 4: Share of goods exports



Source: Australian Economic Statistics, RBA.

Of course, the large share of resources in Australian exports in the second half of the 20th century reflected our natural endowments. But it was an export performance tied also to the post-war reconstruction and rapid industrialisation of Japan.

The Japanese post-war industrial expansion contributed to strong terms of trade in Australia, and these were taken to extraordinarily high levels in 1951 with the Korean War surge in demand for woollen military uniforms. Asian growth is once again having a pronounced impact on our terms of trade — a matter to which I will return in a moment.

The Australia in which Giblin lived embraced the emerging technologies and industries of his day — the world of motor vehicles, chemicals, pharmaceuticals, engineering and metal industries. Today, there is a case for embracing the emerging technologies and industrial opportunities of the 21st century.

Technology improvements, particularly in information and communications, will continue to transform the way we do business and the way we live. And they will transform the structure of the national economy — just as the manufacturing sector transformed the economy in the first half of the 20th century.

Technological advancement has opened up new sets of opportunity.

It will continue to bring new and innovative goods and services into the marketplace, giving Australian consumers expanded opportunities and more choice. For producers too there is the promise of expanded opportunity, with new technologies offering opportunities to secure productivity gains through innovation and adaptation.

Those opportunities can be expanded with policies that support flexible education systems; protect financial systems; and reform to taxation systems to facilitate more rapid rates of physical capital renewal and accumulation and a more productive allocation of the capital stock.

Such policy prescriptions would have force in all advanced economies, in which the strongest growth sectors are likely, increasingly, to be knowledge-based industries. But there are features of the Australian economy that distinguish it from most other advanced economies, in which the factors of production are, themselves, largely produced — whether it be manufactured capital equipment or skilled labour 'produced' from unskilled labour in the education sector. Our factor endowments include substantial natural resources. And that peculiarity sets us apart in important ways. Most significantly, it means that we view the re-emergence of the Asian giants quite differently.

The re-emergence of Asia

On numerous other occasions I have spoken extensively about the implications for Australia of the re-emergence of China and India. I will keep it brief today.

The mining boom

The re-emergence of China and India has created a rapidly growing demand for energy and mineral commodities. Global supply of these commodities has expanded rapidly, with some of these doubling in the past decade. Even so, it has not been able to keep pace with demand, and prices have sky rocketed.

In addition, growth in the manufacturing sectors of China has led to an increased global supply of low cost manufactures.

With increases in the prices of the commodities we export and falling prices of manufactures that we import, Australia's terms of trade have improved significantly.

Improved terms of trade increase real national income. Specifically, the purchasing power of exports increases.

The Governor of the Reserve Bank put it quite nicely recently — five years ago, a ship load of iron ore was worth about the same as about 2,200 flat screen television sets.

Today it is worth about 22,000 flat-screen TV sets — partly due to TV prices falling but more due to the price of iron ore rising by a factor of six (Stevens, 2010).

Australia, as a net exporter of resource commodities and a net importer of manufactured goods, is in a prime position to benefit from China's development.

At some point, growth in the global extraction of commodities like coal and iron ore should start to outweigh continued strong growth in global demand, driving down prices. But nobody knows when, or by how much.

My view is that a reasonable case can be made for considering that the terms of trade will remain significantly higher, on average, over the coming decade or two than they were before the start of the mining boom.

The boom has contributed to a strong exchange rate and has drawn labour and capital into the mining and related construction sectors. Both of these effects have placed significant pressure on other sectors of the economy, especially other trade-exposed sectors like tourism and manufacturing.

Over the past decade, jobs in mining and construction have almost doubled, from around 750,000 to around 1.3 million. Employment growth in mining has grown by 8.6 per cent a year for the past five years, compared with 2.4 per cent across the non-mining economy. Even so, most of the growth in employment has been in construction rather than mining per se. Over the same period, manufacturing has lost roughly 50,000 jobs, down to around one million people employed; its share of the workforce dropping from 12 to 9 per cent.

The mining boom seems to have accelerated a long-term adjustment away from manufacturing. But it would be a serious mistake to forecast the death of Australian manufacturing. That industry has a track record of remarkable resilience and adaptability — just as agriculture adapted to industrialisation and changes in global markets in the 20th century.

As Australia's tariff barriers came down in the 1980s and early 1990s, our manufacturing sector successfully shifted its focus away from products in direct competition with low cost producers, to higher value-add manufactures.

More recently, manufactures for the domestic resources and construction sectors have grown strongly. A substantial decline in output for industries like textiles, clothing, wood and paper products has, to some extent, been offset by a shift into manufactures related to mining and construction. This trend might be expected to continue for some time.

A burgeoning Asian middle class

The mining boom is the most remarkable consequence for Australia of the rapid growth of China and India. Many commentators, in Australia and elsewhere, have expressed concern about our economy appearing to be so heavily dependent upon continued Chinese demand for our natural resources. What happens when Chinese growth slows down or, even worse, collapses as Japanese growth did at the end of the 1980s? What happens when global extraction of mineral resources catches up with Chinese demand and commodity prices collapse? And what if, when these things happen, we find that we have 'hollowed out' our manufacturing sector and have nothing to fall back on?

These are understandable, if somewhat bleak concerns. But I would suggest that they are exaggerated. Indeed, there is instead a strong case for optimism.

At the end of the 1980s, Japan was our largest trading partner. After 20 years of poor macroeconomic performance, characterised by several recessions, Japan remains our second most important export destination — only very slightly less important than China, despite that country's stellar economic performance. For the Australian economy, Japan remains a very big market, even when it is growing slowly. A weakly growing Chinese economy would present an even larger market than Japan.

A second observation is that, given the very long term trends in industrial structure that we have already observed in the past half century — with services growing strongly as a proportion of total employment and manufacturing employment falling from about one-third of the labour force to less than 10 per cent today — it is a bit odd to be referring to this as a China-induced 'hollowing out' of manufacturing.

A third observation goes back to the points I was making at the start of this address, concerning the consequences for industrial structures of real incomes growth associated with economic development. Today, we see China as a manufacturing powerhouse, reliant upon raw materials that we happen to have in abundance. But, at the Chinese economy develops, its industrial structure will also change. It won't become a smaller producer in manufactures in absolute terms. Indeed, Chinese manufacturing output will probably grow at least as fast as the Australian economy grows for as long as any of us can project. But other sectors of the Chinese economy will grow even faster, in time. As with all other stories of economic development, real income growth and the emergence of a large middle class will generate a demand for an almost endless variety of goods and services. What sorts of goods and services? Who knows? It could be premium tourism, it could be fine wine, financial services or it could be some other good or service not yet invented.

At other times in our history we have witnessed some of the opportunities that income growth in emerging markets presents for Australian exporters.

Consider tourism services, for example, and the strong Japanese demand that drove its development. With increased demand for tourism services from emerging markets, there is considerable potential to attract a greater share of increasingly wealthy travellers to Australia for business tourism, holiday packages and to visit family and friends.

According to the United Nations World Tourism Organisation, the number of international tourist arrivals globally reached 935 million in 2010. That's an increase of 58 million, or seven per cent, from 2009. Emerging economies continue to drive global outbound tourism expenditure growth — for example, 17 per cent for China in 2010 — outstripping growth in traditional markets like Japan, the United States, Germany and the United Kingdom.

Australian tourism stands to benefit from these global developments.

We have also already seen a greater appetite for particular goods produced by Australian exporters. For example, while Australia's largest wine export markets continue to be the United States and the United Kingdom — and while there is currently pressure on this industry from the high exchange rate — wine exports to China have grown strongly, increasing from 1.9 per cent of total wine exports in 2007-08 to 6.1 per cent in 2009-10.

A sensible way forward

None of us knows with certainty for how long this mining boom will last. Nor do we know precisely what will be the shape of the global demand for Australian goods and services when it ceases. So it should be no surprise that economists have difficulty describing in any detail the industrial structure that will maximise economic opportunity for Australians in the world of the future.

One thing we can be certain of, however, is that it will not be the industrial structure we have today, nor any drawn from our history. In the world of the future there will be no benefit to be drawn from turning back the clock.

Don't turn back the clock

Today's economy has responded much better to the mining boom than it did during any previous terms of trade spike. Three settings in particular have contributed to our flexibility and our ability to respond to the boom.

First, a flexible exchange rate has done a better job of curbing demand and price pressures.

Secondly, while Giblin addressed the problem of inflexible wages, including in his *Letters to John Smith*, three-quarters of a century later, a significantly more flexible labour market has helped facilitate a reallocation of labour among sectors of the economy while avoiding economically damaging aggregate wage adjustments.[5]

Thirdly, that sectoral reallocation of labour has been made easier by more open and flexible product markets nurtured by the dismantling of trade protection, deregulation of utilities and other components of the economic infrastructure, and the development of a sophisticated domestic competition policy.

It is important that there be no temptation to wind back the clock on the reforms that have helped get us where we are today.

Just as importantly, we should not allow ourselves to think that all the necessary reforms have been done. Giblin's Platoon understood the risks of complacency in their day. They were not carried away by roaring twenties euphoria. And with good reason. The Australia of the 1920s was overregulated and underproductive. As Brigden had said on a number of occasions:

> The conditions of high tariffs, heavy borrowing overseas, and high standards of living are not conducive to enterprise or efficiency ... People of all classes seemed to expect the Government not only spend for them but to think for them. (Coleman, Cornish and Hagger 2006, p 110)

In fact, Australia had not roared at all in the twenties. Rather, the 1920s were one of four decades in the 20th century to have had average annual GDP growth below that of the century average — along with the teens (which experienced the Great War), the thirties (which had the Depression) and the seventies (Commonwealth of Australia, 2001).

Reforms to facilitate a more flexible economy — an ongoing task

Today, I sign off after a decade as Treasury Secretary. In my last public address in that capacity, you might have expected me to be a little reflective. Yet I have chosen to look ahead to the economic landscape upon which future Treasury Secretaries will be developing policy advice for Australian governments. With those successors and future governments in mind, there is one reflection I will leave with you.

5 See for example, his Letter to John Smith and the so called 'First Manifesto' (Coleman, Cornish, and Hagger, 2006, p 112).

It is a reflection on political economy — of just the sort that pre-occupied Giblin in his day.

The hardest part of this job has not been figuring out what the 'right answer' to a policy problem actually was. I hope you won't dismiss as arrogance a reflection that, for a Treasury equipped with robust analytical frameworks, good evidence and capable of exercising sensible judgment, even very complex policy questions have, for the most part, proved tractable.

Thinking about present and future challenges, the 'right answers' for Australia today include: maintaining fiscal policy settings that lift national saving, including private saving, over time; pursuing further micro-economic reform, including tax reform, encouraging competition and improvements in education and health policies, to expand the nation's supply capacity by lifting participation and productivity and to promote economic flexibility; and constructing policy settings relevant to population that support an expansion of the nation's supply capacity, but in a socially and environmentally sustainable way.

On numerous other occasions I have detailed the reforms, in the areas of participation, productivity and population that could be pursued to lift supply capacity. I don't intend reprising those here. I do want to say, however, that most of them would do more than boost aggregate supply potential. Many would make a direct contribution to tackling the extreme capability deprivation suffered by many Australians, especially Indigenous Australians, and would deal also with the considerable forces that continue to threaten environmental sustainability on this vast land mass of extraordinary biodiversity.

Like Giblin, I think we do know what needs to be done. What we don't understand so well is how to get it done.

Right through the 1980s Australian policy makers, haunted by another deep recession attributable to policy failure over many decades, found themselves on a burning platform. With high inflation and high unemployment, and another negative terms of trade shock that threatened a further hit to living standards, the imperative for action was broadly understood and accepted. I'm not saying it was easy. It wasn't. And accounts of that period that would have you believe that it was not politically contentious — and I've seen more and more of these accounts popping up in recent years — are simply wrong. But the circumstances were so confronting that action was inevitable.

Today we find ourselves having avoided a recession that paralysed the rest of the developed world. We have low inflation, low unemployment, and a terms of trade

boom that has, to date, boosted average living standards. How does one, today, communicate the imperative for action? That is the question.

And the answer? Well, that is for you to figure out. To borrow from the man we honour today, Lyndhurst Giblin, in a letter to the prominent English novelist, E.M.Forster:

> For God's sake, don't feel that [this] demands [my] answer. It is enough to have got it off my chest.

References

Australian Bureau of Statistics 2000, *Education and Work*, Australia, cat. no. 6227.0, ABS, Canberra.

Brigden, JB, Copland, DB, Dyason, EC, Giblin, LB and Wickens, CH 1929, *The Australian Tariff: an Economic Inquiry*, Melbourne University Press: Melbourne.

Coleman, W, Cornish, S and Hagger, A 2006, *Giblin's Platoon*, Australian National University. http://epress.anu.edu.au/gp/pdf/gp_whole.pdf

Commonwealth of Australia 2001, *Economic Roundup Centenary Edition*, Canberra.

Griffen, J (ed.) 1967, *Essays in Economic History of Australia*, Jacaranda Wiley, Melbourne.

Maddison, A 2007, *Contours of the World Economy 1-2030AD*, Oxford University Press: Oxford.

Sinclair, WA 1976, *The Process of Economic Development in Australia*, Cheshire Publishing Ltd, Melbourne.

Stevens, G 2010, 'The Challenge of Prosperity,' address to the Committee for Economic Development of Australia Annual Dinner, Melbourne, 29 November.

United Nations World Tourism Organisation 2011, *UNTWO World Tourism Barometer*, United Nations.

Opportunities, challenges and implications for policy

Dr Martin Parkinson, PSM[1]
Secretary, Australian Treasury

Dr Parkinson's first speech as secretary was the annual post-Budget address delivered to the conference of Australian Business Economists at the Westin Hotel, delivered on 17 May 2011 in Sydney.

Dr Parkinson commenced as Treasury Secretary in March 2011. He previously served as Secretary of the Department of Climate Change and Energy Efficiency, after serving as Deputy Secretary in the Department of Prime Minister and Cabinet and the Treasury. Since beginning his career at the Treasury in 1980, he has worked in a range of areas including taxation policy, labour market and structural reform, and macroeconomic policy and forecasting. He has also worked at the International Monetary Fund, and in the early 1990s served as Senior Adviser to Treasurer Dawkins. Dr Parkinson holds a Ph.D from Princeton University, a M.Ec from the Australian National University and a B.Ec (Hons) from the University of Adelaide.

1 Dr Parkinson would like to acknowledge the contribution of Treasury colleagues James Kelly and Shane Johnson. The views in this article are those of the author and not necessarily those of the Australian Treasury.

Introduction

Thank you for the invitation to address you today. I think it was Ted Evans, who first started the tradition of the Secretary to the Treasury speaking to the Australian Business Economists in a post Budget address — and it is a tradition I am happy to continue.

Today I would like to discuss some of the challenges confronted in framing the Budget released last week, a Budget heavily influenced by the fact that Australia is an economy in transition. In particular, I will address three issues that have shaped the pre- and post-Budget debate:

- that the Budget should have delivered faster fiscal consolidation, based on a particular view of the structural budget position;
- the influence of China, and other emerging economies, on Australia's future prospects; and
- the importance of participation and productivity in smoothing the transition we confront.

But before I get into that, let me provide a little context. As is evident, Australia has emerged from the global financial crisis (GFC) with low unemployment, solid economic growth, a stable and profitable financial system, and low levels of government debt — this is unique among the major advanced economies.

Moreover, the medium-term outlook for the Australian economy is strong.

The GFC resulted in the deepest global recession in 75 years. Australian financial conditions were stressed, but our financial system remained resilient. The economy slowed, but we avoided the sustained rise in unemployment that destroys human capital and opportunity, and condemns people to long-run poverty. Indeed, while the world as a whole lost around 30 million jobs, Australia created over 700,000.

The Australian economy dodged a bullet and we did so because of 25 years of hard, and not necessarily popular, economic reform, combined with rapid, fast-acting stimulus provided during the crisis.

Australian governments from the mid-1980s onwards recognised the need to transform our economy. They prosecuted the case for microeconomic and structural policy reforms that were crucial in increasing the economy's capacity to ride out a severe external shock. They put in place robust monetary policy frameworks. And they demonstrated the resolve needed to bring deficit budgets back into surplus, and

committed themselves to increasingly well-articulated medium-term frameworks for fiscal policy.

We continue to get the payoffs from these reforms today.

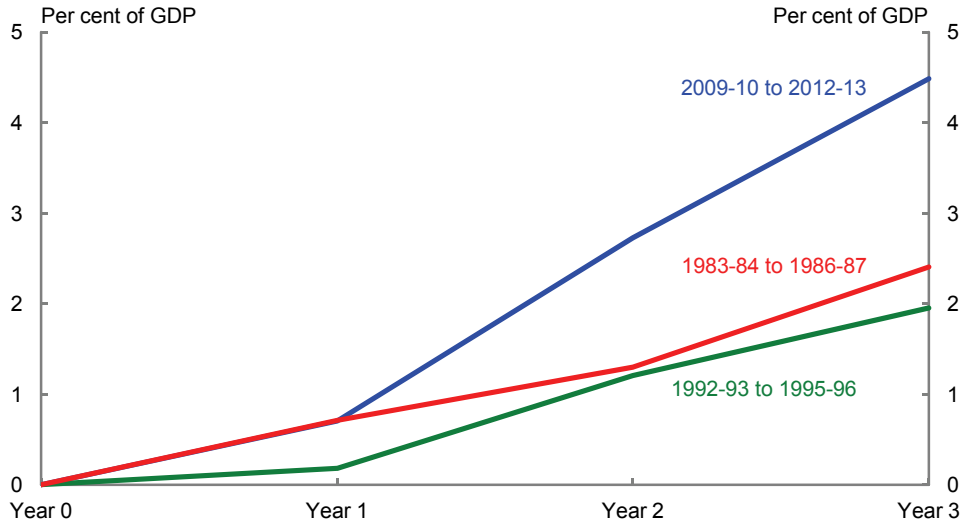
But these reforms alone would not have saved us from more severe impacts of the GFC. These sound policy frameworks had to be supplemented by rapid and effective countercyclical policies which, in the case of fiscal policy, we estimate avoided the loss of around 200,000 jobs during the GFC.

Sensible, forward looking qualities have served us well for 25 years.

And while it is now time to bring the Budget back to surplus, that also needs to be done in a sensible, forward looking, fashion.

As the Budget indicates, the proposed fiscal consolidation between 2010-11 and 2012-13 amounts to almost 4 per cent of GDP — the fastest consolidation in the 40 plus years for which comparable data is available (Chart 1).

Chart 1: Australian fiscal consolidations



Source: Treasury.

And this is occurring against the backdrop of a patchy growth performance across different regions and different sectors of our economy, and a number of ongoing risks relating to global economic and financial fragility.

Sovereign debt problems continue in Europe. Market concerns over the sustainability of the debt burden remain, with the potential for contagion to the European banking sector being especially problematic.

At the same time uncertainty remains around the ultimate form of fiscal consolidation in the United States and, hence, of that economy's long-term growth prospects.

Failure to effectively deal with these two key problems threatens global growth prospects over all time horizons.

The short-term risks to Australia from the continued expansion of China, India and other emerging market economies relate to a tightening of a very different kind.

As noted in the Budget papers, a number of these economies face rising inflationary pressures. There is an inconsistency between the monetary policies some are pursuing and those that they need for sustained balanced growth.

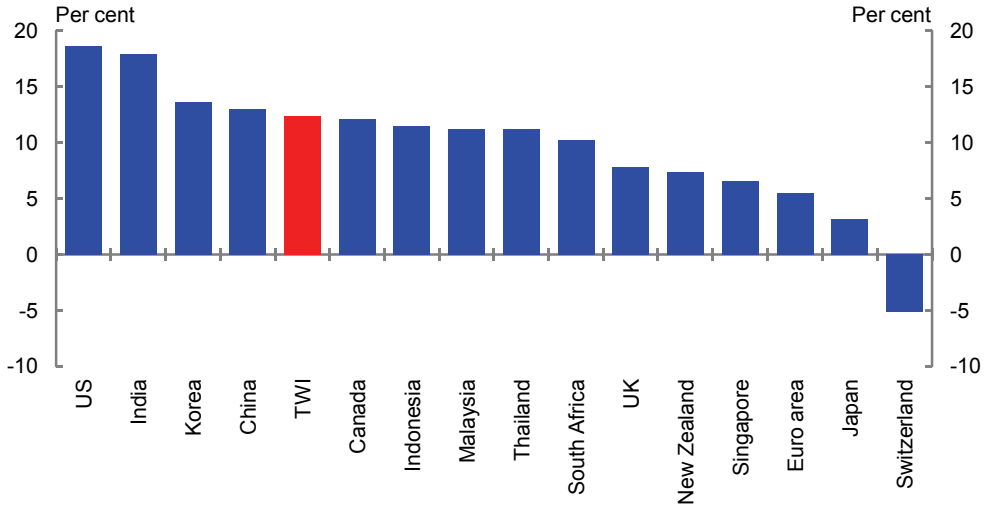
In the case where exchange rates are being artificially repressed by some formal or informal link to the US dollar, these countries are importing monetary policy designed for an economy with subdued core inflation, a close to double digit unemployment rate, and where private demand is not yet self-sustaining. Yet emerging market economies are characterised by declining spare capacity, strong GDP growth and rising incomes.

As we know, global rebalancing requires changes to real exchange rates — and if the nominal exchange rate is repressed, then the competitiveness adjustments will be delivered through inflation in the high growth economies.

Unfortunately, the path being pursued is dislocative for the rest of the world, including Australia.

In a world of US dollar weakness, the Chinese renminbi is falling almost as fast against the Australian dollar as is the US dollar (Chart 2).

Chart 2: Australian dollar against selected TWI currencies



Source: Bloomberg.

China's approach to monetary policy is a source of global inflationary pressure but, more directly for us, raises the risk of action to restrain inflationary pressures in ways that impact on our export sectors. More generally, the macroeconomic challenges are becoming more, not less, complex for China with clear implications for Australia and the rest of the world. In short, volatility in China's future growth path cannot be ruled out.

So while we have a downside risk to our forecasts from more rapid global supply responses for our key export commodities, we also face the possibility of policy missteps beyond our influence.

But these are risks. And in the case of China, these are short-term risks around a positive long-term outlook.

Our central scenario, outlined in the Budget, is one of solid medium-term growth for Australia.

Framing the 2011-12 Budget

In addition to these global risks, this year's Budget was framed against the backdrop of some significant domestic challenges:

- more subdued economic conditions and outlook over the short-term;
- the legacy of the global financial crisis — particularly its impact on tax receipts;

- the beginning of Mining Boom Mark II, which is significantly different to Mark I; and

- a series of longer-term opportunities and challenges that will have a significant impact on the shape of Australia.[2]

Differing perspectives on these factors have influenced the reception to the Budget, so let me return to the three issues that I mentioned earlier.

Structural Balance — position of the Budget given the terms of trade

There has been some criticism of the Government's fiscal strategy based on various views of the structural position of the Budget.

In short, the argument is that given the historically high level of the terms of trade, and with the economy approaching full employment, we should already be in surplus.

While I understand where people are coming from, this is, in my view, an overly simplistic understanding of the limitations of estimates of the structural balance.

History of the Treasury's view

As you know, the Treasury has a long record of scepticism of structural balance estimates.

While conceptually appealing, such estimates are not sufficiently precise or robust to be used as an operational rule. Indeed, the key take-out message is that the relationship between government revenue and the level/value of economic activity can vary significantly over time — and that the complexity of that relationship is beyond the scope of structural balance estimates to capture.

That said, Treasury estimates of the structural budget balance were published in the 2009-10 Budget, and in a more detailed technical paper released last year.

Against that background, I would like to explore the proper application of the structural balance concept for assessing the appropriateness of fiscal policy because, while the estimates have been quoted widely, the caveats on their lack of precision have not.

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2 Key among the longer-term opportunities and challenges are: the consequences of population ageing, the continuing ICT revolution, a global economic transformation resulting in changing geo-strategic and geo-economic weight and the need to seriously address environmental sustainability and pockets of entrenched social disadvantage.

Indeed, this excessive focus on point estimates has been at the heart of our long standing concern about publishing estimates of this kind.

To recap, there are two broad sets of issues with structural balance estimates.

Firstly, the difficulty in abstracting from the effects of the economic cycle to estimate the potential or structural level of economic activity.

In particular, we have long noted the difficulty in estimating the output gap in real time. As the UK has found following the GFC, estimates of potential output can change quickly — and when they do so, a structural surplus can turn rapidly into a structural deficit.

More recently, the much more important issue has been the difficulty of knowing the 'structural' level of the terms of trade.

The paper released last year included a detailed sensitivity analysis of the impact of different assumptions of the 'structural' terms of trade. What this says is that there is a range of plausible assumptions and different values that give very different results.

Exactly this point was made in the 2009-10 Budget papers.

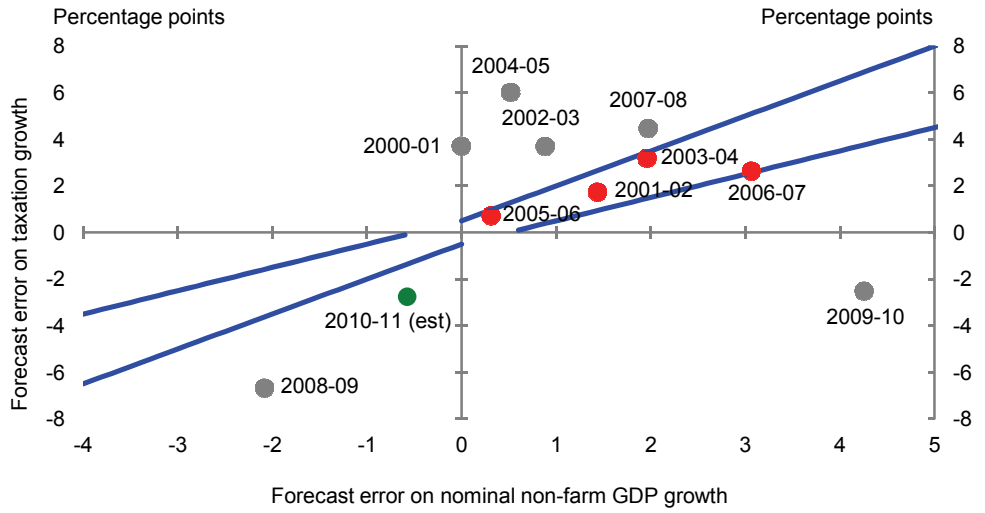
Unfortunately, this sensitivity analysis is ignored in most public commentary on this issue — but it is fundamental to both the structural balance estimates and the policy conclusions that can reasonably follow from them.

This would be understandable if it was from people who did not understand the importance of sensitivity analysis — but curiously, this glossing over comes from many of the same people who also criticise the budget papers for not including more sensitivity analysis.

A second set of concerns with these estimates is that they necessarily make significant simplifying assumptions about the relationship between the state of the economy and government revenue.

In particular, they necessarily assume that this relationship is constant into the future. However, as this chart from Budget Statement 5 shows, that assumption is not necessarily a safe one (Chart 3).

Chart 3: Budget forecast errors on nominal non-farm GDP growth and taxation revenue growth (excluding GST)



Source: Treasury.

Broadly, points below the dotted range represent forecasts of tax revenue growth that were too high, given the economic growth forecasts, and points above the range represent forecasts of tax revenue growth that were too low, given the economic growth forecasts.

For example, in 2002-03 nominal GDP growth turned out to be around ¾ of a percentage point higher than forecast but growth in tax revenue was almost 4 percentage points higher than forecast. This is higher than the around 1 percentage point error that the rule of thumb suggests should be theoretically associated with an economic forecasting error of that magnitude.

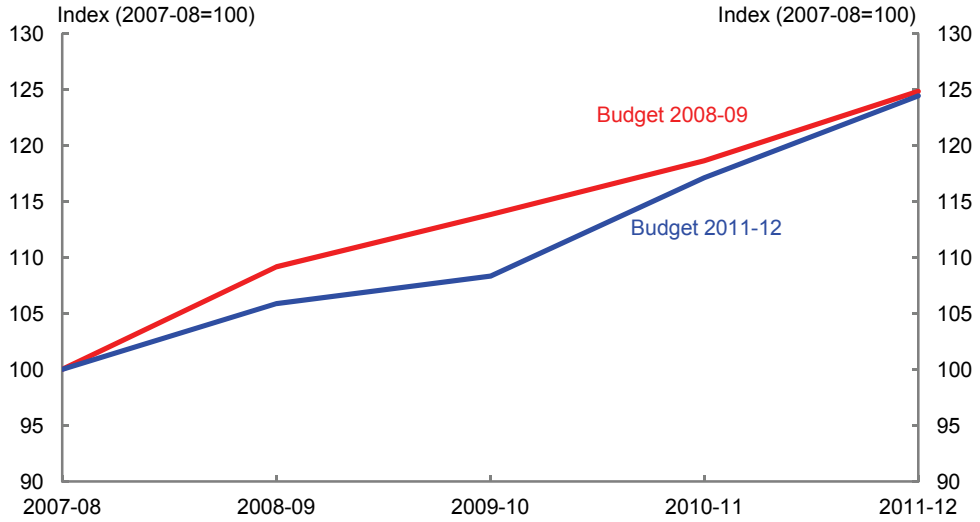
In recent years, errors in tax revenue estimates have been significantly affected by the GFC, particularly with regard to capital gains tax and the utilisation of both operating and capital losses.

So, to reiterate, the relationship between government revenue and the level/value of economic activity can vary significantly over time — and the complexity of this relationship is beyond the scope of structural balance estimates to capture.

As an aside, the chart also reinforces that the Treasury's forecasts have tended to be somewhat conservative.

Chart 4 maps the projections for nominal GDP at the time of the 2008-09 Budget with the estimates in the current Budget.

Chart 4: Differences in nominal GDP estimates

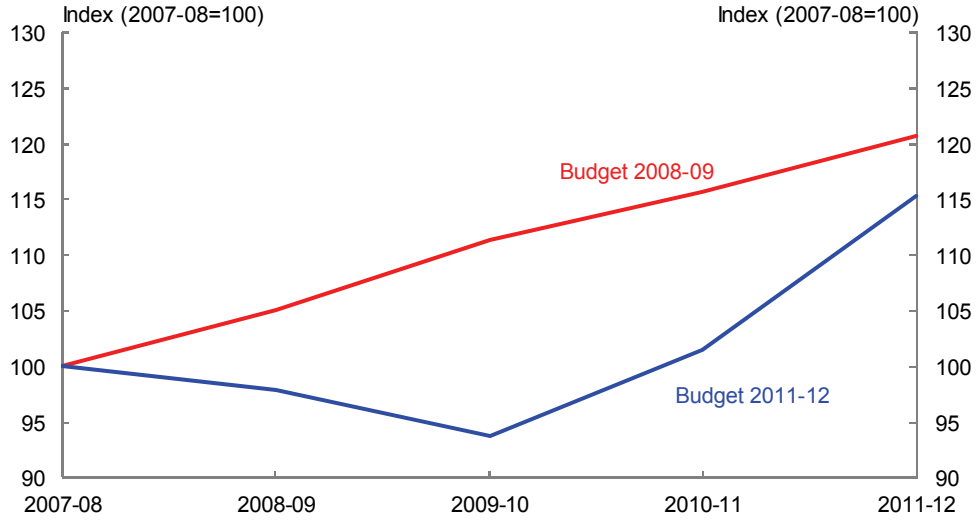


Source: ABS and Treasury estimates.

What is striking is that the level of nominal GDP in 2011-12 is the same in both budgets.

However, despite this, revenue is much lower in the 2011-12 Budget — about $15 billion or 1¼ per cent of GDP (Chart 5).

Chart 5: Differences in expected tax receipts



Source: Treasury estimates.

This is contrary to the assumption underpinning traditional structural balance estimates methodology.

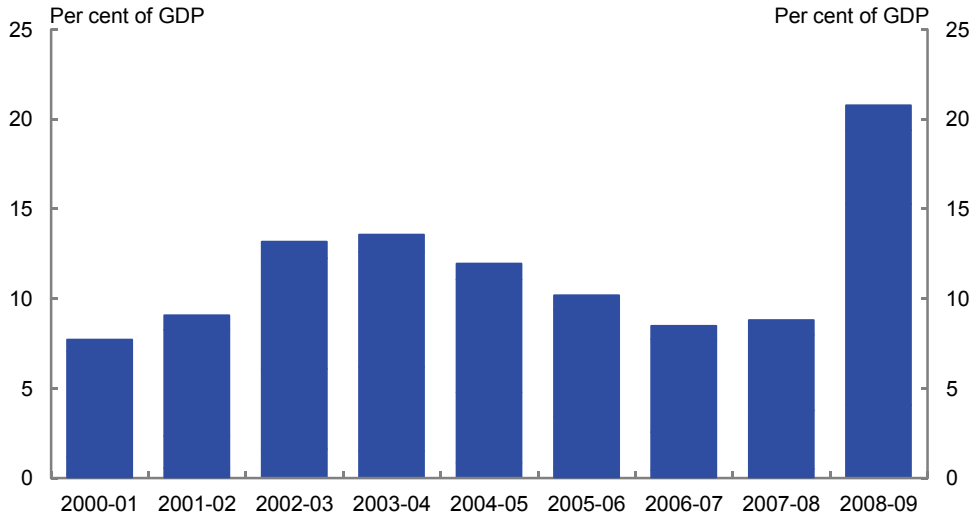
That is why significant resources — and one of the key analytical statements of the Budget Statement 5 — are devoted to explaining the drivers of the revenue estimates.

So, what does the analysis in the budget papers tell us about how these limitations might be affecting structural balance estimates?

One thing is that in the lead up to the GFC, capital gains tax (CGT) became an increasingly important component of government revenue. Yet from 2008-09, CGT revenue has fallen.

Since MYEFO further information has become available on the stock of capital losses built up during the crisis. The stock of capital losses more than doubled in 2008-09 to $260 billion or 20.8 per cent of GDP (Chart 6).

Chart 6: Stock of capital losses as share of GDP



Source: ATO.

So it shouldn't be a surprise that, taking into account this information, the estimates for CGT revenue in 2010-11 and 2011-12 have been reduced by $3.2 billion and $3.0 billion since MYEFO.

Indeed, it has become clear that CGT collections are unlikely to return to pre-crisis levels for some years.

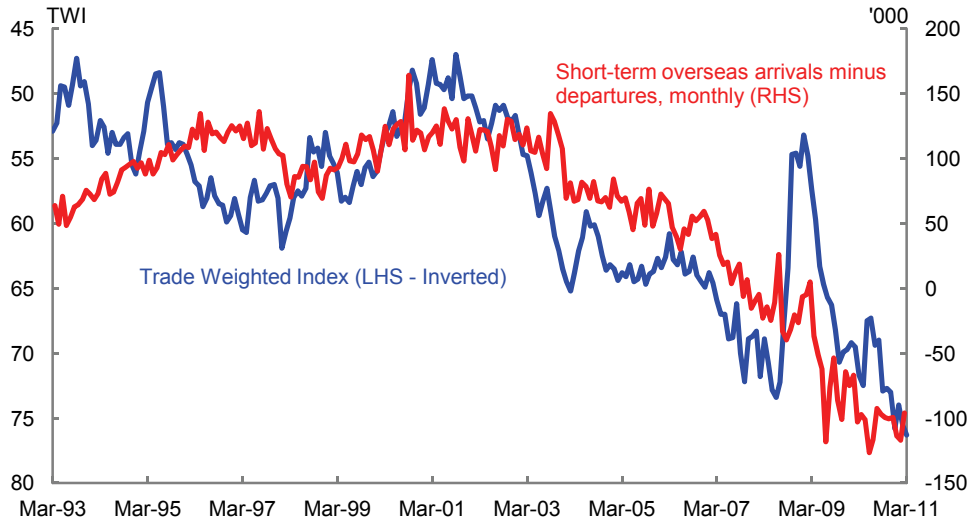
The structural balance estimates released last year tried to take account of the volatility of CGT revenues by assuming that their 'structural' level would be equivalent to their decade average.

While it is well understood that an increase in the terms of trade — all else being equal — should improve the underlying cash balance (for the same structural balance), it is not as well appreciated that achieving the same underlying cash balance with these lower CGT receipts would imply a higher structural balance has been achieved.

Another issue is that the increase in the terms of trade in Mining Boom Mark II is not translating into revenue in the same way as in Mining Boom Mark I.

It is widely known that one of the key drivers behind the emergence of the multispeed economy is the record exchange rate — there are sectors of the economy that are not benefiting from the strength of the mining sector and which are being hurt by the high exchange rate (Chart 7).

Chart 7: Tourism and the TWI



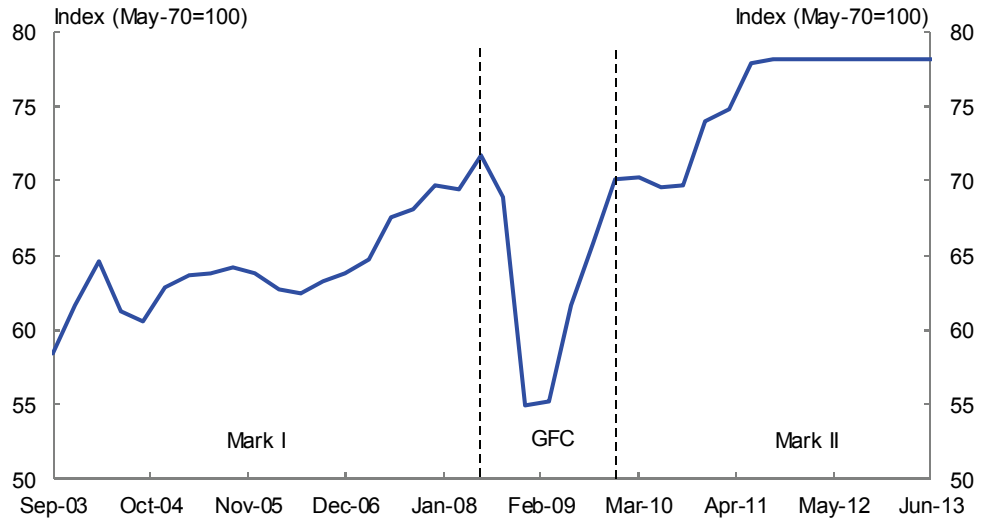
Source: ABS cat. no. 3401.0 and RBA.

But what is less well appreciated is the difference in the sustained level of the exchange rate over these periods.

While the exchange rate rose during Mining Boom Mark I, the average level over the period — 64 against the TWI; 78c against the US dollar — was much lower than it is now — around 78 against the TWI; 107c against the US dollar, as assumed in the 2011-12 Budget.

This means that the exchange rate is having a significantly different impact on the economy in Mining Boom Mark II than in the Mining Boom Mark I period (Chart 8).

Chart 8: Exchange rate



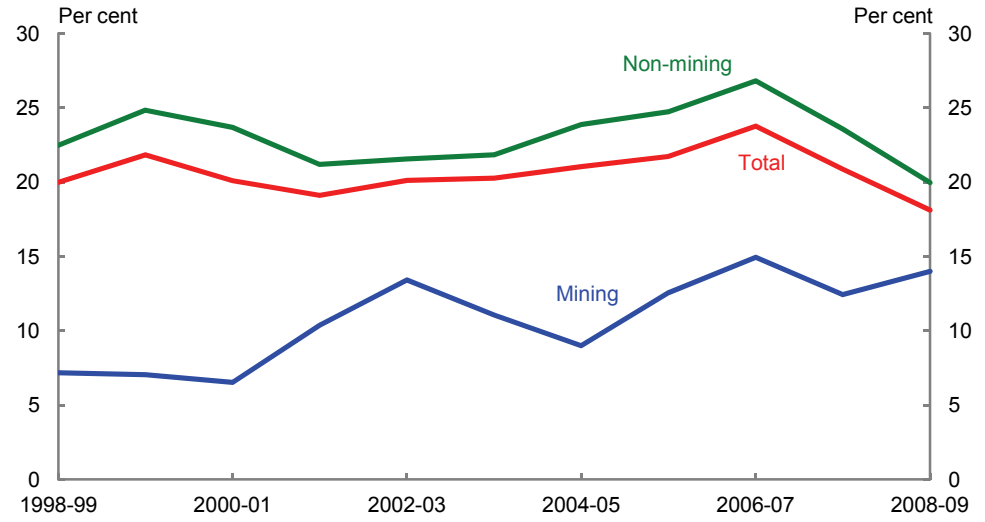
Source: ABS cat. no. 5302.0 and Treasury.

In this environment it is not surprising that a lot of non-resource-related businesses will be less inclined, or able, to borrow to invest.

One of the implications is a significant shift in the composition of corporate profits.

In 2003-04 mining was around 15 per cent of total private corporate gross operating surplus (GOS). It is presently around one-third. And because mining has a lower ratio of tax to GOS, this implies lower company tax collections than otherwise.

Chart 9: Ratio of company tax to corporate GOS — Mining versus non-mining



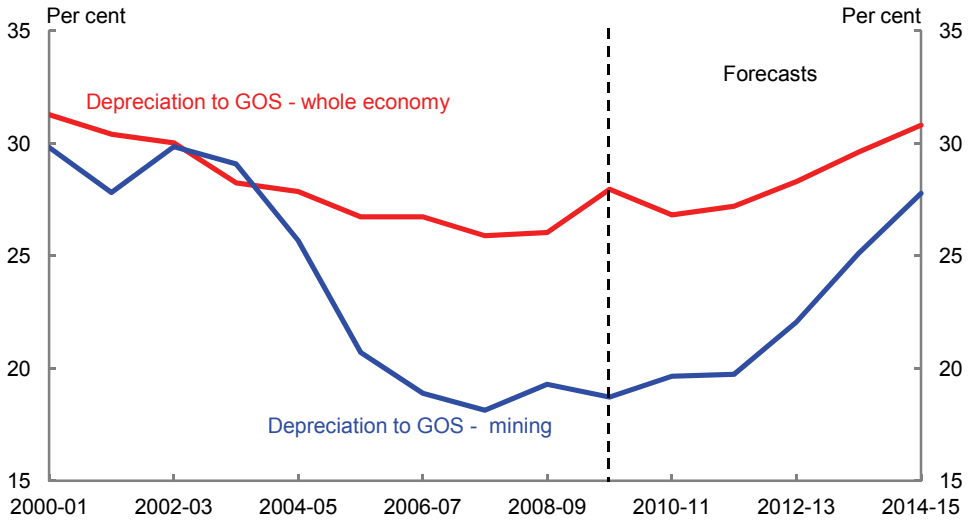
Source: ABS, ATO and Treasury estimates.

Moreover, the surge in mining investment in coming years will see depreciation expenses rise as a proportion of mining sector corporate profits.

As a consequence of this change in the composition of GOS and higher depreciation expenses, the outlook for company tax receipts is more subdued than implied by the medium term economic outlook.

If depreciation expenses as a share of GOS for mining companies stayed at their level since 2005-06 (around 19 per cent), rather than increasing (as a result of more investment), then company tax receipts in 2014-15 would be projected to be $3 billion or ¼ per cent of GDP, higher than projected in the 2011-12 Budget (Chart 10).

Chart 10: Depreciation expenses as proportion of corporate GOS
Mining versus whole economy



Source: ABS and Treasury estimates.

And were this to be for the same level of economic activity, it would be counted as a structural improvement in the budget.

Summary

The point in all of this is that we do not know what the structural balance is with sufficient precision for it to be an operational tool for policy.

So where does this leave us?

Even were the Budget to be in structural deficit in 2012-13, I do not believe that a sensible policy conclusion would be that we should automatically engage in a more rapid fiscal consolidation over the next two years than that set out in the 2011-12 Budget.

The economic impact of natural disasters, including the additional outlays required, and the emergence of a multispeed economy has placed significant pressure on the Budget. And with the economy expected to grow at an above-trend pace over the forward estimates, the labour market edging toward full capacity and the terms of trade expected to remain at elevated levels for quite some time, it is appropriate to improve the fiscal position.

The questions are 'by how much' and 'over what time frame'.

The fiscal tightening is already underway. The withdrawal of the fiscal stimulus results in a detraction from GDP growth of one per cent in 2010-11. Now if we had chosen to withdraw the stimulus more rapidly, the detraction would be greater still. And it is unclear whether a faster 'ex ante' consolidation would have resulted in an actual consolidation of the same magnitude because actual growth would have been weaker in 2010-11 than the 2¼ per cent now in prospect.

Looking ahead, the record consolidation in prospect over the next two years, combined with the tightening in monetary conditions associated with the high exchange rate, continuing effects of past monetary policy decisions and market expectations of further increases, places us in an interesting situation.

The central scenario is positive but, as discussed earlier, there are clear global risks. My own sense is that doing significantly more to tighten fiscal policy in the short-run would inject another risk — that of slowing the economy excessively — and could undermine the prospects for achieving the promised fiscal consolidation.

Some in this room may disagree with this position, arguing for more rapid tightening, both now and into the future. I respect your view, but would disagree.

A few have wanted tighter fiscal policy all along, as indicated by the criticism of policy as being excessively stimulatory in the midst of the GFC, or not being withdrawn before now.

Let me be clear, as one who chased the economy down in the early 1990s with repeatedly inadequate policy responses, I do not believe we can be precise about the extent of stimulus required in the midst of a crisis. And if the response is inadequate, we consign more Australians to sustained unemployment and lower living standards. We only have to look around the developed world post-GFC, or our region post the Asian crisis, to realise how long it can take to restore growth, employment and living standards to their pre-crisis levels.[3]

As such, decisions to pursue significant structural changes to the budget position need to be mindful of the state of the business cycle, and the attendant risks. Against those considerations, in an 'ex ante' sense I do not see any case for aiming for significantly more than the nearly 4 per cent of GDP fiscal consolidation over the next two years.

- Beyond 2012-13 — where we currently use projections not forecasts — is legitimately, a more open question. The stance of policy to be pursued thereafter needs to be guided by actual developments, globally and domestically, over the next year or so.

- And, of course, policy needs to continue to be anchored by medium-term fiscal objectives.

The transformation of the global economy — China's influence on Australia's prosperity

The second issue I would like to talk about today is Australia as an economy in transition.

The global economy is undergoing a transformation unprecedented in the last 100 years. Geo-strategic and geo-economic weight is moving, inexorably, from the Western advanced economies towards the emerging market economies. And the pace of this transformation is faster than many anticipated. Key emerging markets from Australia's perspective are China and India.

Together accounting for slightly more than one-third of the world's people, these two economies are growing rapidly and should continue to do so. Indeed, the IMF estimate that China should overtake the US to become the world's largest economy by 2016 and, in turn, be overtaken by India by mid-century.

3 This is not, however, to suggest that fiscal stimulus should always be part of the suite of policy responses to a crisis, particularly if that crisis is triggered by an unsustainable fiscal position. However, that was not the situation that confronted Australia in either the early 1990s or in the GFC.

There is nothing pre-ordained about these growth paths, and size does not automatically confer economic or strategic weight. But these transitions — whether smooth or rocky — have important implications for Australia. Indeed, they constitute probably the most significant external shock Australia has ever experienced.

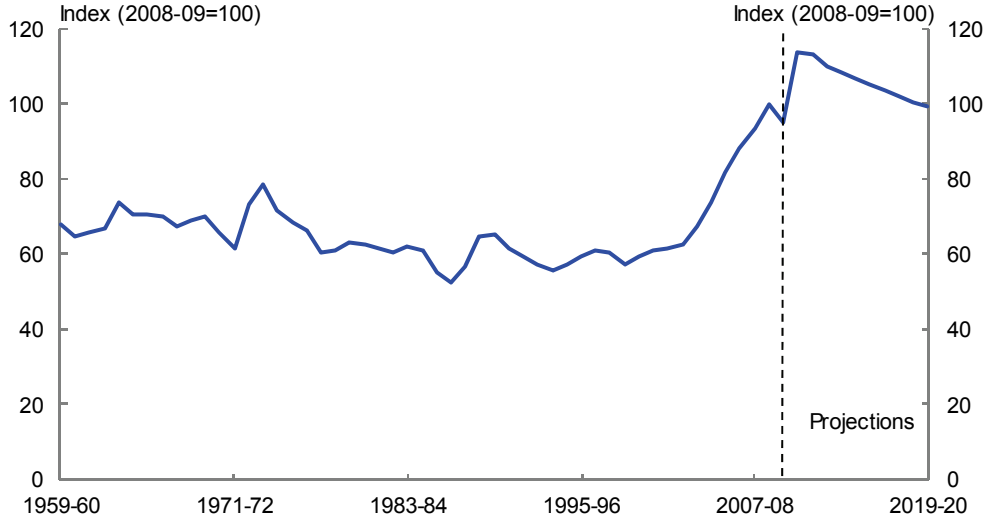
If handled well, from a macroeconomic perspective, these developments have the potential to be a significant positive for the Australian economy. Urbanisation and industrialisation have resulted in strong demand for Australia's energy and mineral resources. The resulting improved terms of trade has increased real income as the purchasing power of our exports increased. Looking ahead, a growing middle class will boost demand for our commodities, and for our services exports — education, tourism, and professional services — and for niche, high-end, manufactures.

But these developments also expose the economy to increased macroeconomic volatility and, arguably more importantly, a difficult adjustment process.

As noted in the Budget, our terms of trade are currently at 140 year highs and we assume they come off only slowly, falling by around 20 per cent over a 15 year period.

Visually, the impact of this is striking. Substantively, even more so (Chart 11). Not only has the terms of trade driven great increases in national income, but also in the nominal exchange rate.

Chart 11: Terms of trade



Source: ABS cat. no. 5206.0 and Treasury.

The Australian dollar, which is currently at record levels, can be expected to move roughly in line with the terms of trade over the longer term. It is therefore expected to also remain persistently high for some time.

The implications of a sustained increase in the terms of trade and a persistently high exchange rate are significantly different to those of a temporary shock — particularly for the structure of the economy.

Most Australian businesses are well equipped to deal with short-term volatility of the exchange rate.

But what we are dealing with now is a very different type of event — not a temporary appreciation, but a sustained shift.

This will challenge a number of existing business models.

Inevitably, this will see calls for support for producers that are suffering from a lack of competitiveness due to a 'temporarily' high exchange rate.

Higher resource prices will see capital and labour shift towards the mining sector, where they are more valuable. This shift will be facilitated by the appreciation of the exchange rate, which shifts domestic demand towards imports and reduces the competitiveness of exports and import-competing activities.

The manufacturing and other trade-exposed sectors that are not benefiting from higher commodity prices will come under particular pressure, but all sectors will be affected.

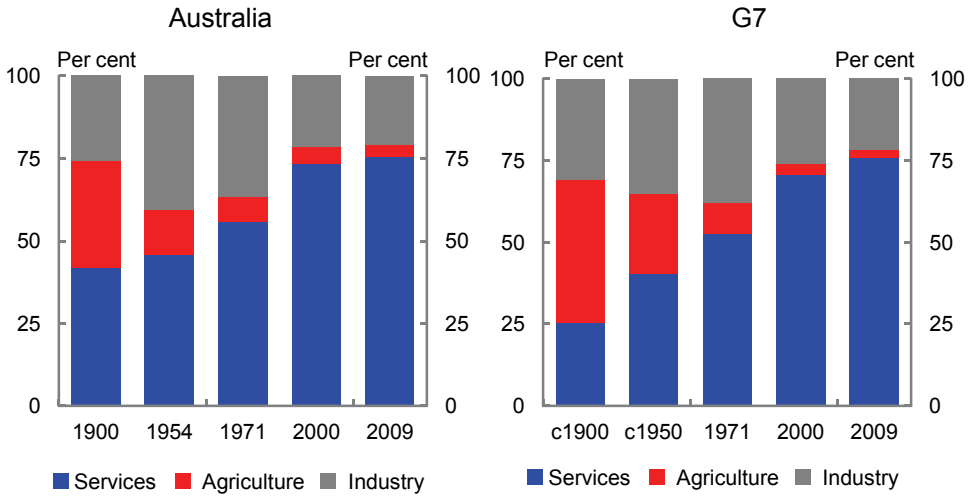
The longer-term shift away from parts of the traditional manufacturing sector, which began in the middle of the 20th century, will continue, although it would be wrong to automatically assume all manufacturing will be adversely affected.

And while the mining and related sectors can be expected to continue to grow — drawing resources from the rest of the economy — they will be overshadowed by the longer-term shift towards the services sector.

This change to the Australian economy — its structural evolution — reflects a prolonged shift in our comparative advantage that began in the second half of the 20th century, as rapidly industrialising Asian nations emerged as labour-abundant competitors.

Our evolution is common to the economic development of virtually all advanced economies, including those in Asia (Chart 12).

Chart 12: Employment share by activity



Note: Identifies broad changes and does not fully account for definitional or technical changes in data. Industry includes mining, manufacturing, construction, gas, electricity and water. Agriculture includes forestry and fishery. See also Withers et al. (1985) for similar historical estimates for Australia. Withers et al. (1985) estimated that Australian employment in agriculture and industry in 1900 was around a quarter and a third respectively.
Source: Feinstein, OECD Statistics and Treasury.

To date, the economy has demonstrated the flexibility to deal with significant structural change. In particular, a flexible exchange rate and labour market have helped facilitate the reallocation of resources across the economy.

Without a flexible economy we could expect higher inflation (and interest rates) and, somewhat perversely, a rise in unemployment.

So what, then, is the challenge in this?

The first challenge is to recognise and understand that this analysis can give rise to understandable concerns in significant sections of the Australian community. Such as:

- How will the benefits of the boom in the terms of trade be shared through the community?

- After all, today we are swapping a non-renewable capital asset — mineral and energy reserves — for an income stream. If we don't receive an appropriate return, and invest that wisely to build human and physical capital, and to boost national savings, including through superannuation, we could find ourselves having consumed our assets and be faced with lower future incomes.

- Will our manufacturing sector be 'hollowed out' and 'lost forever' leaving us as 'nothing but a quarry'?

- What if the boom suddenly stops, as all previous booms have?

Concerns like these are being reflected in calls for measures to protect sectors threatened by the structural shift in our terms of trade. They drive calls for strengthened anti-dumping legislation, intervention to deliver a lower exchange rate and increased industry assistance.

Why is there is so much discomfort in the community about this transformation?

In part, because it involves change, and change is often difficult. In addition, the short-term 'costs' of the adjustment are often concentrated in particular sectors. But perhaps most importantly, what is happening is not well understood.

To make the most of our favourable economic position, we need to understand these concerns and address them — with patience and reasoned argument.

For example, it is important to highlight that a higher exchange rate helps to spread the benefits of the terms of trade boom through the community by reducing the price of imported goods and services. Unless the global environment changes, attempting to lower the nominal exchange rate simply results in the required real appreciation being delivered through higher inflation rather than a higher nominal exchange rate. In other words, a higher nominal exchange rate benefits consumers!

We can remind ourselves, and others, that Australia is, in fact, a diversified, adaptable, knowledge economy as shown by Chart 12 previously. Services comprise around the same proportion of the Australian economy as they do in the G7 economies.

We can also show that the Australian economy is always changing — there are always new jobs and businesses being created as new opportunities are identified. By way of example, in a typical year, around 300,000 businesses are born and a similar number die (Australian Bureau of Statistics, 2010a); around two million people start new jobs and leave old ones; and half a million workers change industries (Australian Bureau of Statistics, 2010b).

The message is clear. Just as Australia is an economy in transition, the businesses and people who succeed are those that embrace and adapt to changing circumstances.

We can highlight how the emergence of major countries in our region will see the gravity of world trade shift closer to our region. The 'tyranny of distance' from major markets that has for so long been a limiting factor on the expansion of Australian business will continue to shift in our favour.

And somewhat related, but less well understood, is the changing world economy will present opportunities for the broader Australian economy from the rise of the Asian middle class — a potentially very large market for our goods and services.

However, if we are to take advantage of these opportunities it is likely to require more change in the structure, and perhaps more importantly, the mindset of Australian businesses and the skill sets of Australian workers.

It will also be important to build on our relationship with the Asian region to ensure that we embed ourselves in this vast market place.

The role of participation and productivity in smoothing the transition

I started off by focussing on the 'macroeconomics' of the Budget — the bottom line and the drivers of that outcome, and the debate about the structural fiscal position.

But the quality of individual spending and saving decisions — the 'microeconomics' — is arguably just as important to Australia's capacity to manage the transition currently underway.

The Budget addresses the key micro priorities necessary to achieve this; building on this foundation promises to deliver significant improvement over time.

The Budget includes initiatives to boost participation of groups in our society with a low attachment to the labour market. In doing so, it provides the opportunity for greater engagement in society while delivering clear structural benefits for the Budget's macroeconomics into the future.

The reductions in tax expenditures will also lead to a permanent strengthening of the fiscal position.

Among the spends, there is provisions for a boost for skills development and infrastructure. Both of these are necessary steps towards improving productivity.

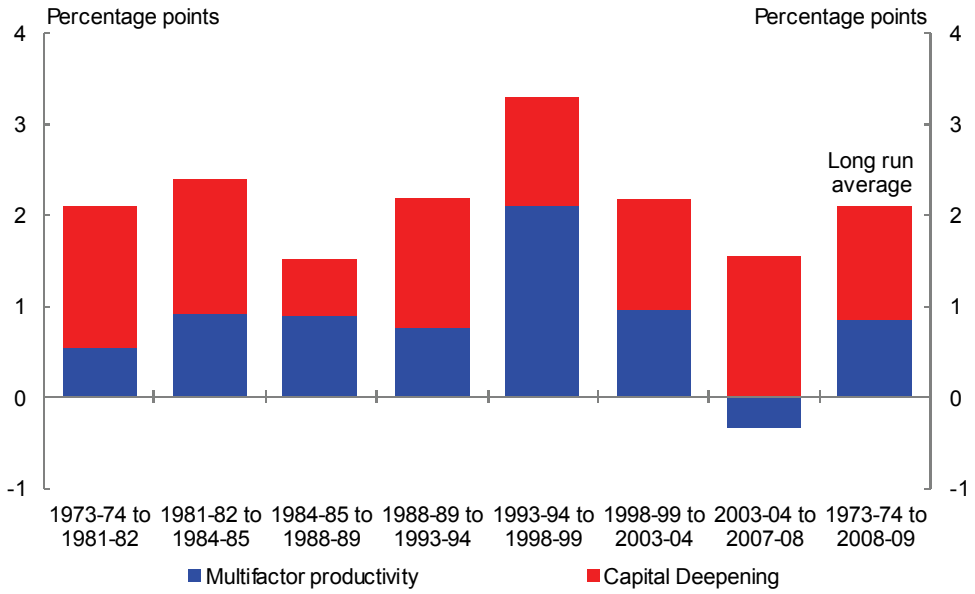
The boost to skilled migration also adds to efforts to address Australia's labour force needs.

A reform agenda that increases the supply of labour, improves the flexibility of the economy and boosts productivity will be vital for our future prosperity in the face of the long-term trends reshaping our economy. The most credible policy responses will be those that allow the economy to adjust, while protecting those most vulnerable.

This will not be easy. As I noted at the outset, the reforms of the past 25 years were difficult and hard won, with populist challenges to their need and their effectiveness.

Yet today, it is now widely accepted that those reforms have transformed the dynamics of the Australian economy, driving a surge in productivity growth (Chart 13).

Chart 13: Productivity — growth cycle analysis



Source: ABS cat. no. 5206.0 and Treasury.

But, with the passage of time, it can be easy for people to hark back to this era and forget just how hard it was to build support for these reforms.

Importantly, structural reform is not a one-off — it is a process, not an event. Without continued effort the gains that were made can be eroded over time, particularly given the long lags between reforms and measured productivity improvements.

Indeed, multifactor productivity (MFP) growth, which measures the amount of output — in real value added terms — obtained from a combined unit of capital and labour, turned negative over the period 2003-04 to 2007-08. In the two years since the end of that growth cycle, MFP has declined further, at an average annual rate of around one per cent per year.

This decline is of concern to policy makers — and if it isn't of concern to everyone in this room, it should be. Were it not for the increased terms of trade, growth in living standards of Australians would have already begun to slow.

As the Treasurer has noted, Australia is an economy in transition. Productivity (and participation) measures of the type announced in this Budget need to be sustained and expanded over time; innovation needs to be encouraged; and price signals need to be allowed to work, if we are to grasp the opportunities that are open to Australia.

Conclusion

To conclude, there is a lot to like about our prospects, now and into the future.

Globalisation is transforming the structure of our economy. In particular, the re-emergence of China and the sustained growth of India have conferred on Australia a large boost to our real wealth but, at the same time, set up a set of structural adjustments that will challenge policy makers for decades.

A clear appreciation of these challenges is important when thinking about the longer-term implications of this Budget.

And Australians of all walks of life would be better served by a more sophisticated debate about both the macroeconomic and microeconomic dimensions of fiscal policy.

Thank you.

References

Australian Bureau of Statistics 2010a, *Counts of Australian Businesses, including Entries and Exits*, cat. no. 8165.0, Canberra.

Australian Bureau of Statistics 2010b, *Labour Mobility*, cat. no. 6209.0, Canberra.

Feinstein, C 1999, 'Structural Change in the Developed Countries during the Twentieth Century', *Oxford Review of Economic Policy*, vol. 15, no. 4, pp 35-55.

IMF 2011, *World Economic Outlook*, April, International Monetary Fund.

Withers, G, Endres, T and Perry, L 1985, 'Australian Historical Statistics', source paper in Economic History No. 7, Australian National University, Canberra.

The resources boom and structural change in the Australian economy

Dr David Gruen[1]
Executive Director (Domestic), Macroeconomic Group

A presentation at the Committee for Economic Development of Australia Economic and Political Overview 2011, delivered in Melbourne on 24 February.

1 The author is grateful to Roger Brake, Adam McKissack and Steve Morling for helpful comments. The views expressed in this speech are those of the author.

Introduction

Thank you for the opportunity to speak to you.

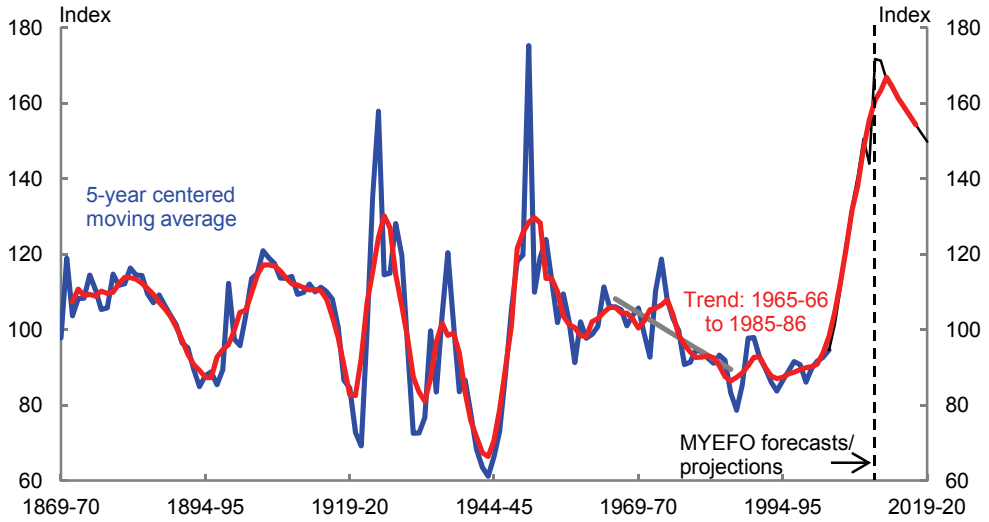
My focus today is the re-emergence of China and India into the global economy. This is the global economic development likely to have the biggest impact on the industrial structure of the Australian economy over the next decade or more. Together accounting for slightly more than one-third of the people on the planet, China and India are growing rapidly and are likely to continue to do so, which will continue to raise demand for mineral and energy commodities of which Australia has abundant supply.

The implications for Australia will depend on how rapidly the global supply of commodities rises to meet rising global demand, and on whether any economic or political events conspire to interrupt (or derail?) the rapid economic growth that China and India have enjoyed for the past couple of decades. But as I will discuss later in my talk, the re-emergence of China and India into the global economy has broader implications for Australia than simply heightened demand for our mineral and energy commodities.

Re-emergence of China and India

The most striking manifestation of China's and India's rapid growth on the Australian economy is the behaviour of the terms of trade over the past several years. Australia is currently experiencing the largest sustained boost to the terms of trade in our history (at least it is if forecasts for the terms of trade over the next couple of years are roughly correct). As far as the data allow us to make such comparisons, the current five-year centred moving average of the terms of trade is much higher than it has been at any time in the past 140 years (Chart 1).

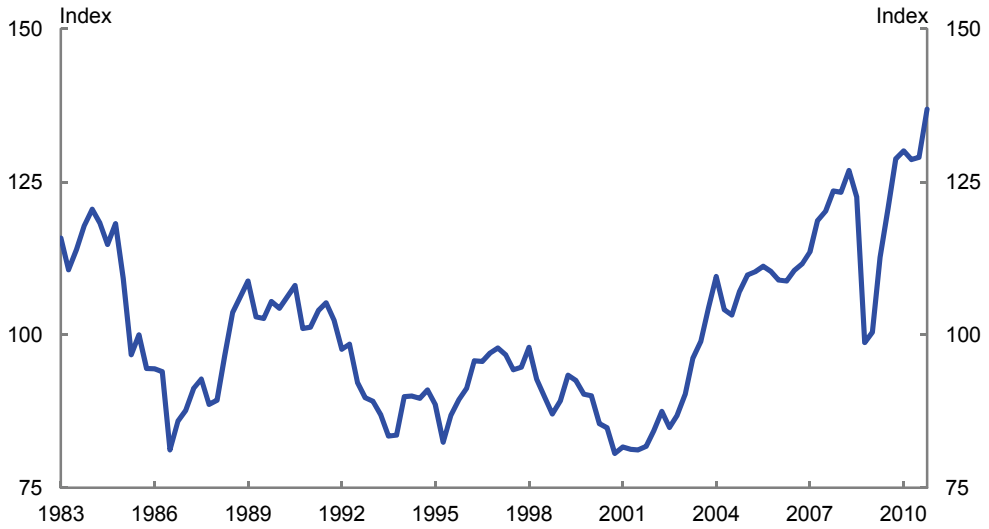
Chart 1: Terms of trade



Source: ABS cat. no. 5206.0, RBA and Treasury.

This high level of the terms of trade is having a profound impact on the Australian real exchange rate, which is at its highest level, and currently about 35 per cent above its average over the 27 years since the Australian dollar was floated in December 1983 (Chart 2). This in turn is having a profound impact on the structure of the traded sector of the Australian economy. In particular, those parts of the traded sector not linked in some way to the boom in the production of mining and energy commodities are facing severe and sustained competitive pressure from foreign competitors.

Chart 2: Australian real exchange rate

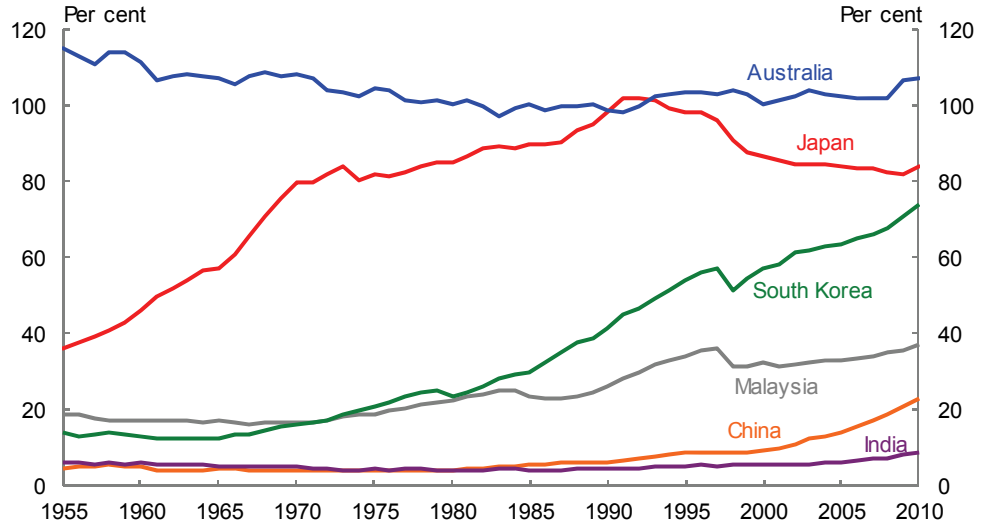


Source: RBA and Treasury.

An issue of central interest is the length of time over which the level of the terms of trade, and hence the real exchange rate, are likely to remain well above their pre-boom average levels.

On this point, it is worth noting that the high terms of trade are being driven predominantly by rapid economic growth in Asia, and particularly in the Asian giants, China and India. Even though China and India have been growing rapidly for the past few decades, they remain at the early stages of their economic development. Their standards of living relative to that of the developed world (as proxied by the ratio of their GDP per capita at purchasing power parity exchange rates to that of the 15 OECD countries with the highest standards of living) are currently lower than was Japan's standard of living in the early 1950s relative to that of the developed world at that time (Chart 3).

Chart 3: GDP per capita (per cent of OECD-15 average)



OECD-15 = Australia, Austria, Belgium, Denmark, Finland, France, Iceland, Ireland, Netherlands, Norway, Sweden, Switzerland, UK, US and Canada.
Source: The Conference Board Total Economy Database and Treasury.

From this level of development relative to the developed world, Japan — followed by a string of other East Asian economies — experienced strong catch-up growth for a few decades as their standards of living climbed closer to that of the developed world. Based on this experience, China and India have the potential for strong catch-up growth for at least a few more decades. Of course, nothing is for sure, and a range of accidents could intervene to render this prediction wide of the mark.

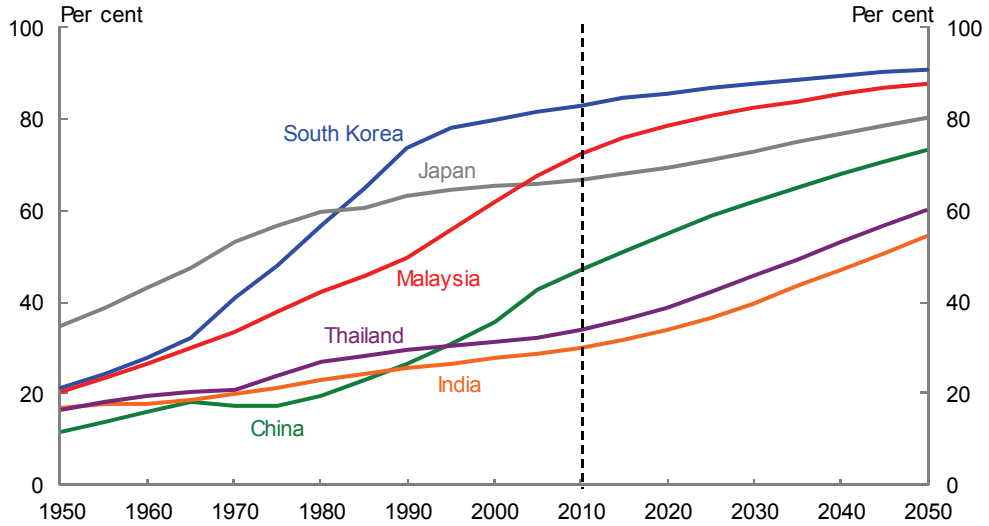
In the case of China, export-led growth has been supported for some time by a number of implicit subsidies to exporting firms, in the form of low regulated interest rates, a low wage share, and a low exchange rate. The resulting disequilibria in the Chinese economy are now being felt in the form of significant consumer and asset price

inflation. China faces the short to medium-term challenge of unwinding these disequilibria without suffering a significant interruption to its economic growth.

Thus, while there are sound reasons to expect strong average rates of catch-up growth in China (and India) over the next few decades, this growth may be punctuated at times by significant volatility.

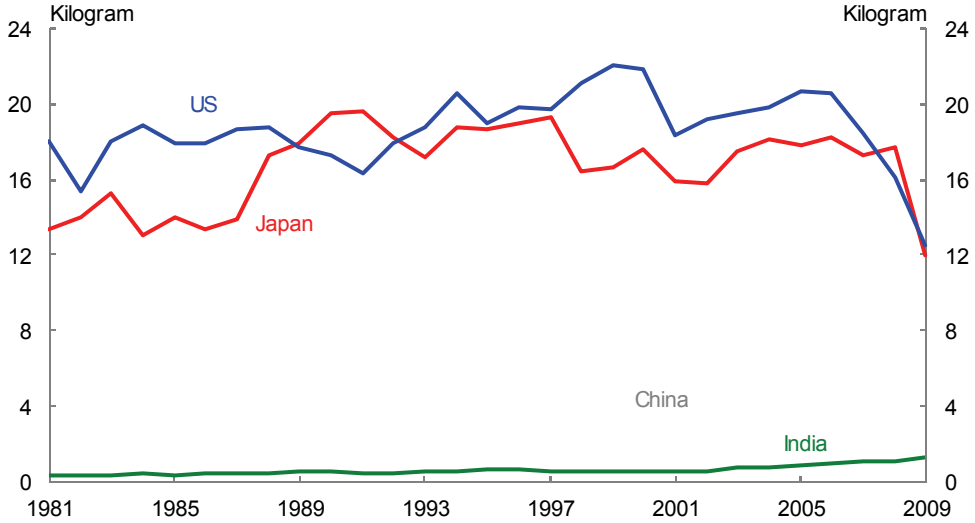
Along with rapid economic development comes rising urban population shares and, at least at these early stages of economic development, rising per capita consumption of a range of mineral and energy commodities (Charts 4, 5 and 6).

Chart 4: Urban population shares



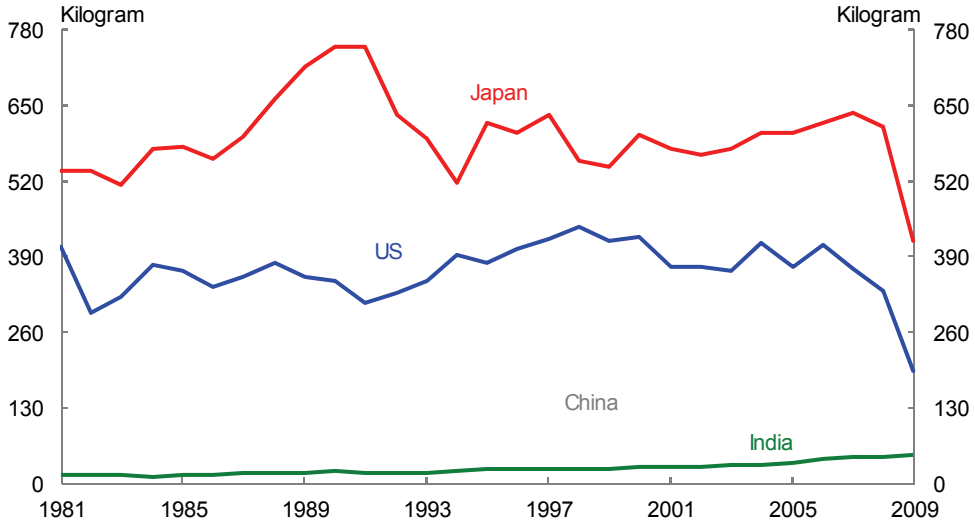
Source: United Nations population database.

Chart 5: Consumption per capita — Aluminium



Source: ABARES, Steel Statistics Yearbooks and Treasury.

Chart 6: Consumption per capita — Finished steel



Source: ABARES, Steel Statistics Yearbooks and Treasury.

It therefore seems most likely that there will be strong growth in demand for the mineral and energy commodities that Australia produces for some time to come (although, undoubtedly, there also will be bouts of volatility in this demand). This strong demand is currently particularly pronounced for iron ore and coal although, as global efforts intensify to reduce greenhouse gas emissions, demand for lower emission-intensive energy sources, like natural gas and uranium (of which Australia also has abundant supplies), may grow at the expense of coal.

By itself, strong growth in demand does not guarantee that commodity prices (and therefore Australia's terms of trade) will remain high. The extremely high rates of profitability associated with the production of these commodities are bringing forth very significant global supply responses.

How will this interplay between global demand and supply play out? One possibility, which presumes no serious prolonged adverse developments that derail the catch-up process in China and India, is that average prices for commodities remain relatively high — well above the average cost of production — for an extended period to maintain strong financial incentives for continued rapid exploration and development of new mining capacity (Garnaut, 2006).

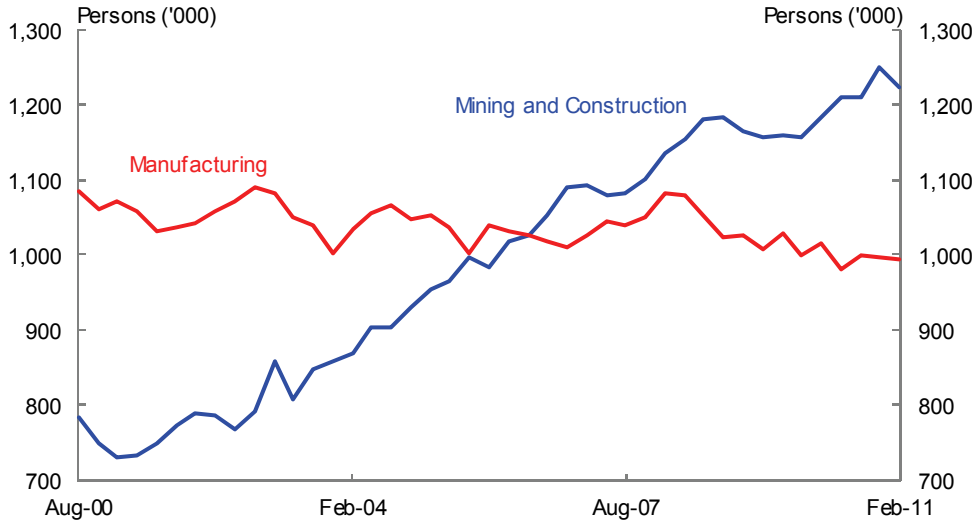
An alternative possibility is that, in the rush to exploit the current extremely high rates of profitability, so much global supply is brought on stream that commodity prices fall substantially over the next several years — back closer to the marginal cost of production, or even below it for some time.

While these are both possibilities, it seems most likely that the terms of trade will be significantly higher on average over the next couple of decades than they were in the couple of decades preceding the current mining boom.

High resource prices, combined with a high Australian real exchange rate, are currently driving factors of production — both labour and capital — out of non-resource parts of the traded sector (including many, but not all, parts of manufacturing) and into mining and construction (Charts 7 and 8).[2]

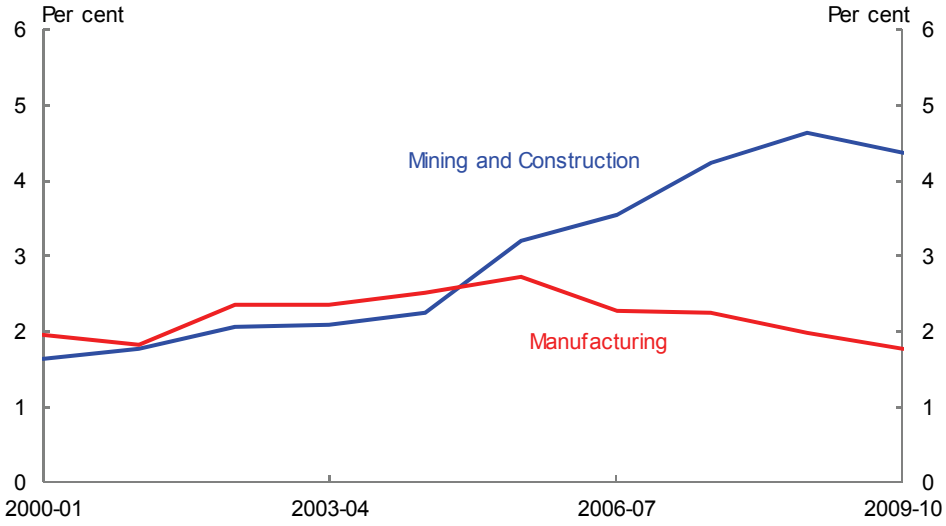
2 Much of the rise in construction activity and employment is associated with the mining sector, but some is associated with higher infrastructure spending by State and Federal Governments.

Chart 7: Employment



Source: ABS cat. no. 6204.0, 6291.0.55.003 and Treasury.

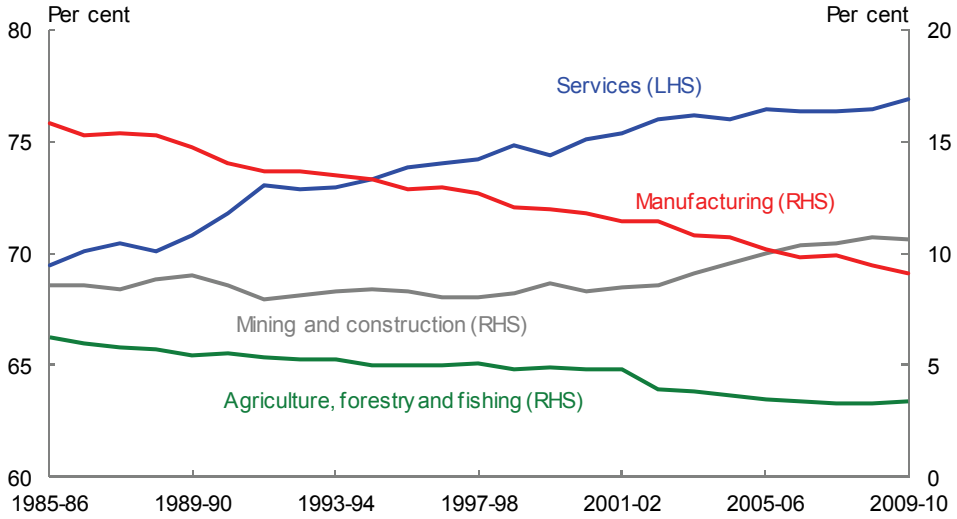
Chart 8: Investment as a share of GDP



Source: ABS cat. no. 5206.0 and Treasury.

The strongly rising share of employment in the mining and construction sectors is a relatively recent phenomenon, dating from the beginning of the mining boom, around 2003-04. But the associated decline in the share of employment in manufacturing is not a recent phenomenon. It is instead the continuation of a trend that has been evident for a few decades (Chart 9).

Chart 9: Employment share by industry

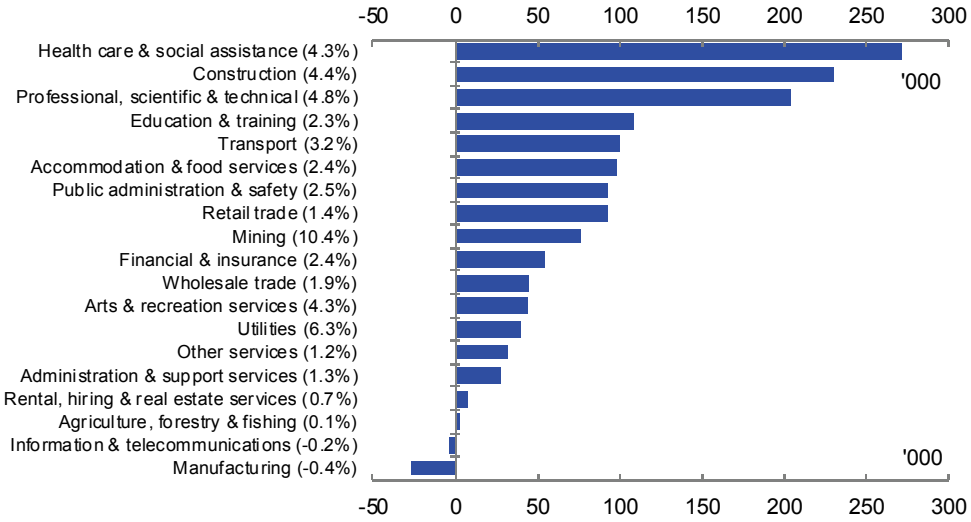


Source: ABS cat. no. 6291.0.55.003 and Treasury.

Another development highlighted by Chart 9 has been less remarked upon. Over the past couple of decades, services sectors have accounted for a rising share of employment, and this trend has been affected hardly at all by the mining boom. Taken together, the services sectors now account for over three-quarters of the employment in the economy.

It is also important to keep in perspective the relative sizes of the sectors of the economy. Although there has been strong employment growth in mining and construction, service sectors (particularly health care and social assistance; professional, scientific and technical services; and education and training) have together accounted for far more of the economy's employment growth since the beginning of the mining boom than have mining and construction (Chart 10).

Chart 10: Employment change by industry (2003-04 to 2009-10)



Note: Average annual growth in parenthesis.
Source: ABS cat. no. 6291.0.55.003.

Even if the terms of trade remain high (which, in turn, may lead to continued strong employment growth in the mining and construction sectors — though this is clearly not assured), it seems most likely that growth in the number of people employed in the service sectors will continue to outstrip growth in the number employed in mining and construction.

A related development, and one that is also likely to be relevant over the next decade or more, is increased direct competition in the non-resource parts of the Australian traded sector from China and India, with flow-on effects to employment in those sectors of the Australian economy. The most obvious parts of the Australian traded sector likely to be subject to this increased direct competition are manufacturing — especially as Chinese and Indian production moves to increasingly sophisticated manufacturing goods (for example, automobiles) as their real wages rise, but also parts of the service sectors that may become increasingly tradeable, as a consequence of further development of the internet. The high level of the Australian dollar acts to accelerate these trends.

Dutch disease?

Let me conclude my remarks with an important question about the Australian resources boom: should it be considered an example of 'Dutch disease'? The term 'Dutch disease' was coined in a 1977 article in *The Economist* magazine in reference to the Dutch experience following the discovery of a large natural gas field. At the time, the resultant real appreciation of the Dutch currency, combined with enhanced competition for labour and capital, saw a decline in the Dutch manufacturing sector

and a rise in Dutch unemployment.[3] It was argued by some that, once the natural gas field had been exhausted, the Dutch real exchange rate would return to pre-boom levels but that, when that occurred, the Dutch manufacturing sector would not be in a position to recover to pre-boom levels of activity, because the exit of some significant firms from the sector, and the loss of sector-specific skills, would prove irreversible.

Put in other words, the idea was that a short-lived development — the discovery and exploitation of a natural gas field — might do longer-term, and possibly irreversible, harm to the pre-boom domestic industrial structure that was consistent with Holland's longer-term comparative advantage out into the future.

Without passing judgement on the relevance of this line of argument to Holland's circumstances in the 1970s, it is worth considering its relevance to Australia's current circumstances. As I have said above, those parts of the Australian traded sector not linked in some way to the resources boom are currently facing severe and sustained competitive pressure from foreign competitors because of the appreciation of the real exchange rate.

But, as I have stressed, the predominant reason why we are seeing this structural change in the Australian traded sector is because of the re-emergence of the Asian giants, China and India, into the global economy. Asia has for some decades been the region of the world enjoying the fastest rates of economic growth and, in the view of most commentators, this is likely to continue for some decades to come. As well as generating huge and growing demand for energy and mineral commodities, this rapid economic growth is also delivering millions of people into burgeoning middle classes, in China, India and elsewhere in Asia.

Given our geographic location, as well our resource endowments, Australia is in a position to benefit enormously from these developments. We are currently benefitting from a huge increase in demand for our mineral and energy resources. For how long this will last remains a matter of conjecture. But in the longer term, the increasing numbers of people in the Asian middle classes, with disposable incomes to match, will generate rising demand for a range of Australian goods and services — whether they be a range of foodstuffs, Australian tourist destinations, or educational, financial and other professional services in which Australia has a proven track record.

It is not possible to predict with any accuracy which of these Australian economic sectors will benefit most from the re-emergence of China and India into the global economy. That is an argument for maintaining, and enhancing where possible, the flexibility of the Australian economy.

3 In Australia, Dutch disease is an example of the 'Gregory effect' after a seminal 1976 article by Professor Bob Gregory.

And, regardless of which Australian economic sectors will ultimately benefit most from the re-emergence of China and India, this global changing of the guard seems more like a generational change in Australia's comparative advantage than it does an example of Dutch disease, in which we might wish to return Australia to its pre-boom industrial structure once a short-lived disturbance has passed.

References

Garnaut, R 2006, 'The China Resources Boom', paper presented to the Australian Agriculture and Resource Economics Conference, Sydney.

Gregory, RG 1976, 'Some Implications of the Growth of the Mineral Sector', *The Australian Journal of Agricultural Economics*, vol. 20, no. 2, pp 71–91.

The Economist 1977, *The Dutch disease*, pp 82-83, 26 November.

Where are we in terms of heightened regulation and why are we here?

Michael Callaghan[1]
Executive Director (International), Macroeconomic Group

The following is a presentation by Michael Callaghan to the Regional Symposium: Enhancing International and Regulatory Cooperation — Post Global Financial Crisis, delivered in Melbourne on 8 March 2011.

1 The views in this article are those of the author and not necessarily those of the Australian Treasury.

Where are we in terms of heightened regulation and why are we here?

I will provide some 'big picture' comments on where we are in terms of heightened financial regulation and why we are here.

It is a personal view from an official who has been associated with this process since the crisis.

I interpret 'big picture' as an invitation to make some sweeping generalisations.

First, some history.

The global financial crisis first made its presence felt in mid-2007, with the emergence of problems in the US market for sub-prime housing loans.

The turmoil that first broke out in financial markets in mid-2007 followed an exceptional boom in credit growth and leverage in global financial systems. A long period of benign economic and financial conditions and low interest rates resulted in a situation where borrowers and investors were taking on more and more risk.

Institutions, particularly in the US, expanded the market for securitisation of credit risk and aggressively developed the originate-to-distribute model of financial intermediation.

Loans were increasingly being securitised by the original lenders to be sold off to other investors. This occurred through conventional mortgage — backed securities but also through complex products called Collateralised Debt Obligations (CDOs).

These complex arrangements enabled securities to gain high credit ratings even when the average quality of the underlying loans was poor. Their relatively high yield made them attractive, but they were not well understood, particularly in terms of the holders exposure to substantial losses in a general downturn in the market — something which did occur.

The crisis entered a new phase in 2008 as doubts emerged about the solvency of key global financial institutions in Europe and the US.

It became increasingly apparent that a number of major banks had invested heavily in these securities and could be exposed to significant losses. But there was uncertainty about the size and location of these exposures. This lack of transparency resulted in a serious loss in investor confidence.

The crisis intensified sharply with the failure of Lehman Brothers in September 2008.

This spiked a severe lack of confidence, not just in the financial sector, but across households and businesses. The Global Financial Crisis was unleashed.

From a global perspective — what were some of the regulatory lessons from the crisis?

- Banks did not have enough capital, both in terms of quantity and quality. A lot of risk had been accumulated but not well measured. Capital held against complex structured products was insufficient. Risk which had been held 'off balance sheet' in an effort to conserve capital soon came back on to the balance sheet. And this represented a regulatory failure.

- Banks had not paid enough attention to the consequence of a market shock where liquidity would be constrained.

- The regulatory perimeter was too narrow. Systemic activity was taking place in un-regulated or less-regulated sectors — investment banks, hedge funds and money market mutuals.

- Banks were globally active, establishing complex operations across national borders, but their supervisory structures and resolution arrangements were nationally based.

But these 'lessons', or deficiencies, were not evident from the experience of banks in all countries — they were not evident in Australia or in many emerging market economies. Banks in these countries were not under-capitalised, did not have a high exposure to sub-prime loans, and had limited investments in complex structured products. But the financial crisis which originated in the US and the euro area spread and had an impact on all countries — highlighting that we live in a highly integrated global economy.

In November 2008, G20 Leaders met for the first time in Washington. The G20 became the forum to galvanise the international response to the crisis. As the saying went, it was a global crisis, it needed a global solution.

The elevation of the G20 as the premier forum for international cooperation was one of the most important developments in global economic leadership in the wake of the financial crisis. It reflected the increasing weight and importance of emerging markets and the need for a more representative global forum, certainly more representative than the G7.

The initial G20 Leaders meeting in Washington in November 2008 focussed on actions to stabilise markets and restore global growth, but it also looked to the future in terms of the financial reforms necessary to minimise future financial crises.

In fact, the G20 Washington Declaration dealt in some detail with measures to strengthen the international regulatory framework for the financial system. It

essentially picked up the recommendations from a report prepared by the Financial Stability Forum (FSF) in April 2008, at the request of the G7. This was before the Lehman collapse.

Was it appropriate to focus so much attention in the G20's response to the crisis on strengthening the financial sector regulatory framework?

It is natural that when some blatant regulatory shortcomings are exposed, and are seen as significantly contributing to a crisis, part of rebuilding confidence is to address those shortcomings.

In addition, the fact that G20 Leaders were able to outline at their meeting in November 2008 a concrete action plan to strengthen financial regulation, ensured that the meeting produced something more tangible than a declaration consisting mainly of rhetoric. This helped build confidence. Moreover the 'sense of purpose' from the Washington meeting was enhanced by the Leaders setting timelines for the 47 action items attached to the Washington Declaration. This demonstrated that the meeting was more than a talk fest.

However, when negotiating the Leaders' Declaration and embracing the FSF's recommendations, a stumbling block was that a number of emerging market members of the G20 were not members of the FSF and would not endorse recommendations coming from the FSF unless its 'representativeness' was improved.

- The FSF was essentially a creation of the G7 following the Asian Financial Crisis, although its membership had been extended to cover a representative from Australia, the Netherlands, Hong Kong and Singapore — but it did not include countries like China, Brazil, Russia, Indonesia, Turkey, Saudi Arabia and South Africa.

The solution was a commitment by Leaders' in Washington for the FSF to 'expand urgently' to a broader membership of emerging economies', and all references to the FSF in the Washington Declaration were to an 'expanded FSF'.

The FSF was subsequently expanded to include all G20 members and at the London Summit in April 2009, it was re-launched as the Financial Stability Board (FSB).

The work of the FSB now receives the full weight of G20 Leaders and the FSB is effectively 'oversighted' by G20 Finance Ministers and Leaders. The FSB reports to each meeting of G20 Finance Ministers and Leaders on progress in progressing the commitments made by Leaders' to strengthen the regulatory framework.

By the time of the G20 Seoul Summit in November 2010, Leaders could say:

> Today, we have detailed core elements of the new financial regulatory framework to transform the global financial system.

I will not go into the details of these core elements involving strengthening bank capital requirements, liquidity requirements, limiting leverage, improving market infrastructure, resolution regimes and so on. This will be covered in detail over the course of the seminar.

One aspect I would emphasise is that throughout the negotiations to strengthen the international regulatory framework, the tension was always recognised between measures which would ultimately be an impost on banks and may restrict their lending capacity, at a time when many jurisdictions were seeking to salvage their financial systems and encourage bank lending to restore growth. Part of the answer in dealing with this tension was to introduce significant transition periods for the implementation of the new standards.

Another aspect to highlight is that the FSB is focussing on promoting global adherence to the standards. FSB members have stated that they will lead by example in implementing the strengthened regulatory standards.

The FSB is also seeking to promote adherence to the standards by all jurisdictions — in particular all jurisdictions ranked highly in terms of financial importance. Such a group of jurisdictions, in addition to FSB members, has been identified, and a process has been launched to encourage adherence to the international standards on cooperation and information exchange. This involves positive measures — such as offering technical assistance — as well as the option of publishing the names of jurisdictions defined as 'non-cooperating', as well as moving to more negative measures.

An issue that Australia has stressed in the G20 and FSB was that while the development of the new international standards is one thing, when it comes to ensuring financial stability, the quality of supervision is important, if not more important.

In addition, Australia has emphasised the need to take into account country specific circumstances. This was not motivated by seeking to undermine the objectives of enhanced international standards, but the need to recognise that there are differences in country circumstances which will have an impact in terms of how the objectives can be achieved.

- An example was the strengthening in liquidity standards for banks. With banks being required to hold significantly higher levels of domestic sovereign debt, allowance had to be made for the fact that given Australia's sound fiscal position there was simply not enough Australian government debt on issue for Australian banks to meet the new standards. An alternative approach was required.

In arguing the need for recognition of country circumstances, we are not seeking a competitive edge for our institutions through competitive arbitrage. We will open ourselves to international and peer review to judge whether we are meeting the objectives of the international standards while taking into account relevant domestic circumstances.

This issue may be very relevant to emerging markets as they apply the new standards. Regard will have to be given to their domestic circumstances, which will differ from those in many developed countries.

What are some of the implications of all the changes that have taken place in the financial system since the crisis?

When the new regulatory standards are fully implemented, we should have a safer financial system, less prone to excessive risk taking. But in some jurisdictions, the cost of intermediation may be somewhat higher depending on the extent of the changes required to meet the new standards. Lenders are meant to operate with more capital against the risks they are taking. But capital is not free. Banks in some jurisdictions will have to significantly increase their capital. In addition, high quality risk assets typically have lower yields. But shareholders in financial institutions should have a less risky investment and should be prepared to accept lower returns.

Some other possible changes and challenges:

- Banks may return to more traditional functions — many jurisdictions whose banking systems were largely unaffected by the crisis had more traditional banking systems.

- More activity may flow to the non-banking sector — in fact, the G20 agreed in Seoul to examine ways to strength the regulation and supervision of shadow banking.

- The financial sector will continue to evolve and authorities will need to continue to monitor developments and identify systemically important institutions, markets and infrastructures on an ongoing basis.

- Previous business models may not be viable in the post-crisis environment.

- The impacts of recent developments on competition and on efficiency and innovation must be balanced to ensure that the financial system continues to perform its fundamental role in supporting economic activity and growth.

- And there is the important question of the application of the regulatory reforms to emerging markets. As already noted, allowance has to be made for the fact that the nature of financial systems in emerging markets and developed economies differ, emerging markets have different starting points and may face different challenges. But all countries should support the objective of a stable and efficient financial system.

Importantly, emerging markets have to be brought into the process. At the G20 Seoul Summit, Leaders agreed to work on 'financial stability issues that are of particular interest to emerging markets and developing economies'. To take this forward, the FSB has enhanced its regional outreach arrangements and in conjunction with the IMF, have a work program under way to provide a detailed report to the next Leaders' meeting on the specific financial stability issues facing emerging markets.

I am sure that an important aspect of that report will be the need to enhance the capacity of emerging markets, and in particular developing countries, to be able to ensure the stability of their financial systems.

So that is a very broad overview of where we are and why we got there in terms of international efforts to strengthen the regulatory framework for the financial system.

Key themes from Treasury's Business Liaison program

Overview

As part of its quarterly Business Liaison Program, Treasury met with 34 businesses and organisations in four capital cities and via teleconference in May. Treasury greatly appreciates the commitment of time and effort made by the businesses and industry associations that participate in this program.

Liaison discussions confirmed that, behind the strong medium term outlook, growth in different parts of the economy remains uneven. On the one hand, mining investment is ramping up, driven by the high prices Australian companies are receiving for their resources exports in response to strong demand from China. On the other hand, the non-mining economy is weaker, with household demand remaining subdued and the construction sector still to see a significant pick-up in growth following the global financial crisis. Some contacts also reported that the high dollar is affecting the overall outlook for their business, despite reducing the cost of imported inputs.

The pace of recovery from the floods earlier in the year is also slower than expected for some parts of the mining sector, although this is not expected to delay the broader upturn in the second half of this year. Coal production in Queensland is yet to fully recover, with some expectations of production delays into 2011-12.

Activity

Resources investment and production continue to drive overall economic growth. Contacts expect growth in China to continue to drive demand and support continued strength in the mining sector.

That being said, activity is yet to fully recover from the floods and cyclonic activity in January and February. Some firms are still removing water from their mines, and some infrastructure has not yet returned to full capacity. Contacts suggested that it could take until the second half of 2011 to pump excess water out of all mines and return to full production.

Contacts reported that conditions are broadly subdued across the rest of the economy. Activity in the manufacturing and tourism sectors continues to be weaker due to the appreciation of the Australian dollar and the residual impact of the natural disasters. Residential and non-residential construction also remains soft and the short-term growth outlook is generally flat. Non-residential construction activity has slowed in recent months as the pipeline of education projects lessens. Contacts also noted that land availability for residential construction remains a constraint.

Activity in the household sector continues to be dampened by more cautious spending behaviour, as evidenced by high household saving and slower household credit

growth. Consumer spending has been weak in recent months, particularly in the retail sector, due to ongoing consumer concerns about interest rate increases and cost-of-living pressures. Contacts noted that signs of an upturn in spending are yet to emerge and are not expected in the immediate future.

Employment and wages

Overall, firms are reporting continued tightness in the labour market. The situation is particularly acute in the mining and related industries in Western Australia and Queensland, with increased turnover and some firms experiencing difficulty in recruiting and retaining skilled labour.

A number of firms in the mining sector have reviewed remuneration packages, or changed rosters, in an attempt to retain workers. Firms are increasingly utilising fly-in-fly-out arrangements from other states as another measure to attract and retain skilled staff.

Although the predominant view is that skills shortages are not yet as acute as during the last mining boom, shortages in the resources and related construction sectors are expected to drive wage pressures in the near term, with wage agreements awarding pay increases in excess of 5 per cent in some specialised professions. Elsewhere, firms are generally providing pay increases of around 3 to 5 per cent.

Costs and prices

Contacts reported mixed effects from the appreciation of the Australian dollar. While most are continuing to benefit from cheaper imported materials, trade-exposed firms, particularly in the manufacturing sector, are under increased pressure from overseas competitors.

The inflationary effect of the floods and cyclones on fresh produce prices is waning, but still significant. Overall, the prices of fresh produce are expected to remain elevated for the next few months.

Financing and investment

Mining investment remains strong, and demand for Australia's resources is driving a surge in expected investment. However, concerns are starting to emerge about the capacity of existing infrastructure and the availability of skilled labour to support the rapid expansion in volumes, particularly if there is slippage in planned infrastructure projects.

Overall, credit conditions continued to improve this round, consistent with the general trend since the global financial crisis. Concerns about credit were mainly reported by the construction sector, with contacts continuing to cite stringent lending criteria and interest rate concerns as factors influencing the recovery.

Percy Spender: an early Keynesian

John Hawkins[1]

Spender initially assisted Menzies as Treasurer before assuming the formal title himself. He moved the Australian economy onto a war footing. He was the first treasurer to have studied economics at university and was a leader in the adoption of Keynesian economic policy.

Source: Commonwealth Parliamentary Handbook.

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1 The author formerly worked in the Domestic Economy Division, the Australian Treasury. This article has benefited from comments and suggestions provided by Selwyn Cornish. The views in this article are those of the author and not necessarily those of the Australian Treasury.

Introduction

Sir Percy Spender KCVO, KBE, KStJ, BA, LLB, QC[2] has been described as 'all energy and new ideas'[3] and admired for his legal skills, but disdained for his ambition and concern with money by some lawyers and others from more privileged backgrounds.[4] Nugget Coombs recalled him as 'intelligent with the good barrister's gift of grasping quickly the essence of a brief and the capacity to speak coherently about it'.[5] His brashness, independence, ambition and self-promotion jarred with some of his political peers who may have also suffered from some envy of the talented maverick in their midst.[6]

Spender's life before politics

Spender was born on 5 October 1897 in Sydney. An ancestor was probably a minor official — a 'spender' of funds (appropriate for a treasurer!), his paternal grandparents had emigrated from England and his father was a locksmith. He had a hard childhood, with his mother dying when he was four. He was a sickly child, shy and with a strong stammer, and appeared not to be close to his siblings. While he was a sufficiently good student to attend the selective Fort St High, once there he showed more interest in football and swimming than study and failed to qualify for entry to university. Chastened, he got a job as a clerk at the town hall and studied in the evenings to first matriculate and then took an Arts-Law degree at the University of Sydney, where he was influenced by the philosopher Francis Anderson. He was also taught by the radical economist Professor Irvine.[7] His distinctions in Economics II and III made him the most academically qualified economist among pre-WWII treasurers and he recalled reading extensively about fiscal policy well before becoming Treasurer.[8] He won the University Medal in Law in 1922, by when he was an articulated clerk with a firm of solicitors.

In 1925 he married Jean Henderson. She became a successful writer of murder mysteries in whose leading characters some detected a resemblance to Percy.[9]

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2 As he styles himself in Spender (1970).
3 Coleman, Cornish and Hagger (2006, p 183).
4 Lowe (2010, p 82).
5 Coombs (1981, p 7).
6 Coombs (1981, p 9) remarked that Spender 'was confident to the point of being cock-sure; his style of speech was assertive rather than persuasive; he had little capacity to attract loyalty or affection'.
7 McFarlane (1966, p 13).
8 Spender (1981, p 67).
9 Various such examples of art imitating life are given in Lowe (2010).

By the 1930s Spender was a successful barrister specialising in commercial law.[10] Unlike many of his peers, he took his holidays in Asia, a region that was to interest him for the rest of his career.

Early days in Canberra

Spender entered parliament in 1937 as an independent, defeating the incumbent Defence Minister, Sir Archdale Parkhill, in Warringah.[11] Economic policies mentioned in his campaign included the desirability of more public works to lower unemployment and a national insurance scheme. He initially concentrated on defence issues, called for parliamentary committees to examine expenditure[12] and questioned the constitutional validity of the Government's national insurance proposals.[13] In 1938 he joined the United Australia Party (UAP).

Treasurer

On becoming Prime Minister in April 1939, Menzies decided to serve as Treasurer himself. But he appointed Spender as Assistant Treasurer. By November 1939 Spender was acting Treasurer and by March 1940 Treasurer in his own right. Spender felt he was 'in full charge of Treasury throughout'.[14]

His biographer believes 'economics, generously defined, remained a preoccupation with Spender'.[15]

Menzies' September 1939 budget was 'a budget for preparation and not a budget for conflict'.[16] Spender recalls it being rather casually outlined by Treasury Secretary 'Misery Mac' McFarlane on a foolscap piece of paper of 'sums' showing options for bridging the gap between revenue and expenditure.[17] Spender regarded this as a totally inadequate response to the need to move to a war footing.

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10 His wife believed he was the youngest Kings Counsel in the Commonwealth; J Spender (1968, p 3).
11 He had earlier been preselected for the state seat of Neutral Bay but withdrew; Lowe (2010, p 5).
12 Canberra Times, 3 December 1937.
13 Sydney Morning Herald, 28 May 1938.
14 Spender (1968; 1972, p 46). His wife concurred: 'it was common knowledge that the Prime Minister, who was then also the Treasurer, had given him a more or less free hand'; J Spender (1968, p 5).
15 Lowe (2010, p 15).
16 Hansard, 12 September 1939, p 401.
17 Spender (1972, pp 42-3). Spender and McFarlane were not temperamentally compatible according to Coombs (1981, p 6).

Spender as acting Treasurer presented a revised budget on 30 November 1939. It made a clearer statement of principle, 'reflecting the degree to which Spender was receptive to the ideas of some of the more academically trained temporary staff recruited to the department'.[18] In particular the advice of Giblin helped Spender 'break away from orthodoxy' and reject Treasury Secretary McFarlane's advice to raise taxes to fund war expenditure.[19] Lyons had established the Financial & Economic (F&E) committee of economists,[20] which from September 1939 was under Treasury, and Spender was willing to discuss issues with it rather than just accept the advice of Treasury officers.[21] It has been argued that if there ever was a Keynesian 'revolution' in Australia it occurred under Spender in November 1939 when he pushed F&E's recommendations against Treasury advice.[22]

Spender's approach, inspired by F&E, was to inject funds into defence-related projects that would soak up unemployment , initially funded by central bank credit, then from borrowing and then from taxation.[23]

Spender's revised budget introduced controls on private investment to ensure savings were directed into the war effort, emphasised the need for low interest rates and introduced a programme of issuing savings certificates so that persons of limited means could also contribute.

An Economic Cabinet was created in December 1939, chaired by Menzies as Prime Minister and including Spender and five other ministers.[24] Economic decisions, however, remained with the full cabinet and the Economic Cabinet was wound up in May 1940. Businessman and engineer Ernest Fisk was appointed secretary of the Economic Cabinet, Economic Co-ordinator, and a member of F&E but does not appear to have had any great influence.[25]

As the economy moved towards full employment, Spender realised that private consumption would have to be dampened to contain inflationary pressures. These

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18 Butlin (1955, p 199).

19 Spender (1972, p 44); Cornish (2000). Spender (1981, p 67) recalled 'quite a lot of the helpful advice that I got as treasurer came from Professor Giblin who was very wise.'

20 The Financial and Economic Committee, to give it its full name, is described in Maddock and Penny (1983) and Butlin (1955). Giblin was its only full-time member.

21 Butlin (1955, pp 215, 356-7); Lowe (2010, p 58).

22 Coleman, Cornish and Hagger (2006, p 185); Millmow (2010, p 263); Cornish (1993, p 47).

23 Hansard, 30 November 1939, pp 1851-2.

24 The Economic Committee is described in Butlin (1955, pp 357-62) and Hasluck (1952, pp 424-435). The latter argues it was not a success as it was hard to isolate purely economic matters from other cabinet business.

25 Hasluck (1952, pp 427-8); Maddock and Penny (1983, p 30). F&E had suggested former treasurer Ted Theodore for the post. Fadden discontinued the role of Economic Coordinator in October 1941.

ideas were reflected in a cabinet submission and then a financial statement to parliament in May 1940. It included measures to curb spending on public works by state and local governments. But it was still a battle to convince cabinet to raise direct taxes, and the statement relied more on regressive indirect taxes than the F&E had proposed.

Spender wanted to learn some lessons from World War I, in particular avoiding excessively generous treatment of wealthy investors in war bonds.[26] He also contemplated an unemployment insurance scheme to make the increased taxation on workers more palatable.[27] Spender introduced requirements that the private banks place a set proportion of deposits with the Commonwealth Bank. He worked to introduce capital controls and raise taxes but was opposed by state premiers.

Despite generally being regarded as performing well, in October 1940 Spender was moved from Treasury to accommodate Fadden's desire for the post.

His subsequent career

Spender was Minister for the Army until the government fell in October 1941. When Menzies quit as UAP leader Spender contested the leadership but was beaten by Hughes. After the 1943 election defeat he was beaten by Menzies for the UAP leadership and again by Hughes for the deputy leadership.[28] Spender was expelled from the United Australia Party for remaining on the bipartisan Advisory War Council when the party withdrew and he crossed the floor to support Labor's referendum to increase the powers of the federal government. He returned to the fold when the UAP was succeeded by the Liberal Party.

Spender returned to cabinet when Labor lost office in 1949. As foreign minister from 1949 to 1951, Spender is remembered for his work establishing the Colombo Plan, and drafting the ANZUS Treaty.[29] Renouf (1985, p 56) places Spender with Hughes, Evatt and Whitlam as one of the 'four great innovators in the portfolio'. The Anglocentric Menzies had little time for Spender's views of the importance of Asia. Menzies may also have seen Spender as a potential rival.[30] This was seen as a possible motive for Menzies offering Spender a position where he could pose no threat, as Ambassador to

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26 J Spender (1968, p 5).
27 De Maria (1991, p 278) and Watts (1980, p 190).
28 Almost thirty years later he bitterly recalled 'Hughes, despite his poor performance as leader from 1941 onwards, was elected deputy leader. The idea was to present a picture of harmony and unity within the party. It failed to convince.'; Spender (1970, p 5).
29 Lowe (2005, p 391).
30 Martin (1999, p 182). This was exacerbated by Sydney-Melbourne rivalries, with Fitchett (1977, p 26) suggesting that there was a plot by NSW MPs to replace Menzies with Spender.

the United States.[31] But Spender (1968) says Menzies only made the offer after Spender told him he was leaving politics.

Spender went on to serve on the International Court of Justice at The Hague from 1958 to 1966, as its president for his final three years. The Spenders retired to Australia and after Jean's death in 1970, Sir Percy busied himself with board appointments and remarried twice.

Sir Percy Spencer passed away on 3 May 1985. His son John Spender QC also served in the House of Representatives, from 1980 to 1990, and was an opposition frontbencher.

31 Perkins (1968, pp 201-2). Downer (1982, p 30) suggests he took the post on his doctor's advice.

References

Butlin, S 1955, *War Economy, 1939-1942*, Australian War Memorial, Canberra.

Coleman, W, Cornish, S, and Hagger, A 2006, *Giblin's Platoon*, ANU Press.

Coombs, HC 1981, *Trial Balance*, Macmillan, Melbourne.

Cornish, S 1993 'The Keynesian Revolution in Australia: Fact or fiction?', *Australian Economic History Review*, vol XXXIII, no 2, September pp 42-69.

Cornish, S 2000, 'McFarlane, Stuart Gordon (1885-1970)', *Australian Dictionary of Biography*, vol 15, Melbourne University Press, pp 210-1.

De Maria, W 1991, 'The Australian wartime budgets 1939-45: the new fiscal gluttony', *Journal of the Royal Australian Historical Society*, vol 76, no 4, April, pp 274-9.

Downer, A 1982, *Six Prime Ministers*, Hill of Content Publishing, Melbourne.

Fitchett, I 1977, 'Menzies and his myth', *National Times*, 11 April, pp 28-32.

Hasluck, P 1952, *The Government and the People 1939-1941*, Australian War Memorial, Canberra.

Lowe, D 2005, 'Brave new Liberal: Percy Spender', *Australian Journal of Politics and History*, vol 51, no 3, pp 389-99.

Lowe, D 2010, *Australia Between Empires: the Life of Percy Spender*, Pickering & Chatto, London.

Maddock, R and Penny, J 1983, 'Economists at War: the Financial and Economic Committee 1939-44', *Australian Economic History Review*, vol XXIII, no 1, March, pp 28-49.

Martin, A 1999, *Robert Menzies: A Life: Volume II: 1944-1978*, Melbourne University Press.

McFarlane, B 1966, *Professor Irvine's Economics in Australian Labour History, 1913-1933*, Australian Society for Study of Labour History, Canberra.

Menzies, R 1967 *Afternoon Light*, Penguin.

Millmow, A 2005, 'Australian economists in the twentieth century, *Cambridge Journal of Economics*, vol 29, pp 1011-26.

Spender, P 1981, 'Memories' in C Morris, *The School on the Hill*, Morris Publishing, Sydney, pp 65-70.

Perkins, K 1968, *Menzies: Last of the Queen's Men*, Rigby, Adelaide.

Renouf, A 1985, 'The lasting legacy of "Susspender" ', *Bulletin*, 9 July, pp 56-57.

Spender, J 1968, *Ambassador's Wife*, Angus & Robertson, Sydney.

Spender, P 1968, Transcript of interview with H de Berg, National Library of Australia.

Spender, P 1970, *Liberalism: Some Reflections on the Past, Some Thoughts on the Future*, RG Menzies Lecture.

Spender, P 1972, *Politics and a Man*, Collins, Sydney.

Watts, R 1980, 'The origins of the Australian welfare state', *Australian Historical Studies*, vol 19, no 75, October, pp 175-98.

Weller, P 2007, *Cabinet Government in Australia, 1901-2006*, UNSW Press, Sydney.

Average rates of company tax across industries revisited

John Clark, Peter Greagg and Amy Leaver[1]

This article updates estimates of the disparities in the Average Tax Rates (ATRs) of company tax across industries. It updates analysis conducted in 2010 for new data and changes in methodology. The updated results still show significant differences in ATRs across industries. Such differences may encourage the migration of resources into tax-favoured industries, at the expense of other industries.

These ATRs are more conceptually robust than those calculated in 2010. Despite changes in technique, the results are generally the same with a wide variation in ATRs across industries.

Some of the variation in ATRs can be explained by the impact of reconciliation items that alter the amount of tax paid. These items include tax offsets and rebates, the R&D tax concession, and so on.

However, after allowances are made for these reconciliation items, ATRs still vary widely across industries.

1 Peter Greagg is from the Business Tax Division and John Clark and Amy Leaver are from the Tax Analysis Division of the Australian Treasury. The views in this article are those of the authors and not necessarily those of the Australian Treasury.

Background

Economic Roundup, Winter 2010, *Disparities in average rates of company tax across industries* raised the possibility that the corporate tax system might impact differentially across industries — some sectors facing little apparent impact from company tax while others face a relatively higher impact. These disparities in tax treatment may distort the allocation or quality of investment, and thereby the economy's performance.

The article used the so called backward looking approach based on actual company tax return data from prior years, and calculated an Average Tax Rate (ATR) by dividing a numerator of the tax paid by a denominator of 'net operating income', by industry — being an estimate of the company economic income tax base.

Company tax data was sourced from the Australian Taxation Office (ATO) publication *Taxation Statistics 2004-05*.

Net operating income was calculated from data sourced from the Australian Bureau of Statistics (ABS) and ATO, starting with Gross Operating Surplus (GOS).

However, GOS is only one component of the company income tax base as it excludes income unrelated to production — such as property income, land and natural resource rents, net interest receipts, and capital gains or losses — which rightly forms part of company income and profits.

Accordingly, GOS was adjusted to take account of these excluded components of company income.

Chart 1 presents those ATRs by industry as a deviation from the economy-wide ATR.

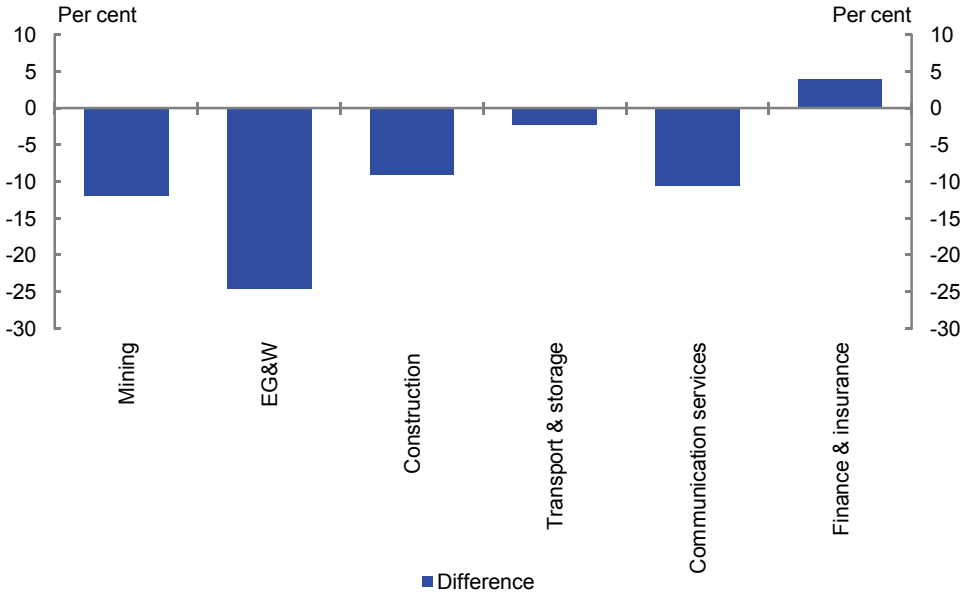
Differences in ATRs across industries may encourage the migration of resources into less-productive investments in tax-favoured industries, at the expense of more-productive investments in less-favoured industries. If this occurred, it would detract from economic growth.

Tax disparities could also influence the way in which the economy may respond to a lowering of the corporate tax rate. The effects of a tax cut in industries with an already low average tax rate would be less than those in industries with relatively high average rates.

It is important to note the clear distinction between statutory and average tax rates. The two differ due to differences between taxable income and net operating income. At the industry level, these differences arise from the differing impact of general tax

provisions as a consequence of the industry's characteristics, as well as industry-specific taxation measures.

Chart 1: 2004-05 Industry ATR deviations from the mean



Source: Treasury.

Updated average tax rates

In view of the potential for the wide dispersion of ATRs to influence the pattern of investment across industries, with adverse implications for growth, ATRs have been calculated for the period 2006-07 to 2008-09.

This analysis refines the approach in the 2010 Roundup Article in a number of ways, and is based on ABS and ATO data.

The ATR numerator is net tax, less tax losses, capital gains tax, and net foreign income. Tax losses, capital gains tax and net foreign income have now been excluded on conceptual grounds to ensure closer coherence between tax and related income. Tax losses have been excluded as they relate to a prior period of income — including losses would tend to depress the current year ATR for reasons unrelated to events in the current year. Capital gains tax and net foreign income are also excluded — on the grounds that there is no simple way of including an appropriate measure the income associated with these elements in the denominator.

The ATR denominator — which is an estimate of the company economic income tax base — is based on the ABS publication *Australian Industry* cat. no. 8155.0, with

adjustments for depreciation — which was calculated from ABS data on current price basis.

Chart 2 presents industry ATRs as a deviation from the economy-wide ATR average for the period 2006-07 to 2008-09.

It is important to note that there is greater uncertainty about the accuracy in measurement of industry ATRs than of an aggregate ATR. There is a reasonable level of certainty in relation to the totals of these variables. However, the need to distribute these variables across industries introduces the possibility of a misallocation error that does not exist at the aggregate level.

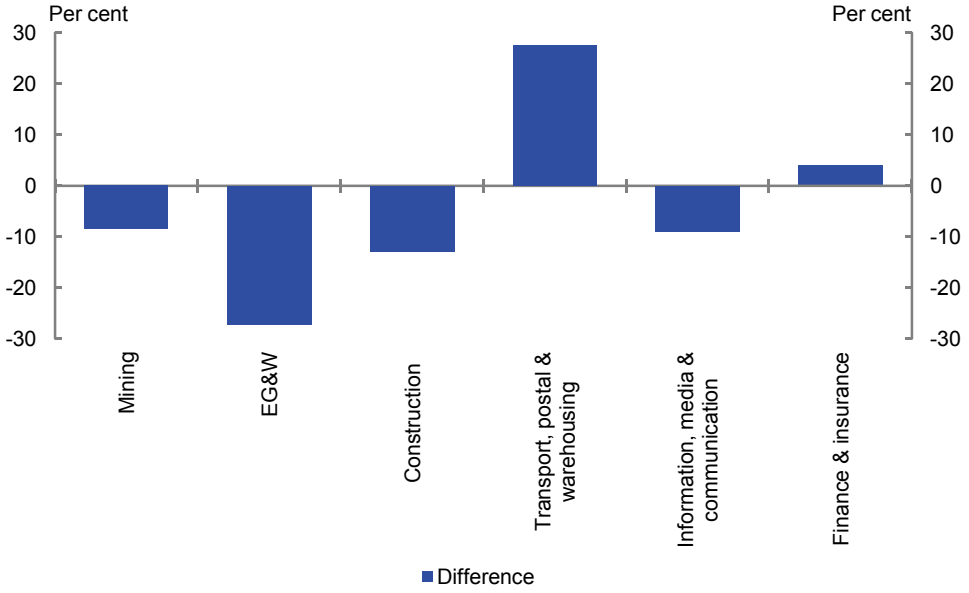
However, the objective of this paper is to investigate whether the corporate tax system impacts differently across industries, rather than focusing on the actual levels of average corporate tax rates.

Therefore for the purposes of the analysis, ATR estimates are presented and interpreted relative to the average ATR for all industries

The ATR of the electricity, gas and water (EG&W) industry (5 per cent) is the lowest in the chart and therefore has the largest deviation from the average ATR. The construction industry has the second lowest ATR (19 per cent), with information, media and communication industry the third lowest ATR. The mining industry ATR is 23 per cent.

The ATR of the finance and insurance industry (36 per cent) is above the economy-wide ATR average. The transport and storage industry ATR (59 per cent) is well above the economy-wide ATR average.

Chart 2: Industry ATR deviations from the mean, 2006-07 to 2008-09



Source: Treasury.

Consideration of Chart 1 and Chart 2 together indicate that transport, postal and warehousing ATR is the only material difference. In Chart 1 the ATR is just below average whereas in Chart 2 it is well above average. In fact, the transport and storage ATR is even above the statutory rate of company tax of 30 per cent. The reason for this result is unknown and is being further investigated. A possible explanation relates to the difference between economic and tax depreciation, which may have a significant impact on the tax paid by capital-intensive industries.

In all other respects the two charts show the same pattern to the deviations from the economy-wide ATR average, with the same industries with below average ATRs, and the finance and insurance industry with an above average ATR.

A different but related ratio of tax to income can be calculation solely from within tax return data. In this calculation, instead of using an estimate of economic income, company profit data as reported on tax returns was used as the denominator as an estimate of company income [2].

The advantage of this calculation is that it may be able to isolate specific drivers of tax outcomes, including tax concessions. The disadvantage is that, given the income is based only on tax returns, it is an incomplete measure of the theoretical economic income base. The industries used in this ATO based analysis do not completely match

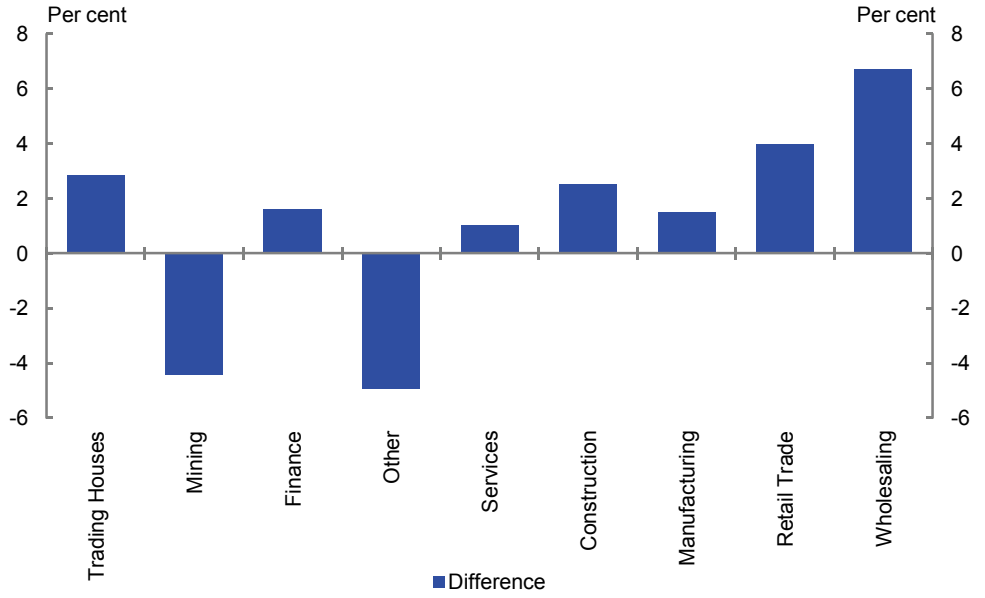
2 The authors acknowledge the contribution of the Revenue Analysis Branch in the ATO with Charts 3 and 4, and other data issues.

the industry classifications used in the rest of this paper. As a result, the ATRs in this section do not correspond to the other ATRs. Accordingly, caution should be exercised in the interpretation and use of these ATO based ATRs.

Nevertheless, these estimates give similar dispersions in ATRs across industries (Chart 3). This result shows that the dispersion in ATRs is robust to the choice between economic income and profit. This implies that any significant drivers of the dispersion are independent of the method of estimating company income.

On this construction, the lowest ATR (18 per cent) is from a combination of large infrastructure industries related to information, utilities and agriculture. The mining industry has the second lowest ATR (19 per cent). Wholesale trade has the highest ATR (30 per cent). ATRs of the remaining industries are not materially different, ranging between around 24 per cent to 27 per cent.

Chart 3: Industry ATRs calculated solely from tax returns, deviation from mean



Source: Australian Taxation Office and Treasury.

As already mentioned, there are good conceptual grounds to believe that the main calculation methodology used in this article represents an improvement over the approach in the 2010 Roundup Article.

Accordingly, the calculation supports the proposition in the 2010 Roundup Article that the company tax system may be distorting the allocation or quality of investment.

Of course, the dispersion of ATRs across industries may be explained by fundamental characteristics of the industry segments concerned, rather than the operation of the company tax system.

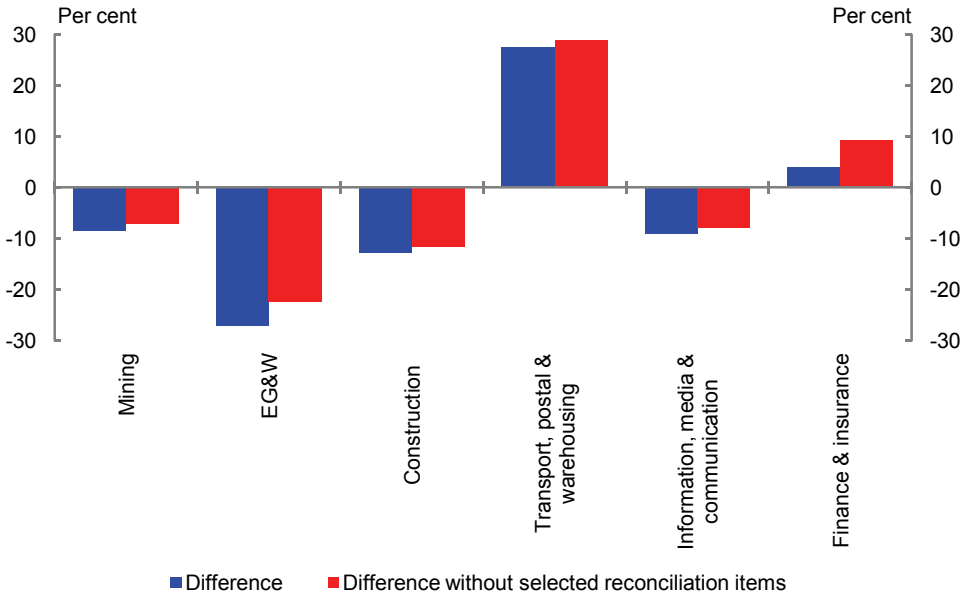
Reconciliation items

Reconciliation items are the differences between accounting profit and taxable income, and typically include capital gains and losses, R&D tax concessions, and exempt income. The impact of these items is to change the amount of tax paid. In addition, some offsets and rebates also have a similar function.

As reconciliation items are not uniformly distributed across industries, it is possible that they may be contributing to the dispersion of ATRs.

Chart 4 shows the impact of the main reconciliation items have on industry ATRs. For comparison purposes, the ATRs are shown both with and without these items. Note that the 'difference' – elements just reproduce Chart 2.

Chart 4: Industry ATR deviations from the mean



Source: Australian Taxation Office and Treasury.

While these items do have an impact on the ATRs, obviously some other influence or influences are causing the wide dispersion in ATRs across industries.

Other possible contributions to the dispersion in ATRs

As already mentioned, variations in ATRs across industries may have an influence on the pattern of investment, potentially having a negative impact on growth. If this is the

case, these distortions to investment are likely to be larger in capital intensive industries.

Further analysis of the quality, size and financing of investment may shed some light on the apparently wide range of ATRs in industries such as transport, EG&W and mining.

It is also possible that ownership issues may also have an influence on ATRs.

Some preliminary considerations are set out below.

Investment in intangible assets

Bilicka, Devereux and Fuest (2011) report that Australia investments in intangible assets are more heavily taxed than other investments. The study takes the corporate tax rate for each country in the G20 together with the rate of capital allowances for investment in broad classes of assets. Specifically it considers a specific investment in plant and machinery, buildings, and intangible assets, and calculates effective average tax rates (EATRs).

It is important to note that these EATRs are different from this article's ATRs. These EATRs are based on the present value of capital allowances whereas the ATRs are based on tax paid divided by a measure of company economic income.

To the extent that these EATRs reflect the NPV of capital allowances, this would be expected to result in more investment in buildings, and plant and equipment, relative to intangibles.

If this argument has some potency, it would be expected that Australian investment in intangible assets would be low by international experience.

The OECD (2010) reports that Australian business investment in intangibles is relatively low by OECD standards, at 5.9 per cent of GDP in 2006, lower than all but three of the 16 countries (Spain, Italy and Slovakia) for which this data was available, and substantially below the US (12.0 per cent), Japan (11.1 per cent), Canada (9.8 per cent) and the UK (9.7 per cent).

The finance and insurance industry has an above average ATR and is an above average investor in intangible assets, relative to other industries.

It is possible that the taxation treatment of intangibles, relative to other investments, is a contributor to the above average ATR of finance and insurance.

Size of investment

Industry comparisons highlight the correlation between capital intensive industries — such as EG&W, construction, mining, transport and communication services — and ATRs which differ significantly from the mean.

It is possible that differences between the treatment of depreciation for accounting and tax purposes, and economic depreciation may be a factor influencing the distribution of ATRs across industries.

It is important to note that capital intensity by itself does not necessarily explain below-average ATRs. For example, ATRs may fall in a capital intensitive industry following a relatively rapid growth in investment.

Investment financed by debt

Investments are financed by some combination of debt and equity. Sørenson and Johnson (2009) demonstrate that average marginal tax rates are strongly negative when debt financing is used as opposed to equity financing.

This raises the possibility that the distribution of debt funding across industries may have a material impact on ATRs.

Ownership issues including residency of investor

Another potential subject for further study would be to assess the extent to which ownership issues could be influencing ATRs. For example, a fully franked dividend has a tax treatment that depends on the residency of the shareholder. An Australian shareholder gets a credit for the tax the company has already paid. In contrast, a foreign shareholder is unable to get a credit of the tax the company has already paid.

Thus there is the potential for similar investments being treated differently for tax purposes — which may have an influence on the distribution of ATRs across industries. This is another area worthy of further investigation.

Conclusions

This article updates analysis conducted in 2010 in respect of the year 2004-05. These ATRs are now made on a more conceptually robust manner and cover the 2006-07 to 2008-09 period.

Despite these changes, the results are generally the same, showing a wide variation in ATRs across industries.

Some of the variation in ATRs can be explained by the impact of reconciliation items that alter the amount of tax paid. These include tax offsets and rebates, R&D tax concessions, and so on.

However, after allowances are made for these reconciliation items, it is clear that ATRs still vary widely across industries.

Therefore, it remains the case that it is possible that the corporate tax system might impact differentially across industries — some sectors facing little apparent impact from company tax while others face a relatively big impact. These disparities in tax treatment may distort the allocation or quality of investment, and thereby the economy's performance.

Accordingly, further investigations are warranted.

In particular, the tax treatment of intangibles should be investigated to establish whether this aspect is influencing the dispersion of ATRs across industries.

The potential impacts of debt versus equity financed investment, and ownership issues could also usefully be explored to assess their influence on ATRs.

Finally, it is possible there are differences between the treatment of depreciation for accounting and tax purposes, and economic depreciation and that may be influencing the distribution of ATRs across industries.

References

Australian Bureau of Statistics 2011, *Australian Industry*, cat. no. 8155.0, ABS, Canberra.

Australian Taxation Office, *Taxation Statistics* (various years), ATO, Canberra.

Bilicka, Devereux, and Fuest, *G20 Corporate tax ranking 2011*, Economic & Social Research Council, Said Business School, University of Oxford.

Greagg, Parham and Stojanovski, 2010, 'Disparities in average rates of tax across industries', *Economic Roundup*, Winter.

OECD (2010), *Measuring Innovation: A New Perspective*, OECD, Paris.

Sørenson, P B and Johnson, S M 2009, 'Taxing capital income — options for reform in Australia', paper presented for the Australia's Future Tax System Conference, University of Melbourne, 18-19 June.