



economic
and political
overview

2013



Economic and Political Overview 2013

About this publication

Economic and Political Overview 2013

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Economic chapter front page: Reserve Bank of Australia, Governor, Glenn Stevens, CEDA event, CEDA Annual Dinner 2012, Melbourne, November 2012.

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Political chapter front page: Julia Gillard, CEDA event, Address by the Prime Minister, Julia Gillard, Melbourne, February 2011; Tony Abbott, CEDA State of the Nation, Canberra, June 2012; Bob Katter speaks at Parliament House, Canberra, Fairfax Media Syndication/Graham Tidy; Christine Milne during a press conference at Parliament House, Canberra, Fairfax Media Syndication/Andrew Meares.

Page 24: Campbell Newman, CEDA Queensland State of the State address, Brisbane, September 2012.

Page 26: Dr Ken Henry AC, CEDA event, Intergenerational report 3 – Challenges and priorities for Australia, Melbourne, July 2010; Wayne Swan, CEDA event, Federal Budget Address, Brisbane, May 2012.

Page 29: Tony Abbott, CEDA event, The economic challenges facing Australia, Melbourne, August 2011; Bill Shorten, CEDA State of the Nation, Canberra, June 2011; Bob Katter, Tony Windsor and Rob Oakeshott at Parliament House, Canberra, Fairfax Media Syndication/Andrew Meares.

Page 30: Christine Milne and Adam Bandt speak to media at Parliament House, Canberra, Fairfax Media Syndication.

Page 53: CEDA event, China - The new paradigm, Perth, September 2012.

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About CEDA

CEDA – the Committee for Economic Development of Australia – is a national, independent, member-based organisation providing thought leadership and policy perspectives on the economic and social issues affecting Australia.

We achieve this through a rigorous and evidence-based research agenda, and forums and events that deliver lively debate and critical perspectives.

CEDA's expanding membership includes more than 800 of Australia's leading businesses and organisations, and leaders from a wide cross-section of industries and academia. It allows us to reach major decision makers across the private and public sectors.

CEDA is an independent not-for-profit organisation, founded in 1960 by leading Australian economist Sir Douglas Copland. Our funding comes from membership fees, events, research grants and sponsorship.

CEDA – the Committee for Economic Development of Australia

Level 13, 440 Collins Street

Melbourne 3000 Australia

Telephone: +61 3 9662 3544

Fax: +61 3 9640 0849

Email: info@ceda.com.au

Web: ceda.com.au

ceda

committee for economic development of australia

Contents and contributors

Foreword 4

Professor the Hon. Stephen Martin, Chief Executive, CEDA

1. Economic overview 6

Warren Hogan, Chief Economist, ANZ

Warren Hogan and his research team provide forecasts of what is likely to happen in the US, Europe, China and other Asian economies in 2013 and the impact on Australia and also provide analysis of what is likely to occur in the Australian economy in 2013.

2. Political overview 22

Professor Peter van Onselen, Winthrop Professor of Journalism,
University of Western Australia and Contributing Editor, The Australian

Peter van Onselen provides a political analysis of factors influencing this year's federal election including what and how policy issues will be targeted by the major parties. He also provides analysis of the likely outcome of the election, including for key independents and minor parties.

3. The outlook for electricity prices in 2020 32

Professor Paul Simshauser, Chief Economist, AGL Energy
Tim Nelson, Head of Economics, Policy and Sustainability, AGL Energy

Paul Simshauser and Tim Nelson provide an analysis of electricity pricing outlining the history of the Australian electricity market and why electricity prices have increased sharply since 2008. They also provide price forecasts to 2020 and recommendations for policy reform.

4. The future of work 50

Dr Ziggy Switkowski, Chancellor, RMIT, Chairman, Suncorp, CEDA Board of Governors

Ziggy Switkowski addresses critical factors influencing the future of work including rapid changes in technology, the redefinition of the company, the future of education and the rise of women in the workforce.

The content in the 2013 Economic and Political Overview was up-to-date at the time of printing. Due to rapid changes in the current economic and political environment, it may not address the most recent developments.

CEDA's Economic and Political Overview series, taking place around Australia at the time of the publication's release, will provide the latest analysis from the report authors and business and political leaders.

foreword



For more than 30 years CEDA's Economic and Political Overview publication, along with the series of events held in capital cities coinciding with its launch, have been providing the business community with an important analysis of the year ahead.

This year's publication is no exception and is particularly significant as we enter a Federal election year, along with continued international economic uncertainty around key economies and at home.

The political chapter, completed by Professor Peter van Onselen utilising his extensive network through the corridors of power in Canberra, provides an analysis of what issues will be significant and how these will be targeted by the major parties. Peter also speculates on the likely outcome of the election and offers readers his views as to why this will be so.

This year we are likely to see a rapidly changing and somewhat unpredictable political landscape. Opinion polls are a classic representation of this. The first Newspoll of 2013 indicated a significant swing in Labor's fortunes, whereby an AFR poll one week later indicated the government was in real danger of losing 18 seats.

More importantly, what we will learn this year hopefully are what commitments and policies will underpin the next term of government. Less spin and more substance.

This year's economic chapter has been completed by ANZ Chief Economist Warren Hogan and his research team. It provides forecasts on what is likely to happen in the US, Europe, China and other Asian economies, overall predicting a more resilient world economy in 2013.

Importantly, analysis is provided on what is likely to happen in the Australian economy, from unemployment and interest rates to pressures on the non-mining sectors.

In addition to examining the critical economic and political issues expected to impact on the year ahead, the EPO also examines a select few critical issues likely to impact Australia's economic agenda.

This year, electricity prices and the future of work have been selected.

The outlook for electricity prices chapter has been completed by AGL Chief Economist and Group Head of Corporate Affairs, Professor Paul Simshauser and AGL Head of Economics, Policy and Sustainability, Tim Nelson. It examines the history of energy prices, why we've experienced a sharp spike since 2008, what can be done and forecasts on electricity prices to 2020.

CEDA considers this to be a vital issue because energy prices continue to be significant in influencing both industry and politics. Last year CEDA completed a major research series on Australia's Energy Options, and this loomed as a major concern in terms of its impact on industry and households alike.

The final chapter has been completed by RMIT Chancellor, Suncorp Chairman, and former Telstra Chief Executive, Dr Ziggy Switkowski, and is concerned with the future of work in an Australia that is adjusting to changing economic circumstances.

Dr Switkowski examines the rapid changes in technology over the last two decades and the likely impact these and other technological changes will have in the future. In particular he considers technology's impact on how and when we work, along with other key factors likely to influence the structure of our workplaces, including the rise of women in the workforce and education reforms.

This year's publication once again provides strong analysis and insight into each of the four topics and on behalf of CEDA I would like to thank each of the authors for their contribution.

I know this year's EPO publication and associated events will provide a valuable resource for our members and the broader community on Australia's economic and political outlook for 2013.



Professor the Hon. Stephen Martin
Chief Executive, CEDA



economic OVERVIEW



Warren Hogan is ANZ's Chief Economist and is responsible for the bank's Economics and Global Markets Research. Warren has extensive financial markets and banking experience having worked as an economist and strategist with

Australian and international banks for nearly two decades. Warren has been at ANZ for the past seven years, having run the Global Markets Research team and the Australian Economics team before being appointed Chief Economist in 2010.

Warren's research focus is global macroeconomics, monetary economics and the financial markets. Prior to joining ANZ, Warren was Chief Economist and Head of Interest Rate Product Research at Credit Suisse First Boston and he held senior economic positions with Westpac Banking Corporation and NSW Treasury Corporation.

ANZ Research Team: ANZ's strength in the Asian region is mirrored in the geographical coverage of its economic research staff based in Australia, New Zealand, China, Emerging Asia, the Pacific and London. These regional teams provide analysis of the macroeconomic environment, residential and commercial property markets, economic policy and key industry sectors including natural resources and agriculture.

The Global Markets Research team consists of product-specific strategy teams that are organised on a global basis. The strategists utilise the core views of the economics team and apply these to the relevant markets. In doing this they assess current market valuations of financial instruments and commodities as well as providing market risk assessments.

ANZ Research provides a cohesive view of the economic and financial forces affecting the global economy with particular reference to the Asia-Pacific region.

Introduction

We expect accommodative monetary policies, stable financial markets and only a gradual fiscal consolidation in the US to make way for a more resilient world economy in 2013.

The big question for the global economy in 2013 is whether or not the world's two biggest economies can lead a sustained economic expansion over the years ahead. There is growing evidence that both the US and China are set to build growth momentum in 2013. Will this be enough to drag Europe and Japan along? Does this mean that the fragile and tentative economic expansion of the past three years is to be displaced by a more resilient and robust world economy from here?

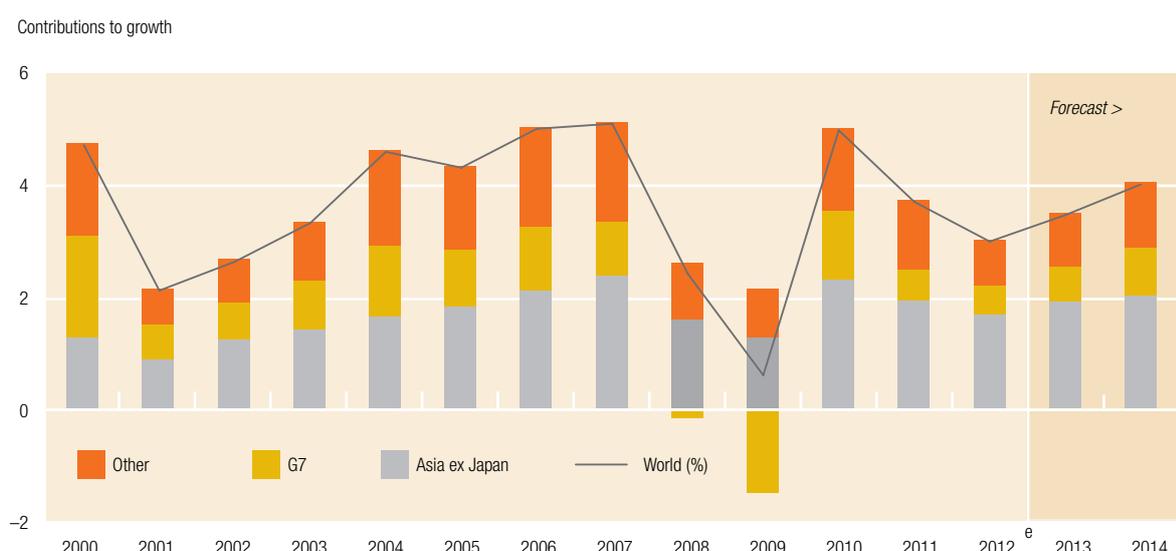
For financial markets and business this is a critical point. Weakened confidence in the global economy in recent years has made for a tentative investment environment despite strong corporate balance sheets. A stronger world economy, less prone to shocks and setback, will encourage more risk taking by both investors and business. But other factors are required to fall into place to allow for a renewal of animal spirits across the global economy. Most importantly, business needs the political elite across the world's major economies to commit to reviving activity.

Political uncertainty has been a major problem in many economies this past year. With new leadership in place in Japan and China and the US election out of the way, we should expect greater policy clarity, and hopefully greater policy conviction, in these countries. The real issue for the US is whether or not corporate America is willing to deploy capital into the real economy. Political clarity is important for this. We are looking for an old style corporate capital expenditure (capex) cycle to kick in across the US economy in 2013. The extent to which the improvement in housing translates into a broader capex upswing in the US will be a critical element in the world economic outlook over the next few years.

The probability of a major financial shock from Europe is much reduced since the European Central Bank (ECB) has effectively ring-fenced the peripheral sovereign debt markets. That said, Europe has many challenges to face in coming years with the major threat to stability now coming from political discord rather than financial distress. German elections in 2013 will be an important focus as will the health of the French economy. In many ways the prognosis for Europe is not too dissimilar to that of Japan. To achieve a stable rate of economic activity in the face of on-going structural adjustments will be a good outcome for not only Europe but the broader world economy as well.

China's leadership distractions are now a thing of the past. The new leadership team is committed

Figure 1
Global growth expected to pick-up modestly in 2013 (global GDP, annual %)



to seven to eight per cent growth over the medium term. A pick-up in government investment appears to have stabilised growth in the second half of 2012. We believe this will translate into a building of momentum in 2013. If 2012 taught us one thing, it is the importance of Chinese economic growth to the global economy. China's economic slow down in 2012 was

felt around the globe. Renewed Chinese economic momentum in 2013 will not only act as a tailwind for the Asian region but will also assist Europe in maintaining some reasonable level of economic activity through a period of massive structural adjustment. See Table 1.

Table 1
Global economic forecasts (GDP, annual %)

	1990–2007 average	2010	2011	2012 (e)	Forecasts	
					2013	2014
World (PPP)	3.6	5.1	3.8	3.1	3.5	4.1
G7	2.4	3.0	1.5	1.4	1.6	2.3
US	3.0	3.0	1.8	2.1	2.5	2.9
Euro zone	2.2	1.7	1.3	−0.5	0.0	1.2
Japan	1.2	4.5	−0.7	2.0	1.4	0.7
UK	2.6	2.1	0.9	−0.4	0.5	2.5
<i>Asia Pacific</i>	5.2	8.2	5.9	5.5	5.9	6.0
<i>Asia Pacific less Japan</i>	7.0	9.0	7.2	6.1	6.7	6.9
Australia	3.2	2.6	2.4	3.7	2.6	3.2
New Zealand	3.0	1.8	1.3	2.3	2.2	2.4
China	10.0	10.4	9.2	7.8	8.1	8.0
Hong Kong	4.2	7.0	5.0	1.5	3.9	4.1
India	6.1	9.6	7.5	5.6	6.9	6.5
Indonesia	4.9	6.1	6.3	6.5	6.5	6.6
Malaysia	6.5	7.2	5.2	5.5	5.5	4.5
Philippines	3.7	7.6	3.9	6.1	5.6	6.6
Singapore	6.8	14.8	5.0	1.5	3.0	3.5
South Korea	5.8	6.2	3.7	2.2	3.9	4.9
Taiwan	5.5	10.9	4.0	1.7	3.0	4.6
Thailand	5.2	7.8	1.9	5.8	4.8	4.5
Vietnam	7.5	6.8	5.9	5.0	5.6	6.3
OECD	2.5	2.6	1.4	1.2	1.4	2.1
Emerging economies	5.8	7.8	6.4	5.0	5.6	6.0

Note: e = estimate

Source: National statistical agencies, ANZ

United States

In the United States the platform for a solid 2013 looks to be in place following a lengthy period of much needed financial repair across households and businesses. The onus is on the political leadership to work constructively for a sustained economic recovery.

After several years of decline, the level of household debt appears to be stabilising. Meanwhile asset values appear to be on a sustained lift, particularly residential property. The US Federal Reserve is determined to maintain highly favourable financial conditions until a solid and sustained recovery takes hold. Indeed, the Federal Reserve has committed to easy monetary policy until unemployment is below 6.5 per cent.

Dwelling and business investment will be key to the 2013 outlook for the US. There is no doubt that a housing recovery is firmly on track. Lead indicators of residential construction activity point to dwelling investment growing by 20 per cent this year. Growth of a similar magnitude should also transpire in 2014. This would see residential investment as a share of GDP rise from near 2.5 per cent to over four per cent at the end of 2014. Such activity would have sizeable positive spill-over effects to other areas of the economy, particularly consumption. See Figure 2.

There are two main factors stopping a more

vigorous housing recovery: a large amount of housing stock hanging over the market, particularly shadow inventory (e.g. delinquent and foreclosed mortgages); and, banks' lending standards remain very restrictive. We expect these problems to dissipate as the uplift in house prices becomes more entrenched.

Business investment will be the swing factor for US growth prospects this year. In recent times capex has weakened and a number of surveys portray a bleak outlook, particularly those reported by the regional Fed manufacturing surveys. The loss in business confidence is likely due to a combination of worries over global growth prospects and anxiety over an unpalatable fiscal situation. That said, there are a few reasons to be hopeful about business spending plans over the next few years.

- The architectural billings index is rising and is currently at levels not seen since late 2007. The index points to a reasonably healthy lift in non-residential construction; (See Figure 3)
- Very easy financial conditions have sparked a sizeable pick-up in corporate bond issuance. Although much of this has been for refinancing (to lower cost funds), mergers and acquisitions (M&A) activity is picking up. Such activity tends to be a reasonable proxy for confidence and provides a lead for future business investment; and
- An eventual resolution to the long-term fiscal issues.

In sum, we expect the US economy to grow by 2.5 per cent in 2013. This could head higher if there is a satisfactory resolution to the fiscal problems.

Figure 2
US housing market recovery gathers pace

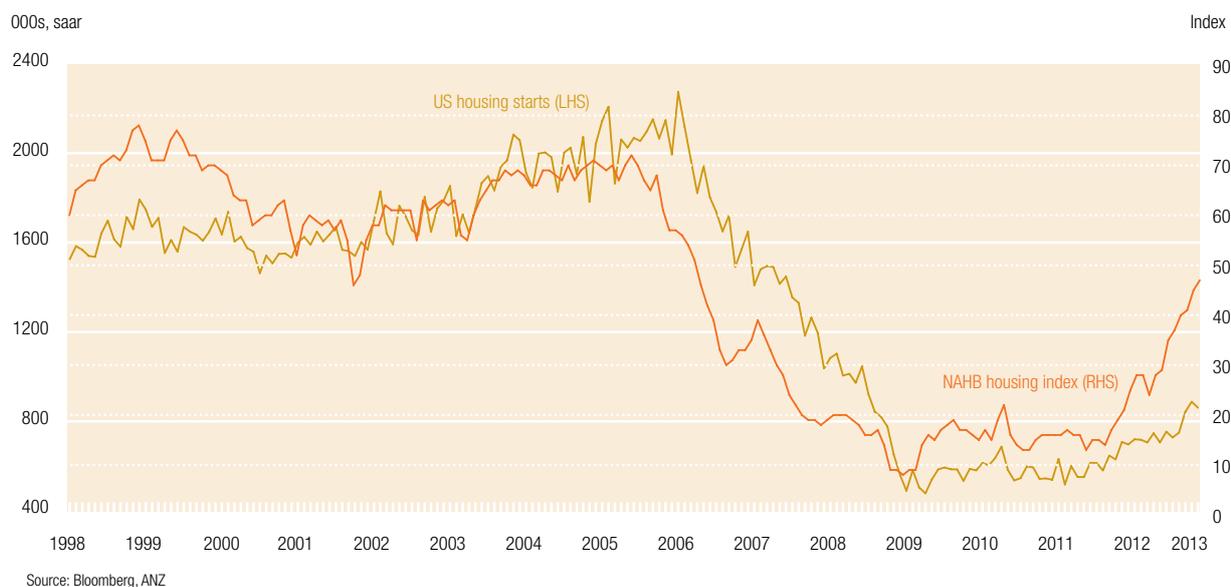
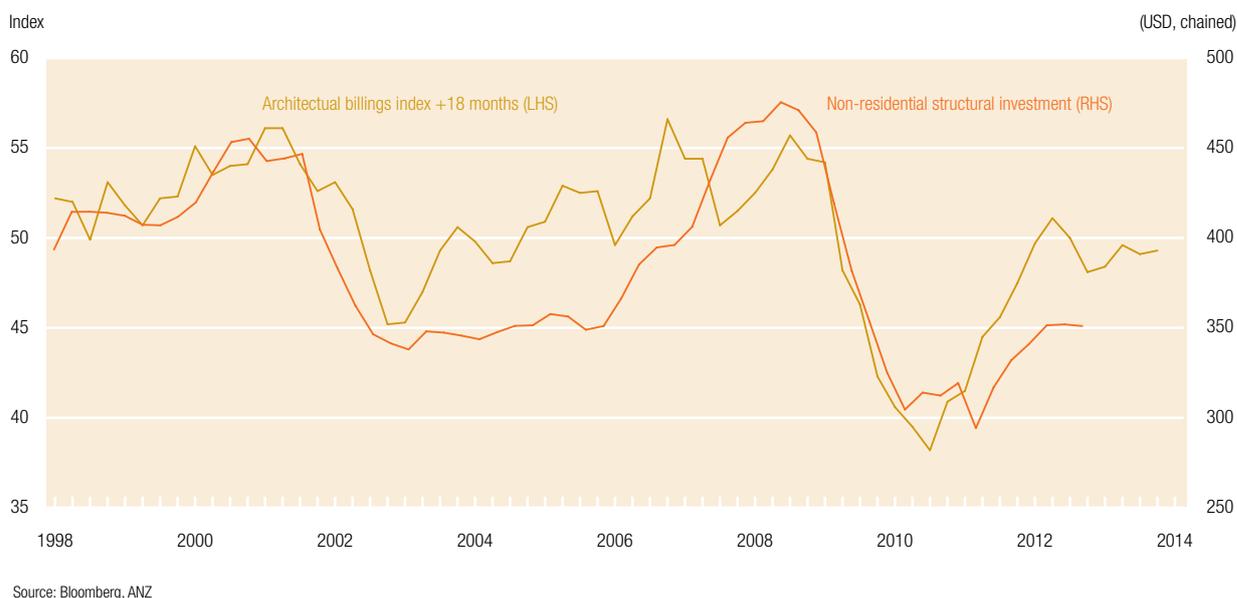


Figure 3
Construction activity should improve over the next year



Europe

Europe's priority is to maintain economic stability and growth while continuing on the path of structural reform. The ECB has effectively back stopped the peripheral economies reducing the probability of another de-stabilising financial event this coming year.

Europe is progressing slowly and painfully down the reform road with the ECB and the European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) doing their best to alleviate destabilising financial stresses. Economic reforms in the periphery are showing up in improved competitiveness and should ultimately provide a bedrock for sustained growth. That said, of immediate concern to the region is the fact that most euro zone (EZ) countries are in recession and there seems little prospect of them exiting in 2013. See Figure 4.

Europe's priority is to maintain economic stability and growth while continuing on the path of economic reform. Growth drivers are thin on the ground as the private-sector is deleveraging and governments are implementing austere fiscal programs. The inability to achieve growth has serious economic and social consequences. Already the unemployment rate in the

EZ is at a record high (11.6 per cent in September) and continues to climb.

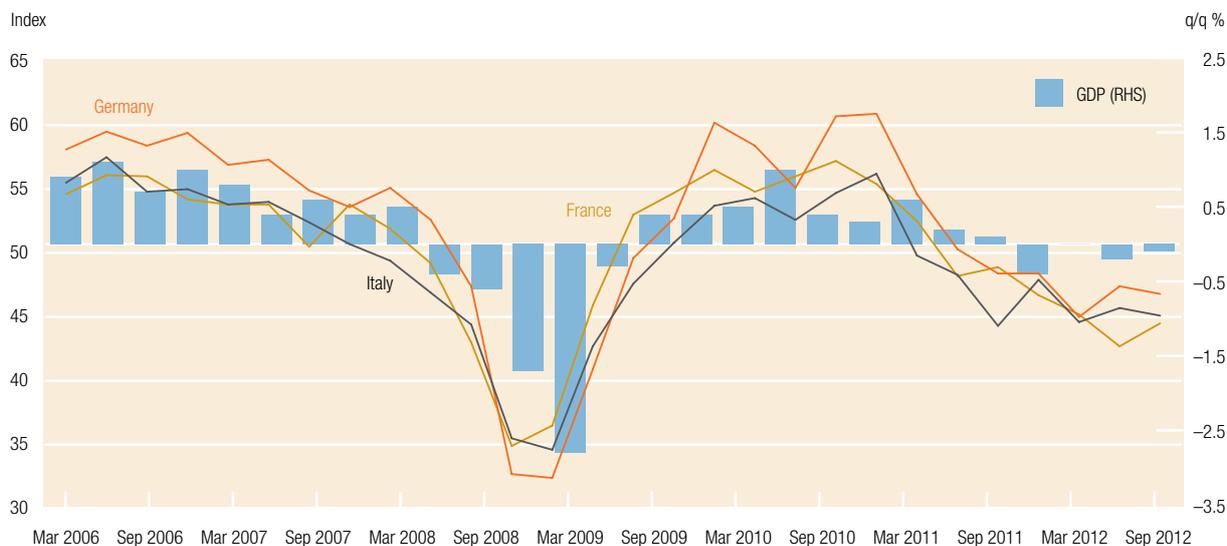
There are three main sources to deliver growth in the short term:

1. Ease back on fiscal consolidation;
2. Easier monetary policy; and
3. External demand.

Option one remains largely off the table, albeit some countries have been able to push back modestly on their deficit targets. Option three is probably Europe's best hope for growth, but is an exogenous solution and thus less than optimal. Option two represents the most immediate source of stimulus. However, the ECB has been reluctant to ease in recent times. Indeed, over the past year most of the ECB's focus has been on delivering unconventional measures (e.g. long term refinancing operations [LTRO]/outright monetary tractions [OMT]) to support financial stability. These measures have largely removed the risk of a sizeable downside shock to growth. The measures should also ensure that the central bank's monetary transmission mechanism works more efficiently. See Figure 5.

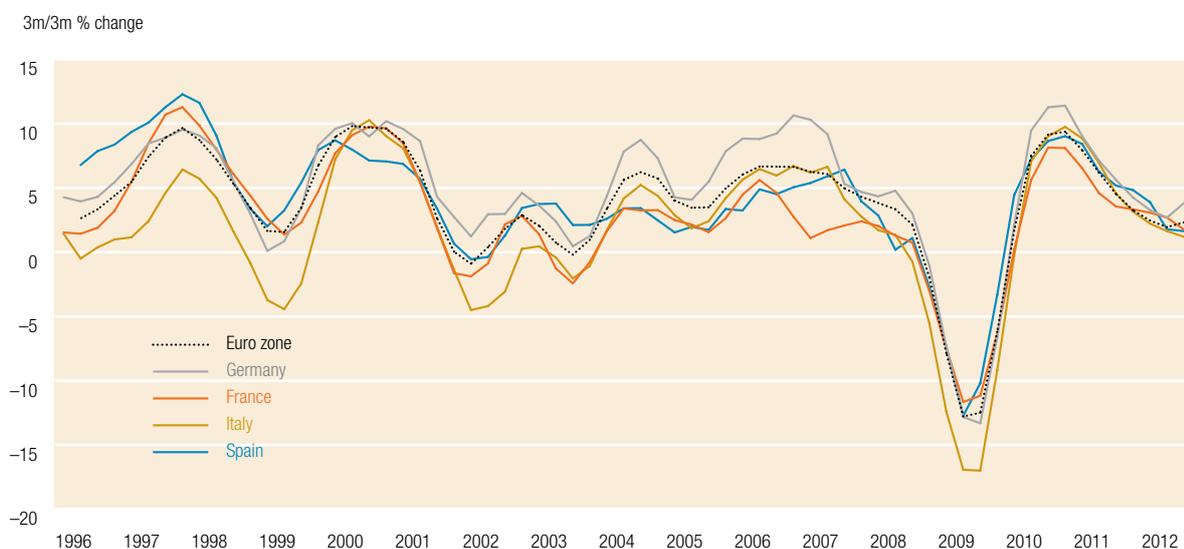
Next year pressure will build on the ECB to directly stimulate growth. We expect a further cut in the policy rate (by 25bp to 0.50 per cent) early in 2013. There are a number of options that the ECB might consider including: cut the deposit rate to negative; provide greater guidance about the policy rate over

Figure 4
The European economy was in recession in 2012 (Eurozone GDP and National PMIs)



Sources: Bloomberg, ANZ

Figure 5
Stronger global growth should help Europe in 2013 (exports)



Sources: Bloomberg, ANZ

the medium term, similar to the FOMC; adopt an unconditional asset purchase program (i.e. quantitative easing [QE]).

After contracting by around 0.5 per cent in 2012 we expect EZ GDP to more or less flat line in 2013. Modest growth in the core (Germany and France) will be offset by recessions in the periphery.

We expect the EZ to continue its long slow grind

of reform toward greater fiscal, financial and economic integration. Indeed, without reform and further structural adjustment there appears little reason to maintain the Euro in its current form. This will ensure sustainable growth over the long-run for the region as a whole and should provide greater uniformity (or convergence) in economic outcomes within the region.

China

Recent Chinese production figures, retail sales and inventory data all point towards an upturn this coming year. With accommodative monetary policy and ongoing fiscal spending this year, we expect China to achieve an annual GDP growth rate of 8.1 per cent in 2013.

While China's GDP growth declined to a three-year low in 2012, growth momentum has started to rise since September. With more accommodative monetary policy, in the form of reverse repo operations, and ongoing fiscal spending next year, we expect China to achieve an annual GDP growth rate of 8.1 per cent in 2013. See Figure 6.

As China's once-a-decade leadership transition has been completed, we believe fiscal spending will remain proactive this year on a stable political outlook.

We have observed that the Chinese Government has accelerated approvals of large infrastructure projects since the middle of 2012, with preliminary investment amounting to RMB7.0trn. As many projects will start in late 2012 because of an approval-to-construction lag of three to six months, the uplift impact on relevant sectors will take place in 2013. In addition, local governments will also become more active in engaging in new investment projects in the foreseeable future after Mr Li Keqiang,

the Premier in waiting until March 2013, affirmed that urbanisation will be a major driver of growth.

On the demand side, we have observed that property sales began to warm up in Q2 and Q3 2012, while property prices remained generally flat. We believe pent-up demand will help developers sell down their housing inventories, further supporting the property and infrastructure investment going forward. On the funding side, the People's Bank of China (PBoC) has encouraged firms to tap into direct financing by issuing more bonds, rather than rely on bank loans by maintaining an overall accommodative monetary policy.

While we believe that radical reforms to the current political and economic structure are unlikely in the coming three years, the Chinese Communist Party will continue to deepen reforms on the taxation system, social welfare system and resources pricing mechanism in the coming year to rebalance China's economic structure. Specifically, we think that China will lower the tax burden for corporates and the middle-income group, and cut the import tariffs for luxury goods to drive onshore consumption. A nation-wide pension system is expected to take shape as well in order to facilitate labour mobility and boost urbanisation.

We hold a cautiously optimistic view on China's economic outlook over the next year. The economy should see a generally modest upturn in 2013, with an annual GDP growth rate at 8.1 per cent y/y for the whole year. Economic growth will likely pick-up to above eight per cent in H1 2013 from 7.7 per cent in

Figure 6
Chinese growth momentum is building into 2013



Sources: Bloomberg, ANZ



“If the US housing market recovers faster than expected and the European debt crisis is contained we could see some upside risks to global economic performance. In this case, there could be more capital inflows into the Greater China region, resulting in renewed gains in asset prices, which will help boost consumption and inflation.”

“A faster recovery of China’s property market will likely encourage developers to start more housing construction, pushing investment to rebound further. On the downside, if inflation rises rapidly and triggers an earlier than expected monetary tightening, the economic upturn could be truncated.”



H2 2012, due to proactive fiscal policy and accommodative monetary policy. Inflation will start to worry the Chinese authorities in H2 2013. Monetary policy tightening in H2 could start to constrain economic growth as we head in 2014. Ultimately, the Chinese leadership is trying to maintain stable but strong growth of around 7.5 per cent.

Our baseline forecasts are subject to a number of upside and downside risks. We see some upside in our GDP forecast if external demand is stronger than expected. Currently, we project the G7 economy will grow 1.7 per cent y/y in 2013, up from an estimated 1.4 per cent in 2012. If the US housing market

recovers faster than expected and the European debt crisis is contained we could see some upside risks to global economic performance. In this case, there could be more capital inflows into the Greater China region, resulting in renewed gains in asset prices, which will help boost consumption and inflation. A faster recovery of China’s property market will likely encourage developers to start more housing construction, pushing investment to rebound further. On the downside, if inflation rises rapidly and triggers an earlier than expected monetary tightening, the economic upturn could be truncated.

Asia

The broader Asian economy will benefit greatly from a recovery in the US and China in 2013. Combined with more aggressive monetary policy actions in Japan, the risks to the outlook could quickly shift towards inflation pressures if growth momentum builds sufficiently this year.

In recent times weak external demand facing Asia has split the region's growth. This is reminiscent of the post-Global Financial Crisis period. In short, the large domestically focused economies (those less sensitive to G3 growth) are outperforming. We see this quite clearly in Indonesia and increasingly in the Philippines and Malaysia. In contrast, the story is much less positive in the tiger economies, where growth has been dampened by weak external demand.

Encouragingly, the slide in activity seems to have bottomed in late 2012. This is perhaps best seen in the turnaround in the orders-to-inventory ratio, one of our favourite indicators. Another indicator consistent with a turnaround is exports. Export growth weakened through most of 2012, dragging down broader economic activity, particularly in the more open economies. However, we are now seeing a modest rebound in export growth, led by China, and recently beginning to spill-over into the rest of emerging Asia.

Central banks in emerging Asia continue to hold their fire for the most part. Despite below potential growth this year and the existence of negative output gaps and low inflation, policy rates have been lowered only slowly. Going forward, we see the monetary easing cycle as largely complete. Growth is set to pick-up and output gaps should begin to close by the time the effects of any rate cut take effect.

We see growth picking-up over the course of 2013 in our baseline forecast. But a V-shaped recovery is not in store. The simple reason is that Asia's biggest trading partner region (Europe) will remain missing in action. That being said, we are forecasting a pick-up in Chinese as well as US growth which, combined with good domestic demand in Asia, should make for a decent, though not spectacular, period of activity ahead. The faster the rebound, the more likely the Asian split will disappear.

The risks to our outlook have shifted from negative to neutral-slightly positive. Europe remains a huge source of uncertainty and a disorderly ending to the ongoing debt crisis would certainly hit Asia hard. But we see some upside to both our Chinese and US baseline forecasts. If this is accompanied by a

recovery in the growth of global trade flows (which were particularly soft in the middle of 2012), Asia's rebound will be even stronger.

There is a growing sense of urgency from Japanese policy makers of the need to deliver internal growth drivers and reduce the reliance on external demand. That said, the outlook for the traded sector will be key to Japan's performance in 2013. A stronger Asian economy more generally augurs well for a cyclical improvement in external demand as does recent policy actions aimed at ending deflation. A strong Chinese economy is significant given that China is the number one destination for Japan's exports. We expect Japan's economy to grow by a little over one per cent next year, with the balance of risks around this view broadly balanced.

Australia

For Australia international conditions should improve in 2013, particularly as Asia's economy strengthens. This is likely to be offset by continued strength in the currency and a weakening of mining and energy investment from the middle of the year. The key to maintaining low unemployment will be to re-ignite the non-mining economy in the face of a still strong currency. We expect further interest rate reductions will be required.

Australia's economy continues to navigate the complex structural and cyclical forces driving the global economy at present, while maintaining relative domestic economic stability. Economic growth in aggregate is just below its long term trend; inflation is in the lower part of the Reserve Bank of Australia's (RBA) long held target zone of two to three per cent while unemployment is relatively steady at a bit below five and a half per cent. Government finances are in good shape with the Commonwealth Government in the process of moving the budget back towards a balanced position after the large fiscal stimulus following the GFC. The banking system retains a high credit rating while maintaining a reasonable level of profitability. See Figure 8.

This aggregate view of the economy is highly favourable. Taking a look below the aggregate numbers reveals an economy experiencing significant structural change and a high degree of caution on the part of many consumers and businesses (see

“The transition of Australia’s main driver of economic growth in coming years from mining and energy investment to exports and the non-resource sectors of the economy presents a major challenge to the domestic economic outlook and for policy makers. The labour market holds the key.”

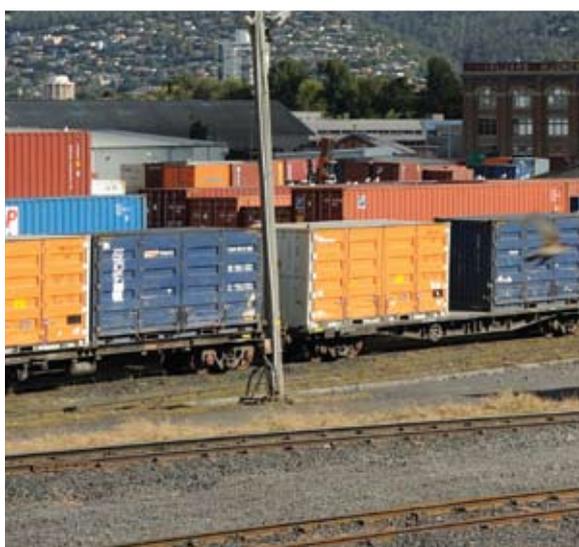
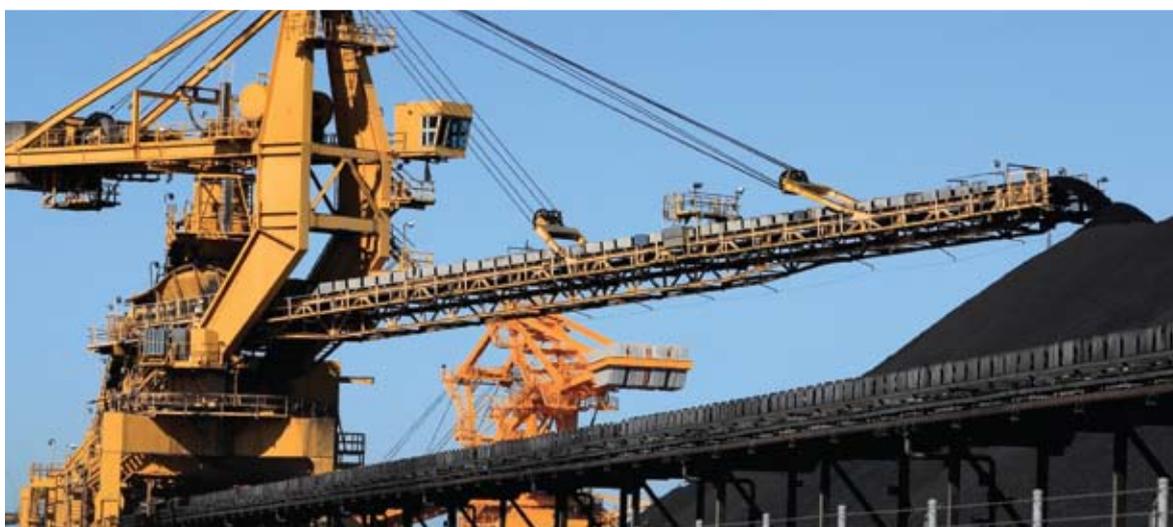


Figure 9). The Australian economic outlook is being influenced by a number of different forces: a challenging global economic backdrop (albeit with some improvement in the US and stabilisation in China); lower terms of trade and the looming peak in mining investment (see Figure 7); continuing weakness in some sectors associated with reduced appetite for debt; the high AUD; a softening labour market; and continued reductions in interest rates by the RBA.

The final months of 2012 have seen a deterioration in conditions in mining, which reflect cost increases, lower commodity prices, the high AUD and policy uncertainty. This has seen a number of major resource

projects cancelled or indefinitely deferred and a sharp fall in job advertising in WA and Queensland (previously the stronger labour markets). There have also been some coal mine closures and job losses in parts of mining. Business conditions in the mining sector as reported in the NAB survey have moved from significantly above trend to below the average levels of the past 15 years. This softening in mining investment and activity was confirmed in the official capital expenditure survey released by the Australian Bureau of Statistics in late 2012.

These developments mean our forecast for the peak in mining investment is now at a lower level and

Figure 7
Australia's terms of trade is expected to remain stable over the year ahead but off its highs

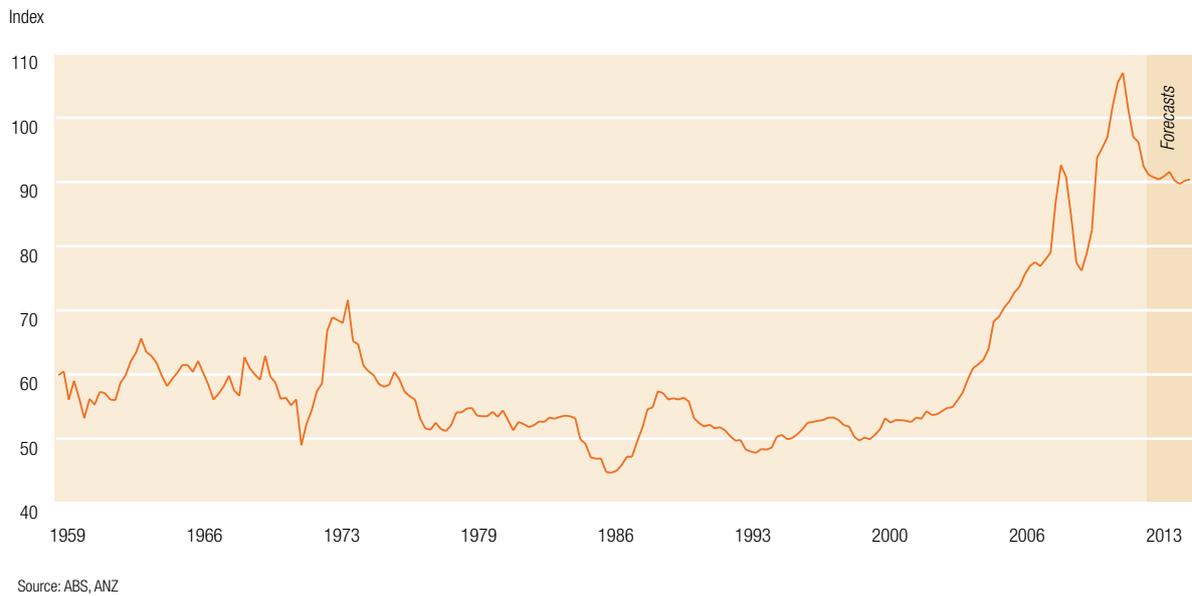
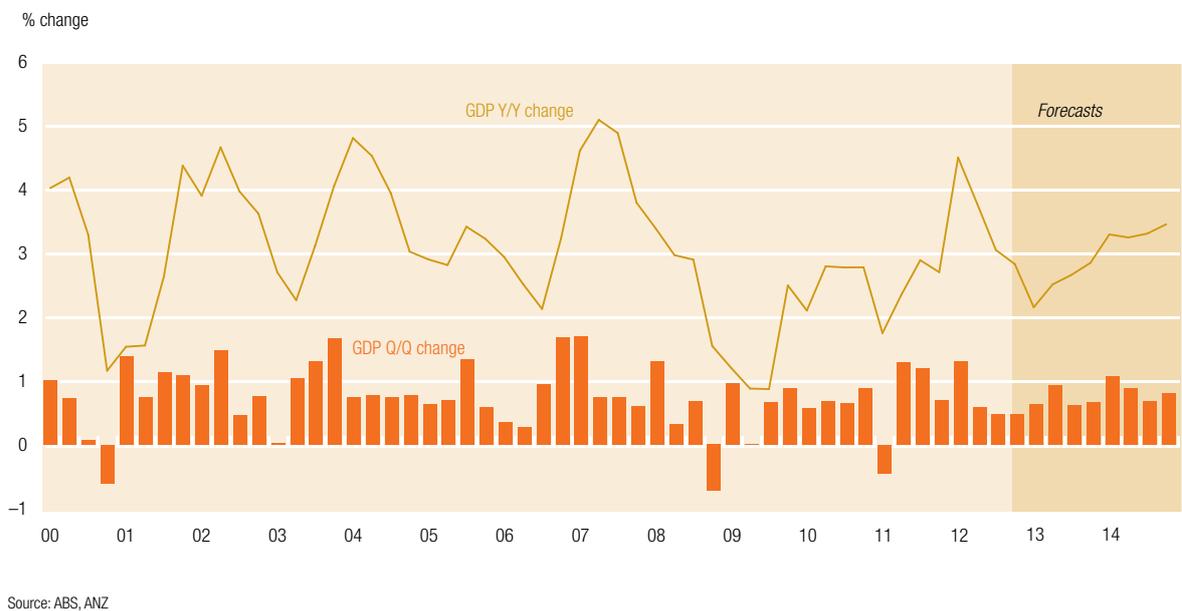


Figure 8
Economic activity will remain moderate in 2013

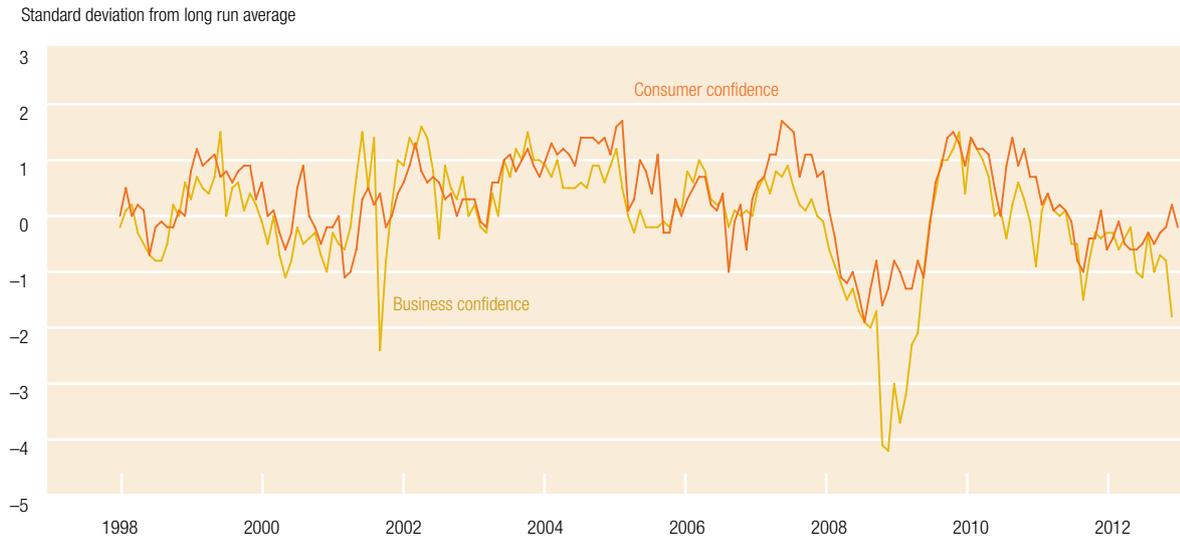


earlier. We previously expected a peak in 2014, but it is looking increasingly like that peak will come in the middle of 2013. The weaker conditions already being experienced in mining have re-focused the RBA from controlling inflation during the investment boom phase to cushioning demand as that boom winds down. The RBA is concerned with whether other sectors of

the economy will strengthen sufficiently to offset the drag from growth that will result from weaker mining investment. (See Figure 10)

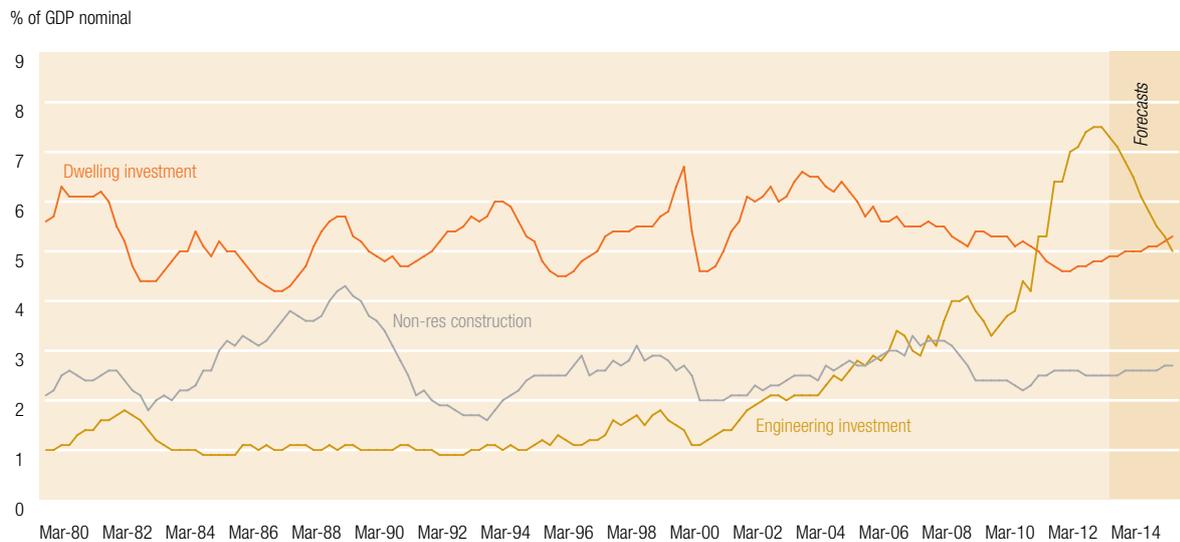
Our forecasts for the other components of demand anticipate some strengthening in housing construction as signalled by the recent moderate upward trend for building approvals – albeit a relatively modest

Figure 9
Weak business confidence is a major concern for the Australian economy



Source: Westpac, NAB, ANZ

Figure 10
Rotating economic growth from mining to non-mining



Source: ABS, ANZ

recovery to date. We are also expecting to see an improvement in non-mining non-residential construction and consumer spending (assuming lower interest rates and the continued deleveraging process is not significantly derailed by a further rise in the unemployment rate). Over the medium-term we are forecasting a stronger contribution to growth from net exports as

capital goods imports moderate and exports begin to flow from new resources investment. Government demand is expected to remain weak in an underlying sense outside of some major investments such as the National Broadband Network, as the budget is returned to a balanced position following recent deficits.

“Job advertising has weakened sharply in recent months as mining and related advertising has eased relatively dramatically. This reveals the weaker conditions that have existed in the non-mining parts of the economy, especially retail, construction and manufacturing.”



Weak job advertising trends reflecting a heightened focus on productivity across corporate Australia and also general business caution, suggest the unemployment rate will rise to 5.75 per cent by mid-2013. The risk, however, is that the unemployment rate rises toward six per cent given the recent easing in labour demand from the mining sector and continuing strong population growth.

Our foreign exchange team expects the AUD to remain relatively strong reflecting continuing weakness in the USD and further diversification flows into AUD assets. This is despite recent declines in the terms of trade. The AUD is somewhat overvalued on traditional commodity price and interest rate

model metrics, but it is worth remembering that the current situation is far from normal. Interest rates in three major currency blocs are at or near their zero bounds while quantitative easing is being used as a stimulatory tool in the major economies, while central banks are significantly diversifying their reserves into the AUD.

While the RBA has continued to espouse a glass half-full view of the Australian economy, it has continually had to revise down its view of economic growth and consequently ease monetary policy. Its most recent public pronouncements acknowledge the boost that some sectors of the economy are beginning to receive from prior easing, but quite

unusually, signal the likelihood that further easing may be required.

The key consideration in this regard is the need to ensure that housing, non-resources business investment, and consumer spending together strengthens sufficiently to offset the anticipated slowing in mining investment.

The transition of Australia's main driver of economic growth in coming years from mining and energy investment to exports and the non-resource sectors of the economy presents a major challenge to the domestic economic outlook and for policy makers. The labour market holds the key. While the official unemployment rate remains low (5.4 per cent), forward-looking indicators point to a moderate rise in the unemployment rate over the next six months.

With many commentators predicting the peak of the mining investment boom, the Australian economy will become increasingly dependent on a cyclical rebound in non-mining investment (including housing construction) in the years ahead. While new dwelling approvals have increased over the past year, the level of approvals remains below the long-run average. Historically, interest rates have been a key trigger for shifts in home building sentiment and activity. However, despite lower interest rates, detached house approvals remain weak. The recent rebound in medium/high-density dwelling approvals suggests an increase in residential construction. However, tight developer margins, difficult approval processes, the high cost and limited availability of greenfield developments and tight credit conditions will likely continue to constrain the prospective cyclical upturn.

Housing demand/supply fundamentals continue to tighten, with net migration and population growth accelerating and building activity only moderately higher than cyclical lows. Low vacancy rates, driven by strong demand for existing rental stock, is adding upward pressure to advertised rents across most Australian capital cities. This pressure in rental markets is also creating some 'spill over' activity in the home buying market from first home buyers, with the relative cost of mortgage payments to rents decreasing. Looking through the distortions of first home buyer policy incentives, first home buyer finance levels are around 25 per cent higher than the recent low in early 2011. We expect demand for first home buyer finance will continue to recover through 2013.

Some forecasters are concerned that speculative housing activity may reignite, though we see this as a very limited risk, likely to be contained by rising unemployment and modest expectations for house price gains. Similarly, the recovery of building approvals, rather than signalling the proximate end of the easing cycle, is mostly likely better interpreted as a sign that

monetary policy is beginning to have its desired effect in boosting interest-rate sensitive sectors. The key will be to ascertain the extent to which these other sectors strengthen and whether this is sufficient to offset softer resources investment spending.

Our overall GDP forecasts are for real growth of around 2¾ per cent in 2013 after 3¾ per cent growth in 2012. This is between ¼ and ½ a percentage point below trend growth, which naturally would incline the RBA to have an easing bias and accommodative monetary policy in place. With the AUD remaining high, the labour market easing and productivity strengthening, there seems little constraint from an inflation perspective for further easing, barring a sharp drop in the AUD (which would stimulate growth anyway).

We continue to monitor trends in ANZ job ads very closely. Job advertising has weakened in recent months as mining and related advertising has eased relatively dramatically. This reveals the weaker conditions that have existed in the non-mining parts of the economy, especially retail, construction and manufacturing. The risk is for further easing in 2013 if the non-mining sectors of the economy do not strengthen or the global economy remains weak. At this stage it is hard to make a strong case for Australian official interest rates moving in any direction but down over the next 12 months.

The views in this article are those of the authors and should not be attributed otherwise.

Table 2
Australian economic forecasts

Australian Economic Indicators	2011	2012 (e)	2013 (forecast)	2014 (forecast)
Economic activity (annual % change)				
Private final demand	5.6	5.8	3.2	1.8
Household consumption	3.3	3.5	2.6	3.4
Dwelling investment	0.7	-5.1	5.7	6.4
Business investment	17.3	17.7	4.4	-3.8
Public demand	-0.2	1.1	-2.0	1.2
Domestic final demand	4.2	4.7	2.0	1.7
Inventories (contribution to GDP growth)	0.3	0.0	-0.1	0.0
Gross National Expenditure (GNE)	4.6	4.6	1.9	1.7
Exports	-0.8	6.1	5.7	6.0
Imports	10.6	6.6	2.7	-0.7
Net Exports (contribution to GDP growth)	-2.2	-0.1	0.7	1.5
Gross Domestic Product (GDP)	2.4	3.7	2.6	3.2
Prices and wages (annual % change)				
Inflation*: Headline CPI	3.3	1.8	2.9	2.5
Underlying (RBA core)^	2.6	2.3	2.6	2.5
Wages	3.7	3.6	3.4	3.5
Labour market				
Employment (annual % change)	1.8	1.1	1.1	1.4
Unemployment rate (annual average %)	5.1	5.2	5.5	5.6
External sector				
Terms of trade (annual % change)	12.8	-9.2	-1.1	-1.5
Current account balance: AUD bn	-33.3	-54.4	-50.2	-39.1
% of GDP	-2.3	-3.7	-3.2	-2.4

* Includes carbon tax.

^ Average of RBA trimmed mean and weighted median statistical measures

Note: (e) = estimate

Source: RBA, ABS, ANZ

Table 2... continued
Australian economic forecasts

Interest Rates	Current	MAR 13F	JUN 13F	SEP 13F	DEC 13F	MAR 14F	JUN 14F	SEP 14F	DEC 14F
RBA cash rate	3.00	2.75	2.50	2.25	2.00	2.00	2.00	2.00	2.00
3 year bond	2.72	2.30	1.90	1.90	2.00	2.20	2.40	2.60	2.80
10 year bond	3.32	3.00	2.80	2.80	3.00	3.20	3.50	3.70	3.90
RBNZ cash rate	2.50	2.50	2.50	2.50	2.50	2.75	3.00	3.00	3.25
US Fed funds note	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50
Japan call rate	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
ECB refinace rate	0.75	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
UK repo rate	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Foreign Exchange Rates	Current	MAR 13F	JUN 13F	SEP 13F	DEC 13F	MAR 14F	JUN 14F	SEP 14F	DEC 14F
Australian exchange rates									
AUD/USD	1.04	1.05	1.05	1.05	1.05	1.03	1.01	0.99	0.97
AUD/¥	94.5	90.3	88.2	86.1	86.1	84.4	82.7	81.0	79.4
AUD/€	0.78	0.78	0.77	0.75	0.73	0.71	0.69	0.66	0.63
AUD/£	0.66	0.64	0.64	0.64	0.63	0.62	0.60	0.58	0.58
AUD/NZD	1.25	1.25	1.25	1.25	1.25	1.25	1.24	1.24	1.24
AUD/CNY	6.50	6.53	6.51	6.46	6.41	6.23	6.05	5.88	5.71
AUD trade-weighted index	78.3	77.4	76.8	76.1	75.6	73.8	72.0	70.2	68.5
Foreign Exchange Rates	Current	MAR 13F	JUN 13F	SEP 13F	DEC 13F	MAR 14F	JUN 14F	SEP 14F	DEC 14F
International cross rates									
USD/¥	90.5	86.0	84.0	82.0	82.0	82.0	82.0	82.0	82.0
€/USD	1.34	1.34	1.37	1.40	1.43	1.45	1.47	1.50	1.53
€/¥	121.0	140.2	137.8	135.3	136.1	136.9	138.6	138.6	137.8
£/USD	1.58	1.63	1.64	1.65	1.66	1.67	1.69	1.69	1.68
€/£	0.85	0.82	0.84	0.85	0.86	0.87	0.87	0.89	0.91



political OVERVIEW



Peter van Onselen is the Contributing Editor at The Australian newspaper and Sky News as well as a Winthrop Professor and foundation chair of Journalism at The University of Western Australia. He holds a PhD in

political science, a Masters in policy studies (with distinction) and a Bachelor of Arts with first class honours, also in political science. Professor van Onselen has written widely on Australian politics, including the bestselling: John Winston Howard: The Biography (Melbourne University Press).

Introduction

This year is a federal election year, with the polling date expected to be in the latter part of 2013. Rumours in the second half of 2012 that the Government might go to the polls at the beginning of 2013 were snuffed out by poor polling at the end of the year. In 2010 the election was called slightly early, for August, making September the most likely month this year's election will be held. The Government will want to give itself the maximum amount of time possible to claw back support, but to call the election any later than the month in which it was held three years earlier invites criticism from the Opposition that an unpopular government is clinging onto power. That was Kevin Rudd's criticism of John Howard ahead of the 2007 election when he waited until November despite the 2004 election having been held in August. Julia Gillard won't want to repeat his mistake, unless the polling towards the end of this year is so bad that the Government is more interested in holding onto office for an extra few months than it is in fighting an election unburdened by criticism that it delayed the start of the formal campaign.

This year will see some fiery policy debates on issues ranging from management of the economy to social policy particulars such as how to handle education reforms. And the carbon price will continue to loom large as a significant policy issue. But I expect the main political battleground to be about the viability of the major party leaders, as both campaign teams seek to undermine the credibility of the opposite side by zeroing in on the unpopularity of its leader.

Tony Abbott's electoral weakness is with female voters, helped along by the Prime Minister's willingness to start a gender debate, targeting the Opposition Leader as part of a sexist campaign against her. Opinion polls show that Abbott is far more popular among men than he is with women. The same trend in reverse applies to the Prime Minister, though her bigger issue is trust generally, which I expect the opposition to exploit for its political advantage.

On the Labor side Gillard's credibility has been hampered by perceived (and real) broken promises in the lead up to the 2010 election – in areas from the carbon tax to poker machine commitments to the backdown from the surplus pledge. The Opposition's attacks will be less about the detail of what the Government has or has not achieved, with the exception being the build-up of government debt, and will instead focus on exposing a broken bond between the electorate and the Labor Party on the issue of trust.

Labor will focus its campaign on Abbott personally, as mentioned, in a bid to convince voters that Abbott isn't worth the risk of electing prime minister. Despite the doubts voters may have about electing Abbott as PM, and the significantly stronger polling as preferred Liberal leader enjoyed by Malcolm Turnbull, there is little chance of a change of leader on the conservative side, even if the party vote slips. That is not to say the Coalition won't face leadership tensions in 2013, or that the security of Tony Abbott is necessarily a good thing for the Coalition's electoral prospects.

On the Labor side, there is no such certainty given the desperation poor polls can elicit amongst MPs. At the time of writing Julia Gillard appears safe to remain PM and contest the 2013 election. Rudd remains deeply unpopular within large sections of the Labor caucus, but self-interest can be a powerful motivator. If Labor MPs stop believing that Gillard can win the next election, or indeed protect many of their seats, a Rudd comeback just might re-emerge as a serious possibility in 2013.

The politicking of 2013

While the Labor Government has a number of key policies it must bed down in 2013 ahead of the election, the political and policy developments during the first two thirds of Labor's second term in office have been crucial to understanding the political dynamics likely to occur this year. The scandals during the current term, including in respect to Craig Thomson and Peter Slipper, have created an outward aura of chaos within the federal parliament. Yet at the same time as this media driven outward appearance, the Government has been remarkably successful inside the beltway at driving its policy agenda through a parliament in which it neither controls the numbers in the House of Representatives nor the Senate. Labor's challenge for 2013 will be for it to be an event free year, focused less on scandal and adversarial politicking, and instead on bedding down policies in a workman like fashion.

To the extent that the Opposition dominance in the polls may come under pressure in 2013 that will only come about because of a lack of policy work done during the deeply political period of minority government over the past two years. There is little doubt that the Opposition has played a deliberately short term political game during this parliamentary term, seeking to put pressure on the Government to force its collapse. The risk for the Coalition is that if Labor can have an event free 2013 leading up to the election, the long term failure to develop an alternative set of policies could see enough voters stick with the Government to secure it a third term.



“But for Labor to win re-election it not only has to retain all its seats, it needs to search for electorates it can win from the Coalition...with the unpopular spending cuts new LNP Premier Campbell Newman has been making, Labor strategists believe that they can pick up a handful of seats in the sunshine state.”



What does the electoral map tell us about the 2013 election?

The difficulty for Labor going into this year's election is all about the electoral map. As a minority government supported by rural independents representing conservative electorates (where they will struggle to retain their seats), Labor must pick up seats to hold office. Normally a government can “sandbag” seats in a bid to retain power despite losing some of the seats it holds, perhaps offsetting some of the loses by picking up seats elsewhere. But for Labor to win re-election it not only has to retain all its seats, it needs to search for electorates it can win from the Coalition.

This is a near impossible task made much harder by internal Labor polling leaked to the media revealing that it looks set to lose a number of seats in NSW as well as Tasmania. Looking around the rest of the country, Labor already holds a disproportionate share

of seats in Victoria (the PM's home state) and South Australia (where she was raised), making further gains in these twin states difficult to achieve. Western Australia sees the Coalition holding 12 of the 15 electorates, but because of the anger over the mining tax it is hard to see Labor eroding this lead.

That only leaves Queensland as Labor's best chance to capture seats from the conservatives. In 2010 the Government lost a host of seats in Queensland, perhaps in part due to Rudd having been removed as PM earlier that year. The passage of time may have reduced some of the voter anger over that decision, and coupled with the unpopular spending cuts new LNP Premier Campbell Newman has been making, Labor strategists believe that they can pick up a handful of seats in the sunshine state. However, so far published polling with state by state breakdowns has not provided much hope for the Government in this task.

Table 1
Primary votes in 2012 as a percentage (final, best and worst)

Party grouping	Final primary vote December 2012	Worst primary vote for 2012	Best primary vote for 2012	Election result 2010*
ALP	32	27 (Apr)	36 (Sep, Oct and Nov)**	38.0
Coalition	46	41 (Sep and Oct)	51 (Apr)	43.6
Greens	11	8 (Sep)	14 (Jun)	11.8
Other	11	9 (Feb and Aug)	15 (Jul)	6.6

* Note: Labor's primary vote recovered late in the year before ending 2012 with a primary vote of 32 per cent *Labor forms minority government

** Note: The first Newspoll of 2013 (released at time of going to print) recorded a primary vote for Labor of 38 per cent, the highest result for Labor since the election. Only time will tell if this is a new trend.

Table 2
Two party vote August 2010–December 2012

Date	Coalition	Labor	Date	Coalition	Labor
21 August 2010#	49.9	50.1	3–6 Nov 11	53	47
10–12 Sept 10	50	50	18–20 Nov 11	57	43
8–10 Oct 10	50	50	2–4 Dec 11	54	46
22–24 Oct 10	52	48	27–29 Jan 12	54	46
5–7 Nov 10	52	48	10–12 Feb 12	55	45
19–21 Nov 10	48	52	23–26 Feb 12	53	47
3–5 Dec 10	50	50	9–11 Mar 12	53	47
4–6 Feb 11	52	48	23–25 Mar 12	57	43
18–20 Feb 11	50	50	13–15 Apr 12	56	44
4–6 Mar 11	54	46	27–29 Apr 12	59	41
18–20 Mar 11	49	51	11–13 May 12	55	45
1–3 Apr 11	55	45	25–27 May 12	54	46
29 Apr–1 May 11	53	47	7–10 Jun 12	54	46
13–15 May 11	54	46	22–24 Jun 12	55	45
27–29 May 11	52	48	6–8 Jul 12	56	44
10–12 Jun 11	55	45	20–22 Jul 12	56	44
24–26 Jun 11	55	45	3–5 Aug 12	54	46
8–10 Jul 11	58	42	17–19 Aug 12	53	47
22–24 Jul 11	56	44	31 Aug – 2 Sep 12	55	45
5–7 Aug 11	56	44	14–16 Sep 12	50	50
19–21 Aug 11	57	43	5–7 Oct 12	54	46
2–4 Sep 11	59	41	26–28 Oct 12	50	50
16–18 Sep 11	58	42	9–11 Nov 12	51	49
7–9 Oct 11	57	43	23–25 Nov 12	51	49
21–23 Oct 11	54	46	7–9 Dec 12	54	46

Federal election result Source: Newspoll

What do the polls tell us for the future?

The scale of Labor's task to come from behind to win this year's federal election is best understood by reflecting on the polls. Since the Government was re-elected in August of 2010 there have been 50 Newspolls conducted, more polls than any other agency. Labor has only led the Coalition on the two party preferred vote on two occasions, both results registered before the announcement in late March 2011 to introduce a carbon price. During that same time Labor's primary vote dipped to a low of 26 per cent in September 2011, while the Coalition's primary vote moved above 50 per cent on two occasions, once in 2011 and again in 2012.

Perhaps most concerning for the Labor Government was the fact that while in late 2012 a polling recovery seemed on the cards – Newspoll registered two 50–50 two party results, in September and October – by years' end the final Newspoll had the Government's two party vote back to where it was at the end of 2011, and the primary vote for Labor was a mere one point up on where it ended 2011, at 32 per cent. The first Newspoll of 2013 saw Labor's primary vote jump to 38 per cent, the highest it has been since the election. Only time will tell if this is a new trend but for Labor to be competitive at this year's election it needs to start consistently securing a primary vote of 35 per cent or more.



“More wide ranging tax reform of the order discussed in former Treasury Secretary Ken Henry's report from 2010 will not be on the agenda in 2013, however much the nation needs the debate.”

“... (at the end of 2012) the primary vote for Labor was a mere one point up on where it ended 2011, at 32 per cent. The first Newspoll of 2013 saw Labor's primary vote jump to 38 per cent, the highest it has been since the election. Only time will tell if this is a new trend but for Labor to be competitive at this year's election it needs to start consistently securing a primary vote of 35 per cent or more.”



The policies of 2013

Will the Coalition's carbon tax scare campaign run out of puff?

Tony Abbott deliberately made the carbon price the main political issue during the current parliamentary term, in a bid to make the Government's backflip on its pre-election commitment not to introduce a carbon tax a defining moment in which Labor lost the trust of the Australian people. After Abbott narrowly lost the 2010 election because of his failure to negotiate the Coalition into minority government with the support of the rural independents, he knew that using compromises brokered by the Government with minor parties and independents to secure their support could be used to build distrust.

With television grabs of the PM declaring that there would be no carbon tax under a government that she leads, the Opposition Leader went on a national campaign to talk up the devastating impact the carbon price would have on industry, individuals and communities. In typical Abbott style the rhetoric was over the top and the tales of woe beyond realism. But it worked, in the short term at least, to demonise the carbon price as part of the problem within our economy, whatever its value for climate change action.

Details about the tax as a transition point before an ETS, or the fact both major parties are committed to the same 2020 emissions reduction target (five per cent according to 2000 levels) did not matter in this campaign. Nor did the size and distribution of the government's compensation packages, which began rolling out in the second half of 2012 once the carbon price had been enacted. The focus was on the carbon tax itself and what the PM had promised before the election.

But as the months have rolled by since the carbon price was legislated, it is doubtful that the new tax is still a front and centre issue for voters, certainly not in pure policy terms. Most people realise that electricity price rises are more about the poles and wires than the carbon price. But where the carbon price will matter in 2013 is with respect to the broken promise by the PM before the 2010 election. In other words, carbon pricing is no longer about the details of the policy, or indeed how Labor's carbon tax transitioning to an ETS compares with the Coalition's direct action scheme. It is about the politics of the issue: whether the Opposition can keep people focused on Labor's broken promise not to introduce a carbon tax.

Abbott may have lost people's attention about the impact of the carbon price in 2012, perhaps because of his overblown rhetoric, but I predict that he will continue to capture the attention of voters in 2013 on what the new tax symbolises: a government which can't be trusted. The anti-carbon tax campaign personalises the election for Gillard in a way which plays into her negatives on trust, and there have been other issues in the political mix in 2012 which will further extend the narrative of such a campaign by the Opposition.

It's the economy, stupid

The promise before the last election to achieve a budget surplus in 2013 is another broken promise by the Government that the Opposition will seek to exploit politically. Treasurer Wayne Swan announced just prior to Christmas that the surplus was now unlikely to be achieved. The pledge had come about because Labor had two problems during the 2010 election economic debate, both of which will resurface this year. The first was that it could not run entirely on its economic track record of managing the nation through the GFC because that led to inevitable questions as to why it therefore removed the prime minister who had led the nation at the time. Secondly, Liberal Party attack ads aimed at rising debt during the 2010 campaign were showing up in focus group research for Labor as highly damaging, and therefore they needed to be countered. This led to the surplus pledge during the 2010 election campaign, and the inflated rhetoric that it was a guaranteed delivery point for the Government for the 2012-13 financial year.

This year, expect the Coalition to campaign hard on the surplus pledge as yet another act of dishonesty by the Government. Expect the election advertisements of the Coalition to focus on the size of the debate, followed by the broken promise to achieve a surplus, leading to the suggestion that voters can't trust Labor to run the economy. It will be a powerful macro campaign which Labor will find very difficult to counter. The Government's difficulty in this respect is heightened by the nature of modern politics: the focus on the Government and whether it has earned the right to be re-elected. The Coalition's economic credentials are weak, but only six years since the Howard/Costello team were running the economy has not been enough to erode voter confidence in the Coalition team as economic managers, even if details of what the current Coalition in opposition would do when running the national economy are scant and the personnel at the apex of the Coalition finance team in government are no longer in the Parliament.

Tax reform anyone?

The elephant in the room in 2013 will be tax reform. The nation needs it but neither side of politics is willing to embrace it. Most economists agree that increasing the rate of the GST, or broadening its base, would be a good start, but the politicians don't want to discuss the issue. Tony Abbott is scarred by his experience working as John Hewson's press secretary during the 1993 Fightback! election, and has a questionable interest in economic reform at any rate. The Labor Government can be politically tarred as having put up too many taxes already to consider doing so on the GST (despite a low tax to GDP ratio courtesy of reduced revenue streams), and has ruled out even debating the issues at previous tax forums it has held. There is some chance that 2013 will see adjustments to the Minerals Resource Rent Tax, and that superannuation reforms will get another look in, but more wide ranging tax reform of the order discussed in former Treasury Secretary Ken Henry's report from 2010 will not be on the agenda in 2013, however much the nation needs the debate.

Will education reforms reach revolutionary heights, and how much detail will we see on funding the National Disability Insurance Scheme (NDIS)?

Issues based opinion polling traditionally shows that Labor leads the Coalition as the better managers of social policy areas like health and education. While as part of the government's overall poor polling Labor has been shown to have been around even in these traditional strongholds, the introduction of legislation on schools funding following the Gonski Review, and the introduction of legislation to allow trials for the NDIS will ensure that this election year has a significant social policy flavour about it.

The final parliamentary week of 2012 saw legislation on both policy areas pushed through the parliament, and just prior to the PMs final meeting with state premiers for 2012 a funding deal between the Commonwealth and NSW for the NDIS was announced, with comments by other state premiers in the media showing a fresh preparedness to also do a deal.

While finding the funds for the Commonwealth to pay for its increased share for the NDIS buttresses up against the need to balance the budget, providing an NDIS is a popular initiative and is receiving (albeit qualified) bipartisan support. The risk for Labor in terms of its economic credibility is that pressure to

spend more sees the budget deficit grow significantly this year. The risk for the Coalition in protecting its commitment to return the budget to surplus is that opposing popular social policy initiatives could carry electoral costs.

In 2013 the NDIS will be a policy winner for Labor, and the Government will seek to expose disunity within the Coalition over whether it is committed to delivering the scheme. But we are unlikely to see full funding details from either side ahead of the election.

Education is a different matter. The legislation for the Gonski reforms was broad brush, even including a disclaimer that what was passed is not binding, a legislative approach I cannot recall any Australian government having previously adopted. It spoke to the Government's need to score a legislative win on education before 2012 ended, but an equal need to build more detail around the framework, including funding, during this year. That is certain to happen, and the funding side of the equation is made easier with the surplus backdown no longer fiscally constraining what the Government can announce, albeit with the same economic credibility caveat noted with respect to the NDIS. This will also likely put a wedge into the Opposition, which remains committed to the surplus and cannot necessarily support all the government's announceables on the education front without risks of a hit to its economic credentials.

Labor wants to make education policy differences between the major parties a key election issue in 2013. While Labor's multiple ministers for tiers of education are weak politically, the PM is seen as passionate about the policy area, and is comfortable debating it given her background as a former minister for education. In contrast the shadow spokesman Christopher Pyne plays a more general role for the Opposition within the media, and is also the Manager of Opposition Business in the House of Representatives, and education policy is not a favourite ground for Tony Abbott to focus his attention.

Locating an Opposition agenda for Government

The Coalition have released far more policies on their website than the media gives them credit for, but it is difficult to organise them into a coherent framework. Tony Abbott released a book with a selection of his policy speeches in late 2012, in an attempt to mirror the broadly based headland speeches that John Howard delivered during 1995 in the lead up to the 1996 election. But Abbott's speeches lack a clear narrative, partly because he wants to retain a small target approach right up until polling day, or at



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least until the formal campaign starts. The Opposition will ensure that it has policy announceables for each day of the month long campaign in 2013, but details will be thin on the ground. The reason the Coalition is approaching this year this way is simple: it wants the Government to stand or fall based on its record, not have voters consider giving Labor the benefit of the doubt based on concerns about the Opposition.

And with the Opposition expecting that the fiscal state of the nation will appear worse once it gains access to the Treasury benches, it wants the flexibility to develop policies after the election differently to the approach that it took before it. This is difficult to do if an opposition outlines a brace of detailed commitments prior to the election.

Don't forget the minor parties and independents

What challenges do the Greens face under new leadership?

This election year will be an especially challenging one for the Australian Greens. With power comes responsibility, and the Greens new found power as the holders of the balance of power in the Senate during the current parliamentary term, once the senators elected at the last election took their seats half way through 2011, has seen them come under more media scrutiny than had previously been the case. Equally, their role as a partner in government with the Labor Party, as part of the minority construct in the House of Representatives, has seen the Greens forced to defend government policies in a way that minor parties are not normally required to do.

The most significant challenge for the Greens in 2013 will be seeking re-election as the holders of the Senate balance of power without their founder and long term parliamentary leader Bob Brown, who retired from his senate position in 2012. Brown was a successful campaigner, able to present a somewhat softer image for the Greens than some of the more radical elements of the parliamentary team who remain. Without him fronting their campaign, new

leader Christine Milne will need to show enough traditional protest voters that she is capable of holding together a party with emerging tensions between its environmental wing and its social justice wing.

Despite these challenges, there are two key factors which favour the Greens retaining their existing parliamentary representation, with the possible risk of losing its one lower house MP, but the opportunity to pick up additional Senators. First, any protest vote against the Government among left leaning voters is unlikely to hurt the Greens. Where else can they park their vote in a compulsory preferential voting system? The Government is battling a disaffected electorate, making the prospect of such protest votes higher. And because the Greens are no longer challenged in the minor party space by a similar protest vote party like the Australian Democrats, there are few realistic options for left leaning voters beyond supporting the Greens. Secondly, even though the Greens picked up a Senator in every state at the 2010 election, the next election will be a half Senate contest, meaning that only Senators elected in 2007 will face re-election (Senators are elected for six year terms). Despite much fanfare about the Greens performance in 2007 ahead of the election, its strong primary vote was only matched by winning three Senate spots, which opinion polls suggest it is more than capable of retaining.

If the Greens are to face a challenge of a magnitude likely to impact on the size of its parliamentary representation, it will more likely come at a double



“The most significant challenge for the Greens in 2013 will be seeking re-election as holders of the Senate balance of power...there are two key factors which favour the Greens retaining their existing parliamentary representation, with the possible risk of losing its one lower house MP, but the opportunity to pick up additional Senators.”

dissolution election, if Tony Abbott wins this year's election and is forced back to the polls to repeal the carbon and mining taxes. Such contests are traditionally two party orientated, meaning that the Greens entire Senate line up would face voters when it is wedged out of the main political debate.

The best of the rest

Queensland maverick independent MP and former National Party representative, Bob Katter, has funded a new party, the Australia Party. He should win re-election for the lower house and his party is capable of picking up a Senator in Queensland and perhaps challenging in other north Queensland seats. More likely the party's greatest influence will be in terms of its preferences. The rural independents Rob Oakeschott and Tony Windsor will both struggle to win re-election off the back of supporting the Labor Government despite the demographic profile of their electorates. Windsor stands a better chance than Oakeschott, but with former NSW Independent Speaker Richard Torbay challenging Windsor his re-election profile has become much harder. Tasmanian independent Andrew Wilkie is likely to be re-elected, and South Australian independent Senator Nick Xenophon should also win re-election comfortably. A minor party to watch is the re-emergent Democratic Labor Party. The DLP picked up a surprise sixth senate spot out of Victoria at the 2010 election and just might add to its tally this year. If it does, in combination with Xenophon there is a real chance that the Greens could lose control of the Senate balance of power, even if they retain their current number of senators.

Conclusion: A re-elected Labor Government looks a bridge too far

While Tony Abbott is an unwanted candidate for the prime ministership in large sections of the community, including among voters who plan to nonetheless vote for the Coalition, the likelihood is that he will end this year leading the Coalition to an election victory. A political comeback by Labor which sees Gillard re-elected would outstrip the comeback Paul Keating achieved in 1993 when he defeated John Hewson. And while a return of Rudd could pose serious problems for an unpopular Abbott, it is difficult to see that happening, and even if it did it is difficult to see Labor unifying around the former PM.

If I am right, and Abbott does win this year's election, the two most interesting issues to be debated in the aftermath will be the repealing of the mining and carbon taxes. Legislation for both could be enacted before 2013 ends. Will Labor allow such changes through the upper house? Will the Coalition seek to achieve such changes immediately after the election, in a final sitting period in say November? And will Abbott make good on his pledge to call a double dissolution (DD) election if one or both pieces of legislation is rejected by the Senate? I certainly believe that Abbott will call a DD if the legislation to remove the carbon pricing laws are rejected by the Senate, but I'm not so sure that he would risk a second election just on the mining tax laws alone. Given that they have been shown to have a minimal ability to raise revenue anyway, it's hard to argue the mining sector needs the laws repealed, and the way that the laws have been structured the Coalition could reduce the effective rate to zero via regulations without needing to pass new laws, thereby claiming that it had removed the tax despite opposition in the Senate.

Labor, in my view, is less likely to block the repeal of the carbon price after an election defeat than it is to block the mining tax being removed. Either way, it is doubtful Abbott would rush back to the polls. He needs three months between the Senate rejecting the changes and bringing the laws back to the Senate to give him the trigger needed for a DD. He would then likely want to wait for the half senate to adjust the senate numbers in mid 2014 before demanding a fresh election.

2013 looks set to end with the uncertainty that a fresh election might be required in the New Year, assuming Abbott defeats Gillard at the polls. If Gillard finds a way to win the next election, Abbott's political leadership will be over and the PM's time in power will only just be getting started. By overcoming Abbott, Gillard will also have thwarted Rudd and his supporters, giving her a new found freedom from leadership speculation. And she will have bedded down major policy achievements, from carbon pricing to an NDIS. A Gillard victory would transform the way the history books recall the current parliamentary term. From a dysfunctional period in modern politics, despite legislative achievements, into the defining period in the career of a new heavyweight among historical prime ministers.

At the time of writing this looks highly unlikely. More likely 2013 will be the year Australia elected Tony Abbott as its 28th prime minister.

The views in this article are those of the author and should not be attributed otherwise.



The outlook for electricity prices in 2020



Paul Simshauser joined AGL in 2008 as Chief Economist and Group Head of Corporate Affairs. He has overall responsibility for regulated pricing, economic policy and sustainability, energy regulation, government affairs, media and corporate communications, and emerging technology.

Paul has over 20 years experience in the energy industry and holds Bachelor Degrees in Economics and in Commerce, a Masters Degree in Accounting and Finance, and a PhD in Economics from the University of Queensland. He is an FCPA, an AFMA Accredited Dealer and a Fellow of the Australian Institute of Company Directors.

Paul is Professor of Economics at Griffith University's Business School, and is widely published on energy economics in academic journals. Paul is also a member of the Australian Bureau of Resource and Energy Economics Advisory Board and a member of CEDA's Council on Economic Policy.



Tim Nelson is the Head of Economics, Policy and Sustainability at AGL Energy. In this role, Tim is responsible for: AGL's sustainability strategy; greenhouse accounting and reporting; AGL's energy and greenhouse research;

AGL's corporate citizenship program, Energy for Life; and energy and greenhouse policy.

Tim is also an Adjunct Research Fellow at the University of New England and has had several papers published in Australian and international peer-reviewed journals. He has presented at conferences in Australia and throughout Asia and Europe.

1. Introduction

Competitively priced electricity is a necessity to facilitate economic growth and to improve the living standards of all Australians. Australia has about nine million residential and 1.2 million business electricity consumers. Households depend upon competitively priced electricity for the essentials in life and businesses cannot produce goods and services without it.

Historically, electricity purchase decisions by Australian households and firms have required little thought. Although there was an initial wave of over-investment from the late-1970s to the mid-1980s, it was followed by sustained microeconomic reforms (including the Hilmer reform) of the supply-side of the electricity industry. The 2002 COAG Energy Market Review¹ found that those supply-side reforms of the electricity industry delivered GDP benefits of \$2 billion annually. Above all, electricity prices fell in real terms throughout the period spanning 1985 to 2007.

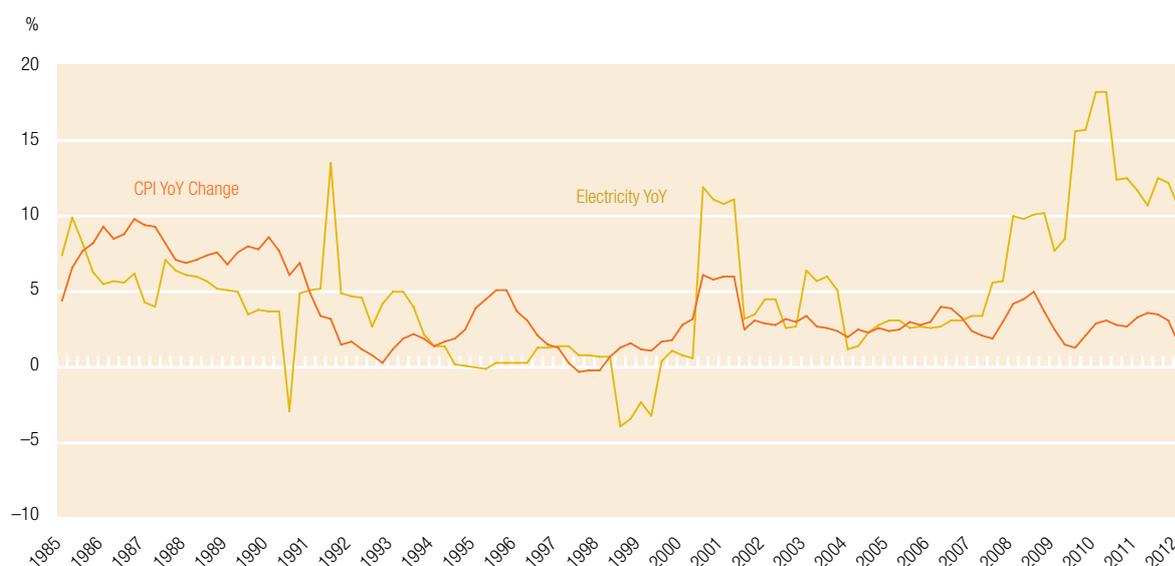
However since 2008, there have been marked increases in the price of electricity. This is shown in Figure 1, which depicts the year-on-year change in the Consumer Price Index (CPI) and the Electricity Price Index from 1985 to September 2012. The most striking observation from Figure 1 is the diversion between general price inflation and electricity price inflation from 2008. Default electricity tariffs have increased by more than 10 per cent (year-on-year) since 2009

while general inflation has remained below three per cent. This can be contrasted with the previous 18 years where electricity prices decreased in real terms. With such a significant structural break, policymakers have rightly begun to focus on significant demand-side reforms aimed at reducing electricity prices. Our subsequent analysis in this article reveals that these reforms could result in electricity prices falling by 10 per cent by 2020 in real terms.

Electricity use is not confined to households. Australia's largest 250 business users consume 40 per cent of national electricity output. At the same time that electricity prices have been rising, many businesses have been adversely affected by rising business costs and the rising Australian dollar. With Australia's terms of trade retreating from record highs, improving productivity has rightly become a focal point, and as the outgoing Chairman of the Productivity Commission recently noted, the electricity industry has an important role to play given the recent run-up in the capital stock.²

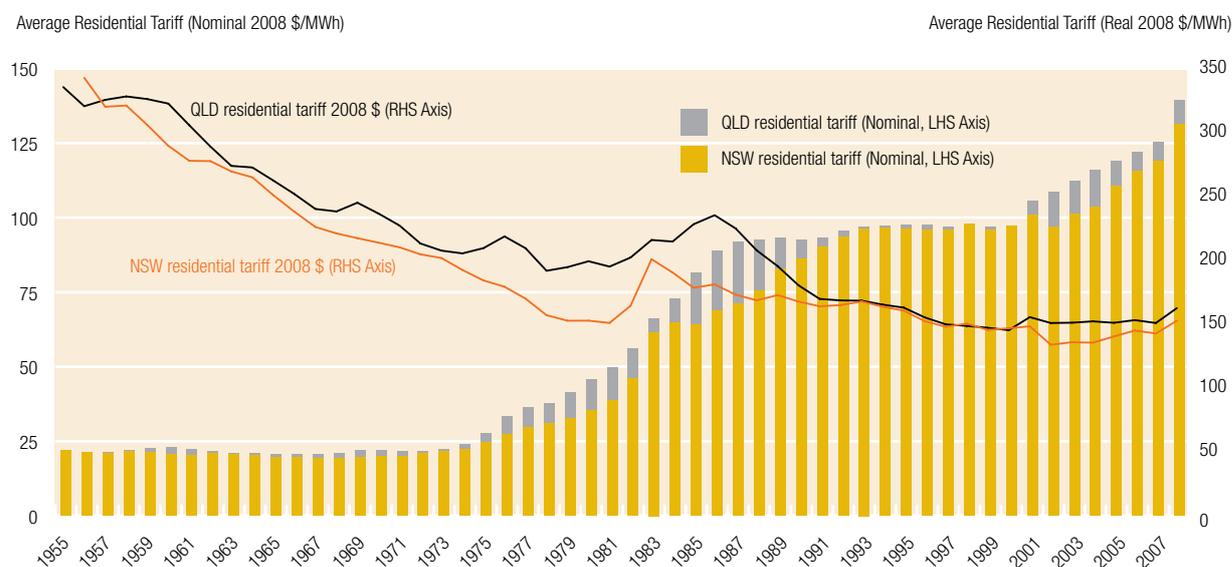
This article is structured as follows: first, we provide a history of the Australian electricity market and pricing to 2008 to give context to the current debate. Second, we examine why electricity prices have increased markedly since 2008. Third, we discuss current pricing trends and what electricity prices in 2020 may look like. Finally, we provide recommendations for policy reform intended to alleviate electricity pricing pressures.

Figure 1
Consumer price index and electricity price index (year on year change)



Source: ABS (Category 6401.0)

Figure 2
Electricity prices in Australia to 2008



Source: Simshauser, Nelson and Doan (2011)

2. A brief history of electricity prices in Australia to 2008

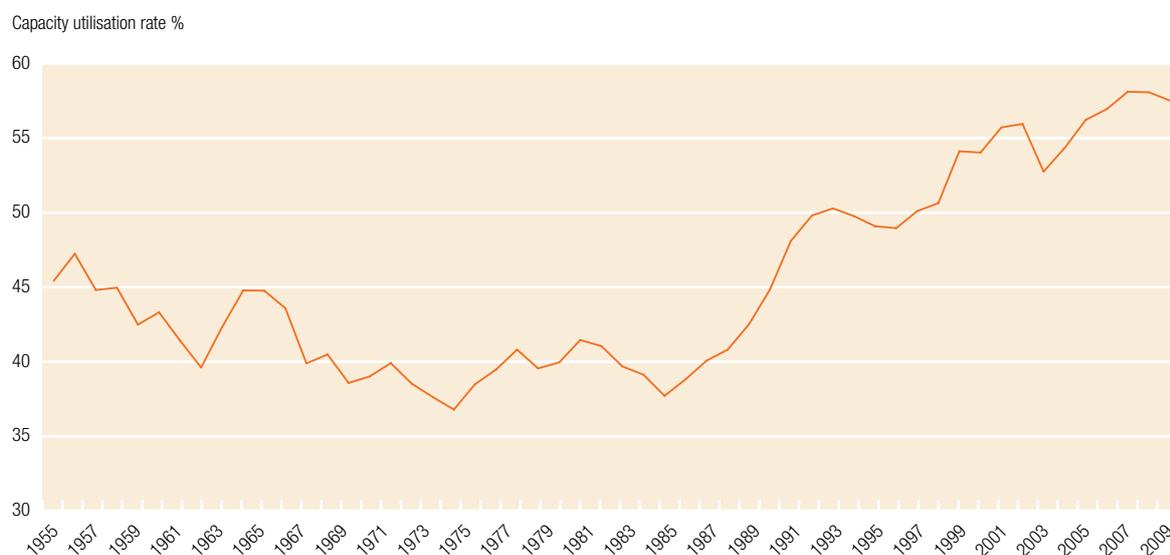
The electricity industry is generally characterised as having three supply chain components: generation (i.e. power stations), transmission and distribution (i.e. poles and wires) and retail supply (marketing, customer services and billing). Generation operates through competitive markets, including the National Electricity Market (NEM) on the east coast, and the South-West Interconnected System on the west coast, while the natural monopoly components (transmission and distribution) are price-regulated by the Australian Energy Regulator (AER). Retail prices are generally competitive, but price regulation remains a policy constraint in New South Wales, Queensland and Western Australia, and regulatory outcomes therefore play a key role in determining the efficiency, competitiveness and innovation of retail electricity supply in Australia. Victoria and South Australia have deregulated their retail electricity markets, allowing consumers greater choice thereby facilitating investment and innovation.

Figure 2 shows real electricity prices (line series) and nominal electricity prices (bar series) for NSW and Queensland residential customers from 1955 to 2008. Two periods of sustained real price reductions are discernible: One, the period between 1955 and

1979; and two, the period between 1985 and 2008. The period between 1955 and 1979 was characterised by significant expansion within the industry. Larger coal-fired power stations were constructed and economies of scale resulted in real reductions in the cost of energy supply. Installed generation capacity in Australia increased from 3500 MW in 1955 to 24,000 MW by the late-1970s. Over the same time period, households in NSW and Queensland increased their consumption from two MWh per annum to six MWh per annum. By 1979, the real price of electricity had fallen by a third from around \$300/MWh to about \$150/MWh.

However, it is the second period of real price reductions between 1985 and 2008 which is of more interest to our analysis. The early 1980s saw rapid price increases over a short period of time. This was the result of significant investments in power infrastructure to overcome shortages of supply, but quickly turned into an 'over-equipment' scenario. As a consequence of these price increases and a general desire to improve the productivity of the Australian economy, policymakers turned their attention to the management of the supply system, and later began a process of disaggregation, greater interconnection between regions, the introduction of competition and privatisation. Vertically-integrated, state-owned monopoly electricity commissions were exchanged for competitive wholesale and retail trading markets, although the natural monopoly elements of the

Figure 3
Generation capacity utilisation in the NEM region (1955–2008)



Source: ESAA, AGL Energy.

supply chain (i.e. the poles and wires) remained price-regulated.

As a consequence of these (largely supply-side) reforms, real residential electricity prices fell from \$220/MWh in 1985 to \$150/MWh in 2008. In the regions which now form the NEM, total installed generation capacity over the period increased from 28,000 MW to 40,000 MW but most importantly, generation capacity utilisation improved considerably – from just 39 per cent in 1985 to 58 per cent in 2008.

As Figure 3 notes, plant capacity utilisation in the NEM regions in 1955 was 45 per cent. The productivity of the generation fleet deteriorated through to the mid-1980s before rebounding sharply through to 2008. The rise in plant performance, strengthened transmission interconnections, ongoing improvements in investment decision making, greater use of flexible plant, and the opening up of wholesale electricity markets to competition lifted sectoral efficiency and productivity. And so by 2008, plant utilisation rates had risen to 58 per cent. To be sure, there are limitations to system utilisation improvements – the ‘binding constraint’ relates to power system load factors and the requirement for ‘reserve plant’ to ensure security of supplies.

Since 2004, ‘peak demand’ (the highest level of demand in a year) increased at twice the rate of underlying energy demand (the volume of energy sold in a year). This divergence in growth will lower

the overall power system capacity utilisation rate (as Figure 8 later reveals), and underlies one of the primary reasons for electricity price rises between 2008 and 2013. Supply-side reforms achieved substantial improvements in power system utilisation rates, while simultaneously, consumers continued to use energy in a way which reduced capacity utilisation because market signals which would otherwise assist capital productivity (i.e. time-of-use tariffs) did not exist.

Peak demand (and more importantly, localised peaks at the distribution network element level) represent a largely unaddressed component of recent reforms. With the exception of Victoria from 2008 and South Australia from 2013, retail electricity prices for small business and residential consumers remain regulated, and even within Victoria, time-of-use pricing does not feature prominently.

Historically speaking, we consider this to have been a critical oversight in policymaking with the notable exception of the Australian Energy Market Commission (AEMC)³. Electricity is relatively unique among goods and services because it cannot be stored economically. As it is produced, it must be consumed, and more importantly, vice versa – including suitable reserve plant margins (i.e. purposefully engineered excess capacity to ensure real-time supply meets the stated ‘reliability criteria’). This remains a critical constraint – inventory management cannot be used to smooth production schedules,

“One estimate put the investment cost to serve critical peak demand at \$8 billion merely to serve 12 extreme weather days per annum. The Productivity Commission recently found that “some 25 per cent of retail electricity bills are required to meet around 40 hours of critical peak demand each year.”



nor to meet variable demand, at least until energy storage becomes economic. Electricity markets are also characterised by significant demand variability as a result of changes in weather and anthropogenic patterns. Space heating and cooling results in rapid increases in the demand for electricity for short periods, principally on the hottest and coldest days of the year. One estimate has put the investment cost to serve critical peak demand at \$8 billion merely to serve 12 extreme weather days per annum. The Productivity Commission⁴ recently found that “some 25 per cent of retail electricity bills are required to meet around 40 hours of critical peak demand each year”. The presence of this investment raises the cost of electricity and places a visible drag on electricity industry performance, and therefore the productivity of the nation.

Genuine demand-side reform has not, thus far, been pursued with any real vigour. Retail electricity pricing is based on simple flat tariff structures. Applying this type of pricing framework to other industries would lead to material losses in welfare and economic efficiency – as US energy economist Ahmad Faruqi⁵ once observed, imagine reverting to flat pricing in aviation – business travellers would be unable to secure seats during peak periods, and holiday travellers would no longer be able to find cheap fares. Aviation fleet utilisation would deteriorate rapidly and the average cost of flights would hence rise. Yet this is exactly how the energy sector prices its product. Time-of-use pricing is virtually non-existent at the domestic level with the exception of electric hot water loads.⁶

3. Why have prices increased so significantly since 2008?

In 2009, we produced a particular line of research on electricity prices that would eventually be published as *The Boomerang Paradox* articles in *The Electricity Journal*⁷. Starting from a residential tariff of approximately \$150/MWh in 2008, we forecast that electricity prices would double by 2015 due to a range of factors. A breakdown of our original analysis is presented in Figure 4. The 2008 NSW residential tariff is presented on the left with each bar to the right representing the incremental increase associated with a range of cost drivers.

The price forecast was based around three drivers of higher costs: significant increases in network costs driven by both higher capital expenditure and increasing peak demand; increases in wholesale energy costs driven by carbon, higher costs of generation plant (arising from higher capital costs) and the cost of funds (cost of capital) and deteriorating utilisation rates as Figure 8 later reveals; and significant increases in the price of coal and gas due to rising international commodity prices.

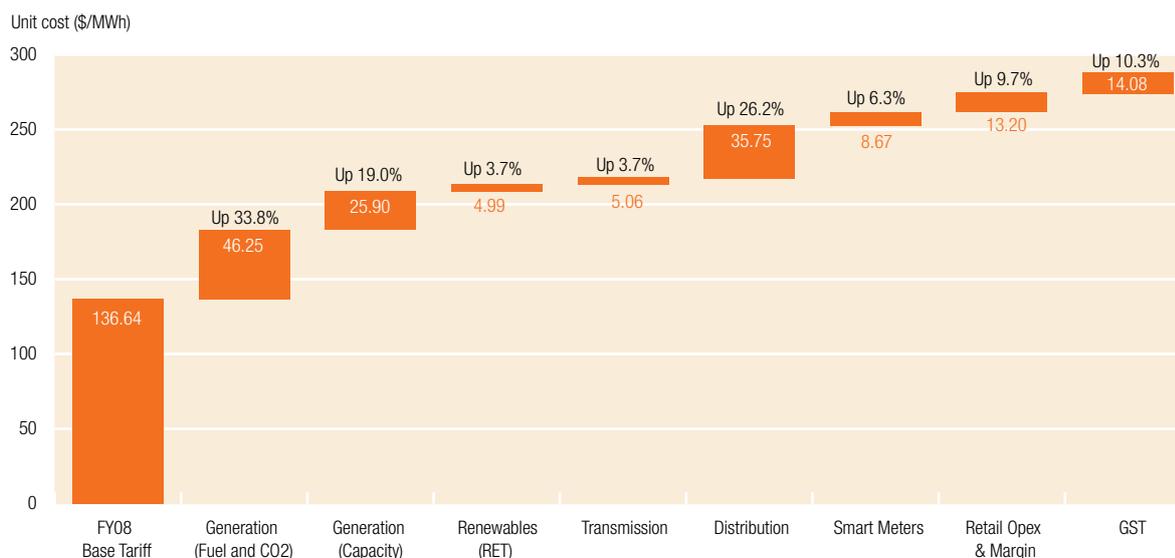
Some industry analysts point to lower wholesale energy prices in the NEM as evidence that wholesale energy costs have not increased. However, it is long-

run costs, not short-run wholesale energy prices that are relevant as Section 3.2 later explains. The sustainability of pricing outcomes in the NEM is an issue that the industry will need to turn its attention to over the coming years with the proliferation of very low short-run marginal cost plant such as wind farms, which were not anticipated when the NEM was originally designed in the 1990s.

The AEMC⁸ also provided a pricing forecast for the period 2010–11 to 2013–14 (see Appendix I). Our forecasts, and those of the AEMC, were similar with much of the price increases associated with higher wholesale energy costs and significant increases in the cost of building and maintaining electricity networks. Unfortunately for energy consumers, these forecasts have proved to be more accurate than less. The 2012–13 NSW regulated residential tariffs are presented in Figure 5, and note that much of the price increases envisaged to 2015 have already occurred.

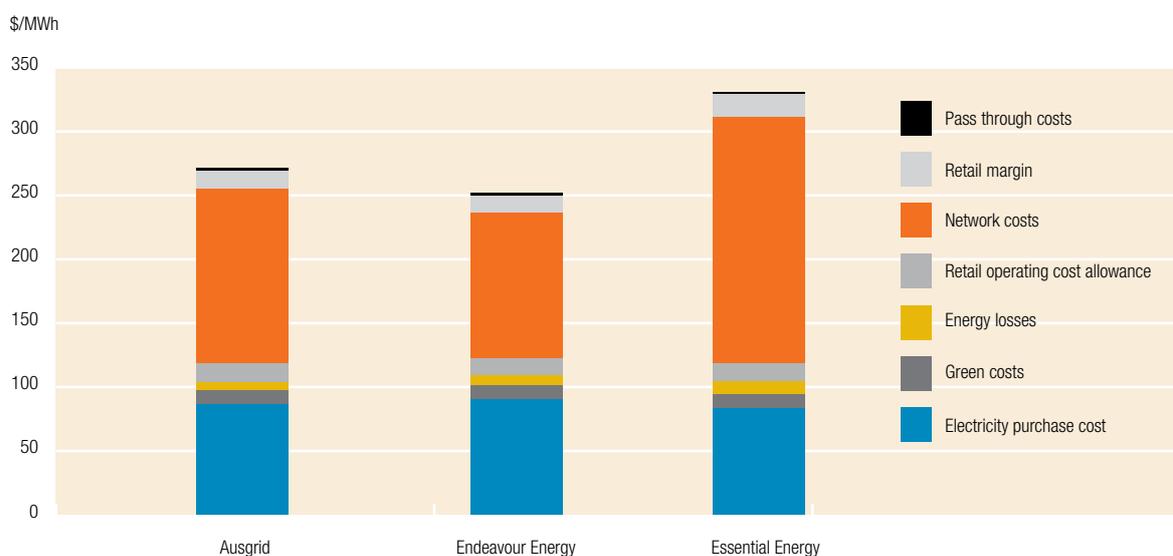
The critical question for policymakers is how best to repeat the ‘harvest period’ of 1985–2008 now that investments have been sunk? The short answer is to focus on demand-side reform. To understand this in more detail, we analyse the underlying cost drivers, namely: networks and the investment megacycle, wholesale energy cost drivers (including carbon pricing) and the impact of green energy policies.

Figure 4
Boomerang forecast increase in electricity prices from 2008–2015



Source: Simshauser, Nelson and Doan (2011a)

Figure 5
2012–13 NSW regulated residential tariff (by distribution network)



Source: IPART (2012)

3.1 Networks

There has been a large increase in capital expenditure on electricity networks over the past five years. For example, between 2001–05, aggregate capital expenditure on electricity networks in NSW and Queensland totalled just \$7 billion. In the period between 2010–14, capital expenditure was expected to reach almost \$30 billion⁹. Much has been written on whether the capital invested and the subsequent price increases are justified. We do not offer a definitive explanation here, but a material component was driven by two factors, one, network augmentation to meet forecast rising peak demand at the network element level, and, two replacement of aged assets. The AEMC¹⁰ concurred with this assessment stating that higher network tariffs are largely due to “peak demand, higher commodity prices, replacing ageing assets and higher costs of capital due to the Global Financial Crisis”. Reliability standards in some jurisdictions were tightened, we would argue excessively and have almost certainly led to excess investment, but fortunately those standards have since become the subject of reform, as have other aspects of network regulation.

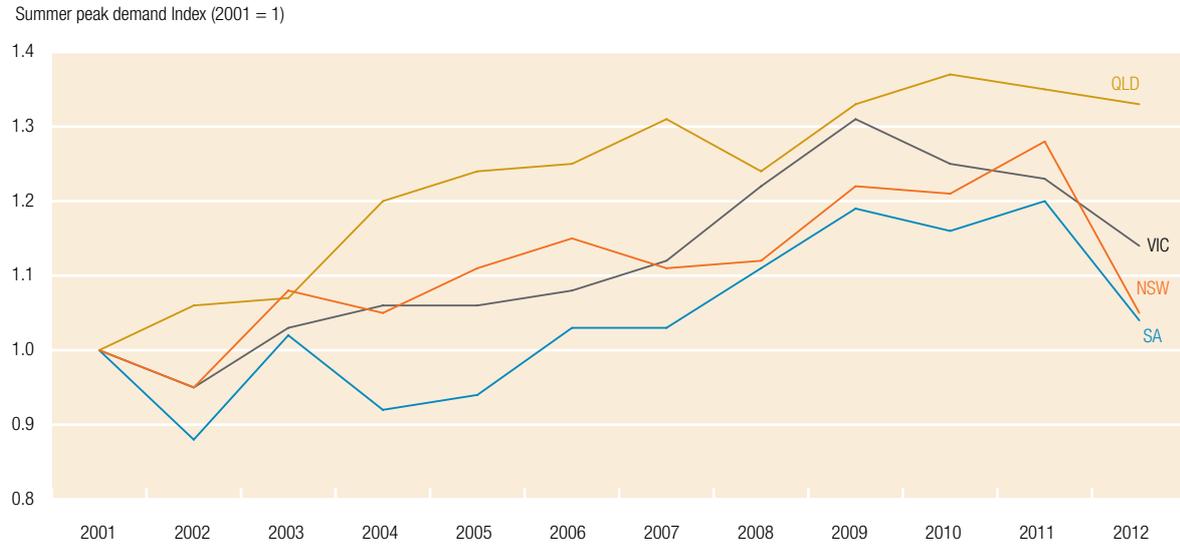
As outlined previously, peak demand growth in the Australian electricity industry has (until recently) outstripped growth in underlying energy demand. Figure 6 shows how the maximum summer demand in each mainland NEM jurisdiction increased by 20–38 per

cent between 2001–12. During the same period, underlying energy demand increased by only 15 per cent.

While energy demand growth rates have been moderating for decades as Figure 7 notes, an outright contraction in demand (which appears in the 2010–20 frequency distribution in Figure 7) is a completely new phenomenon for the Australian electricity industry, and finds its roots in the fallout from the global financial and economic crisis, the uncomfortably high Australian dollar and its adverse impacts on manufacturing loads, demand elasticity, energy efficiency and to a lesser extent, rising rooftop solar penetration.

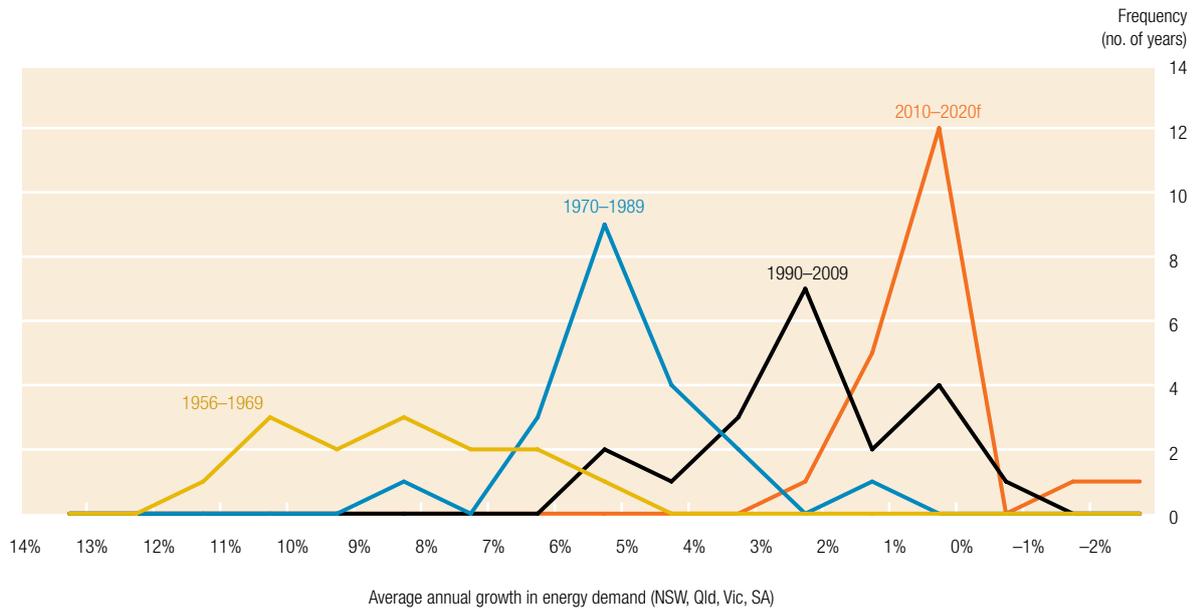
While it is true that peak demand and energy demand declined in all jurisdictions in the summer of FY2012, such observations are generally made at the whole of system level. At the localised network element level, differential growth rates remain. Indeed, Energex in south east Queensland continue to forecast higher peak demand growth compared to underlying energy demand. Also worth noting is that over the past few years, weather has been moderate; in Sydney and Melbourne, high temperature days (over 35 degrees) during FY2012 were nine and six respectively – down from 25 and 16 in previous summers. So while underlying energy demand growth rates are forecast to fall to about 1.5 per cent over the next decade at the whole of system level, latent peak loads associated with the economy’s

Figure 6
Growth in summer peak demand



Source: AEMO, AGL Energy.

Figure 7
Electricity demand growth – frequency distributions



Source: ESAA, AGL Energy.

capital stock will not be revealed at the local network element level until periods of sustained hot weather occur – that is, during ‘critical’ peak events.

The decline in underlying energy demand (down one per cent nationally since 2010) has been used as evidence of network gold-plating. Network operators build power systems to cope with peak demand due to the inability to store electricity through an inventory.

Underlying or base electricity demand growth is not the prime driver of network investment.

Policymakers must therefore focus on pricing structures and other incentives to reduce critical peak demand, not underlying energy demand. On the contrary, focusing only on underlying energy demand through efficiency schemes risks inducing a pricing spiral, whereby reductions in underlying energy

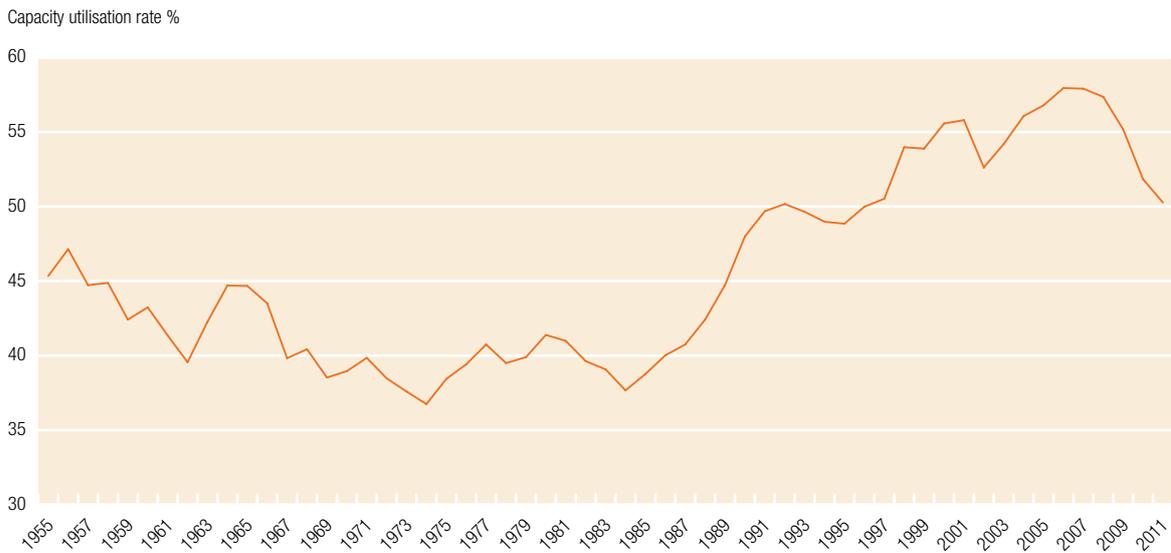
demand, but rises in critical peak demand, result in poorer capacity utilisation, increasing costs and therefore prices, and in turn further energy demand reductions in an iterative process.¹¹

Adverse effects of deteriorating capital utilisation are also starting to appear in generation plant performance statistics. In Figure 8, we reproduce Figure 3 but extend the data to 2011. Notice the rapid deceleration in the generation capacity utilisation rate.

Network operators have also had the task of increasing capital spending to meet the higher reliability standards in NSW and Queensland, and replace ageing assets. However, the investment cycle presented in Figure 9 shows that the increase in capital spending is not without precedent.

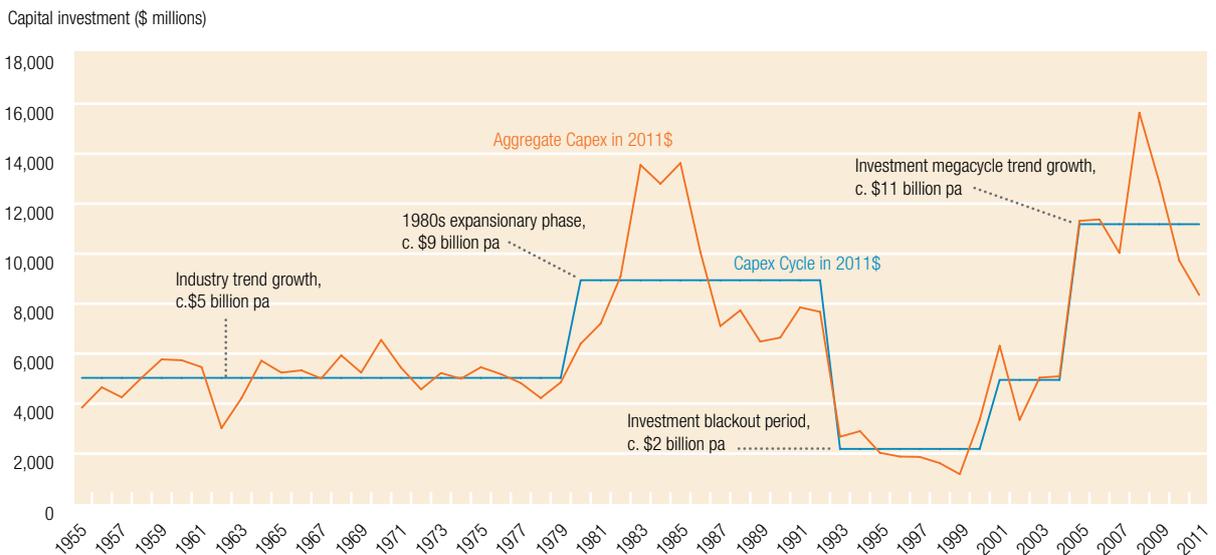
Figure 9 illustrates the investment cycle since 1955 across all fixed assets (i.e. generation, transmission and distribution). Investment from 1955–78

Figure 8
Generation capacity utilisation in the NEM region (1955–2011)



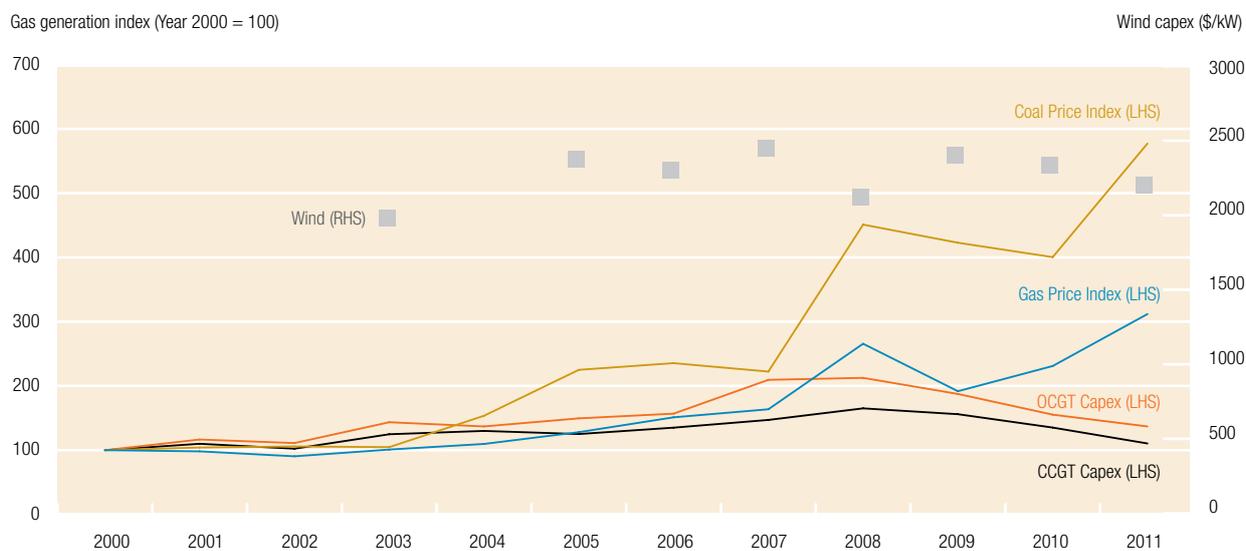
Source: ESAA, AGL Energy.

Figure 9
The electricity investment 'megacycle'



Source: Simshauser and Catt (2012)

Figure 10
Power generation capital costs and regional fuel costs



Source: Nelson, Nelson, Ariyaratnam and Camroux (2012)

was largely stable at about \$5 billion per annum, with demand growth throughout the (now) NEM jurisdictions averaging 7.9 per cent per annum. In the next period spanning 1979–90, demand growth slowed to 5.4 per cent but industry investment soared to about \$9 billion per annum. This coincided with a period of sharply rising residential demand (particularly peak winter residential demand) – residential demand increased by 16 per cent over this period. The period from 1990–00 was characterised by an investment blackout as excess capacity was utilised. From 2000–05 investment returned to trend levels. From the mid-2000s, the investment cycle was again kicked-off with capital in all industry segments to meet rapid increases in forecast peak summer demand and replace ageing assets as noted above.

3.2 Wholesale energy costs

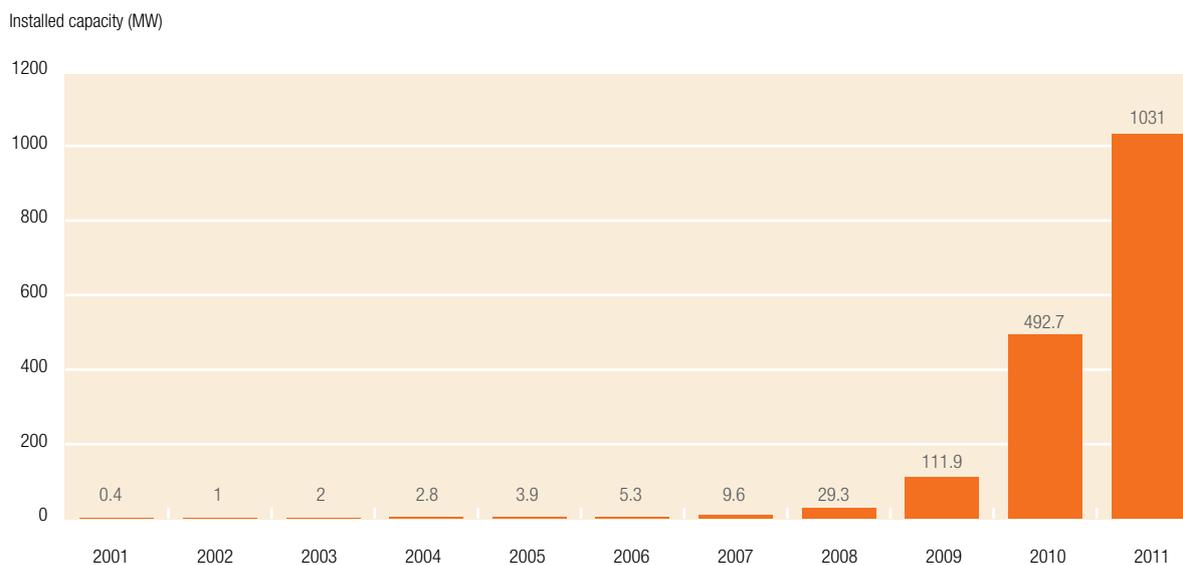
There are two primary components of wholesale energy costs: capacity costs and fuel costs. Figure 10 shows the capital cost (that is, overnight capital cost) indices for open cycle gas turbines (OCGT or peaking power plant); combined cycle gas turbines (CCGT or base and semi-base load gas power plants) and wind farms, along with the regional price of gas and coal.

Figure 10 shows that in the period 2000–07 (pre Global Financial Crisis), the cost of building new power stations increased materially. This was due

to both rising capital costs and costs of capital.¹² However, it is fuel costs where the most material structural change is now occurring in the Australian electricity industry. Figure 10 demonstrates that for both coal and gas commodity costs, there has been significant and sustained upward pressure arising from globally synchronised pricing over the past decade – the origins of which can be traced back to 2003 and the structural changes occurring internationally (i.e. Chinese industrial growth). Historically, Australian power generators utilising black coal paid very low prices under long-dated domestic contracts. However, as a result of increasing export demand, and the fact that many incumbent generators are facing the end of their historic supply agreements, the price paid by many coal-fired generators in Australia may increase materially. The price of gas is also known to be rising due to liquefied natural gas (LNG) developments in Australia.

Analysts often point to low wholesale spot prices in the NEM as evidence that oversupply has resulted in cost reductions. However, this ignores the fact that investment in power generation cannot be banked on short-run dynamics, nor does all trade occur in the short-dated markets.¹³ Due to the long-lived nature of power generation investments, a Power Purchase Agreement (PPA), written by a counterparty with an investment-grade credit-rating has long been required prior to the development of any new capacity, be that thermal or renewable.¹⁴ And so wholesale

Figure 11
Small scale solar PV cumulative installed capacity (2001–2011)



Source: Nelson, Simshauser and Nelson (2012)

electricity costs are more complicated than short run prices – much the same way that the determination of mortgage rates are more complicated than the RBA cash rate. It is the long-run cost of generation supply which is important for considering longer term retail electricity pricing trends.

The final driver of higher wholesale energy costs has been the carbon price. The fixed \$23/tonne carbon price introduced as part of the *Clean Energy Future* package has resulted in an increase in generation costs of about \$21/MWh. This is not surprising given that the Australian electricity market has an emissions intensity of around 0.9 tonnes per MWh (0.9 tonnes multiplied by the carbon price is \$21/MWh).¹⁵

3.3 Green schemes

There are three main types of renewable energy policies which have impacted electricity prices: one, the large scale renewable energy target (LRET); two, the small scale renewable energy scheme (SRES) which provides a fixed \$40/MWh subsidy to installers of small scale solar photovoltaic (PV) systems; and three, feed-in tariffs (FITs) for solar PV systems at the state level.

LRET impacts on electricity prices have thus far been comparatively small given the output from utility-scale facilities. The impact on end-use electricity

prices has been around 3.8 per cent of the increases identified by AEMC.¹⁶ The impact of LRET on NSW residential electricity bills currently comprises about \$4.45/MWh of the \$270/MWh headline price.

The combined impacts of solar PV feed-in tariffs and the SRES have also had a modest absolute impact on prices, although at a considerably higher unit cost given the relatively small output (due to lower capacity factors) from PV systems. In 2010 and 2011, premium feed-in tariffs led to a 100 fold increase in the installation of solar PV systems. This was primarily because installers benefited from being able to claim 15 years of output upon installation in the form of SRES payments – which were then subject to a further multiplier of up to 5x at one point (i.e. the equivalent of 75 years of production in upfront subsidies). Unsurprisingly, when combined with premium feed-in tariffs, installation in some cases had an effective payback of less than three years.¹⁷ The result was a subsequent explosion in cumulative solar PV installed, although this still represents a very small fraction of NEM installed capacity. This is shown in Figure 11.

As a result of these discrete subsidies, the total costs of both schemes are being passed through to consumers. In 2012–13, the cost of SRES to NSW residential customers is estimated to be around \$6/MWh, and does not include the cost of the solar FIT scheme.

4. Will prices continue to increase?

There are, understandably, a variety of views in relation to whether electricity prices will continue to increase. In the very short term, prices are likely to rise modestly as a result of the completion of the current investment cycle. However, our interest is in considering the longer term and what prices might look like in 2020.

We have constructed a model of electricity tariffs in 2020 based upon potential changes in underlying costs relative to the 2012–13 Sydney regulated residential tariff, and we compare this with the 2007–08 tariff in Figure 12.

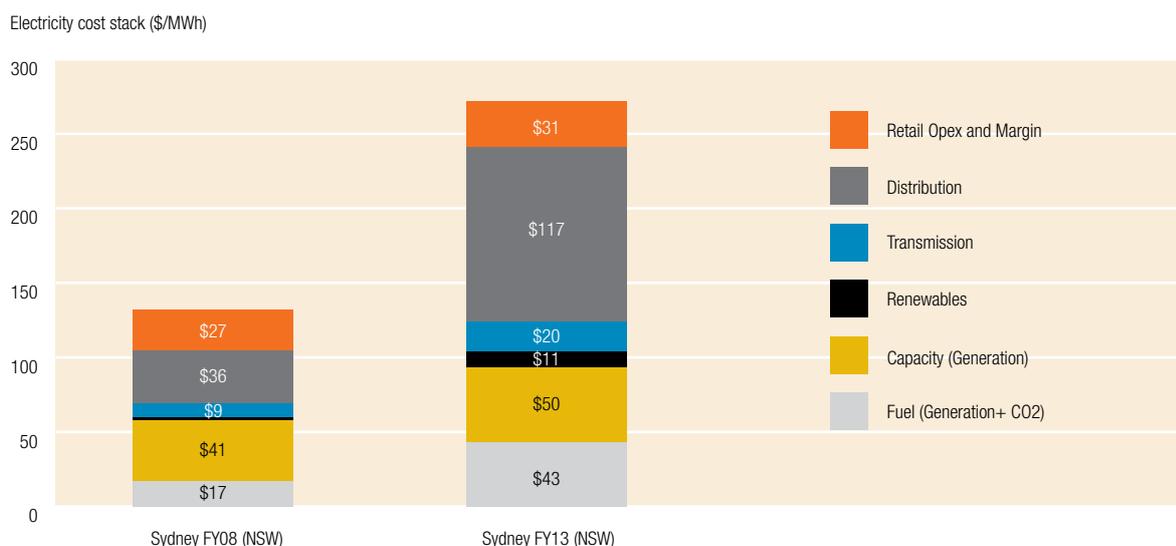
4.1 Wholesale energy costs

One of the most important projections to consider is the ratio of peak demand to underlying energy demand (i.e. power system load factor) to determine whether capacity utilisation is likely to improve or deteriorate. In its most recent projections, the Australian Energy Market Operator (AEMO) has revised down its projections of both underlying energy demand growth and peak demand growth due to changes in the broader economic outlook, reduced manufacturing due to the high currency, increased penetration of embedded solar PV and customer response to increased electricity pricing. Some energy market

analysts are now arguing that because load growth is expected to moderate and excess capacity now exists, reforms aimed at peak load are no longer necessary. We believe this misses the point of demand-side reform, and more importantly, the predictable lags associated with microeconomic reforms. Power system load factors are at one of the lowest levels in recent memory. If load factors are to be substantially improved through peak load reductions, reforms need to occur well ahead of the envisaged requirement. There are two key reasons for this. First, a ‘substantive’ roll-out of interval meters, an unambiguous pre-requisite to reform, will take at least five to 10 years in a competitive market place (as distinct from a mandated smart meter roll-out). Secondly, the industry itself will need to see sustained behavioural change during critical peak events¹⁸.

For the purposes of our analysis through to 2020, we assume a broad roll-out of interval meters in the competitive market, and the widespread adoption of time-of-use pricing. We also assume that the most recent recommendations of the AEMC are adopted over the longer-term. That is, smart meters are not mandated, but rather, electricity metering becomes a contestable service. Additionally, customers would be able to choose whether to adopt a time-of-use tariff product, and we assume that most customers do – Simshauser and Downer 2012¹⁹ demonstrated more than 75 per cent of customers would ultimately be better off with time-of-use pricing. Further, that the use of dynamic critical peak pricing, applied to the 12

Figure 12
Headline residential electricity tariff (Sydney)



Source: Simshauser, Nelson and Doan (2011a), IPART (2012), AGL Energy.



“By 2020 we project that real electricity prices may be 10 per cent lower than in 2013. In our opinion, such a forecast provides policymakers with a clear direction in relation to future reform.”



most extreme weather events of the year, improves load factors by about eight percentage points.²⁰ Under these conditions, consumers face cheap off-peak electricity rates, a more expensive peak rate, and on critical event days (i.e. extreme hot weather), a critical peak price.

Most importantly, customers would not be compelled to pay for a smart meter or be placed on time-of-use tariffs. Rather, customers could choose to modify consumption in their own way. This is a critical distinction with the conventional model of mandating smart meters. It is important that consumers modify consumption to suit their own circumstances. It would be a poor public policy outcome if consumers suffered detrimental health impacts, for example, because of non-use of spatial heating and cooling. However, for many customers, a small adjustment to the thermostat of their air-conditioning on peak summer demand days or turning off unnecessary household appliances at such times could result in

substantial savings not only on their bill, but resource costs to society. As our modelling later reveals, this leads to material reductions in peak load electricity equipment, but more importantly, a greater utilisation of sunk assets.

Forecasting domestic well-head gas prices is important in determining future wholesale energy costs. As Australia moves toward exporting LNG on the east coast through the Gladstone LNG hub, it is likely that Australian east coast gas markets will become at least partially connected to global markets for the first time. Upward pressure on gas prices on the east coast market is already evident. Many industry analysts are forecasting well-head gas prices in the range of \$6–\$9/GJ. An outcome at the lower end of this range would be dependent on supportive public policy for further exploration and production of conventional and non-conventional gas to ensure sufficient supply for domestic and LNG loads. Without supportive public policy for additional exploration

Table 1**New entrant scenarios and modelled wholesale energy costs²¹**

Scenario	Gas Price (CCGT)	Carbon Price	Wholesale Energy Cost	Wholesale Energy Cost (8ppt Inc. in Load Factor)
Scenario 1 (Low)	\$6.00/GJ	\$0	\$74/MWh	\$65/MWh
Scenario 2 (High)	\$9.00/GJ	\$16.59/tonne	\$103/MWh	\$93/MWh

and production, prices could rise to the higher end of this range. Accordingly, we have modelled a second \$9.00/GJ well-head gas price scenario to reflect such conditions.

The other crucial element in considering future wholesale energy costs is the impact of carbon pricing. The Commonwealth Government has passed legislation which will effectively link Australia to the European Union Emissions Trading Scheme. Accordingly, the current 2020 forward price of EU Allowances (EUAs) is relevant in considering forward wholesale energy costs.

To provide an estimate of wholesale energy costs in 2020, we have utilised a half hour resolution partial equilibrium model of the NEM. Demand has been forecast to 2020²². Two scenarios based upon different gas and carbon pricing have been developed which are articulated in Table 1.

4.2 Networks

While the most recent AEMO load forecasts suggest subdued load growth, this only provides information on aggregate demand at the whole of power system level. It is also important to examine load at the local network level. For example, we noted earlier that in south east Queensland, growth in peak demand is expected to continue at higher rates than underlying demand. Such effects are not likely to be isolated to south east Queensland. Thus is the importance of interval meters and time-of-use pricing in our analysis.

Interval meters and critical peak pricing, adopted by a large percentage of customers that would be likely to benefit, can be expected to result in material reductions in peak load growth over the long run. The utilisation of sunk transmission and distribution network assets can also be expected to improve along with avoided future augmentation costs at the network element level provided reforms are initiated well ahead of the next round of requisite expansion. Network operators in NSW have announced that

near-term network tariff increases will be limited to general inflation rates. However, with load growth at 1.4 per cent per annum, improvements in load factors, and the possibility of privatisation from 2015 in NSW, which will inevitably drive substantial productivity gains as Victoria's network businesses have aptly demonstrated, real price reductions are far more than a theoretical possibility. We have modelled these at just one per cent per annum, although we expect the more likely scenario will be closer to 1.5 percentage points below the Consumer Price Index.

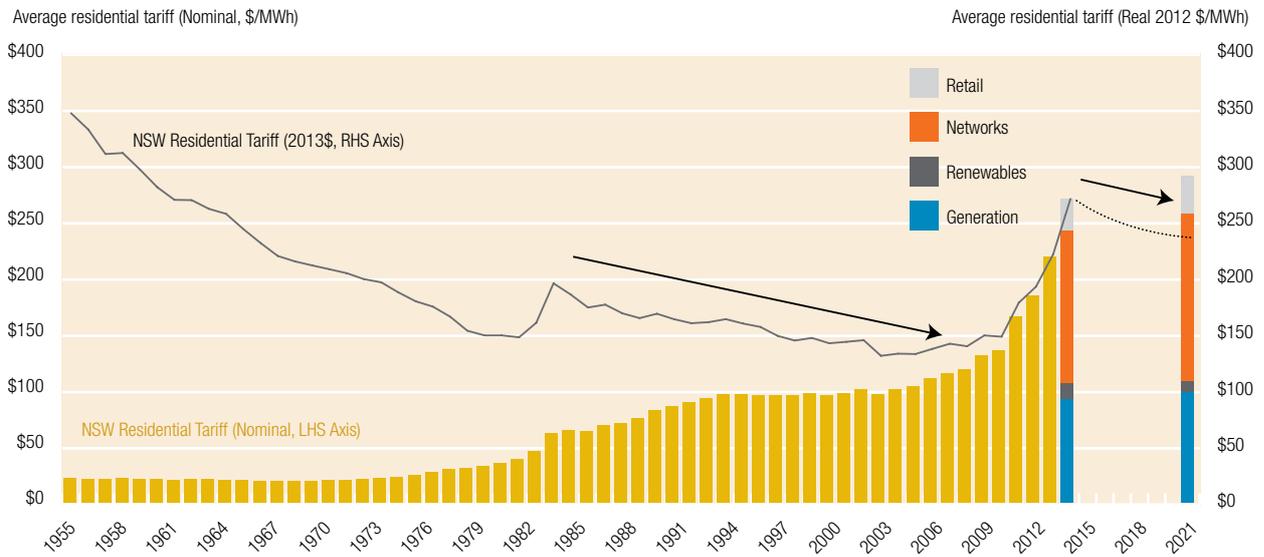
4.3 LRET and SRES

We assume that the SRES will cease to exist once the target of 4000 GWh of annual small-scale renewable output is produced, and this is likely to occur well before 2020.²³ As a result, no SRES costs will apply in 2020. In relation to LRET, we have assumed the cost to be \$8/MWh based on the power system modelling analysis contained in Simshauser (2011).²⁴

4.4 End user pricing forecast for 2020

Given the above modelling results across the individual components of the supply chain, our projection of user tariffs in 2020 (2012\$) in Sydney is presented in Figure 13. This Figure shows that the end-user residential tariff between 1955 and 2013 (actual) and a projection for 2020 based upon the analysis in this paper. Real (line) and nominal (bar) prices are provided. For 2013 and 2020, we have also provided a breakdown of individual cost components. Based upon our assumption of improvements in capacity utilisation, all cost components decline in real terms with the exception of gas costs. By 2020 we project that real electricity prices may be 10 per cent lower than in 2013. In our opinion, such a forecast provides policymakers with a clear direction in relation to future reform.

Figure 13
End user pricing forecast for 2020



5. A policy prescription for reform

During 2012, economic regulators tasked with setting price caps in some states enforced price reductions on the competitive industry segment of generation/retail supply via regulatory instrument, and in the event, set price caps below industry long run costs. As energy economists, our advice to policymakers is that such developments are not helpful. In competitive markets, prices clear at the competitive level. The use of price regulation, and in particular, the use of highly imperfect information, cannot drive real reductions in costs. At best, it is most unlikely to facilitate the competitive pressure required to drive innovation, which in turn will be quite essential for a competitive interval meter roll-out, and as noted earlier is an absolute prerequisite for dynamic pricing and the power system load factor improvements. Policies that will place downward pressure on future electricity prices are important, but applying regulatory instruments in the competitive segment is an especially blunt approach and is likely to have unintended consequences. Deregulation of electricity prices, as implemented by Victoria and South Australia, is critical to achieving the price reduction forecasts in this paper.

Policy makers should note that electricity prices have increased rapidly since 2008 after declining in real terms for nearly two decades. Absent further policy reform, real reductions in future electricity

prices may fail to materialise to their fullest potential because one of the key drivers, investment to meet localised peak demand growth at the network element level, will persist – although quite clearly at more subdued rates than recent history as our Figure 7 implies. Our analysis and modelling projects a scenario whereby electricity prices fall in real terms through policy reform, competition and innovation. This is predicated on energy policy reforms in two key areas:

- A focus on increasing competition and facilitating choice to customers, rather than increasing regulation and in the event, reducing competition and stifling the innovation that follows. The removal of price controls and the introduction of time-of-use prices (and in particular, critical peak pricing) is crucial. Capacity utilisation is critically important in understanding unit prices in industries with substantial fixed and sunk costs. Improving capital utilisation rates is unambiguously important for reducing electricity prices, even where transient excess capacity exists. Time-of-use pricing would promote innovation in the electricity sector and provide for greater economic productivity and efficiency for the nation; and
- A focus on metering. Currently, in many jurisdictions metering charges are embedded in monopoly network prices. Metering costs need to be ‘unpacked’ and made a fully contestable service. Furthermore, where a new interval meter is deployed, chargeable exit fees for removing

pre-existing meters needs to be capped by a depreciated, optimised, replacement valuation rather than arbitrary costs regardless of meter technology or age. It is important for metering reforms to be focused around customer choice. Mandated adoption of metering should be avoided. Instead, customers should not be forced to pay for a digital meter, and should be free to choose which tariff best suits their circumstances

Public policy certainty in relation to energy policy is also important. There is a wealth of economic literature on the costs of uncertainty in relation to energy policy²⁵ due to the sector being the most capital-intensive in the world. It is important that politicians and policymakers consider the optimal long-term approach to power systems. As both the Federal Energy Minister and Shadow Energy Minister have stated to the authors, the energy industry and its policy settings are simply too important to be politicised, because the long run costs of doing so are so great to our nation.

The most recent energy demand forecasts make for sobering reading to the energy industry. But this is not a reason to stall demand-side reform. The sheer lag that can be expected with the widespread adoption of interval meters under a competitive (non-mandated) rollout cannot be underestimated. Similarly, load factor improvements need to be demonstrable over multiple reporting periods. Considered in this light, demand-side reform is not an event, but a sustained 10-year plus exercise. To be sure, any delays to demand-side reform will not result in imminent disaster and it would be disingenuous of us to suggest otherwise. Conversely, when a patient is sick, the sooner medicine is prescribed, the sooner they recover.

Our recommendations are predicated on an underlying philosophy of customer choice and economic efficiency. To increase power system productivity, the prerequisites are incentives, capability and flexibility²⁶. Competition drives innovation, so if regulation has the effect of reducing competition, innovation will be reduced and it follows that productivity will not be enhanced. Similarly, from a capability perspective²⁷, the importance of cost reflective pricing cannot be overstated and therefore any regulation that prevents this capability will also harm productivity.²⁸ And finally, there is no silver bullet when it comes to enhancing productivity – all levers must be pulled.²⁹ In all instances (i.e. incentives, capability and flexibility), price regulation is sending an inconsistent message about what is important in terms of Australia's power system productivity.

Real reductions in electricity prices achieved between 1985 and 2008 occurred because of

“Real reductions in electricity prices achieved between 1985 and 2008 occurred because of substantial supply-side reforms to the electricity industry. The drivers of higher costs between 2008 and 2012 coincide with a period where reform efforts stalled. Australia has an opportunity to embrace the missing reforms.”



substantial supply-side reforms to the electricity industry. The drivers of higher costs between 2008 and 2012 coincide with a period where reform efforts stalled. Australia has an opportunity to embrace the missing reforms. 2013 represents a significant opportunity for governments, policymakers and regulators, the electricity industry, consumers, investors and the community to agree on appropriate demand-side reforms that deliver benefits to all Australian electricity consumers.

The views in this article are those of the author and should not be attributed otherwise.

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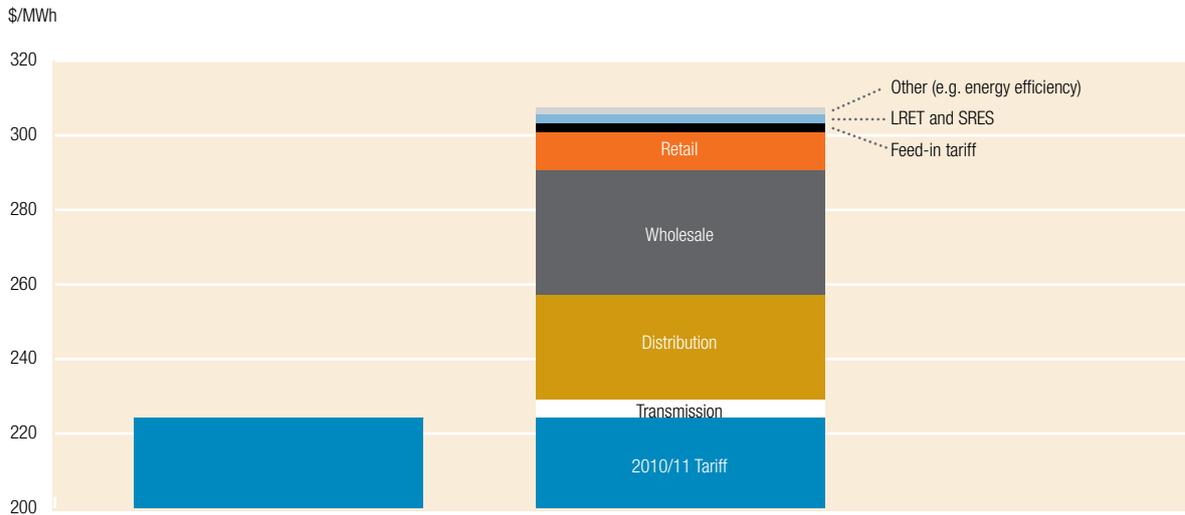
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Appendix 1

AMEC forecast of electricity prices to 2013–2014



Source: AEMC (2011)

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The future of work



Dr Ziggy Switkowski is Chancellor, RMIT University and the current chairman of the Suncorp Group and Opera Australia. He is also a non-executive director of listed companies Tabcorp, Oil Search and Lynas.

Ziggy is a graduate of the University of Melbourne with a PhD in nuclear physics and is the former chairman of the Australian Nuclear Science and Technology Organisation.

He is also a former chief executive officer of Telstra, Optus and Kodak (Australasia) and is a Fellow of the Australian Academy of Technological Sciences and Engineering, and of the Australian Institute of Company Directors. He is also a member of CEDA's Board of Governors.

Introduction

The nature of work, the forces which reshape our jobs, the pathways that ultimately define a career, reflect many influences. The various dimensions of this topic are revealed when Googling ‘the future of work’ and they range from consideration of an ageing population to education, energy, Gen X, Y, Z, globalisation, technology, work-life balance and so on.

In the following, I will address four themes which I believe to be important factors in the future of work:

1. Changes in **technology** and impact upon;
2. The form of tomorrow’s **company**;
3. **Education systems**; and
4. The rise of **women** in our workforce.

The analogue world of the 20th Century

In 2008, the US National Academy of Engineering published the results of its survey of the 20th Century’s greatest engineering achievements. If we agree with W. Brian Arthur¹ that an economy is the sum of its technologies cleverly combined, then such a list should be revealing.

The top 10 innovations were:

- Electrification
- Automobile
- Airplane
- Water supply and distribution
- Electronics
- Radio and television
- Agricultural mechanisation
- Computers
- Telephone
- Air conditioning and refrigeration

This list reminds us of the pervasive influence of technology in defining the modern world. (Of course, in these early years of the 21st Century, the Internet would head such a list and might yet influence most things in our lives.)

We have limited ability to forecast the cosmic leaps ahead, or how dramatically society may change as a result.

Our forebears, a hundred years ago, could not have dreamt of the emergence of television, computers, satellites, GPS, iPads, Google, Facebook, Wikipedia or the Twitterverse.

Or of a global population, then approaching two billion, trending towards 10 billion people 150 years later in 2062.

Or that obesity would be as big a global health problem as malnutrition.

Or that a 21st Century challenge would be an ageing population, not a prematurely dying one.

Or comprehend the relevance of ‘ashes to ashes, dust to dust, atoms to bits’ as our digital identity and archives survive our passing.

The defining technologies of the 21st century may not yet have taken form but we can be certain that society’s challenges, our way of life and work, and our standard of living will be reshaped and improved by inventions and system leaps yet ahead.

Looking back a 100 years is instructive but looking ahead more than two decades is beyond challenging when considering the march of technology. A lot has changed even over recent decades but the future will certainly be more tumultuous.

Some recent events – like Y2K, the dotcom and asset bubbles, the Global Financial Crisis (GFC), come and go and leave varying legacies such as long tail national debt etc.

But there might be more enduring themes of which we need to be aware which may reveal larger forces. So let’s consider 2012 plus and minus 20 years.

Snapshot of 1992

People born in 1972, and who are 40 years old now, have life expectancies approaching 90 with working careers beyond traditional retirement ages. Typically, that generation left high school or university in the early 1990s.

If they began their working life in 1992, they did so in a world where Australia’s population was 17.5 million, Paul Keating was prime minister, Bill Clinton was elected US president, and Deng Xiaoping was in his final year in office as paramount leader of the People’s Republic of China (having set China on a trajectory to become the world’s second economic superpower).

At the Barcelona Olympics, Australia placed tenth in overall medal count with seven gold medals – a performance replicated in London 20 years later.

Union membership was in long term decline passing through 30 per cent of private industry employment, now 13 per cent.

Greenhouse gas emission reduction to limit global climate change entered public debate at the Rio Earth Summit. Australia refused to sign the subsequent Kyoto Protocol in 1997.

Feminism was on the rise. Naomi Wolf published *The Beauty Myth* 22 years after Germaine Greer's *The Female Eunuch*. The long march to gender equity in business was underway.

People drove cars or caught public transport to work, assembled in multi-storey buildings, fitted into traditional hierarchies and, in progressive companies, endeavoured to improve the processes whereby products and services were created and markets served.

The 'hardware' of our work environment changed slowly and, hitherto, quite predictably. Consider that the first building elevators had been introduced in the US in the 1850s. Skyscrapers followed thereafter, and escalators in the 1890s, and are still with us today. Macro infrastructure from the 1980s and 90s remains familiar today and will do so for decades to come.

The IBM personal computer appeared in 1981 and computer terminals on desks were ubiquitous thereafter although with limited processing capability. 'Dumb' terminals were the norm along with main-frame computers and batch processing. Information technology courses at universities taught the languages of programming and the circuitry of computing machines.

The world of 1992 was an analogue world. Letter volumes, newspaper subscriptions and fixed line phone calls were still growing. Telephone calls were routed through copper wires, faxes transmitted black and white pictures of original documents, music was still recorded on magnetic tape but increasingly on CDs and photographs were chemically fixed in complex multilayered coatings.

Televisions were cathode ray oscilloscopes, and information appeared predominantly via books, encyclopedia, printed catalogues, Yellow Pages and so on. Once captured, transmitted or printed, signals and data were largely immutable. Archived records were human readable on microfiche, for example.

Australia had five television stations – channels 2, 7, 9, 10 and SBS. Subscription TV was not available – testimony to the influence of media proprietors in forestalling a competitive service widely available overseas.

Analogue wireless telephony had been introduced to Australia by Telecom in the late 1980s; digital in 1992 with the licensing by the Federal Government of Optus and Vodafone together with Telstra. Then no one anticipated a future where there would be more wireless handsets than people (i.e 26 million handsets for a population of nearly 23 million in 2012).

The internet had arrived quietly around 1991 – dial-up access via clunky modems to text only content at molasses-like speeds around 14.4 kilobits per second. Few conceived of ubiquitous broadband

Birth
1972



20 years old
1992



40 years old
2012

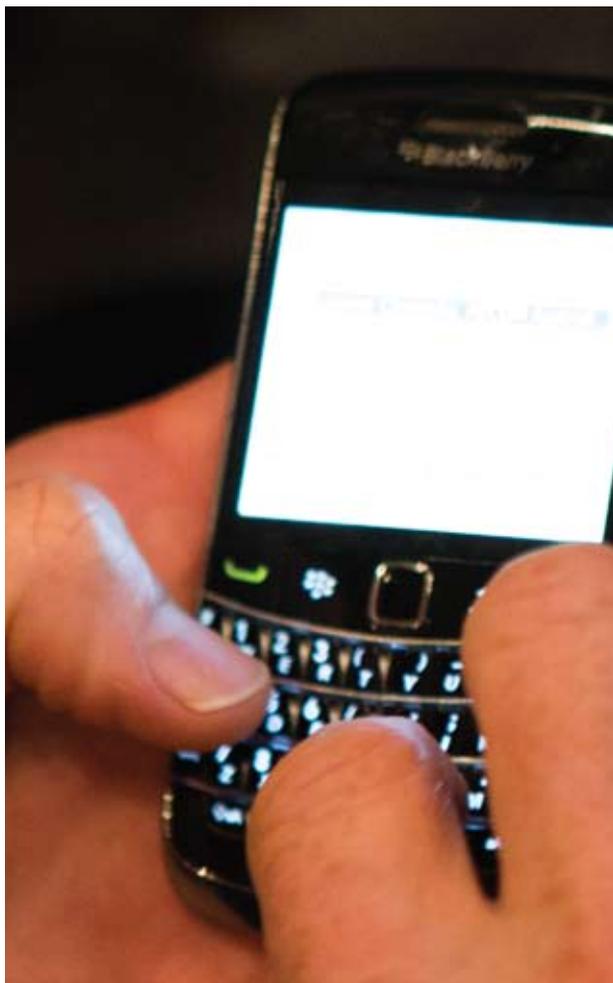


60 years old
2032



90 years old
2062





“The world of 1992 was an analogue world. Letter volumes, newspaper subscriptions and fixed line phone calls were still growing. Then no one anticipated a future where there would be more wireless handsets than people (ie 26 million handsets for a population of nearly 23 million in 2012).”



connectivity approaching 1gigabit per second, or nearly 100,000 times faster, permitting services like high definition video communications or television over the internet.

The average household then had one fixed line connection, teenagers fought for access, and pay-phones were still important in most communities.

I was an executive at Optus Communications (1996–97) and Telstra Corporation (1997–05) during this especially interesting era.

In business, communications innovation referred to use of fax machines, handsfree conference phones, answering machines, calling number displays, automatic switchboards, keypads with speed dialling instead of mechanical rotary dials, and use of word processors to publish company-wide directory books of phone numbers and keep them up to date.

These were enabling components which helped reengineer business processes, improve customer service and drive productivity, but they didn't seem the start of a revolution. And yet, this was the beginning of a surge of breathtaking technological advances such as has not occurred in history before

over such a short, two decade period; a period when technology profoundly changed the way we did our jobs and communicated with our associates.

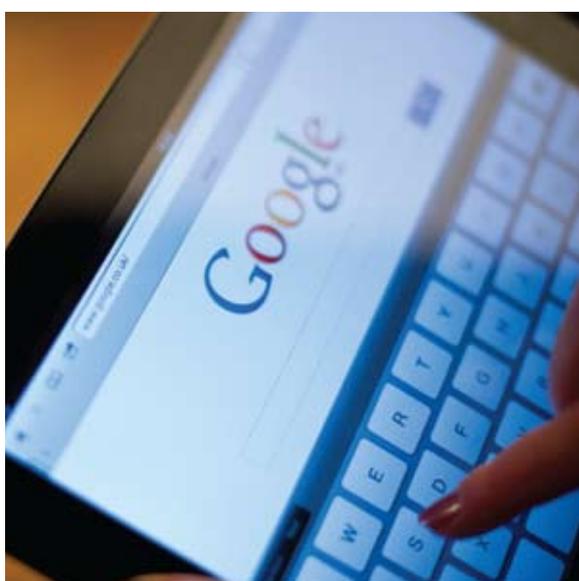
So, what actually happened and what's ahead?

The period after 1992

The global system of interconnected computer networks, known as the internet, appeared in 1991 and was closely followed by standardised languages, protocols and applications called the worldwide web.

The first commercially significant application was email and in Australia the early adopters were often professional services firms like legal practices. Widespread business use of email awaited further development of PCs and the internet but, also importantly, required institutions to manage the risk of impulsive and ill-considered communications permitted by email in contrast to printed correspondence which had inbuilt pauses and steps for review, censoring and quality control. By 1996, the advantages of the immediacy and convenience of email

“The past two decades have seen an architectural layering of transforming communication technologies – digitalisation (there goes the old analogue neighbourhood), compression algorithms (can send more and more data down the same infrastructure; video now joined text), packetisation (internet protocols and open systems), miniaturisations (personal applications) and wireless (mobility).”



had overwhelmed concerns for precision, prudence and elegance. And litigation processes have been enriched ever since.

Today email is the connective tissue that binds together most modern corporate communication processes bookended by rich multimedia communications at one end and tweets at the other.

Fewer than one in five Australian households had a computer in 1992. Access to the internet often required a separate phone line, bandwidth was tiny, and only text messaging was possible. Looking back, this was the dawn of the internet age though it required the availability of affordable higher speed broadband in 2004 to reach a tipping point.

Powerpoint had been launched by Microsoft in May 1990 and such was its mind numbing ubiquity within corporate communications, that the phrase ‘death by Powerpoint’ entered the vernacular in 2001.

The dotcom era, which collapsed spectacularly in 2001, brought us amazon.com, Google, eBay, Yahoo and the assertion that “whatever the question, the answer is the internet!”

The past two decades have seen an architectural layering of transforming communication technologies – digitisation (there goes the old analogue neighbourhood), compression algorithms (can send more and more data down the same infrastructure; video now joined text), packetisation (internet protocols and open systems), miniaturisation (personal appliances), and wireless (mobility). These were the technology leaps that underpinned Moore’s Law which in the 1960s foreshadowed that computing power could double roughly every two years without any increase in costs – a breathtaking trajectory of innovation still evident nearly 50 years later.

But technology was not the only change agent.

The big end of town

Given the sophistication of our large companies and their planning discipline, might changes to the work ecosystem best be seen in their operations and strategies, and their successes as reflected by their market capitalisations?

The table below compares the top 10 ASX listed companies in 1992 by market capitalisation with those of 2012.

	1992	2012
1	BHP	BHP Billiton
2	News Corporation	RIO
3	NAB	CBA
4	CRA/Rio Tinto	Westpac
5	BTR Nylex	ANZ
6	Coles Myer	NAB
7	Westpac	News Corporation
8	Pacific Dunlop	Telstra
9	Foster's Brewing	Wesfarmers
10	Western Mining	Woolworths

In that period, the Commonwealth Bank (CBA) and Telstra have been fully privatised and so appear in the 2012 rankings, and BHP Billiton and RIO positions reflect their global market caps.

A number of conclusions may be drawn. At one level, after allowing for mergers and privatisations, the composition of the lead grouping changes but slowly. Our economy continues to be strongly influenced by banks, resource companies and retailers.

On the other hand, formerly leading manufacturing companies – BTR Nylex, Pacific Dunlop, and Foster's – have been deconstructed or merged into stronger entities. The rise of China, uncompetitive labour costs and slowing growth in multi factor productivity have ended Australian manufacturing's position as a large employer of blue collar workers.

Today's larger companies have innovated in a number of workplace practices. Consider hot desking, desktop anywhere, telecommuting, fly-in fly-out jobs – all capable of reshaping the modern work experience. During this period, the dotcom era coincided with (and perhaps defined) Gen Y youth who broke the compact with employers, especially in the IT+T space, and any commitment to a managed career

within the one enterprise. And companies further diminished the employment relationship through rounds of redundancies and strategic initiatives such as outsourcing and offshoring.

But if we believe that changes at the top end of town might signal shifts in workplaces, then the strongest message over the past 20 years is about the decline of manufacturing and the corresponding growth in services whose processes and products lend themselves to virtualisation (wireless banking, online retailing) with digitisation allowing functions to be combined even if they come from different domains.²

And in the rapidly shifting technology space, after less than 20 years, the original Four Horsemen of the Internet – Cisco, Sun Microsystems, EMC and Oracle have been replaced by today's web titans – Google and Apple, who look unassailable except when viewed in the context of this recent history.

So can corporations sensibly plan over a 10–20 year horizon? Not in my experience. The average tenure of today's CEO is about five years and strategic planning becomes awfully vague beyond that horizon except for very large capital-intensive infrastructure and resource projects. (Even in this area, for example, 10 years ago no one predicted the shale gas phenomenon which looks like reshaping the substance and geopolitics of global energy supply and climate change strategies).

Correspondingly, forecasting specific skill and training needs is difficult and may be a pointless exercise. Most businesses struggle to articulate their skill needs a decade out beyond a linear extrapolation of today's requirements, which inevitably misses key forks in the road. And the future is truly unpredictable.

The company

It has been asserted that the limited liability joint-stock company, enabled by the UK Companies Act of 1862, is the greatest single discovery of modern times – a historical force to rival religions, monarchies, and even countries. According to Micklethwait and Wooldridge³, the only competitor for our time and energy is the one we take for granted – the family.

The architecture of today's companies is contextualised in the Nobel Prize winning treatise *The Nature of the Firm* (1937) which argued that the main reason a company exists (as opposed to individual buyers and sellers making ad hoc deals at every stage of production) is because it minimises transaction costs of coordinating a particular economic activity. You reduce the costs of negotiating and concluding a

separate contract for each exchange transaction.

But the gains have to be balanced against 'hierarchy costs' – the costs of central managers ignoring dispersed information. Yet in the 21st Century, technology is helping to redefine companies as the sum of many individual transactions within a distinctive competency and value set.

Might there be a return to peer to peer interactions, a revival of the outlawed Napster music sharing service of the noughties? Already peer-peer money (Bitcoin) has been developed and a black net economy emerging with peer-peer payments and associated troubling implications for drug and arms transactions.

Is the company to be disintermediated, gradually morphing into a network of outsourcing contracts with service level agreements behind a branded user friendly interface? Might one to one transactions be enabled by increasing computing power, clever algorithms, low cost data storage, products and services which are virtual, and customer service provided by the crowd – a Wikipedia model for corporate processes?

Got a technical issue – invite the crowd to solve it or share their experiences. Need a breakthrough in R&D, define the problem on the net and invite solutions in return for peer recognition or a small prize. Need start up funding for an original idea, ask online for individual contributions in return for preferred access to the innovative product once produced.

This crowd sourcing model attempts to leverage low cost access to discretionary effort from the global online community. It suggests a continuing move towards virtual companies and away from owning depreciating assets, sales forces and real estate. Such enterprises might perform curatorial roles of communities within the crowd which contribute to elements of the supply chain within a commercial ecosystem. As with social media, today's companies continue to grapple with the possibilities and the risks. And the solutions may change the way we work in the future.⁵

Education systems

Writing in 1994⁶, Lou Gerstner, then chairman and CEO of IBM, noted that a time traveller from the 19th Century would find today's society to be bewildering if not unfathomable but would certainly recognise 1990s schools, classrooms, textbooks, and the teaching and learning process. Little appeared to have changed in an educational system which had been designed more than 150 years ago.

He went further by observing that the only technology that had made headway in the classroom was the public address system for school wide announcements which he labelled a menace to class concentration and well being. Schools were "low capital, low productivity" systems.

But what a difference a further two decades have made. While considerable changes have occurred in demographics, ethnic mix, social conditions and economics, it's been in technology where the shift has been most dramatic. Beginning in the mid nineties, Australian secondary schools began introducing laptop computers for computer based learning and work assignments. And today's classrooms and libraries are more likely to feature touch screens, PC work stations and tablet computers than paper, pen, desk or bookshelf. Chalk boards have disappeared, electronic white boards are dated, and broadband, the worldwide web, search engines and Wikipedia define the learning environment.

And in higher education, debate has shifted to the merits of Massive Open Online Courses (MOOCs) whose content may come from the world's leading universities, delivered online by gifted international lecturers to an individual or shared environment, at little or no cost. How big an influence this will have on conventional degree and diploma programs at universities and TAFEs remains to be seen as well as on their future spending on building infrastructure.

The point is that in some parts of our education system, change has been tectonic and could continue so into the future. This will have implications for the skills pool of the future and the characteristics of graduates.

The late 80s in Australia saw the Dawkins reforms – institutes of technology and colleges of advanced education were granted university status (and there are now 39 degree conferring universities), the Higher Education Contribution Scheme (HECS) was introduced (with aggregate student liability now exceeding \$26 billion), and now government is setting targets that by 2025, 40 per cent of 25–34 year olds in Australia would have bachelor degrees or higher (very achievable given today's level of 35 per cent).

The market in higher education is now contestable. Universities compete for students. They are required to understand their customers' needs, promote their services, manage their costs, make a cash profit, and strive to establish distinct defensible competitive positions. This is a recipe for renewal, innovation and accelerated change, and a realistic environment for young people anticipating careers in a market economy.

In contrast, many primary and secondary schools retain the characteristics of protected bureaucratic monopolies which have yet to experience significant structural change. Employees are public servants where union membership remains strong. Schools can, and do, avoid unsettling disorienting change. This may yet be the next frontier for significant reform in leadership and governance of schools, the role and skills of teachers, responsibilities of parents, use of technology, and introduction of competition.

Acknowledging that the building blocks of primary and secondary education continue to evolve, our school system may have to be reengineered to match

world's best practice and to better prepare students for the demands of a changing workplace and competition from the global talent pool.

Many factors influence a nation's productivity, competitiveness and well being – education, work practices, quality of infrastructure, regulatory framework and so on.

The role of technology and innovation is especially important although the near term connections are sometimes hard to quantify.

The modern economy runs on brainpower and skills.

Initially, the new digital economy was owned by the young.

Beginning in 1996, most high school graduates were internet trained.

By 2016, 20 years later, half the Australian workforce will be of the internet generation where web usage, search and networking dexterity, and use of social media will be core skills. Competencies which may, over time, replace the 3Rs – reading, writing and arithmetic.



“The coincidence of the shift to a service economy, where products and services are increasingly not physical nor subject to ‘normal’ work approaches, the emergence of larger numbers of female leaders, together with enabling technologies, constitute a perfect storm during which the company and the work place will be redefined.”

Employees and students often now have better technology at home than in the office or on campus. (The 5.5 tonne Cray Supercomputer of the 1980s, the high water mark of its generation, was less powerful than today's Sony Playstation. Research effort continues to strive for even better and more affordable domestic devices, applications and virtual experiences. Paradoxically, the frontiers of technology are in the home; for example augmented reality 3D video games; not at the work desktop).

Women in the workforce

Today's company, its traditional workplace and physical habitat reflect the influence of industrialisation, manufacturing, and a world designed by men for men.

(The factory system was an early invention of the Industrial Revolution. Having labour close to factories was desirable leading to worker housing which then created industrial cities, suburbs and the working class. Labour was more easily organised in factories than in isolated cottages, and trade unions emerged. Work had to be done in a factory, at a pace defined by machinery, as part of a large team that had to begin, pause, and stop in unison, all under close supervision.⁴ Today's company design reflects strands of this manufacturing DNA).

The shifts in gender balance which we observe today, though encouraging, are incremental and within the system – inevitably – and at a pace which we men find sustainable.

But what if we were guided by Robert Kennedy's exhortation "there are those that look at things the way they are, and ask why? I dream of things that never were, and ask why not?" and look at designing the workplace of tomorrow from a greenfield perspective anticipating an increasingly diverse white collar workforce in the future?

For more than a decade, there have been many more girls than guys at Australian universities (57 per cent vs 43 per cent of today's 800,000 undergraduates) and they are scoring better marks. As young women's ambitions rise, including their expectations of men as partners, how must society and the workplace adapt?

The increasing participation of women in the workplace occupying ever more senior executive positions will lead to important debates around questions such as:

Why do we chunk work up into five blocks of eight hours each per week in a service-driven economy?

Why are flexible working hours, childcare and

paternity leave afterthoughts awkwardly grafted onto the current system? And what about school calendars and a one-size-fits-all school system?

With women earning as much or potentially more than men in the future, with jobs senior to their partners, will child bearing be but a short pause in a woman's career as more men take up child rearing responsibilities? Or will the needs of ageing parents be a new imposition upon the women in our community?

Is the traditional career trajectory which starts around 20 years of age and continuously extends to retirement 45 years later still relevant in the 21st century?

The 21st century has seen the emergence of blended families and now blended education (pursuit of further qualifications based in part upon work-based learning and practical experiences and jointly accredited with universities), and blended work (shared combinations of jobs, across communities and locations).

Might the family win back attention hitherto owned by the company, and work-life balance recover some significance, particularly as work from home becomes enabled by hi-bandwidth 24/7 accessibility, and as male-female roles rebalance or interchange? Can women drive this evolution?

The coincidence of the shift to a service economy, where products and services are increasingly not physical nor subject to 'normal' work approaches, the emergence of larger numbers of female leaders, together with enabling technologies, constitute a perfect storm during which the company and the work place will be redefined. Who's prepared to take advantage of such a (slow motion) discontinuity?

Is past performance a reliable guide to future outcomes?

Some of today's trends relevant to work can be reasonably extrapolated:

- We will have a highly educated workforce with more than 40 per cent of 25–34 year olds having a tertiary qualification within 15 years. Lifelong learning will continue to be important with online study becoming the method of choice for non-degree-producing training and education.
- Moore's Law still has some runway ahead although few of us can anticipate the technologies which will be invented to sustain the trend. But we can and should plan on their success and the services that will follow, like near-instantaneous access to all the world's information.



“The shorthand which captured the mood of the times in the year 2000 was: “Whatever the question, the answer was the Internet”. The answer was Google (2005); Wireless Internet (2009); Facebook (2010); the right app (2012) and perhaps in the Cloud or Crowd in 2013?”

- Bandwidth, cameras, screens, computer storage will all become vastly cheaper so our work space will not be limited by physical boundaries but extended through broadband links and live images to colleagues across the globe.
- Work will still be done and managed by people but computers and robots will have processing powers sufficient to reason like the human brain. Computer processing power and storage will enable whole of life data capture at the level of the individual.
- Everyone will be hyperconnected all of the time, across time zones and geographic boundaries – via wireless, tracked by GPS, monitored by embedded chips, captured on video.
- Increases in automobile numbers and lags in infrastructure investment are causing travel times to average 60 minutes in each direction for Sydney commuters. The appeal of working from home must grow.
- Our population will be older; people will work longer but in pursuit of relevance, not material wealth. And they will be technology savvy.
- Coins and banknotes will progressively disappear (a thousand years after the Chinese invented paper money); so will printed books, CDs, Yellow Pages, stamps, letters and post boxes, even handwriting. The paperless workstation will become the norm, finally.

The next 20 years?

Certain long life cycle work structures will endure or change predictably. Cities, central business districts, office buildings, cars may be examples. Companies continue to lease downtown office space on 5x5x5 year terms. Australian cars turnover once a decade and notwithstanding the pressure to move to more climate friendly transportation models, the road fleet in 2032 is likely to vary from today's cars by as much as our vehicles do versus 1992. Cars, of course, will become very sophisticated communications cockpits which, paradoxically, may dumb down the skill needs of drivers.

The ASX 100 companies will be different from today's but how? Obviously, there will be fewer blue collar manufacturing companies and jobs, and we're likely to see health and aged care, tourism and hospitality, education and social services grow. Most of these are largely government responsibilities so policy decisions about work practices in the public service, which account for 1.8 million or 16 per cent of all workers today, may become even more important. To date for example, state, federal and territory governments have led on the issue of gender balance on the boards of statutory bodies and among senior executives. More recently, the Prime Minister's goal

of having 12 per cent of public servants work from home is also a significant reinforcement of an emerging trend.

Physical infrastructure will continue to be upgraded but lifetimes of such assets extend to 40 years and more so today's physical work environment feels locked in for some time. On the other hand, infrastructure and construction may be very significant industries and sources of jobs of the future, and their companies will attract growing share market interest.

It's quite clear that this century will be very different from the 20th. Organisational learning will be a competitive advantage and we must learn quickly (and fail quickly). Technology is changing the landscape for employees, companies, their network of stakeholders, and society at large.

The shorthand which captured the mood of the times in the year 2000 was: "Whatever the question, the answer was the **Internet**". The answer was **Google** (2005); the **Wireless Internet** (2009); **Facebook** (2010); the right **app** (2012) and perhaps in the **Cloud** or **Crowd** in 2013?

Today across business, the recurring themes are online transactions capability, wireless connectivity, social media, and big data with wireless appliances being the ubiquitous tool of trade.

Schools and universities are adjusting albeit slowly, as are companies, and women are poised to play larger leadership roles.

Obviously we have to take our people with us along this transformational journey. Values matter and should endure, but all other legacy processes must be challenged and speedily revised as necessary.

It will be an exciting experience.

The views in this article are those of the author and should not be attributed otherwise.

Endnotes

- 1 W Brian Arthur, 'The Nature of Technology' (Free Press, 2009)
- 2 Ibid
- 3 John Micklethwait and Adrian Wooldridge, 'The Company' (Modern Library, 2003)
- 4 Ibid
- 5 A fuller commentary may be found in the Australian Financial Review, January 11, 2013 – also available online here: www.afr.com/p/lifestyle/review/know_it_time_to_say_goodbye_to_the_YIRCGO6eaZXReZ0hQ1KXOK
- 6 Louis V Gerstner Jr, Reinventing Education (Dutton 1994).



National

Level 13, 440 Collins Street
Melbourne VIC 3000
GPO Box 2117
Melbourne VIC 3001
Telephone 03 9662 3544
Fax 03 9640 0849
Email info@ceda.com.au

South Australia and the Northern Territory

Level 7
144 North Terrace
Adelaide SA 5000
PO Box 8248, Station Arcade
Adelaide SA 5000
Telephone 08 8211 7222
Fax 08 8211 8222

New South Wales and the ACT

Level 14
The John Hunter Building
9 Hunter Street
Sydney NSW 2000
GPO Box 2100
Sydney NSW 2001
Telephone 02 9299 7022
Fax 02 9232 7559

Victoria and Tasmania

Level 13, 440 Collins Street
Melbourne VIC 3000
GPO Box 2117
Melbourne VIC 3001
Telephone 03 9662 3544
Fax 03 9640 0849

Queensland

Level 17, 300 Adelaide Street
Brisbane QLD 4000
GPO Box 2900
Brisbane QLD 4001
Telephone 07 3229 9955
Fax 07 3229 8166

Western Australia

Level 5
105 St Georges Terrace
Perth WA 6000
PO Box 5631
St Georges Tce
Perth WA 6831
Telephone 08 9228 2155
Fax 08 9228 2166