Deloitte Access Economics

Forecast growth in labour costs: update of August 2011 report

Report prepared for the AER

9 March 2012

Deloitte.

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Mark McLeish
Director
Australian Energy Regulator
Level 2, 19 Grenfell Street
Adelaide, South Australia 5001

9 March 2012

Dear Mark

Update report for the Queensland and Tasmanian utilities sector LPI

Attached is our updated report on the LPI for the Queensland and Tasmanian utilities sector.

It follows our initial report, dated 2 August 2011.

Yours sincerely,

Chris Richardson
Director
Deloitte Access Economics Pty Ltd

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Executive Summary

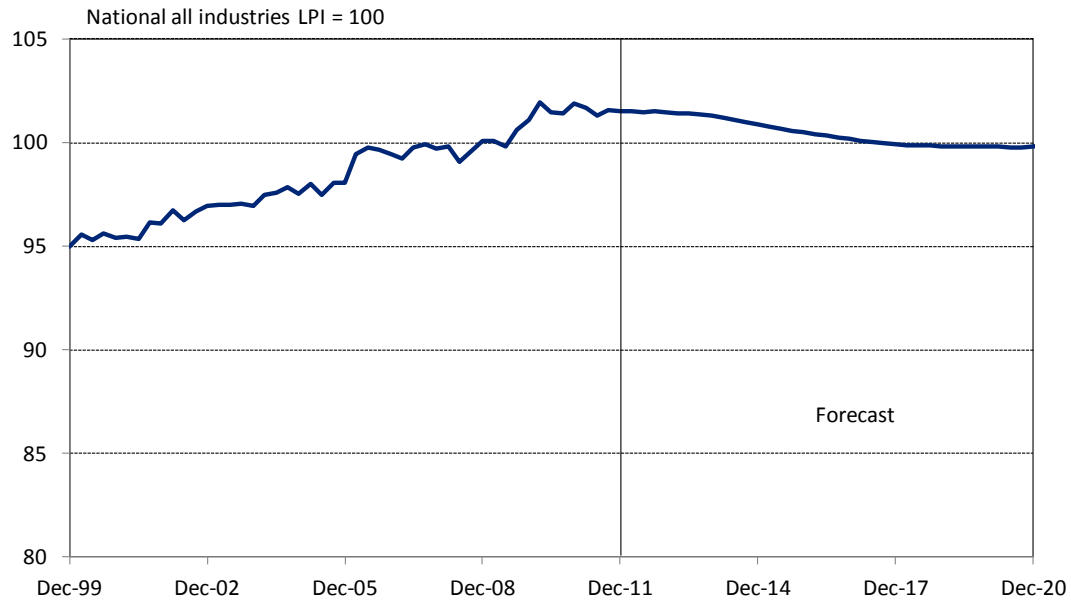
Prospects for wage growth in the utilities sector

The last decade saw the business backdrop for the utilities sector change markedly. The rise of emerging Asia as a customer for Australian commodity exports prompted a boom in mining and engineering construction, as well as a belated recognition that the nation had underinvested in its urban and export infrastructure for some decades:

- That combination of factors increased the demand for what the utilities sector does, leading to a remarkable lift in employment in the sector (up by a marked 73% over the past decade – just under three times the national average for job growth in that period).
- The increases were even more marked in mining (with jobs almost doubling over that period, lifting by 192%), as well as being notable in construction (where the matching gain was 56%, meaning that one in eleven workers in the workforce are now employed in construction, the highest such share that Australia has ever recorded).

So demand for employment within the utilities lifted, and it also rose sharply in sectors competing with the utilities for its skilled workforce. Not surprisingly therefore, wages in the utilities sector also lifted relative to the Australian average, growing some 0.6 percentage points faster per year for the decade through to early 2010 (see Chart i below).

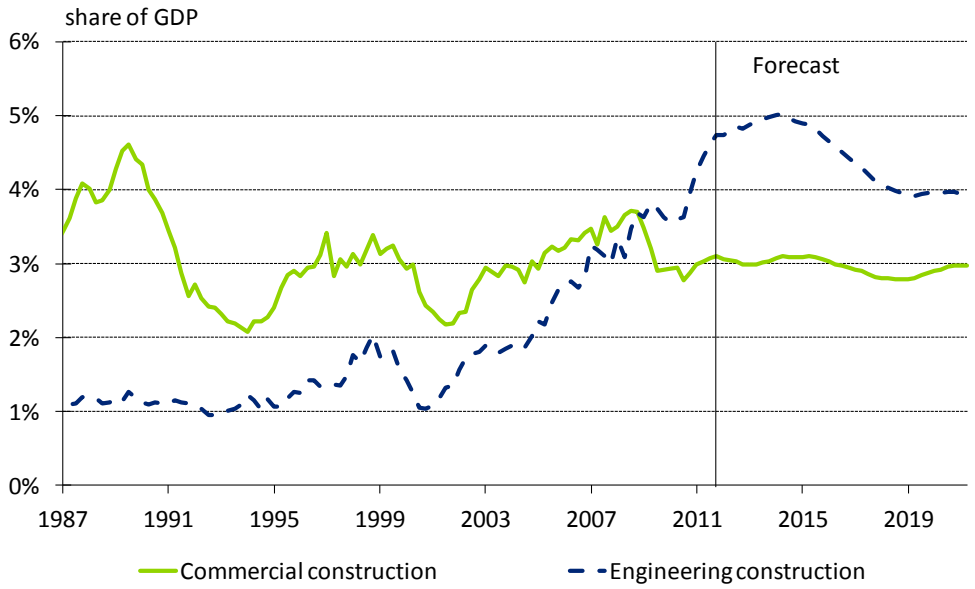
Chart i: The utilities LPI relative to the national LPI[1]



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

[1] Note this is an index – it does not mean wage levels are much the same in the utilities as the national average. As noted elsewhere, alternative measures of wage levels (such as average weekly ordinary time earnings, or AWOTE) show wages in the utilities sector around 15% higher than the national average.

Chart ii: Components of non-residential construction

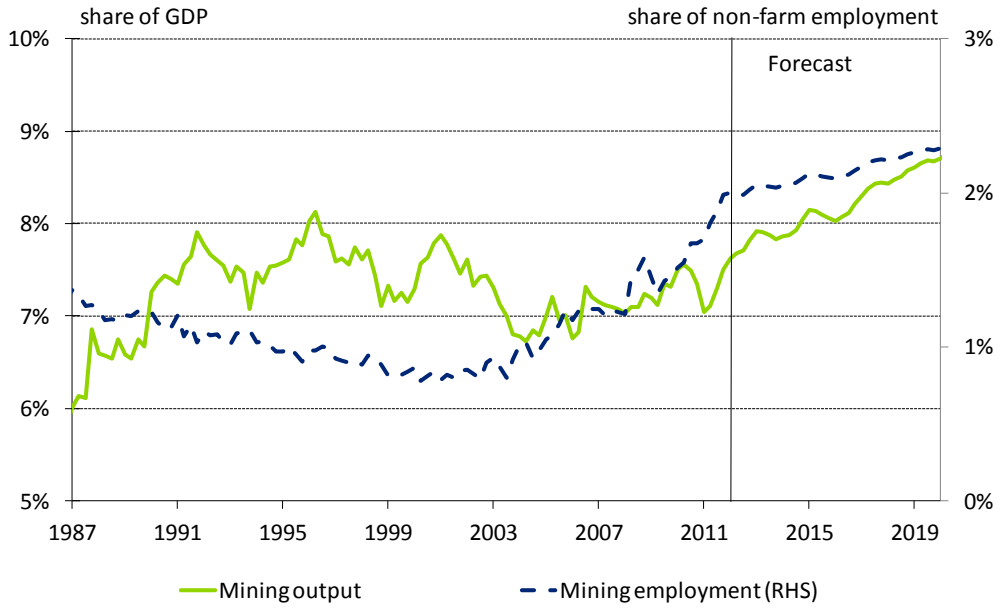


Source: Australian Bureau of Statistics, Deloitte Access Economics

Looking ahead, some of the same factors which have driven faster than average wage growth in the utilities sector will remain evident in coming years too:

- Demand in sectors which compete for the same workers is projected to remain robust, with **engineering construction continuing to dimb** as a share of Australia's economy (see Chart ii above), **and the mining sector similarly prospering** on the continuing rise of emerging Asia (see Chart iii).

Chart iii: Mining industry share of key economic aggregates



Source: Australian Bureau of Statistics, Deloitte Access Economics

- In addition, there will also be some new factors adding to wage pressures. Although labour demand growth in Australia remains solid, the supply side of labour markets looks set to prove more problematic in coming years. International **migration** to Australia has stabilised at rates well below their 2008 peak, and the **pace of retirement** among baby boomers can be expected to step up substantially in coming years.

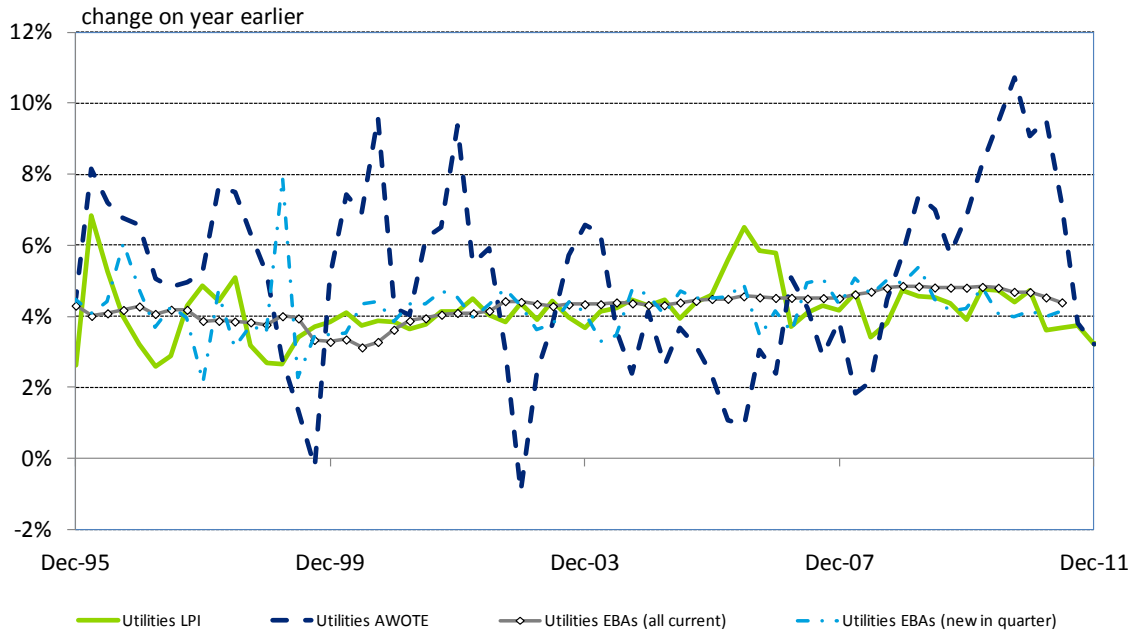
Accordingly, there are a series of reasons to expect that the faster than average rate of wage growth evidenced in the utilities across the last decade may continue for a time further.

Yet there are also an important series of factors working the other way to consider. Indeed, as evident in Chart i earlier, wages in the utilities sector have been gradually easing relative to Australian average wages for almost two years now. In addition:

- Much of the competitive push from mining and engineering construction has already been felt, with employment growth over the next five years projected to moderate somewhat after a stunning period of record gains.
- Job gains in the utilities may also moderate, as the sector is suffering from a lack of investment – notably in electricity – amid continuing confusion over where carbon pricing policy may head.
- At the same time, weakness in manufacturing will free up workers from that sector, while student numbers in relevant external courses (such as engineering) have jumped.
- Finally, developments in Europe are weighing on job growth and wage pressures more generally. Although this latter effect is unlikely to linger, it may be notable during 2012.

Looking ahead, Chart iv compares growth in the utilities sector LPI with a number of other wage growth measurements that are produced on a regular basis. The first measure shown is average weekly ordinary time earnings (AWOTE) for the national utilities sector.

Chart iv: Measures of utilities sector wage growth



Source: ABS, Department of Education, Employment and Workplace Relations

As the above chart illustrates, the growth in AWOTE is volatile, limiting its use in forecasting. The next series is the matching measure of wage growth in the utilities, but using the LPI. The remaining two series come from the *Trends in Federal Enterprise Bargaining* publication produced by the Department of Education, Employment and Workplace Relations and cover growth in wages under enterprise bargaining agreements.

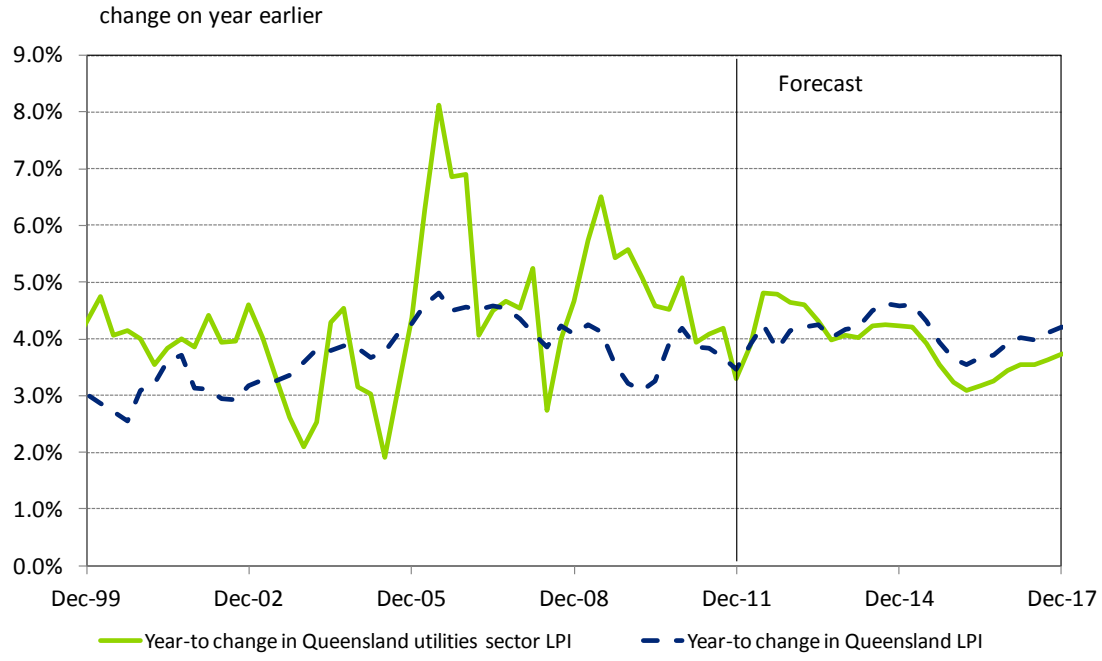
In general, growth in new utilities sector EBAs is a solid predictor of the level and trend in the LPI in the immediately following quarters, while the AWOTE movements have been almost unrelated to the EBA results over this time. Growth in EBA wage rates seen in newly submitted agreements has broadly been between 4% and 5% per year, as has the increase in the sectoral LPI. After a period of rising wage growth, recent EBA trends suggest a moderation in utilities sector wages pressures is underway – with new agreements seeing implied wage rises of around 4%, rather than the 4.5% implied by all EBA's.

The current rate of growth (4.4% per annum for all agreements operating at the end of June 2011, slightly down on the results seen during 2010) will have an impact on wage growth over the medium term – only around one in every ten agreements are re-negotiated in any given quarter, meaning a typical agreement lasts just over three years.

Prospects for wage growth in the utilities sector in Queensland and Tasmania

Both Chart v and Chart vi suggests a degree of moderation on the wage front is already evident in the Queensland and Tasmanian utilities sectors – in part because of the increases seen over the course of 2008 and 2009.

Chart v: Utilities Labour Price Index forecasts – Queensland

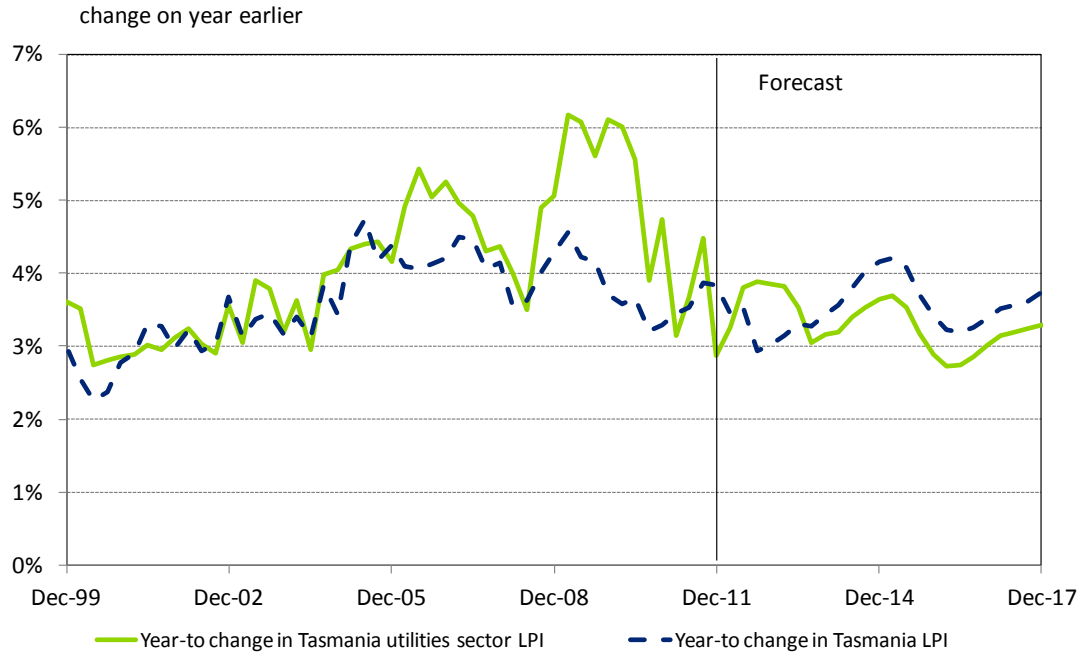


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Yet these moderating factors are relative and, as seen in Chart v, wage growth in both States' utilities sector is set to climb over the next three years, as current concerns over

Europe's effects fade, and amid the continuing competitive pressures expected to be evident from the mining and engineering construction sectors.

Chart vi: Utilities Labour Price Index forecasts – Tasmania



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

That said, it is worth noting the moderating effects listed above in greater detail.

Moderating job growth in mining and engineering

Utilities face continuing fierce competition for their skilled workers from the mining and engineering sectors, although this competition is expected to be more moderate than in recent times. For example, employment growth in mining is expected to go from a gain of 70% over the past five years down to a gain of 46% over the next five years. The matching numbers for the engineering construction sector are for a gain of 126% to moderate to a further increase of 24%. (Note the latter figures are for output rather than employment – we do not separately project engineering sector employment.)

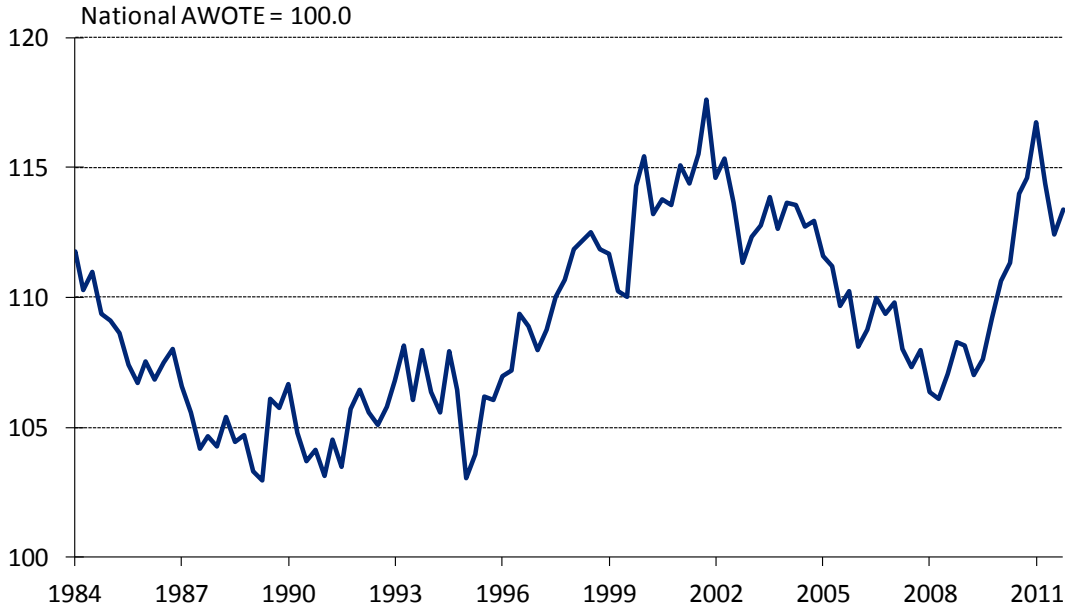
Hence much of the competitive push from these other sectors has already been evident. (That said, perspective is handy here – to say that gains in mining and in engineering construction will moderate from here means that they will continue to build upon the remarkable gains of the past decade – albeit at a reduced rate.)

In addition, the past gains in relative wages in affected sectors have already been considerable, and permanent shifts in price relativities are rare, because 'the supply side' adjusts – workers shift into those occupations where skill shortages are keenest (and wages are good)[2], while producers here and around the world step up their production of the materials whose prices have risen because they are in short supply (and profits are good).

[2] For example, the number of students entering engineering and related technical fields has been rising fast (up 22% in the past three years alone).

It is, after all, worth noting that the period over which the LPI has been available is similar to the period over which China and other emerging economies have had a growing impact on Australia, including on the wages able to be earned in the utilities sector. Hence it is useful to look at the LPI comparison seen in Chart i, but to also go back further in time using an AWOTE-based comparison (seen in Chart vii). The latter's longer timeframe helps to show the impact of long cycles (rather than the secular trend seen over the shorter timeframe seen in Chart i).

Chart vii: Utilities wages relative to national wages (AWOTE)



Source: ABS

Although the pattern and timing of the relative wage movements has been different, the longer term picture in the chart below helps clarify that changes in relative wages over time tend to be cyclical (temporary) rather than structural (permanent).

Moreover, the factor which underpinned both the last boom and the current one – very high prices for Australia's key exports such as coal and iron ore – are also unlikely to be permanent. There are reasons to believe that, even if China and India keep growing fast, the world's miners may dig faster still, bringing commodity prices down, and slowing the long running boom in key Australian sectors as a result, though we don't expect that latter phase to be evident until 2013 at the earliest.

Weakness in manufacturing

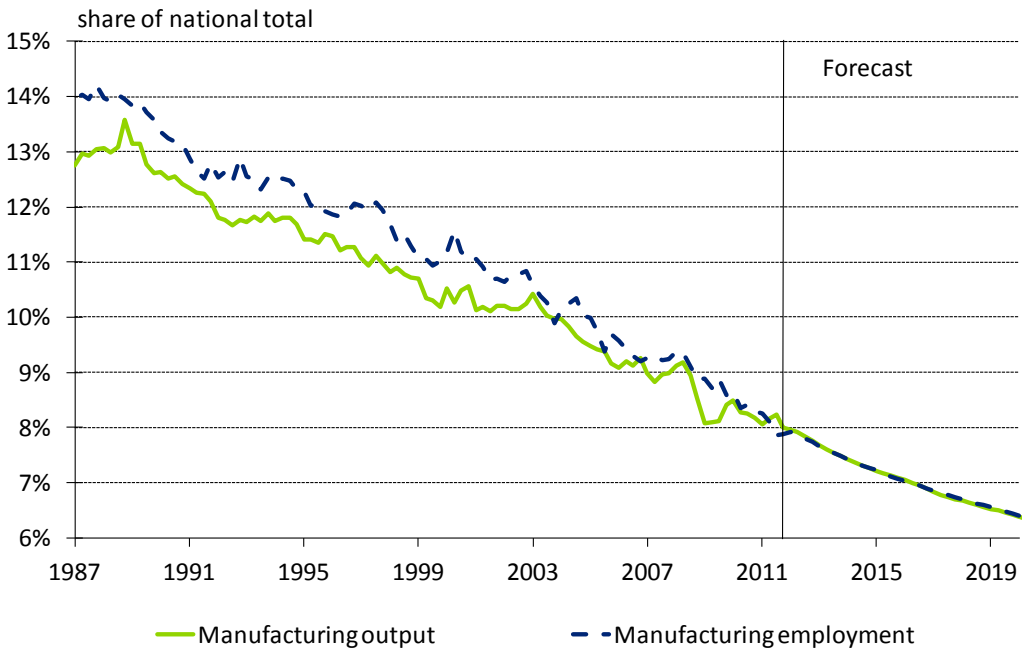
At the same time, Australia's manufacturers face continuing weakness. Having stumbled badly during the global financial crisis – which saw the sharpest shakeout in Australian manufacturing ever recorded – the sector has continued to struggle subsequently.

A key factor has been the rise of the $A, which has been at or near parity with the $US for close to a year now. If the jump to parity was expected to be just a short-lived flash in the pan, then many manufacturers could simply shrug it off as short term profit pain rather than a longer term threat to business viability. However, the $A's dalliance in high altitude territory

has lasted a while now, and more and more manufacturers are wondering whether they can keep going with the struggle against keenly priced import competitors.

Hence although the likes of mining and engineering construction will remain important competitors, chances are that the manufacturing sector will be freeing up skilled labour across a similar period (and potentially in similar numbers, with as many jobs lost in manufacturing over the next five years as are projected to be gained in mining).

Chart viii: Manufacturing as a share of Australia's economy and employment



Source: Australian Bureau of Statistics, Deloitte Access Economics

Moreover, the pace of employment growth in the utilities sector itself is set to slow – albeit in part because the Federal Government and Opposition can't reach a bipartisan position on carbon pricing, leaving the likes of the electricity sector unsure of the regulatory environment for its big investment decisions. After a healthy gain of 36% over the past five years, job numbers in the sector are projected to consolidate over the next five years.

Developments in the Eurozone may restrain job and wage gains in Australia in 2012

Despite the European Central Bank's generous funding to banks since late 2011 (a handy backdoor to lend to governments), European remain are notable. The outlook in this report assumes that continuing Chinese strength trumps European weakness – that Europe's leaders muddle through in a way that doesn't stop Europe having a mild recession, but does avoid deep recession and bank failures.

That said, although the news out of Europe may not have hit Australia's economy hard, it has led to employer caution, and a slowdown is underway as a result of that. Many employers will be adding hours for existing employees in preference to hiring new ones, and there are specific negatives ahead for the job outlook in the finance and public sectors. In turn, the weakening in job growth has also affected the outlook for wages.

When prospects for Australia's economy were brighter, it looked as though wage growth would move past the 4% rate – low and falling unemployment would put bargaining power with workers and unions rather than employers, and pent up demand for wage rises stemming back to the global financial crisis would generate demand for catch up wage gains. In practice, however, two speed economy negatives have held wage gains on a shorter leash. Although wage gains remain robust in the likes of mining and those other sectors where demand is running hot, the bigger picture looks like seeing wage inflation settle at close to current rates. Importantly, that means wage gains may approach 4%, but they may not pass it soon.

In part that is because the $A continues to put real pressure on a bunch of business models. But in part it is because of the Eurozone risk hanging over the global and Australian outlook is likely to lead employers to be tougher in negotiations, and employees to be more obliging.

It is important to note, however, that even though 2012 growth globally is expected to be dominated by a weak Europe, the remainder of the decade is more likely to be characterised by continuing rapid growth in emerging Asia. Although the risk of a financial crisis derailing global growth in 2012 and perhaps even 2013 is very real, 'financial crisis' is a temporary rather than a permanent state of affairs.

Summary results

Summary tables of Deloitte Access Economics' key forecasts follow.

Table ii: Summary results – economic variables

Financial year changes in key economic variables

Annual % change (unless noted)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Consumption										
Private sector	2.5	3.1	3.6	2.8	2.6	2.6	2.8	2.9	2.6	2.7
Public sector	1.8	2.8	0.9	-0.9	2.0	2.7	2.4	2.6	2.8	2.9
Private sector investment										
Non-business housing	1.2	0.9	0.4	7.2	12.1	-2.1	5.1	10.8	2.4	-6.1
Non-business real estate	10.7	-15.5	-0.8	6.8	11.1	-1.7	4.9	10.2	2.7	-5.0
Non-residential building	-14.3	-4.1	0.2	4.3	7.5	3.5	3.5	4.0	3.6	4.6
Engineering construction	-5.9	17.9	33.6	13.3	10.7	1.1	-0.9	-0.3	-0.7	0.3
Machinery and equipment	-4.3	3.0	12.6	7.1	4.4	5.6	8.1	4.8	4.7	5.2
IP and livestock	1.7	4.9	19.2	14.3	7.3	3.5	3.9	2.8	2.6	3.4
Public investment										
General Government	29.7	7.8	-8.7	-8.3	-3.7	0.4	2.2	1.4	1.0	1.9
Public enterprises	26.5	0.1	14.8	27.6	6.3	4.0	0.9	-3.4	-0.5	1.9
Domestic final demand	2.3	3.2	4.7	3.6	3.8	2.4	3.1	3.2	2.5	2.2
Private sector	0.9	3.1	6.1	4.7	4.5	2.4	3.3	3.5	2.6	2.1
Public sector	7.2	3.5	0.0	-0.2	1.5	2.5	2.3	1.8	2.2	2.7
Gross national expenditure	2.4	3.9	4.4	3.5	3.8	2.4	3.0	3.2	2.8	2.3
Interntional trade										
Exports	5.3	0.2	5.4	8.9	7.6	7.2	5.3	8.9	10.3	9.3
Imports	5.6	10.4	11.3	7.8	8.1	3.7	4.6	7.7	7.2	5.7
Net (% additon to growth)	-1.8	-2.5	-0.1	-0.4	0.0	0.5	0.0	0.0	0.7	0.6
Total output (GDP)	2.3	1.9	3.2	3.4	3.6	3.1	3.2	3.4	3.3	2.9
Non farm output	2.4	1.8	3.2	3.3	3.6	3.2	3.2	3.4	3.3	2.9
Employment	1.2	3.0	0.9	1.8	1.6	1.5	1.2	1.1	1.3	1.4
Unemployment rate (%)	5.5	5.1	5.3	5.5	5.4	5.4	5.5	5.4	5.1	5.2

Source: ABS, Deloitte Access Economics macroeconomic model

Table i: Summary results – key variables

Financial year changes in key variables

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Output	2.3	1.9	3.2	3.4	3.6	3.1	3.2	3.4	3.3	2.9
Consumer price index	2.3	3.1	2.6	3.1	2.9	2.6	2.5	2.8	2.6	2.3
Labour Price index	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Average weekly earnings	5.3	4.0	3.9	4.1	4.3	4.5	3.1	3.2	3.4	3.4

Source: ABS, Deloitte Access Economics macroeconomic model

Table ii: Summary results – wages and prices

Financial year changes in national wage and prices variables

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Consumer price index (CPI)	2.3	3.1	2.6	3.1	2.9	2.6	2.5	2.8	2.6	2.3
Labour price index (LPI)										
Nominal	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Real	0.7	0.7	1.0	0.8	1.0	1.8	1.0	0.9	1.3	1.7
Average weekly earnings (AWE)										
Nominal	5.3	4.0	3.9	4.1	4.3	4.5	3.1	3.2	3.4	3.4
Real	2.9	0.9	1.3	1.1	1.3	1.8	0.6	0.5	0.7	1.1
Average weekly ordinary time earnings (AWOTE)										
Nominal	5.6	4.2	4.4	4.3	4.3	4.2	3.7	3.7	3.8	4.0
Real	3.2	1.0	1.8	1.2	1.3	1.6	1.2	0.9	1.1	1.7
Unit labour costs										
Nominal	1.2	6.0	2.5	2.4	3.2	3.5	2.2	1.7	2.1	2.5
Real	-1.1	2.8	0.0	-0.6	0.2	0.9	-0.3	-1.0	-0.5	0.2

Source: ABS, Deloitte Access Economics macroeconomic model

Table iii: Summary results – National sectoral wages

Financial year changes in nominal national industry sector LPI

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Utilities	4.5	4.1	3.5	3.8	3.8	4.0	3.2	3.4	3.7	3.9
Mining	3.6	4.3	3.9	5.0	4.7	5.3	4.0	3.8	4.0	3.5
Construction	3.2	3.9	4.2	4.4	4.1	4.2	3.4	3.6	3.7	3.6
Administration services	2.2	3.6	3.2	3.2	3.6	4.1	3.5	3.7	4.1	4.3

Source: ABS, Deloitte Access Economics labour cost model

Table iv: Summary results – State utilities sector

Financial year changes in nominal utilities sector LPI

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
National	4.5	4.1	3.5	3.8	3.8	4.0	3.2	3.4	3.7	3.9
Queensland	5.2	4.4	4.0	4.6	4.1	4.2	3.3	3.5	3.7	3.8
Tasmania	5.8	3.9	3.5	3.6	3.2	3.6	2.9	3.1	3.3	3.4

Source: ABS, Deloitte Access Economics labour cost model

Deloitte Access Economics

9 March 2012

1 Background

The Australian Energy Regulator (AER) commissioned Deloitte Access Economics to provide forecasts for labour cost growth for the electricity, gas, water and waste services (utilities) industry for Queensland and Tasmania, and Australia as a whole. Specifically, AER requested:

- A comparative analysis of forecast labour costs for the utilities industry across States.
- A comparative analysis of forecast labour costs for the utilities with other industries that compete for utilities workers (mining, construction and administration services).
- A comparison of the forecasts of general labour cost growth across States.
- An assessment of how market conditions are expected to affect the labour forecasts.

The initial report was completed in August 2011 and this report provides an update to those earlier forecasts. In the intervening period the Australian Bureau of Statistics (ABS) has released the June, September and December quarter 2011 wage data have subsequently been released, as well as detailed economic growth results for the same period.

Deloitte Access Economics' update report includes:

- **The latest national economic outlook**, covering the broad international economy and domestic developments, as well as changes in the outlook for commodity prices (see Chapter 2).
- **Developments at the national level in wages and prices,** covering the LPI itself, other measures of wages and the CPI (see Chapter 3).
- **Specific projections for the two State economies**, covering both the economic and wages outlooks (see Chapter 4).
- **The outlook for the utilities sector at the national level**, covering both output and wages (see Chapter 5).
- **The outlook for competitor and related sectors at the national level**, covering both output and wages in each of the mining, construction, and administration services sectors (see Chapter 6).
- **Updated detailed forecasts at the State level of wage growth in the utilities and competitor industries** (see Chapter 7).

Note that all real-terms rates of change in this report are calculated using amounts expressed in constant 2009-10 dollars, whereas the real-terms rates of change provided in the August 2011 report were based on amounts expressed in constant 2008-09 dollars. This reflects the annual update the ABS has applied to real-terms national accounts variables since publication of Deloitte Access Economics' August 2011 report. One effect of this update is to change slightly the historical real-terms rates of change (growth) for variables such as GDP.

Note that this report is essentially based on the forecasts Deloitte Access Economics prepared based on the September quarter 2011 national accounts, updated for subsequent LPI and CPI releases. Although some of the results in the December quarter 2011 national accounts are noted in the text, the latter were not yet fully incorporated into these forecasts.

2 The Australian economic outlook

This chapter discusses the latest outlook for national output and demand. This is the primary determinant of the outlook for labour demand at the national level.

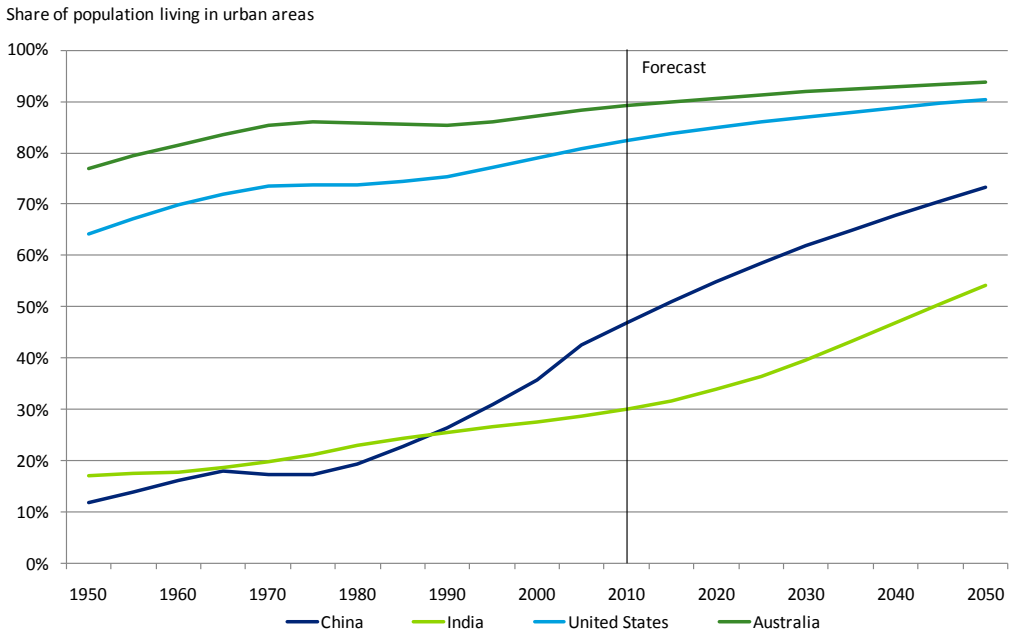
2.1 The global outlook

2.1.1 A longer term perspective

While the global financial crisis was a key feature of the economic landscape over the last decade, it was not as important as the rise of emerging Asia. The latter is also likely to be the dominant feature of the coming decade. That is because half of the world's population is undergoing an industrial revolution, which is generating a strong lift in global demand for industrial commodities. Prices of some of Australia's key exports have leapt sharply as a result.

That demand is set to remain strong. Chart 2.1 below shows the urban population share in Australia, the US, China and India. The growing rate of urbanisation in China and India is clear. Since 1980, the share of China's population living in urban areas has risen from less than 20% to almost 50%, with that share expected to continue to rise rapidly to almost 75% by 2050.

Chart 2.1: Urbanisation rate in selected economies



Source: United Nations Urbanisation Prospects

Indeed, urbanisation is occurring simultaneously with industrialisation across the developing world. This twin process is self-reinforcing, with rapid income growth and job opportunities attracting workers into cities. In turn, the larger urban population is generating demand for housing, energy, shopping centres, schools, office blocks and transportation, creating additional employment demand.

That construction requires raw materials, and the scale of China's urbanisation which is yet to come offers huge potential for Australia. The United Nations estimates that between 2010 and 2030, China's urban population will increase by around 270 million people. By 2050, more than 1 billion people will live in China's cities – an increase of 400 million people from 2010.

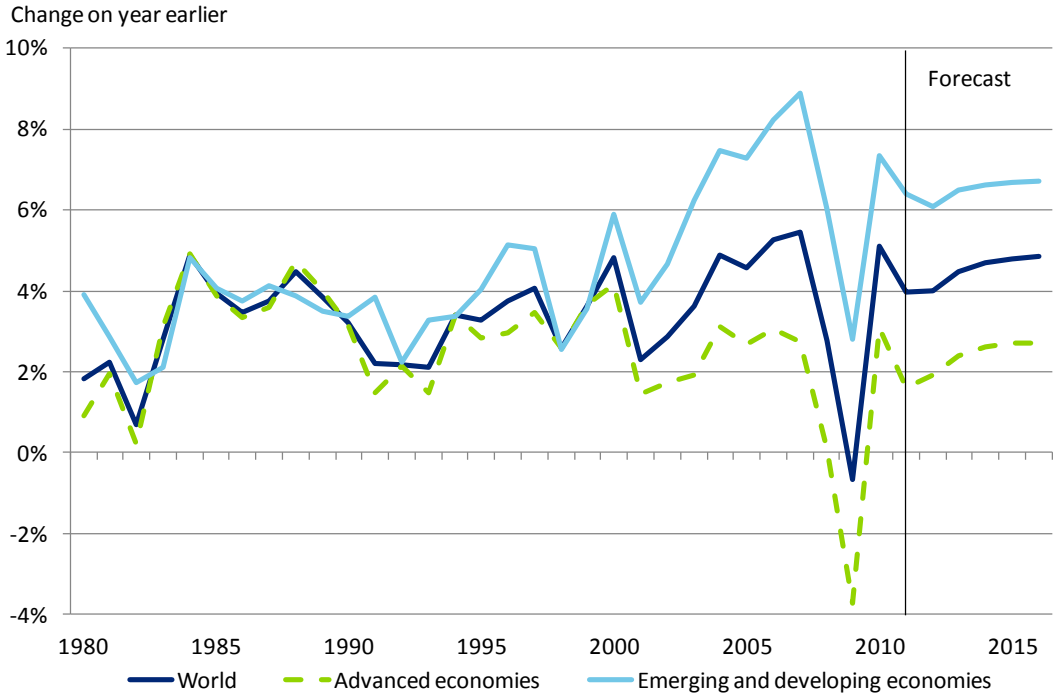
India's pace of urbanisation may well be greater. Between now and 2050, the United Nations is expecting India's urban population to grow by more than half a billion people. India currently has 46 cities which boast a population of more than 1 million people. In 2025 that will have climbed to 63 cities.

The McKinsey Global Institute has quantified some implications of the pace of urbanisation, and projects that between 2010 and 2025 in China. More than 40 billion square metres of floor space will be built in five million new buildings. Around 50,000 of these buildings could be skyscrapers – the equivalent of ten New York Cities – and some five billion square metres of road will be paved. McKinsey also projects that between 2010 and 2030 in India:

- 700-900 million square metres of commercial/residential space needs to be built, and
- The number of middle class urban households will grow from 22 million to 91 million.

That process underscores the 'decoupling' between emerging economies and advanced economies seen in Chart 2.2 below.

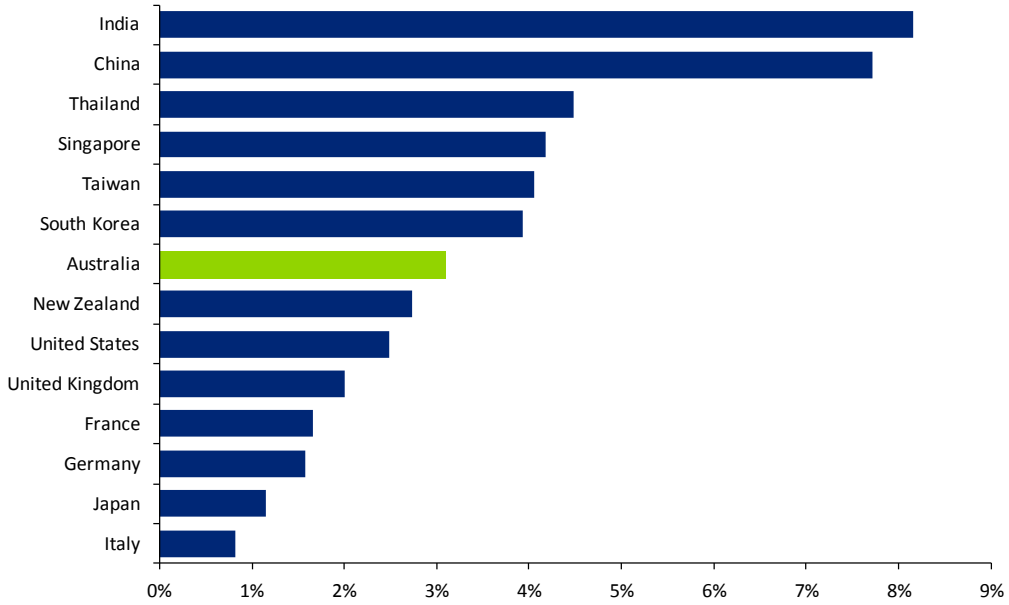
Chart 2.2: Global growth forecasts



Source: IMF World Economic Outlook, September 2011

Over the past decade, growth in emerging economies has significantly outpaced growth in advanced economies – a trend that is expected to continue over the medium term. The International Monetary Fund expects annual economic growth in emerging economies to average 6.5% over the next five years, compared with just 2.5% in advanced economies.

Chart 2.3: Forecast average annual growth rate, 2011-2021



Source: Consensus Economics

The two key drivers of that emerging economy growth are China and India. As shown in Chart 2.3 above, economic growth in both countries is expected to average around 8% per annum over the next decade.

2.1.2 Risks to the global outlook

Much of the current uncertainty in the global economy revolves around the management of the crisis in the Eurozone.

That crisis began with sovereign debt issues in smaller countries on the edge of the Eurozone, most notably the so-called 'PIGS' of Portugal, Ireland, Greece and Spain, but has subsequently spread to affect larger nations – and to threaten the continuing existence of the euro.

Markets rapidly lost faith in the ability of these countries to sustain their high levels of public debt given a combination of uncompetitive wages and a high Euro which reflected the strength and competitiveness of the central European economies such as Germany.

Having brought riots, industrial unrest and the downfall of a number of incumbent governments, the crisis has now brought significant pressure to bear on continued existence of the euro, and the future structure of the broader European Union.

It has also placed stress on a number of large European banks as they face possible defaults and downgrades on their stocks of Euro-area government debt and significant uncertainty in currency markets.

The key risk for the world economy is that continued mismanagement of debts and deficits means that the euro could falter and banks could become insolvent. The recession that would result would be deep and painful, and would drag down growth in a number of other regions, including Asia – and hence the key driver of Australian prosperity.

However, it is just as likely that the Eurozone manages to remain intact and that the threat of sovereign default is diminished, aided by funding from the European Central Bank (ECB).

These two central scenarios are very different, and would produce divergent outcomes for the world and Australia.

On balance, Deloitte Access Economics believes that a scenario which sees the Eurozone carry on is marginally more likely, though even that result would weigh on global economic growth.

Accordingly, the forecasts of labour cost growth impacting on utilities developed in this report are based on the view that the both the Eurozone and Europe's major banks remain intact through the current crisis.

The likelihood of this 'muddle through' scenario prevailing has been bolstered in recent times by the ECB handing more than a trillion euros of three year funding to Europe's banks at bargain basement interest rates of 1%.

That's vital, because the immediate risk in Europe was that banks were about to go bust, and even those seemingly set to survive were being much more careful in lending out new money as they circled the wagons. However, the risk of banks going bust in the short term is now less than it was in late 2011 – throwing cheap money at Europe's banks didn't solve all of Europe's problems, but it certainly helped.

For example, had Greece defaulted already, banks would have gone bust not merely in Greece itself, but throughout the rest of Europe. Now, and even if Greece has a disorderly default in 18 months, chances are that fewer banks would be bust outside of Greece itself – generous ECB funding has helped them make good profits in the meantime, and they will also have been able to raise some much needed capital from sharemarkets.

Besides, although the ECB said it was helping banks rather than governments, Europe's banks – finding themselves flush with funds – invested some of those back in government bonds.

The upshot is that the ECB now has a balance sheet that has bloated fast. That means that German taxpayers are still bearing substantial risks, though many of them don't recognise that.

In turn, that suggests Europe's recession of the moment will be a relatively modest one. However, the ECB can only do so much. In particular, it can't solve Europe's fundamental problem – that the likes of Germany, Greece, Spain and Italy shouldn't be sharing the same currency.

If there was a German currency, it would trade much higher than a Greek currency, with a bunch of others slotting in between. That's a problem, because if all these countries remain in the Eurozone, the only way for relative competitiveness to return to Europe's southern fringe is through falling or stagnant wages for some years yet.

That's a recipe for continuing recession and unrest, and it may well be that this story – although made less immediately risky thanks to the ECB – hasn't finished yet.

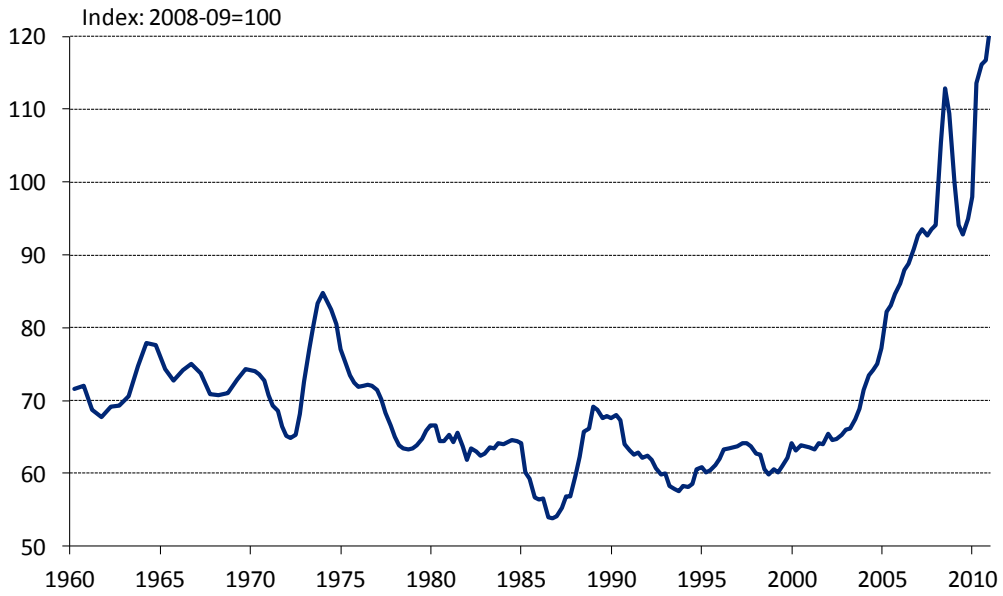
2.2 Implications for Australia

2.2.1 Outlook for national output and demand

If Deloitte Access Economics' central scenario holds, then Australia's economy should continue to comfortably outperform expectations for it.

The growth of emerging economies will underpin the continuing strong lift in consumption of raw materials, supporting higher global commodity prices. Already strong demand for our resources has lifted Australia's terms of trade – the ratio of export prices to import prices – to record highs, as seen in Chart 2.4.

Chart 2.4: Australian terms of trade



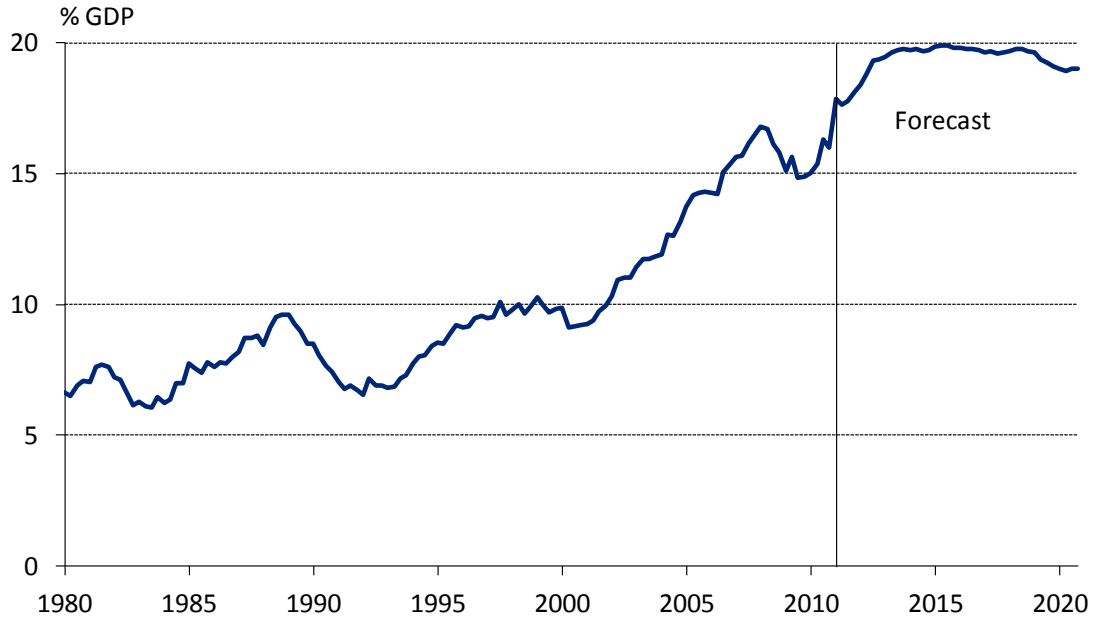
Source: Australian Bureau of Statistics

That lift in the terms of trade and the associated increase in resource-related investment is the key driver of the Australian economy across the past decade. Importantly, it links Australia's economy more closely to the faster-growing emerging economies of Asia than its developed world counterparts in Europe and the US – meaning Australia is one of few developed world nations on the right side of the divergence in growth seen in Chart 2.3 above.

As a result, Australian businesses are spending up a storm to catch up to the profit opportunities now on offer to this nation as three billion people in emerging economies increasingly become part of our globalised world.

Australia's current pipeline of business investment spending is impressive, and continues to be a key driving force behind our overall economic performance. Engineering construction has seen unprecedented activity as corporate Australia gears up to sell to emerging Asia. The impact of that is seen in Chart 2.5 below, as the business investment share of all spending in the economy continues the lift that it has seen over the past decade.

Chart 2.5: Underlying business investment



Business investment has been the strongest part of the growth outlook for Australia's economy for some time, yet Chart 2.5 shows it continuing to strengthen. Accordingly, risks to business investment in the short term are less likely to be the result of any lack of demand, and more likely to be due to supply side constraints (particularly too little skilled labour).

However, it isn't just a lack of skilled labour that's an issue for timing here. The same issues arise simply because of the sheer scale of the projects Australia is trying to get off the ground as a nation, with 14 projects each worth more than $10 billion. Of these 14 projects, five have a cost exceeding $30 billion.

This picture is admittedly very much a mining story, with the expansion plans of the rest of the Australian economy somewhat more modest. Indeed, this year may see mining generate more than half the business investment in Australia, up from one-sixth just seven years ago. In contrast, it would appear investment prospects outside resources have softened in the past year. And it is these plans which are most at risk from the uncertain European outlook.

Other areas of the economy are weaker as the elevated $A dampens the outlook for non-resource, trade-exposed industries, while the uncertain outlook in other advanced economies (particularly in the euro area and the United States) is weighing on consumer confidence. This comes at a time when the driving forces behind past Australian economic expansions – retail spending and housing construction – remain relatively weak. Moreover, the Federal Government is tightening fiscal policy in an effort to return the Federal Budget to surplus.

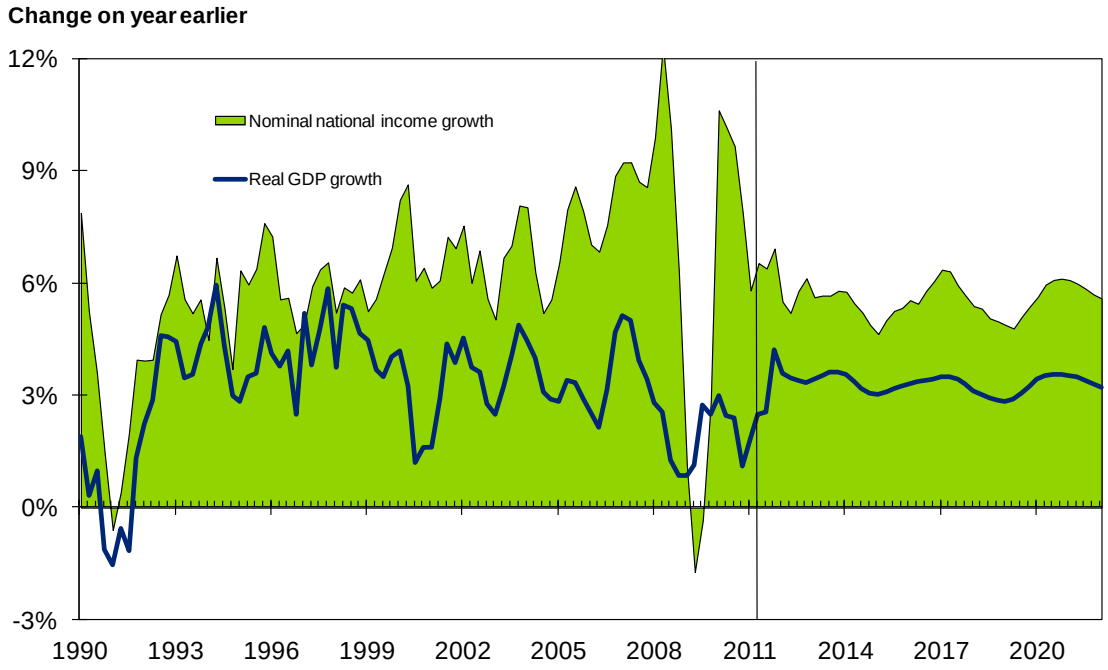
It helps that the Reserve Bank has cut interest rates. And it also helps that the Federal Government talked big but acted small in its Budget update late in 2011 – although it preserved the forecast of Budget surplus in 2012-13. That was preferable to the alternative – the government taking money out of the economy at a time when the outlook is fragile.

It is also worth noting it is easy to overstate the effect of consumer fears that have had this nation's families saving rather than spending. It's true there has been genuine bad news for Australia's retailers, but the pace at which consumers are spending outside the retail sector – on the likes of cars, electricity and water, rents and even restaurant meals – has been growing fast, leaving the overall pace of spending by consumers running at or even above trend.

Australians are saving more than they were, yet this lift in saving was strongest at the height of the global financial crisis (GFC) – from 2008 through to mid-2009. Since then Australians have saved a relatively steady one in every nine or ten dollars of their income. Or, in other words, the surge to saving was a big problem for both retail spending and wider consumer spending in 2008 and 2009, but since then spending growth has been moving in line with income growth.

On balance, the outlook for consumer spending remains modest, mostly as Europe-related negatives are more likely to outweigh the interest rate-related positives. Yet, even so, the overall pace of consumer spending is rather better than most realise, and it is likely to stay that way even if it sees something of a slowdown in the short term.

Chart 2.6: Australian real and nominal output growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

That combination of an unprecedented surge in investment with a mild slowdown in consumer spending would see Australia's economic performance continue to be the envy of economies in the US and Europe.

Chart 2.6 above shows projected real and nominal output growth in Australia over the next decade. It shows the Australian economy growing at or close to trend over coming years, despite strong global headwinds in the near term.

That is why it shows a solid outlook, underpinned not merely by further gains in real output, but also in national income as continuing good growth in China and the rest of emerging Asia keeps a floor under commodity prices at elevated levels.

Table 2.1 sets out Deloitte Access Economics' forecasts to 2018-19.

Table 2.1: National demand and output forecasts

Financial year changes in key economic variables										
Annual % change (unless noted)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Consumption										
Private sector	2.5	3.1	3.6	2.8	2.6	2.6	2.8	2.9	2.6	2.7
Public sector	1.8	2.8	0.9	-0.9	2.0	2.7	2.4	2.6	2.8	2.9
Private sector investment										
Non-business housing	1.2	0.9	0.4	7.2	12.1	-2.1	5.1	10.8	2.4	-6.1
Non-business real estate	10.7	-15.5	-0.8	6.8	11.1	-1.7	4.9	10.2	2.7	-5.0
Non-residential building	-14.3	-4.1	0.2	4.3	7.5	3.5	3.5	4.0	3.6	4.6
Engineering construction	-5.9	17.9	33.6	13.3	10.7	1.1	-0.9	-0.3	-0.7	0.3
Machinery and equipment	-4.3	3.0	12.6	7.1	4.4	5.6	8.1	4.8	4.7	5.2
IP and livestock	1.7	4.9	19.2	14.3	7.3	3.5	3.9	2.8	2.6	3.4
Public investment										
General Government	29.7	7.8	-8.7	-8.3	-3.7	0.4	2.2	1.4	1.0	1.9
Public enterprises	26.5	0.1	14.8	27.6	6.3	4.0	0.9	-3.4	-0.5	1.9
Domestic final demand	2.3	3.2	4.7	3.6	3.8	2.4	3.1	3.2	2.5	2.2
Private sector	0.9	3.1	6.1	4.7	4.5	2.4	3.3	3.5	2.6	2.1
Public sector	7.2	3.5	0.0	-0.2	1.5	2.5	2.3	1.8	2.2	2.7
Gross national expenditure	2.4	3.9	4.4	3.5	3.8	2.4	3.0	3.2	2.8	2.3
Interntional trade										
Exports	5.3	0.2	5.4	8.9	7.6	7.2	5.3	8.9	10.3	9.3
Imports	5.6	10.4	11.3	7.8	8.1	3.7	4.6	7.7	7.2	5.7
Net (% additon to growth)	-1.8	-2.5	-0.1	-0.4	0.0	0.5	0.0	0.0	0.7	0.6
Total output (GDP)	2.3	1.9	3.2	3.4	3.6	3.1	3.2	3.4	3.3	2.9
Non farm output	2.4	1.8	3.2	3.3	3.6	3.2	3.2	3.4	3.3	2.9
Employment	1.2	3.0	0.9	1.8	1.6	1.5	1.2	1.1	1.3	1.4
Unemployment rate (%)	5.5	5.1	5.3	5.5	5.4	5.4	5.5	5.4	5.1	5.2

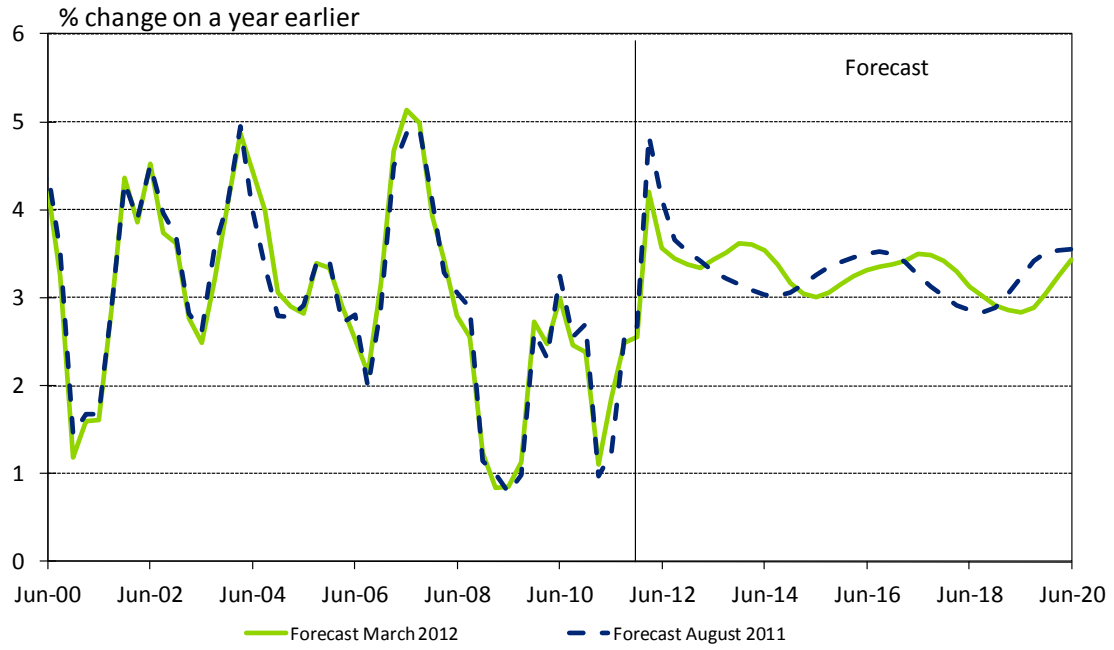
Source: Deloitte Access Economics

2.2.2 Changes to the outlook since August 2011

This latest outlook is only slightly changed on that included in our earlier (August 2011) report.

As Chart 2.7 below shows, recent developments – which prompted the Reserve Bank to cut interest rates – have seen Deloitte Access Economics shave 0.3 percentage points off projected real output growth in 2011-12.

Chart 2.7: Changing real output growth forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

Developments in Europe have been weighing heavily on the confidence of businesses and families. And the $A's towering strength continues to play hell with the business models of manufacturers, tourism operators, education providers and even retailers (given the extra push it gives to online purchasing from foreign sites). As a result, the dynamic duo of past Australian economic expansions – retail spending and housing construction – are still in the slow lane.

Even so, Australia's economy continues to recover strongly from the global crisis of 2008-09 and from the floods and cyclones of early 2011. We see the recent negatives as having only a temporary impact, with our medium term projections little changed.

2.2.3 Risks to the outlook

The current economic outlook for Australia is not without risk, however. Most particularly, the potential default of some governments in the euro area represents a significant risk to global growth. Should the situation in the euro area deteriorate further, there may be considerable repercussions for the global economy.

Such an event would also have flow on effects for Australia. While such a collapse of the euro area is not incorporated into our forecasts, the risk of that outcome has been rising.

Hence Australia also faces two different possible paths. The scenario described above – which assumes the Eurozone crisis is resolved somewhat orderly – will see Australia grow solidly. Strong growth in business investment in the resources sector will be a significant contributor to economic growth, while recent reductions in official interest rates will help to stimulate retail spending and residential construction.

However, if Europe falters, Australia's outlook will deteriorate sharply. Resource sector construction would still lift, though overall growth would slow and the unemployment rate rise as: (1) falling confidence reduced household and business spending, (2) weak global economic growth leads to lower commodity prices (and hence national income), and (3) bank failures overseas would result in a credit crunch even if domestic interest rates were lowered sharply.

Such a 'Europe blows' scenario would have implications for the economic and labour cost forecasts presented in this report. Slower global growth would see some moderation in pressure on labour costs, as well as a slowdown in economic growth, falling world commodity prices and a fall in the $A. A slowdown may also have hidden benefits, including fewer skill shortages and an easing of supply constraints facing parts of Australia's economy.

Again, this outcome is not Deloitte Access Economics' central expectation.

3 The national outlook for wages and prices

This chapter discusses the outlook for wages and prices across Australia as a whole. This is a key determinant of the outlook for wage growth within Queensland and Tasmania.

3.1 Recent national wage growth

For reasons explained in Box 1 below, the **labour price index** (or LPI) excluding bonuses, which is an index measure of the cost of a unit of labour, is Deloitte Access Economics' preferred measure for the purposes of measuring changes in the price of labour.

Box 1: The best measure of wage growth

The LPI was originally developed by the ABS because of the shortcomings of existing wage measures for this type of analysis. For example, average weekly ordinary time earnings (AWOTE) – which is a dollar measure of the average weekly pay to a full-time adult worker for their standard hours of work – is affected by shifts in the composition of employment. Hence if a sector employs relatively more high paid full time workers over time (as has happened in manufacturing as low skilled jobs have been lost to competitors in developing Asia), then that will tend to raise measured AWOTE even if the wage levels for a given level of skill have not changed at all.

Compositional effects tend to make AWOTE far more volatile than the LPI. Such volatility makes AWOTE a poor base for undertaking wage forecasts for the utilities sector. The volatility in the series does not accurately reflect wage outcomes for utilities employees, and can result in starting point (or "jumping off") problems at the beginning of the forecast period.

More broadly, compositional changes arising from the business cycle, changed educational levels, the pace of recruitment and retirement, the degree of outsourcing, changed relativities in the employment of men and women and compositional changes arising from shifts in average hours worked can all distort AWOTE as a proxy for "changes in the price of labour".

Moreover, as the businesses in the sample used to derive the AWE/AWOTE series change from quarter to quarter (and about 8% of the 5,000 do each time), questions also arise about the comparability of detailed AWE and AWOTE results from quarter to quarter as the changes may be driven by changes in the sample, rather than changes in wages. The LPI, by contrast, suffers as little as possible from this problem because the sample involved follows specific "jobs" over an extended period (at least five years).

3.1.1 Demand versus supply considerations

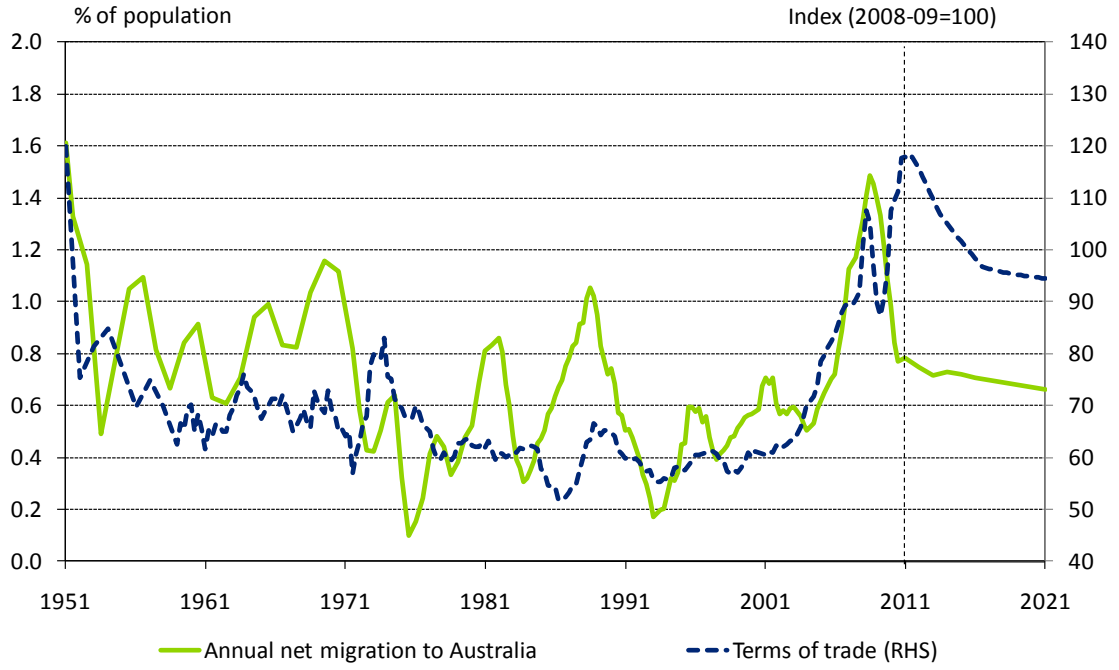
Half the world's population is undergoing an industrial revolution – a moment in time when global demand for industrial commodities has leapt ahead of their supply. As a result, the price for what Australia sells to the world has increased notably.

Yet while demand growth is high, supply growth is poor, because both sides of Australia's political spectrum have been happy to live with the implications of policy changes that have led to a halving in migrant numbers between 2008 and 2011.

Moreover, that slowdown in migration comes at the same time as the pace of retirement is about to lift (partly because some boomers put off retirement in recent years as poor markets hit their superannuation nest eggs, and in part as a bulge of boomer numbers are about to hit age 65).

Chart 3.1 below shows the terms of trade – the ratio of export to import prices (a proxy for global demand for what Australia produces) relative to the pace of migration. It shows a simple 'migration equation' – the balance between the demand for migrants and the actual supply of them. That gap between demand and supply has just become strikingly large.

Chart 3.1: The 'terms of trade' and the pace of migration



Source: ABS, Deloitte Access Economics

With demand growth for skills high but their supply growth low, there will be costs to corporates and the wider nation:

- Skill shortages are about to proliferate.
- Rates of labour turnover will rise, meaning that firms will lose the specific skills that employees have learned by being at their particular organisation.

- Wage growth will rise, and that will be a key channel by which the shortfall in skills can be expected to pressure the Reserve Bank into raising interest rates.
- In turn, those higher-than-necessary interest rates will add to the exchange rate.

That is why recent Federal Budgets made announcements around skills and training, and also lifted the skilled migration intake. In addition, there have been measures to feed temporary migrants into some big construction and mining projects (so-called Enterprise Migration Agreements).

Even so, Deloitte Access Economics sees a notable mismatch between the supply and demand of skilled workers – one which will put upward pressure on wage growth.

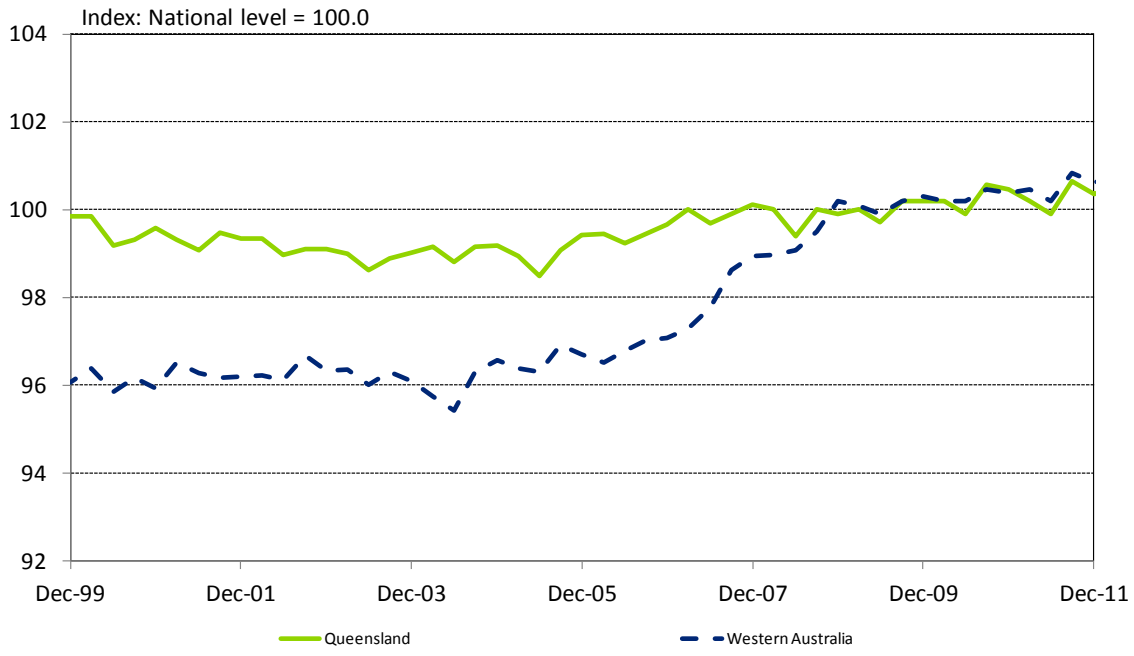
3.1.2 Impact of the last boom on costs and wages

There is a good yardstick for assessing the impact of the current resources boom on labour costs in Australia – what happened last time around.

In particular, what happened in Western Australia in recent years is a good example of the effects of a boom on materials costs and on wages.

Chart 3.2 shows the relative movements in the LPI in Queensland and Western Australia in recent years. The impact of mining wages was felt in both jurisdictions, but was far more significant in the West. This was not only because the mining sector is a larger component of the economy in WA, but also because the effects of skill shortages were far more pronounced than they were in Queensland.

Chart 3.2: LPI in Queensland and Western Australia relative to the national average



Source: ABS

The impacts of the mining boom on prices extended well beyond the wages paid to workers. The costs of construction also increased significantly – ending a long period where the price of a 'unit of construction' actually fell relative to broader price measures.

There are some natural limits to the extent or period to which wages and prices can be notably higher or lower in one State or region versus another. For example:

- Workers can move between and within States ("we'll leave Hobart and try our luck in Brisbane").
- Workers can move to Australia from other nations.
- Permanent and temporary (visa 457) migration may be bureaucratically slow to move, but has the potential to ease a transition period.
- As do shifts by permanent residents.
- Shifts by New Zealanders (who face less restrictions on migration than do those from other nations).
- Shifts in wages can and will see people substitute into growing areas related to their existing skills ("I'll leave construction and try my luck in mining").
- Ditto shifts in relative wages can delay retirements or exits ("We'll have baby next year"), as well as encourage new entrants ("I'm going to study electrical engineering, because wages in that occupation are good").
- Shifts in the use of labour due to changes in relative costs ("We'll use more Enrolled Nurses and fewer Registered Nurses because wages for Registered Nurses have risen relative to those for Enrolled Nurses").

Many of these 'equilibrating factors' can be very slow to operate, meaning that divergences in wages across States (and, for that matter, across sectors and occupations within a State) can persist for long periods.

3.1.3 How long can these effects persist?

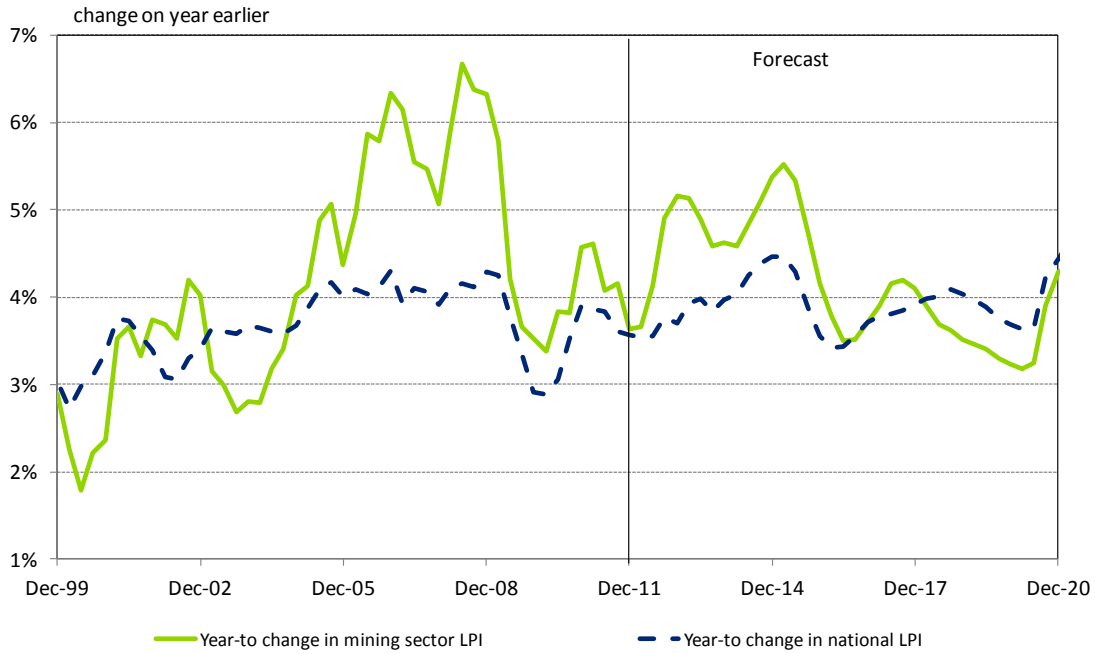
As Chart 3.2 above shows, the global financial crisis which brought an end to the first resource boom also saw relatively rapid wage growth end in key sectors and States. Much the same is true of the shift in relative materials costs.

The most recent data suggests mining pressures have lifted wage growth in that sector once again, and Deloitte Access Economics' short term projections foresee further relative gains in the mining sector, though these do not persist in the longer run (see Chart 3.3).

There is always a risk of building in a 'future wage growth will be faster-than-average in a given sector because it always has been' effect into forecasts. In effect this would assume not only that skill shortages will rapidly re-emerge (which does appear likely), but that they will also persist indefinitely.

In contrast, Deloitte Access Economics attributes the relative out-performance of wages in the mining and construction sectors through the last decade to the length, strength and composition of the long expansion in the Australian economy through to late 2008. Moreover, we see a further burst of similar demand side factors in the short term.

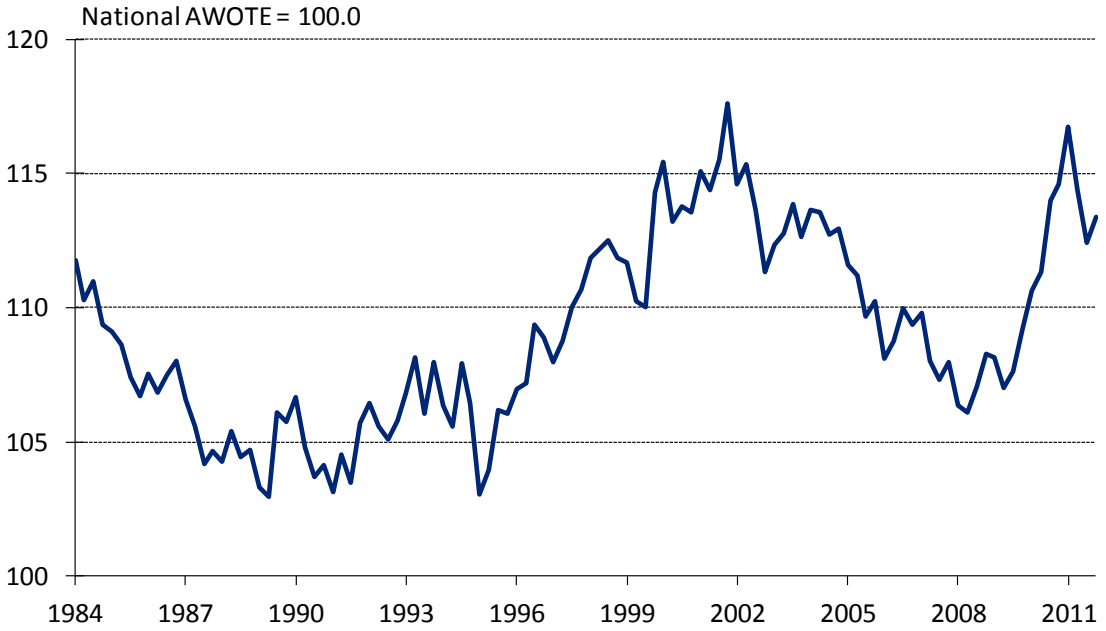
Chart 3.3: Trends in mining LPI



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

These different viewpoints are important. The longer term trends that arise can be seen in the movements of wages in the utilities sector in recent years.

Chart 3.4: Utilities wages relative to national wages (AWOTE)[3]



Source: ABS, Deloitte Access Economics

[3] Data before August 1994 has been spliced using the previous definition of the utilities sector.

Similar to what the construction sector may witness in coming years, the strength (and the rise in specific sector wages) of mining and construction also began pressuring wage gains in other sectors (such as utilities) as industries were forced to react to higher mining wages to keep workers in their jobs.

Chart 3.4 above shows that, despite the rapid productivity gains recorded from 1985 to 1994, it was not until after the Australian economy had embarked on its long expansion that relative wages in the utilities began their climb.

Or, in other words, history – other things equal – tends to support the 'business cycle' view of wage relativities in the utilities sector rather than the 'permanently increasing' view.

That is not to say that this index must always return to previous values. It is possible that some sort of structural change in the sector (such as the replacement of lower-paid workers with machinery) could have a permanent level change effect on the results – though in theory at least the calculation of more detailed components of the LPI is meant to account for such structural shifts.

However, even such structural developments will not drive a continuous divergence in growth rates. That is because **skill shortages are temporary – they don't drive permanent wedges in wage relativities**. The higher wages on offer as a result of skill shortages lead, over time, to reactions on both the demand and supply side of labour markets to whittle those shortages away. To fail to forecast an eventual end to skill shortages – and to use them to justify further widening in wage relativities – sits strangely as a view on the longer term outcomes from labour markets.

Indeed, recent wage data from the ABS show the relative value of wages in the utilities sector once again headed back toward long run average relativities with broader wages in the economy, as seen in Chart 3.4 above.

3.2 The outlook for the CPI

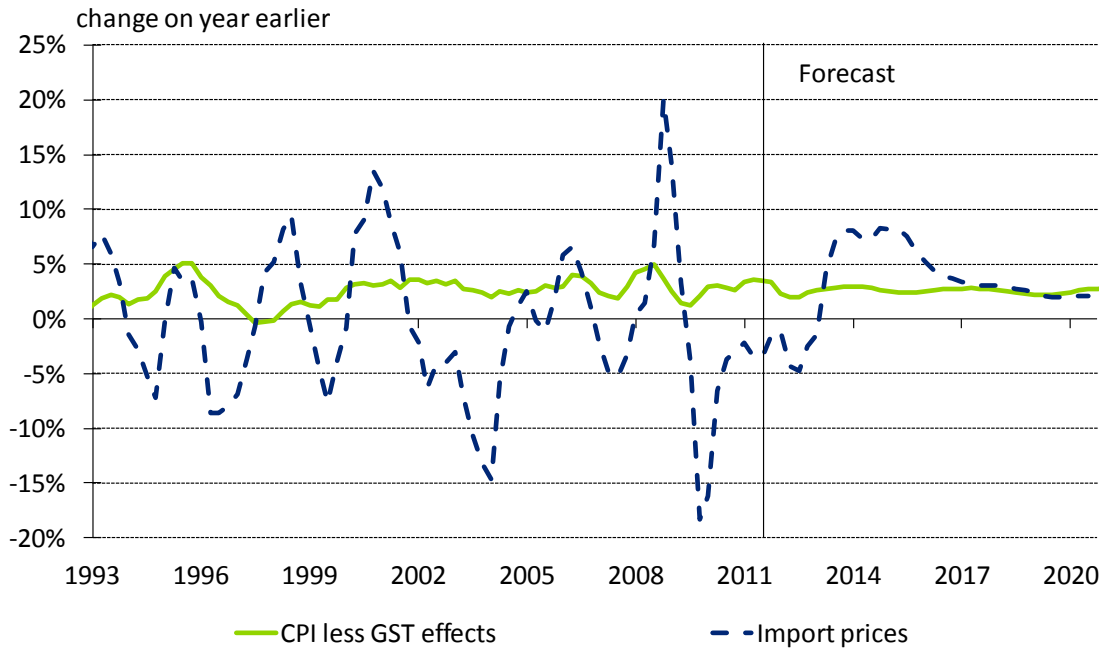
For some time now forecasters (including Deloitte Access Economics and the Reserve Bank) have projected that inflation would start to rise again. The reasoning was simple:

- First, unless the $A kept climbing, the dampening impact of currency appreciation on inflation would run its course.
- Second, continuing economic recovery would see both businesses and workers regain some pricing power, thereby adding to wage growth and to profit margins.
- Finally, Australia's poor productivity performance meant that the buffer provided to inflation risks by rising efficiency was disappearing.

The first and last of these arguments still apply, but the prospects for rising pricing power among businesses and workers now look less threatening than before.

In recent times import prices have seen a spectacular cycle – following the fortunes of the $A – falling through the last mining boom, rising during the GFC, and now falling as the dollar sees renewed commodity based strength. Those import prices have been offsetting the effects of domestic demand on the wider CPI, but the $A cannot rise forever – meaning downward pressure on inflation from import prices may soon have run its course.

Chart 3.5: Import prices



Source: ABS, Deloitte Access Economics' macroeconomic model

At the same time, there are some concerns that 'pricing power' will increase in response to solid gains in domestic demand. Some prices have been rising rapidly for years, either because prices were too low for too long (electricity and gas), or as they are catching up to fundamentals (including rents, which are a much smaller share of house prices than a decade ago).

It is these prices, often well insulated from the restraining power of global competition, that saw inflation among non-tradables (those products not subject to international competition) averaging 4% or so a year in the past decade. Although that fell to a 3½% inflation rate more recently, that still implies ongoing inflation risks.

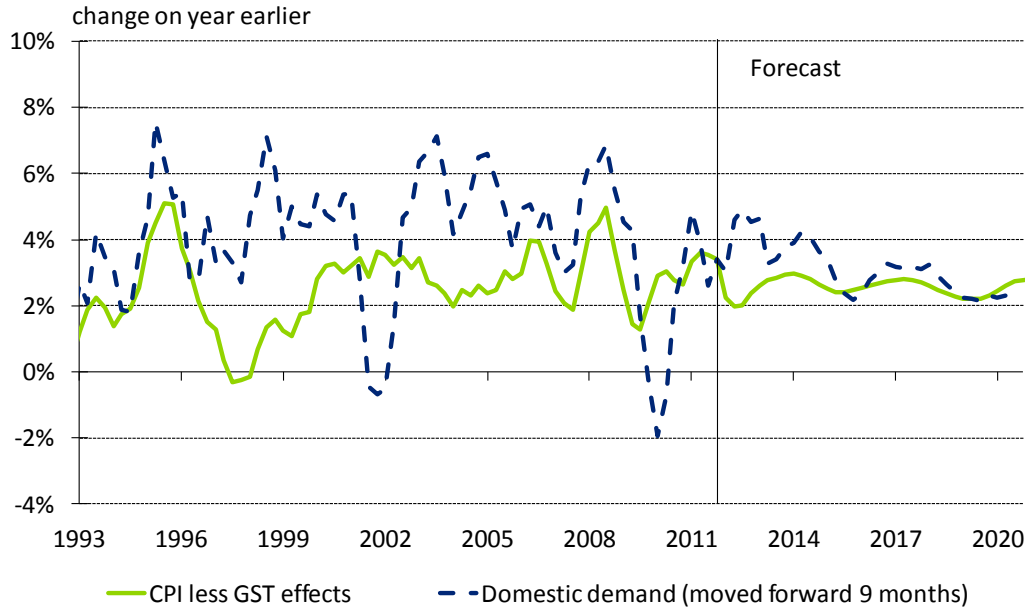
After all, if 3½% inflation were to become 'the norm', that would be well above rates the Reserve Bank would find comfortable.

And there is further demand strength ahead, as seen in Chart 3.6 below. Although there will be a lag between those demand gains and the cautious price reaction of many businesses to them, they do point to rising price pressures ahead.

That said, there are some important factors which look set to limit the impact of rising demand on consumer prices.

Although the overall demand picture is strong, much of that is dominated by enormous gains in business investment. As the focus here is on growth in prices facing consumers, the latter is little affected by the growth needs and import demands of massive gas projects in Western Australia.

Chart 3.6: CPI and domestic demand



Source: ABS, Deloitte Access Economics' macroeconomic model

At the same time, those sectors facing 'two-speed economy' negatives have had little pricing power for a while now. For example, retailers are much more exposed to internet pricing pressure than ever before. That means a revolution in retail pricing structures is underway. Although it's easy to overstate this – it is likely to be a process that goes on for years – it is clearly one that restrains retail pricing power, and is likely to continue to do so for some time.

That's why actual inflation outcomes may be somewhat more benign than demand growth might otherwise indicate, as seen in Chart 3.6 above.

It suggests inflation is bottoming and its next move is up, a view we've held for a while. But it should be a relatively modest lift. Although an end to the rise of the $A poses risks for inflation, and so too does Australia's poor productivity growth, the lack of pricing power in some key parts of the economy suggest the overall pace of increases in inflation will be modest.

3.3 The outlook for wage growth

3.3.1 Latest outlook

Although wage gains remain robust in the likes of the mining sector and those other sectors where demand is running hot, the bigger picture looks like seeing wage inflation settle at close to current rates. Importantly, that means wage gains may approach 4%, but they may not pass it soon.

If the Reserve Bank is to aim for 2-3% inflation over time, and if labour productivity averages around 1½% a year, that points to wage gains of 4% a year as a sensible outcome. Yet wage gains slipped under that during the GFC as employees and employers battened down to face the coming storm. In the event, that storm was less than forecast, leaving forecasters

expecting that continuing recovery would see unemployment fall, union and employee bargaining power rise, and employers having to pay top dollar to address their skill shortages and to make up for the slowdown in wage growth evident through the GFC. And, to date, the first part of that script has played out: wage growth is already comfortably off its GFC lows, with the gains strongest in sectors such as mining.

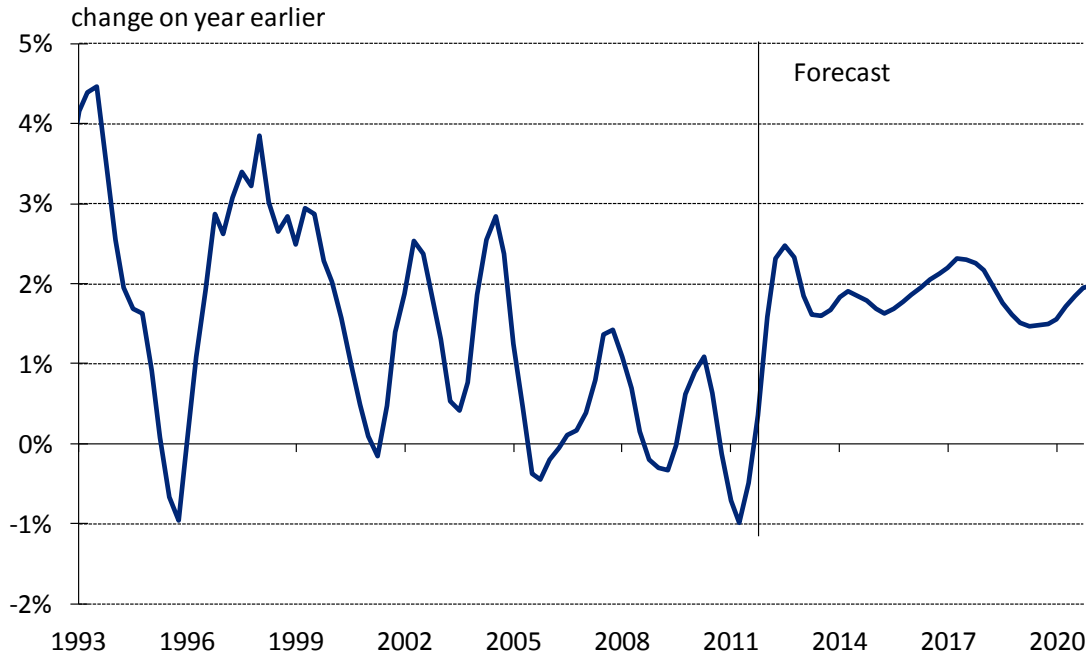
Yet 2011 didn't see wage growth break 4% – not due to global uncertainty, but due to 'two speed economy' negatives flowing from high interest and exchange rates.

Wage gains may stay below 4% through 2012. In part that is because the $A continues to put real pressure on a bunch of business models. But in part it is because the economic risks posed by the situation in Europe are likely to lead employers to be tougher in negotiations, and employees to be more obliging.

That won't stop wage increases in the likes of mining and allied sectors from being strong, or perhaps even strengthening further. However, it looks likely to keep wage growth at the national level more moderate than might otherwise be expected in the short term, as Chart 3.8 shows.

That said, and provided productivity growth eventually recovers from its recent poor performance (as Chart 3.7 suggests), wage growth should lift beyond 2012.

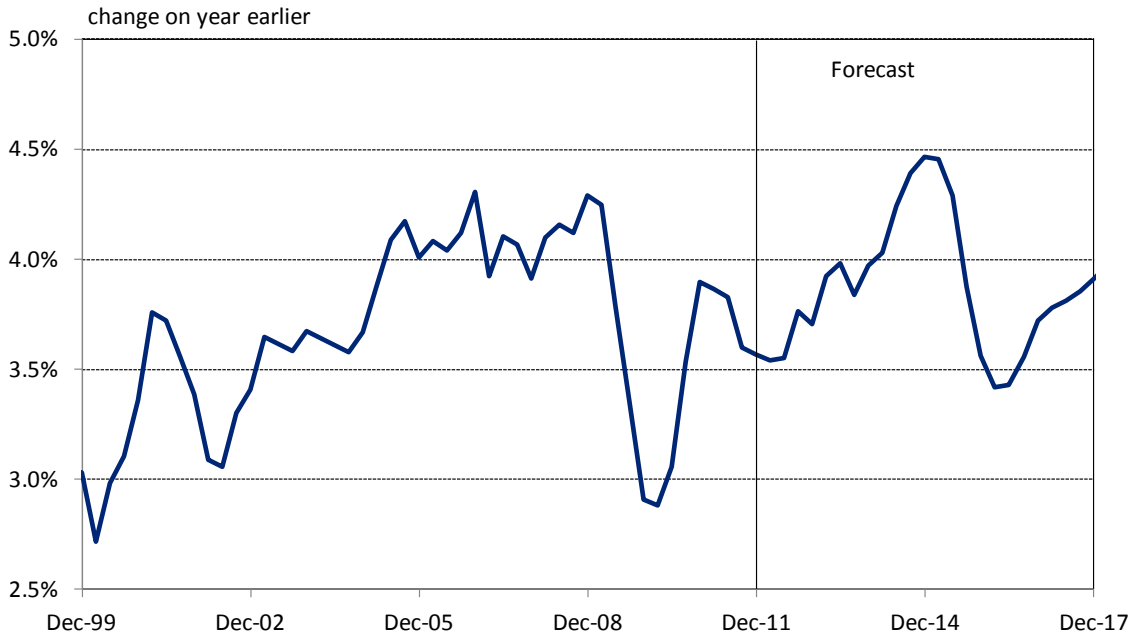
Chart 3.7: Productivity growth



Source: ABS, Deloitte Access Economics' macroeconomic model

That lift is evident in the national LPI forecasts in Chart 3.8, which point to the skill shortages evident today as only a small down payment on those likely to be evident down the track.

Chart 3.8: LPI forecast growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Our latest year-by-year national wages forecasts are summarised in Table 3.1 below.

Table 3.1: National wage and prices forecasts

Financial year changes in national wage and prices variables

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Consumer price index (CPI)	2.3	3.1	2.6	3.1	2.9	2.6	2.5	2.8	2.6	2.3
Labour price index (LPI)										
Nominal	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Real	0.7	0.7	1.0	0.8	1.0	1.8	1.0	0.9	1.3	1.7
Average weekly earnings (AWE)										
Nominal	5.3	4.0	3.9	4.1	4.3	4.5	3.1	3.2	3.4	3.4
Real	2.9	0.9	1.3	1.1	1.3	1.8	0.6	0.5	0.7	1.1
Average weekly ordinary time earnings (AWOTE)										
Nominal	5.6	4.2	4.4	4.3	4.3	4.2	3.7	3.7	3.8	4.0
Real	3.2	1.0	1.8	1.2	1.3	1.6	1.2	0.9	1.1	1.7
Unit labour costs										
Nominal	1.2	6.0	2.5	2.4	3.2	3.5	2.2	1.7	2.1	2.5
Real	-1.1	2.8	0.0	-0.6	0.2	0.9	-0.3	-1.0	-0.5	0.2

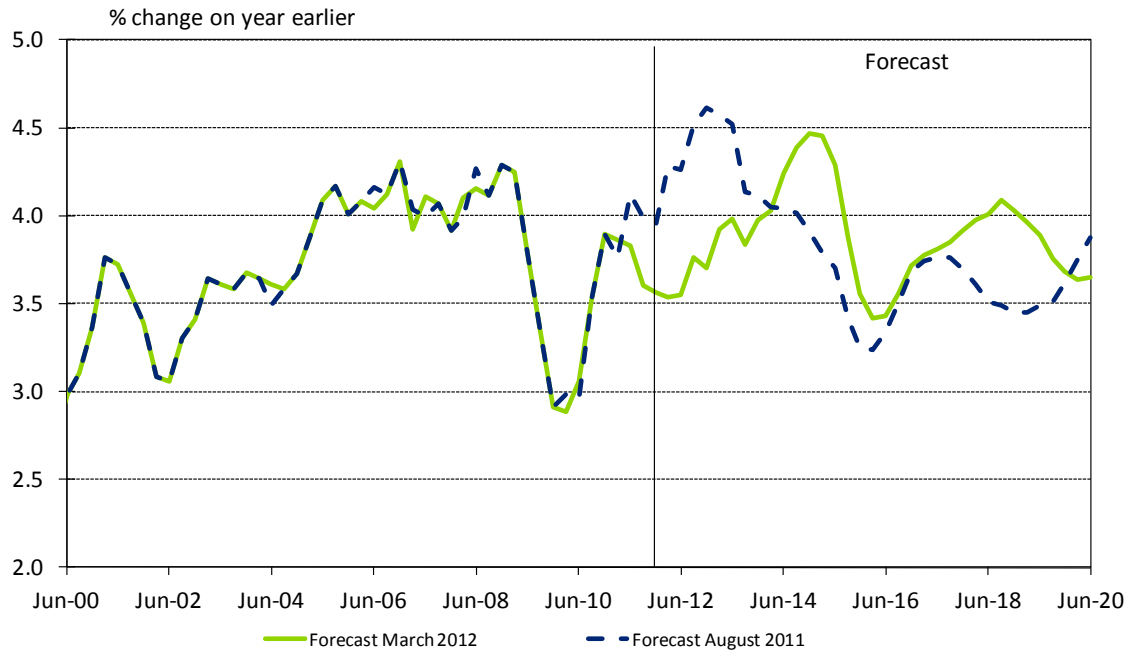
Source: ABS, Deloitte Access Economics' Labour Cost model

3.3.2 Changes since August 2011

At the time of the initial report (2 August 2011) prepared for AER, the March 2011 quarter Labour Price Index (LPI) data (ABS Cat. No. 6345.0) were the latest available. The June, September and December quarter 2011 data LPI data have subsequently been released.

As Chart 3.9 below shows, developments in recent months have affected the wage outlook since the time of Deloitte Access Economics' August 2011 report for the AER.

Chart 3.9: Changing forecasts of the LPI



Source: ABS, Deloitte Access Economics' macroeconomic model

Our short term wage forecasts are not as strong as they were last August. That gap is modest at the national level – peaking at just over 0.5 percentage points in year-to terms.

When prospects for Australia's economy were brighter, it looked as though wage growth would move past the 4% rate – low and falling unemployment would put bargaining power with workers and unions rather than employers, and the pent up demand for wage rises stemming back to the earlier pay moderation during the global financial crisis would abate, generating demand for catch up wage gains.

In practice, however, two speed economy negatives have held wage gains on a shorter leash than expected. Although wage gains remain robust in the likes of the mining sector and those other sectors where demand is running hot, the bigger picture looks like seeing wage inflation settle at close to current rates in the near term.

Looking ahead, we still expect wage growth to approach 4% but they may be unlikely to accelerate beyond that until 2014 – but only for a year or two before settling back into the 3½% to 4% range.

4 State economic and wage outlooks

This chapter provides our latest projections for the Queensland and Tasmanian economies, covering both the general economic and wages outlooks.

4.1 Technical notes

The revisions to our forecasts since August 2011 are driven mainly by the changing economic climate. However, State results are also affected by a number of technical points that should be borne in mind:

- Unlike the national accounts, State accounts do not produce output estimates on a quarterly basis, only in annual terms. The components that are not released each quarter, notably estimates of interstate trade, are often revised notably each year. This can change historic estimates of growth, particularly for smaller States and Territories. Deloitte Access Economics uses its own in-house methodology to create quarterly historical estimates of State output, which use (in part) historical job levels by industry.
- Seasonal employment patterns have been revised (as happens each February) and the ABS have updated recent labour force trends with information from population surveys. This results in revisions to what were the most recent job statistics in the last report.

In general, these impacts are not particularly significant, though they are a reminder that State level results are subject to greater caveats than matching Australian aggregates.

4.2 Queensland

4.2.1 Updated economic outlook

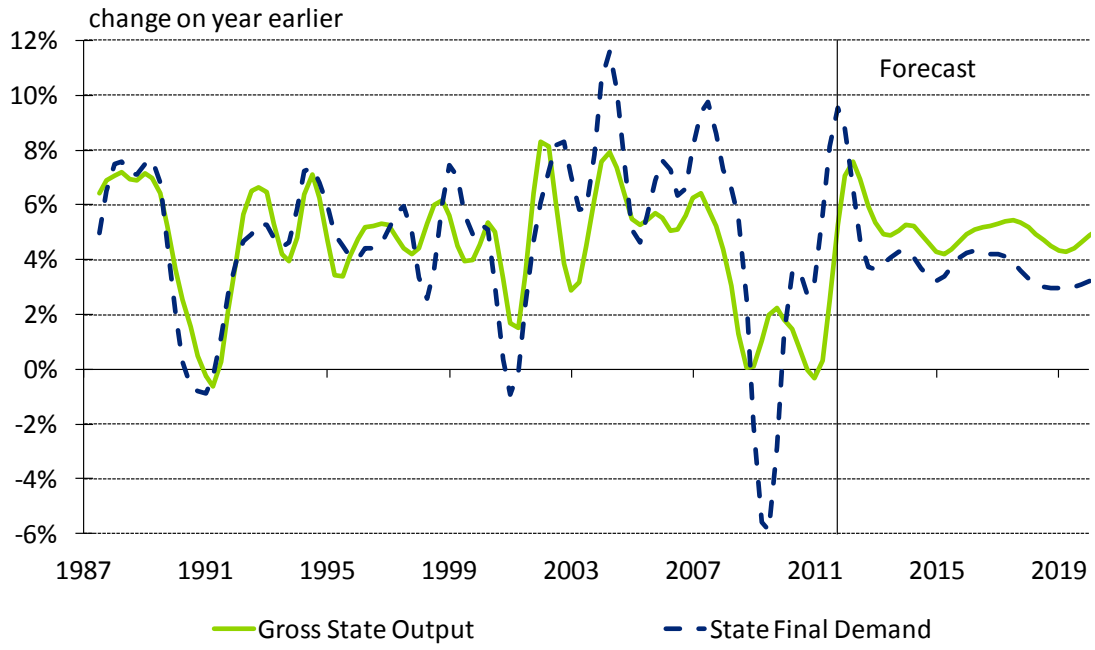
Queensland's economy has been experiencing a rapid recovery in recent times. The ingredients of this turnaround have been clear for some time: the hit to coal exports and farm production from 2011's floods and cyclones was always going to be temporary rather than permanent, and the spending on resource sector projects in the State was ramping up so fast that there was only one way for Queensland's economic growth to go – up.

Nevertheless, important parts of the Queensland economy are doing poorly. Tourism is battling, with natural disasters tag teaming with the financial disaster of $A strength to see the sector shrink and to see a number of employers cut jobs. With the $A riding high, that won't be changing any time soon. And there's similarly rotten news in much of construction – particularly housing – while the retail sector is also seeing mixed results, although it too is hoping that recent interest rate cuts will turn the tide on consumer caution.

It's the resource sector that is the driver of growth in this State. Not only is coal production rebounding in the wake of floods, but the stunning amount now being spent on new mining production potential is set to bear fruit over the next few years.

So we would reserve the most applause for business investment spending. The latter is going great guns, with levels of construction – particularly engineering – having jumped by 70% in the last year alone. Chart 4.1 below helps to illustrate what's going on. It shows just how hard hit State demand growth was in the aftermath of the global financial crisis. And the other line in that chart, showing State output, helps to illustrate the effect of the early 2011 floods and cyclones. But demand growth in this State is already surging, and the forecasts in Chart 4.1 point to more of the same ahead. The return to full capacity in the State's coal production is combining with a truly remarkable surge in business investment spending to underpin the great gains in output growth as well.

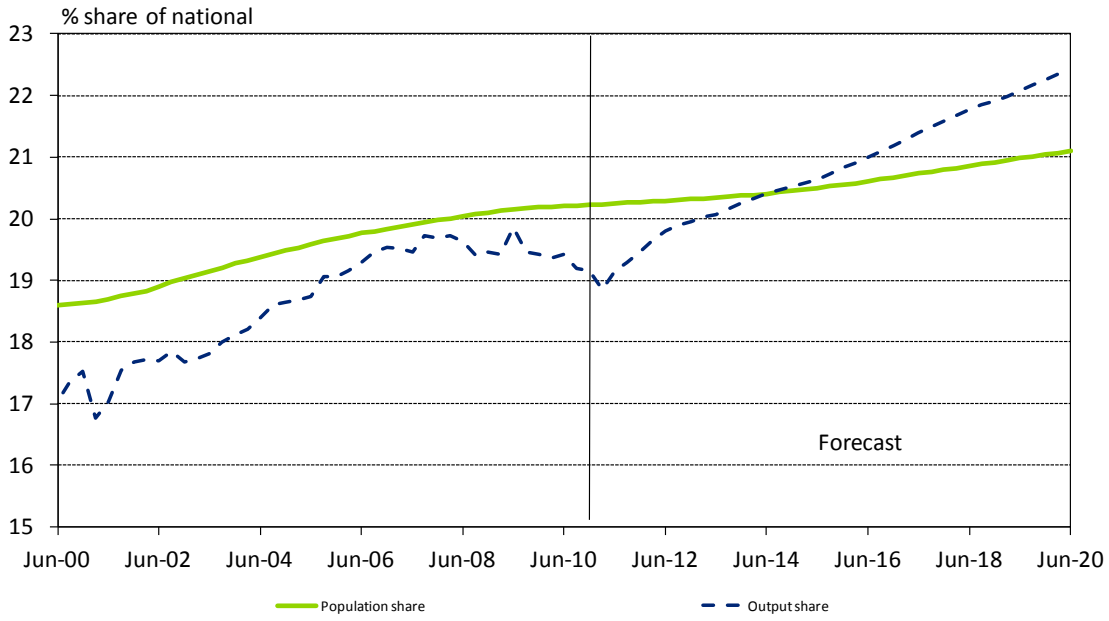
Chart 4.1: Queensland output and demand



Source: ABS, Deloitte Access Economics' macroeconomic model

Chart 4.2 below shows Queensland as a relative share of Australia.

Chart 4.2: Queensland share of output and population



Source: ABS, Deloitte Access Economics' macroeconomic model

Although population gains have slowed considerably, dropping to the lowest in more than a decade, that still leaves them higher than Australia's population growth, and hence a rising share over time. But the real action in Chart 4.2 lies in the State's output share. Tough times following the GFC and floods and cyclones have been enough to peg back Queensland's share of Australia's economy to where it was in the mid-2000s. However, those negatives are essentially temporary, and there are already clear signs of the State's rebound in economic gains.

Much depends on events in Europe, but the resource investment spend in Queensland is well and truly underway and committed, and it would take a pretty nasty set of outcomes in Europe to slow the surge in engineering construction work already underway. That said, although the surge in resource development may well hold up well, funds for apartment development could again dry up.

4.2.2 Updated LPI projections

Recent economic developments have temporarily pulled the State's rate of LPI growth – which was notably ahead of the national average from 2004 to 2007 – back into line with that average (as seen in Chart 4.3 below).

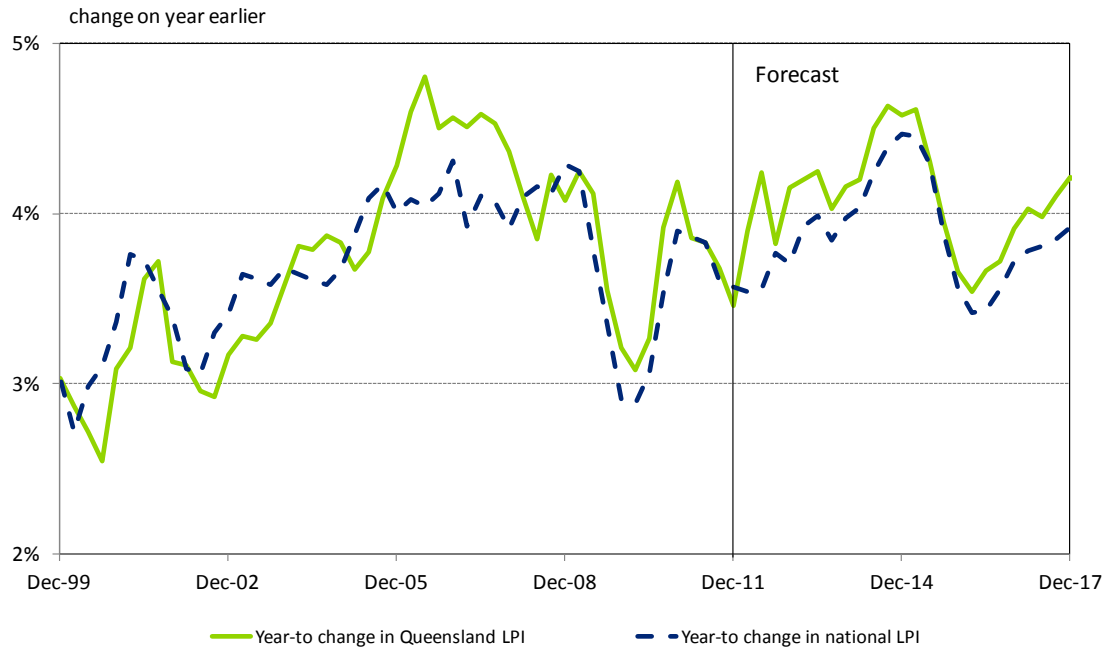
However, even at the point, wage growth in Queensland was still ahead of the average, with the belief that prospects for the mining sector helped maintain the demand for labour.

That said, the turning point in the cycle is already here: Deloitte Access Economics expects Queensland to accelerate from a standing start, reaching a sprint inside the next six months. Most flood and cyclone impacts have already passed, and even the lingering effects on coal output will only last a few more months. The repair of the houses, roads and other

infrastructure damaged by disasters is also increasingly evident, and that too will add to the rebound. Even the simple point that billions of dollars of coal weren't exported last year but will be in the coming year makes a big difference.

And, as we have noted, the biggest difference of all isn't the rebound from the natural disasters. It will be in the striking surge in business investment spending which is now beginning. That will see demand in construction initially and then in mining as the projects mature. Both of those will have further downstream impacts on the utilities sector.

Chart 4.3: Queensland general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

As Chart 4.3 above shows, the growth in Queensland LPI is expected to continue trend upwards, rising marginally faster than the rest of Australia on average through to 2013 and into 2014, as the economy sees s strong period of mining and construction growth.

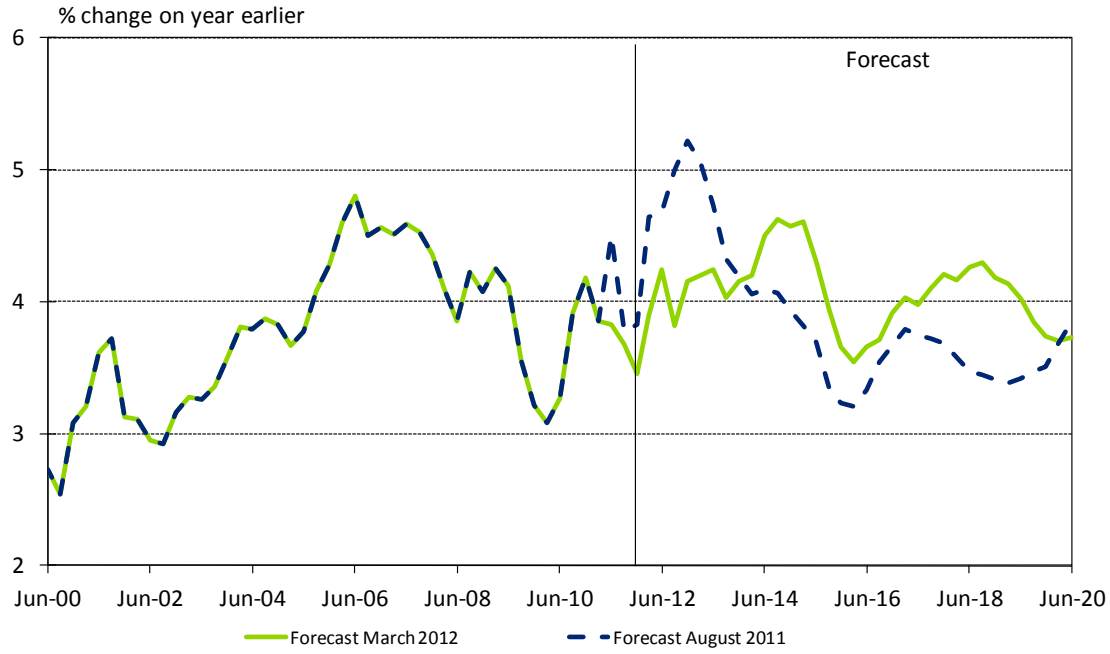
Beyond that, we expect those gains to be maintained, with Queensland LPI growth moving back into line with the national average in the long run.

4.2.3 Changes since August 2011

As Chart 4.4 below shows, developments in recent months have affected the wage outlook in Queensland since the time of Deloitte Access Economics' August 2011 report.

Our short term wage forecasts for Queensland are not as strong as they were last August. The resultant gap peaks at around 1 percentage point in year-to terms.

Chart 4.4: Changing forecasts of the LPI: Queensland



Source: ABS, Deloitte Access Economics' macroeconomic model

When prospects for Queensland's economy were brighter, it looked as though wage growth would lift faster. In practice, however, two speed economy negatives have held wage gains in Queensland – as elsewhere in Australia – on a shorter leash than expected. Although wage gains remain robust in the likes of the mining sector and those other sectors where demand is running hot, the bigger picture looks like seeing wage inflation settle at around 4% in the near term.

Looking ahead, we still expect wage growth in Queensland to approach 4½% in 2014 – before settling back into the 3¾% to 4¼% range.

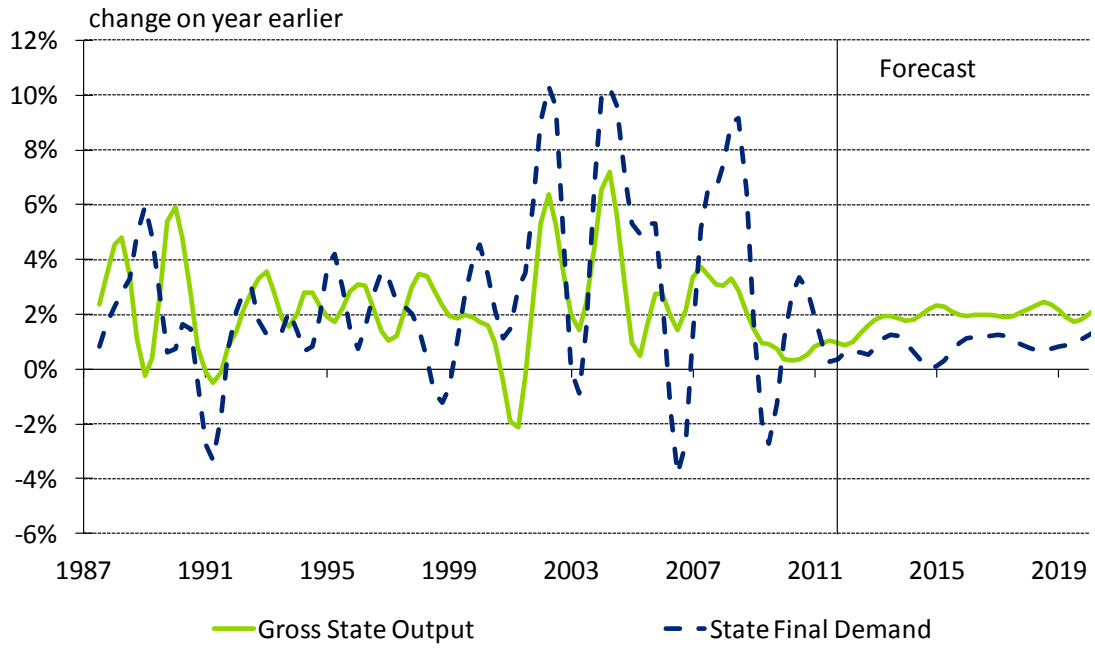
4.3 Tasmania

4.3.1 Updated economic outlook

Tasmania travelled solidly through much of the last decade, with its economy holding up through the global financial crisis. In part the latter was because Federal Government stimulus measures went further in Tasmania than they did elsewhere, and in part as the State's export markets held up better than the average.

Yet, as shown in Chart 4.5 below, Tasmania began to slow just as Australia began to recover. The rising resource tide has been little or no use to Tasmania, while the combination of higher interest and exchange rates that came with it that proved a deepening challenge for the State's economy.

Chart 4.5: Tasmanian output and demand



Source: ABS, Deloitte Access Economics' macroeconomic model

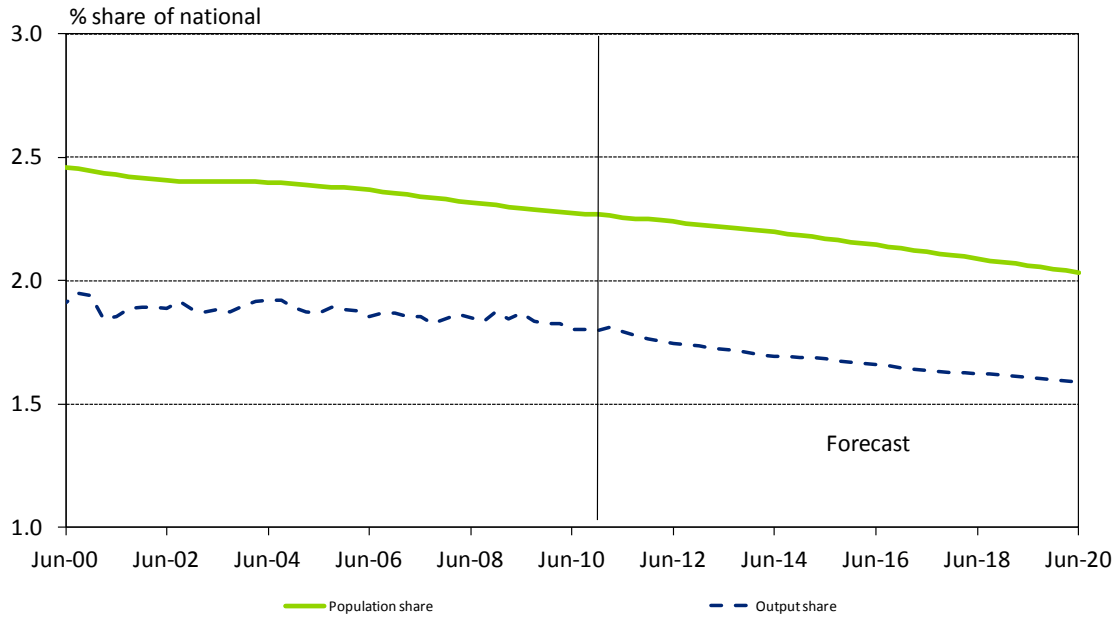
Accordingly, Tasmania is doing it tough: both retail sales and housing starts are less than they were three years ago. In fact the number of new homes starting construction has almost halved since it peaked in the early 1990s, and the passing of the school building surge has hurt commercial construction activity.

In addition, population growth is poor, and growth rates among those of working age are the lowest in almost a decade. There has been little or no job growth for a year and a half, and job vacancies have dropped by a third across the same period, suggesting that there's little immediate joy ahead in 2012. Forestry is in trouble too. Although woodchip demand from China remains excellent, producers such as those in Vietnam and Thailand (who are less subject to environmental constraints) have a cost advantage which is being topped up by the strong $A. To top all this off, the Tasmanian tourism sector is struggling – Australians are going

overseas rather than over Bass Strait, leaving hotel occupancy rates falling at a time when they have been rising nationally.

As shown in Chart 4.6 below, Tasmania's share of Australia's economy and population is expected to continue its downward trend.

Chart 4.6: Tasmanian share of output and population



Source: ABS, Deloitte Access Economics' macroeconomic model

4.3.2 Updated LPI projections

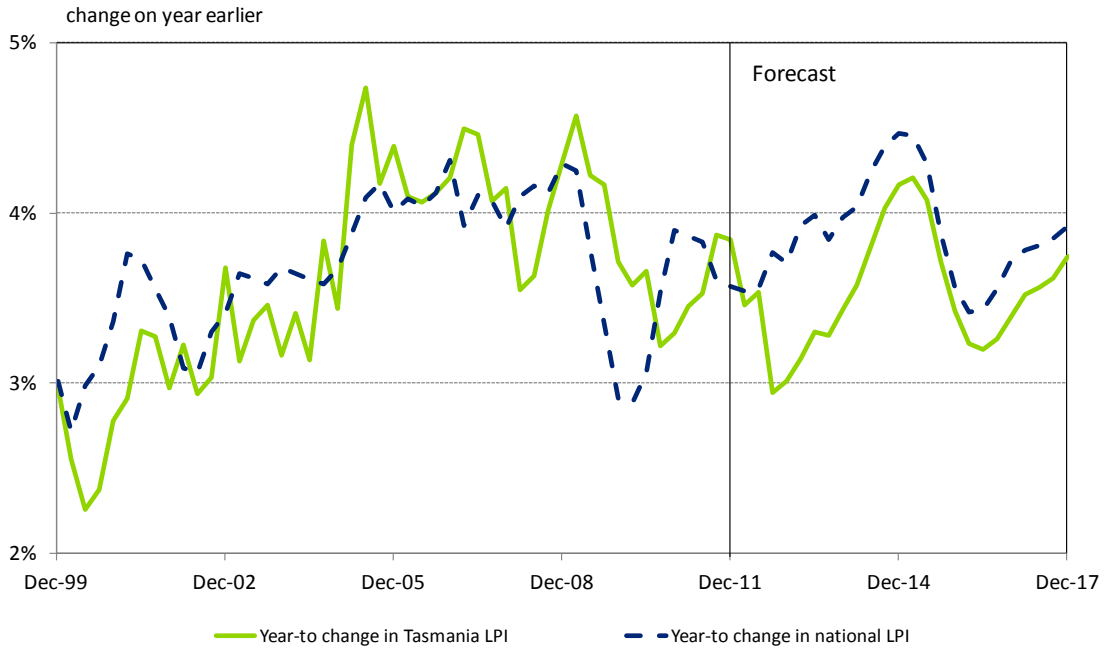
The recent trends in Tasmania LPI in Chart 4.7 below show a general lag in the movements in LPI for Tasmania compared to the rest of the country, as well as a more muted fall in the past of growth across the past few years. The expectation for a slower acceleration in Tasmanian LPI growth is partly based on the fact that, relatively speaking, local wages have risen more since 2009 than they have nationally.

In addition, Tasmania is not projected to see the same degree of ramping up in construction and mining workforce demand in the next few years that is fuelling the acceleration expected in national LPI growth.

This is not to say that these effects will not have implications for Tasmanian wages. Eventually the pace of national wages growth will flow through to the State's wage rates as firms seek to retain their workforce.

In the longer term, the slightly slower pace of growth in the Tasmanian economy will tend to see the local LPI grow slightly behind the national average.

Chart 4.7: Tasmania general labour cost growth

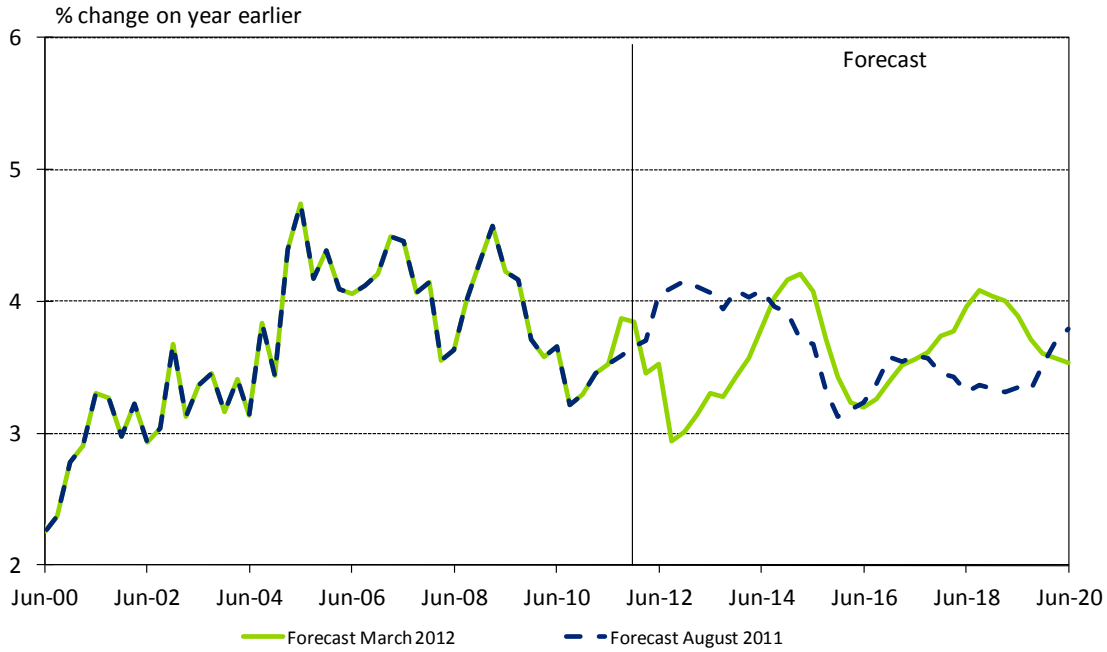


Source: ABS, Deloitte Access Economics' macroeconomic model

4.3.3 Changes since August 2011

As Chart 4.8 below shows, developments in recent months have affected the wage outlook in Tasmania since the time of Deloitte Access Economics' August 2011 report.

Chart 4.8: Changing forecasts of the LPI: Tasmania



Source: ABS, Deloitte Access Economics' macroeconomic model

Our short term wage forecasts for Tasmania are not nearly as strong as they were last August. The resultant gap peaks at over 1 percentage point in year-to terms.

That reflects the recent degree of weakness seen in Tasmania's economy. In the year to December 2011, State final demand fell by more in Tasmania (down 0.7%) than in any other State, and that has led us to revise down the wage outlook. The latter is now on a shorter leash than previously expected. Wage gains in the State could in fact brush with the 3% level during 2012 before taking a delayed run up to the 4% mark.

Looking further ahead, we still expect wage growth in Tasmania to fluctuate in the 3% to 4% range.

4.4 State LPI forecasts

Table 4.1 provides a summary of State LPI forecasts to 2018-19 in real and nominal terms. Additional measures showing growth less the impacts of productivity growth are also given.

Table 4.1: State LPI forecasts

Financial year changes in nominal Labour Price Index forecasts

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
National	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Queensland	3.3	3.9	3.8	4.1	4.2	4.5	3.7	3.9	4.2	4.2
Tasmania	3.8	3.4	3.7	3.1	3.5	4.1	3.4	3.4	3.8	4.0

Financial year changes in real Labour Price Index forecasts

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
National	0.7	0.7	0.8	0.7	1.1	1.8	1.0	0.9	1.3	1.7
Queensland	0.6	0.6	1.5	1.2	1.0	1.5	1.0	1.1	1.5	1.9
Tasmania	1.1	0.5	1.1	0.0	0.1	1.3	0.7	0.6	1.1	1.7

Financial year changes in State nominal productivity adjusted Labour Price Index

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
National	2.0	4.8	1.3	2.1	2.1	2.8	1.6	1.3	2.0	2.5
Queensland	3.8	6.5	-0.5	0.2	1.0	2.7	1.3	1.0	1.4	2.3
Tasmania	1.1	4.4	2.0	2.1	2.9	2.2	1.8	1.8	2.2	2.6

Financial year changes in State real productivity adjusted Labour Price Index

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
National	-0.4	1.6	-1.5	-1.0	-0.8	0.2	-0.9	-1.4	-0.6	0.2
Queensland	1.1	3.1	-2.7	-2.6	-2.2	-0.3	-1.3	-1.7	-1.2	0.0
Tasmania	-1.5	1.5	-0.6	-1.0	-0.5	-0.6	-0.8	-1.0	-0.4	0.3

Source: ABS, Deloitte Access Economics' macroeconomic model

5 The utilities sector economic and wage outlooks

This chapter discusses the economic and wage outlooks for the utilities sector for Australia as a whole.

The utilities sector (technically the electricity, gas, water and waste services industry[4]) covers economic units engaged in the provision of:

- electricity;
- gas through mains systems;
- water;
- drainage; and
- sewage services.

This sector buys inputs from sectors such as mining, manufacturing and property and business services, and – reflecting the nature of its products – sells its output to a wide base of business sectors and to residential users.

5.1 Economic outlook for utilities

5.1.1 Updated outlook

The utilities sector has generally experienced solid growth in recent years as the strength of mining investment and good population growth has underpinned demand for water and electricity services.

In addition, moves by various State Governments to shore up water supplies have also helped to attract investment dollars to the sector, particularly for desalination plants and dams.

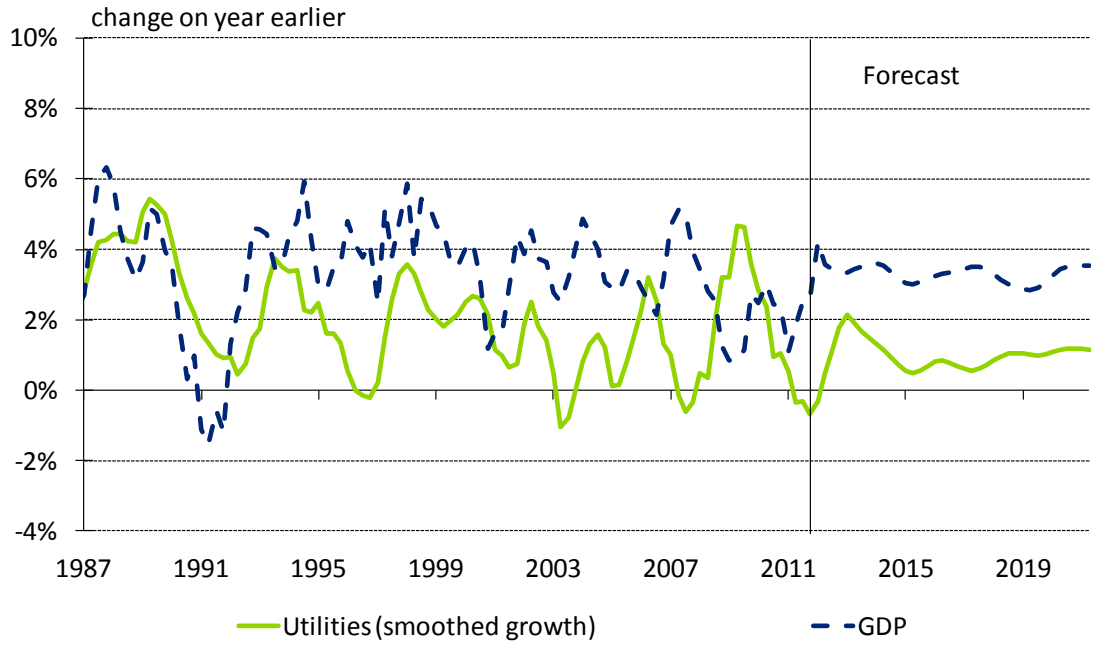
That said, and as Chart 5.1 below shows, the utilities sector recently saw a fall in growth.

Although the level of rainfall and subsequent flooding across many parts of the country in early 2011 (and again in early 2012) was substantial, investment in water supply infrastructure is expected to be considerable over the medium to longer term as Australia's growing population underpins increasing demand for water over time.

The gradual restructure and privatisation of the electricity network has also contributed to increased investment throughout recent years by breaking up State owned monopolies and allowing new entrants into the market. For example, New South Wales has become the latest State to privatise government owned energy retailers (though that sale was made to existing operators rather than new market entrants).

[4] Division D of the Australian and New Zealand Standard Industrial Classification, Revision 1.0 of 2006.

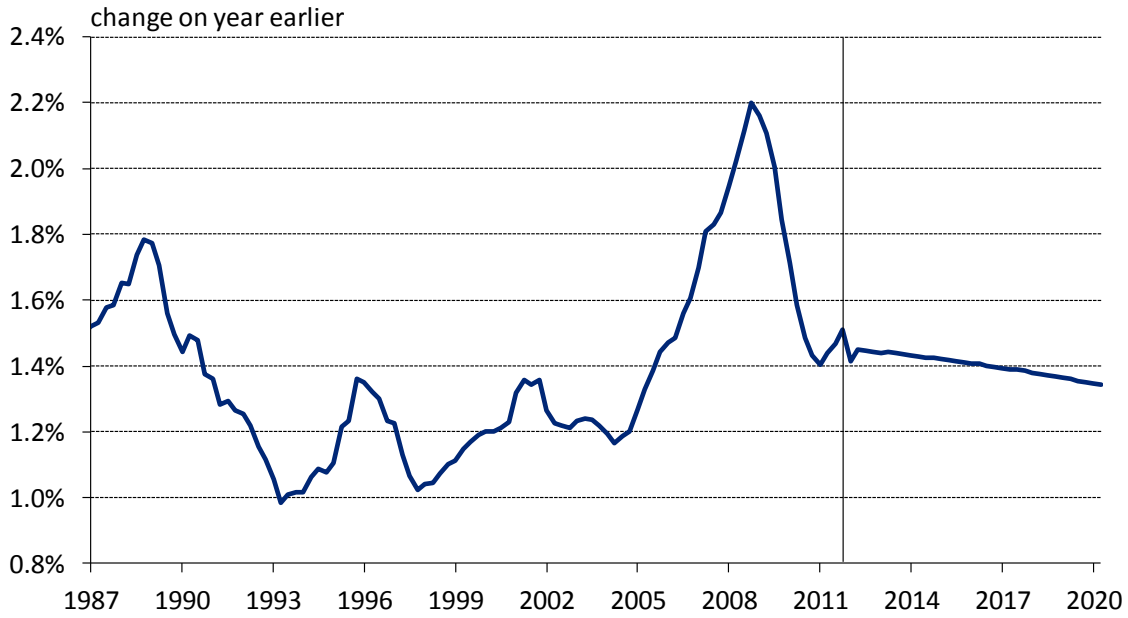
Chart 5.1: Utilities output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Looking ahead, resurgent commodity prices and signs of a second mining boom are again helping to lay a platform for further expansion in the utilities sector. However, the sector is facing a number of important challenges which may constrain growth and investment spending over the medium term.

Chart 5.2: Australian population growth



Source: ABS

Australia's rapid population growth of the last few years has since faded notably. That has implications for new housing commencements and demand for utilities, particularly water. However, although slowing population growth is a concern for the utilities sector outlook, it may be some time before the impact of the slowdown translates into weaker investment in power and water infrastructure.

Resource investment is also producing some important areas of demand strength in the utilities. The sheer scale of some major resource projects will require a considerable uptick in capacity in both energy and water in some States, particularly in specific regional areas.

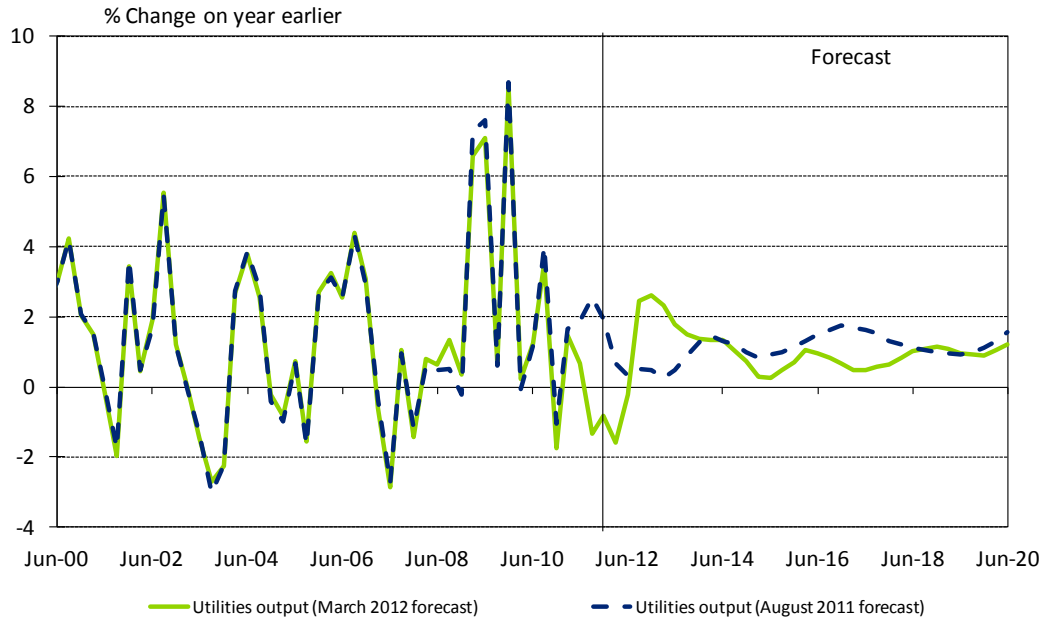
However, as we have often stressed, it isn't demand which will be the key constraint for this industry in coming years – it will be supply. There are concerns around the wider regulatory framework of the utilities sector, as investors outside of publicly owned enterprises are understandably wary of investing in additional supply at a time when future policy directions in both electricity generation (carbon pricing) and water (the Murray Darling Basin Plan) are uncertain. As a result a lack of investment in new supply may become an issue for future production forecasts.

That said, at least some State Governments and local councils have put money into lifting capacity in the utilities, especially water, and there is enough spare capacity left to suggest solid growth in the short term, while the medium and longer term outlook is more dependent on investment certainty.

5.1.2 Changes since August 2011

As Chart 5.3 below shows, developments in recent months have affected the outlook for utilities output growth since the time of Deloitte Access Economics' August 2011 report.

Chart 5.3: Utilities output forecast change



Source: ABS, Deloitte Access Economics' macroeconomic model

Negative growth is now a possibility in the near term – a view confirmed with the release of the December quarter 2011 national accounts – with the run up to 2% plus growth expected in our initial report now delayed by up to a year or so.

Thereafter, Deloitte Access Economics expects output growth in the utilities sector close to 1½% per year over the remainder of the forecast period.

5.2 Wage outlook for utilities

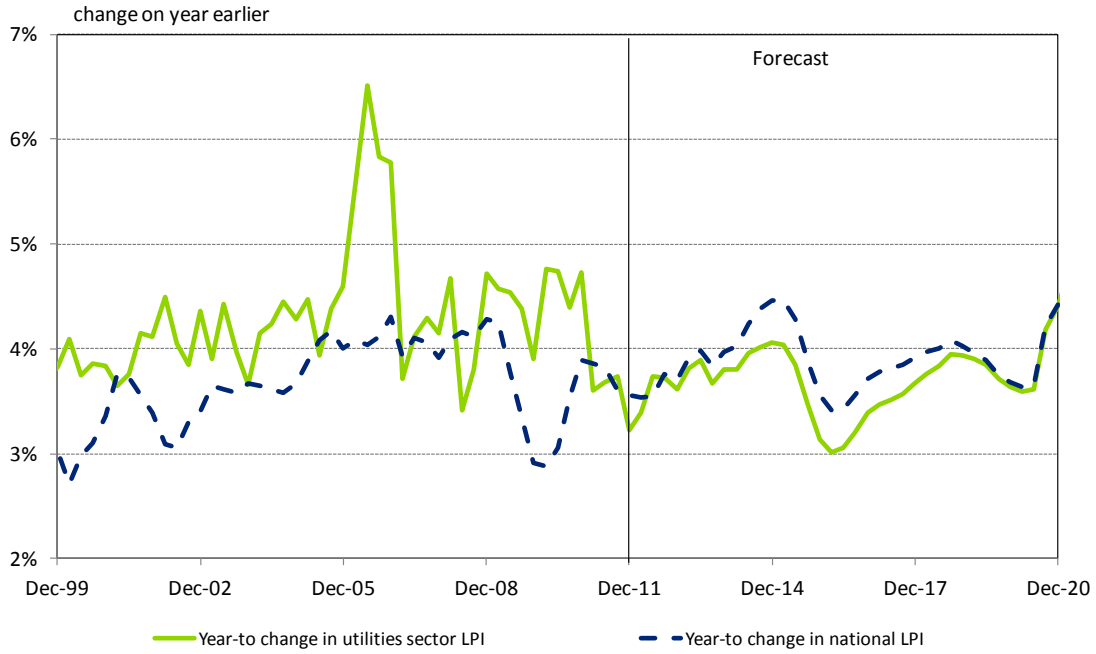
5.2.1 Updated LPI projections

Recent strength in relative wages

As Chart 5.4 shows, until recently growth in the utilities LPI has run consistently ahead of the national average across the period that LPI data has been published.

As the chart also shows, from 2002 to 2008 this relative strength in wage gains in the utilities occurred across a period where Australia's rate of wage increase itself accelerated. However, when the national wage growth rate slipped sharply in 2009, utilities growth stayed quite high (broadly in the range of 4.0% to 4.5% per year), before dropping more recently back down to the national rate (which was, in turn, slowing).

Chart 5.4: Wage growth nationally and in the utilities



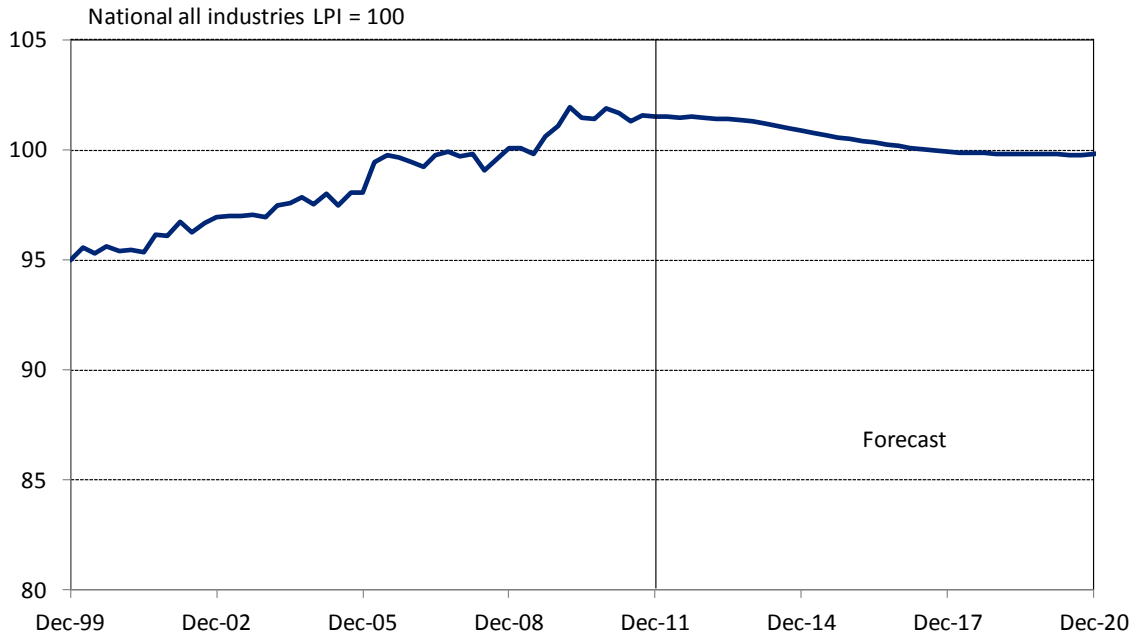
Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Chart 5.5 illustrates the relative strength of utilities wages over the same period. It shows wages in the utilities relative to national wages.[5] It is evident that the LPI in the utilities sector

[5] Note this is a comparison of two indexes both set to equal 100 in 2008-09 – it does not mean wage levels are much the same in the utilities as the national average.

consistently outpaced the national equivalent over the period shown, with moderation becoming evident more recently.

Chart 5.5: Utilities LPI relative to national LPI



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

There are a number of reasons for the overall uptrend in national wage growth in this decade to date, but most revolve around a strong economy and the resultant pressure on prices and on the labour force:

- Job growth in the 2000s averaged 2.3% a year, almost double the 1.2% a year evident in the 1990s.
- That stronger economy pressured a range of prices, including the price of labour, with rising inflation also leading to rising wage growth.

However, for the utilities sector the composition of the job boom was particularly significant. Blue collar occupations did far better in the past decade than they had over the previous generation. As a result, a number of trades saw shortfalls in available labour, driving labour 'prices' higher.

Wage growth was most notable in mining and in sectors where miners were key alternative employers (such as construction and the utilities) or where mining strength induced strength in that sector itself (with construction again a good example). Similarly, wage growth was strongest in resource States such as Western Australia, Queensland and the Northern Territory.

As a result of links to these fast growing sectors and States, the utilities saw relative wages increase steadily across the decade, as seen in Chart 5.5.

This was true in the period of strong economic growth from 1999 to 2008, but was even more evident as the economy stuttered across 2009 – the LPI in the utilities sector rising by about 2 percentage points relative to the national LPI from mid-2009 to early 2010.

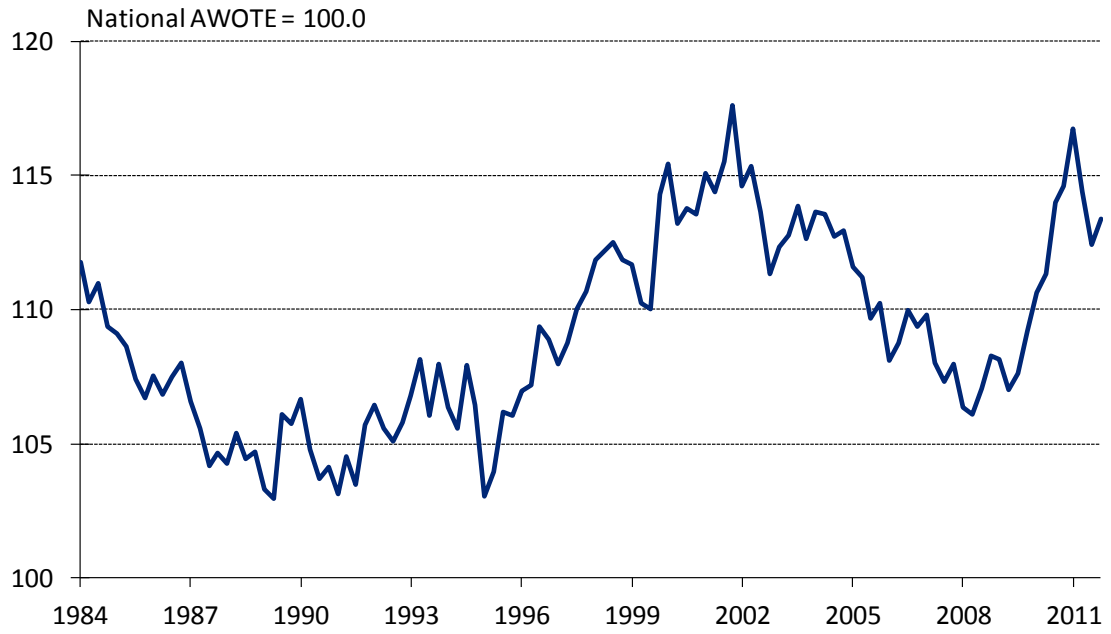
More recently, wage growth in the utilities has fallen slightly below average wage growth in the economy – reflecting a degree of unwinding of previous gains, as well as the small sample size associated with a sector which employs around 1.3% of the non-farm workforce.

As Chart 5.5 above shows, we see this as a turning point in relative utilities wages – albeit a modest one. It is true that the coming engineering construction boom is very big, and big booms in demand usually add to relative costs (as was seen in the last boom).

However, the past gains have been considerable, and permanent shifts in price relativities are rare, because 'the supply side' adjusts – workers shift into those occupations where skill shortages are keenest and rewards are best.

It is, after all, worth noting that the period over which the LPI has been available is similar to the period over which China and other emerging economies have had a growing impact on Australia, including on the wages able to be earned in the utilities sector. Hence it is useful to look at the LPI comparison seen in Chart 5.5, but to also go back further in time using an AWOTE-based comparison (seen in Chart 5.6). The latter's longer timeframe helps to show the impact of long cycles (rather than the secular trend seen over the shorter timeframe seen in Chart 5.5).

Chart 5.6: Utilities wages relative to national wages (AWOTE)[6]



Source: ABS

[6] Data before August 1994 has been spliced using the previous definition of the utilities sector.

Moreover, the factor which underpinned both the last boom and the current one – very high prices for Australia's key exports such as coal and iron ore – are also unlikely to be permanent, though they are likely to remain for some time to come.

As a result, Deloitte Access Economics sees the utilities sector experiencing wage gains slightly lower than those in the broader economy in coming years, unwinding some of the significant increase in relative wages seen over the past decade.

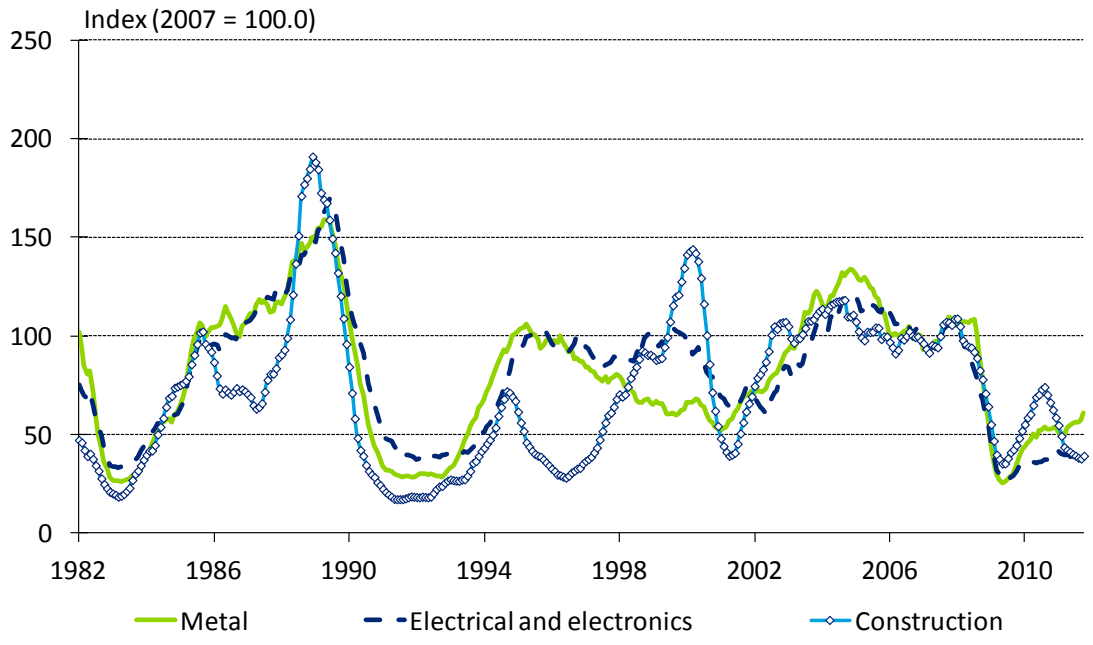
That is not to say that the utilities sector is immune to broader wage pressures. Indeed, as Chart 5.4 earlier shows, there is an upswing in national utilities wage growth on the horizon, with growth expected to accelerate over the coming three years.

Demand pressures on the sector and its competitors

After the global financial crisis hit the economy, causing a sharp contraction in demand and falls in construction level, the sectors covered in this report were the ones to rebound first.

Chart 5.7 shows vacancies data compiled by the Federal Department of Education, Employment and Workplace Relations (DEEWR), and focuses on vacancies in the trades. Several relevant trades are noted – construction, electrical and electronics, and the metal trades.

Chart 5.7: Trades vacancies



Source: DEEWR Vacancy Report, Deloitte Access Economics

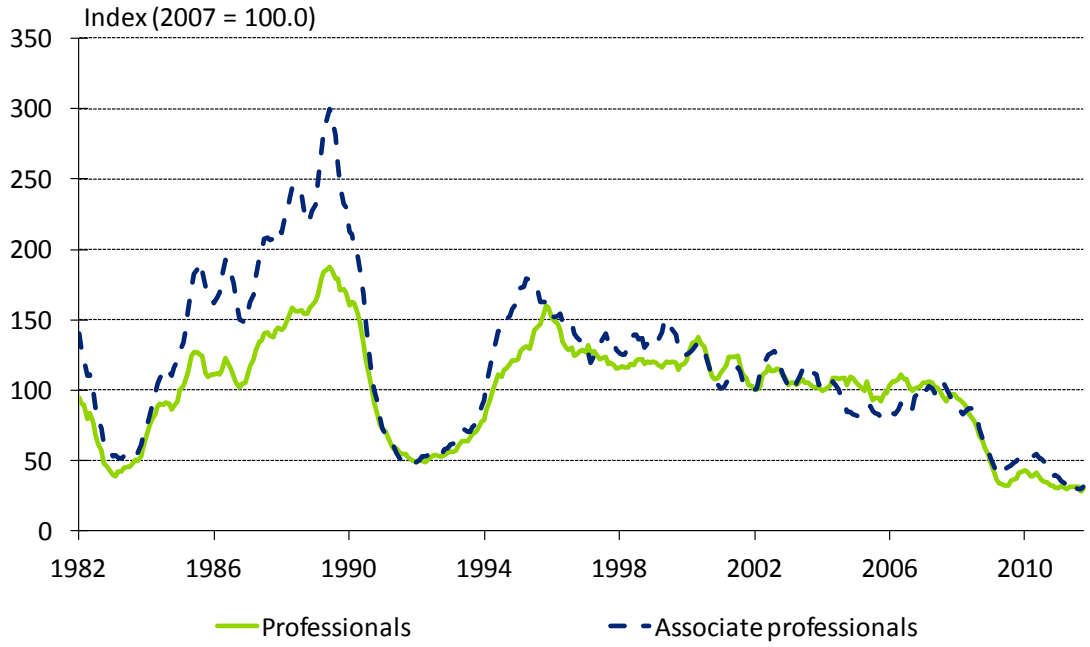
The performances of the construction and mining sectors are readily evident in the data – with strong demand for construction and related workers ahead of the GFC, followed a sharp decline and subsequent rebound.

For both electrical and construction trades the decline in 2009 drove vacancies to their lowest level since 1983. They have since rebounded, although to well below their longer term

average. Construction vacancies also fell in the downturn – hitting their lowest level since 1996 – but lifted sharply thanks to the Building Education Revolution scheme as well as improved demand for housing construction. That Federal assistance and the population-led housing demand have now almost disappeared, and the upswing in construction vacancies has almost entirely unwound.

While basic trades demand has generally improved, there has been no improvement in vacancies for professionals and associate professionals (Chart 5.8 below). Demand for both these categories of labour remain at record lows and did not increased significantly during the period of Government stimulus, but have actually declined more recently to be at, or even below, their GFC lows.

Chart 5.8: Professionals and associate professionals vacancies in building and engineering



Source: DEEWR Vacancy Report, Deloitte Access Economics

It is worth noting that the vacancy data here is weighted more towards those parts of construction that we expect to underperform (housing construction) than the stronger performers (particularly engineering construction).

Even so, they go some way to explaining the weakness in short term wage growth seen in Chart 5.4, with skilled labour shortages emerging throughout the coming investment and mining boom, rather than placing clear immediate pressure on wages in the sector.

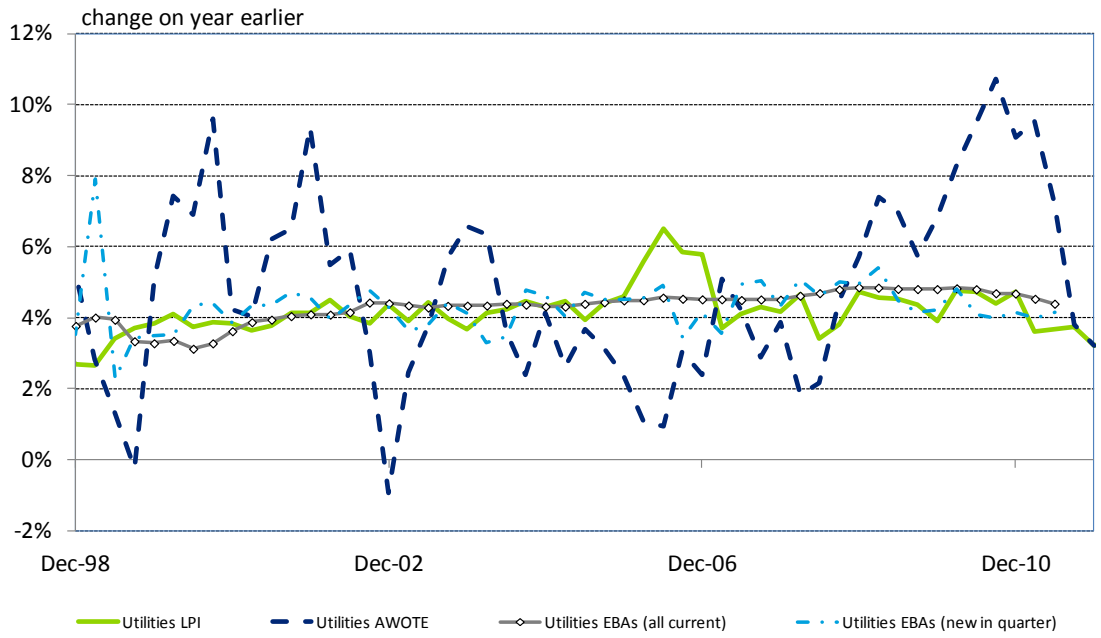
Comparison with results from enterprise bargaining agreements

Chart 5.9 compares growth in the utilities sector LPI with a number of other wage growth measurements that are produced on a regular basis.

The first measure shown is average weekly ordinary time earnings (AWOTE) for the national utilities sector. As the chart illustrates, the growth in this wage series is particularly volatile, and this volatility limits its use in forecasting.

The next series is the matching measure of wage growth in the utilities, but using the LPI.

Chart 5.9: Measures of utilities sector wage growth



Source: ABS, Department of Education, Employment and Workplace Relations

The remaining two series come from the *Trends in Federal Enterprise Bargaining* publication produced by the Department of Education, Employment and Workplace Relations and cover growth in wages under enterprise bargaining agreements:

- the third series in the chart shows growth in wages under all agreements current during the quarter. We would expect movements in this measure to be broadly reflective of trends in the broader utilities sector – or in other words, when this series accelerates we would expect a similar acceleration in growth in the sectoral LPI;
- the final series shows annual growth that will occur under any agreements commencing in the quarter shown. This series is more indicative of immediate future trends in the first EBA series – if there were to be, say, a sustained decline in wage growth, then that would show up first in new agreements.

In general, growth in new utilities sector EBAs is a solid predictor of the level and trend in the LPI in the immediately following quarters, while the AWOTE movements have been almost unrelated to the EBA results over this time:

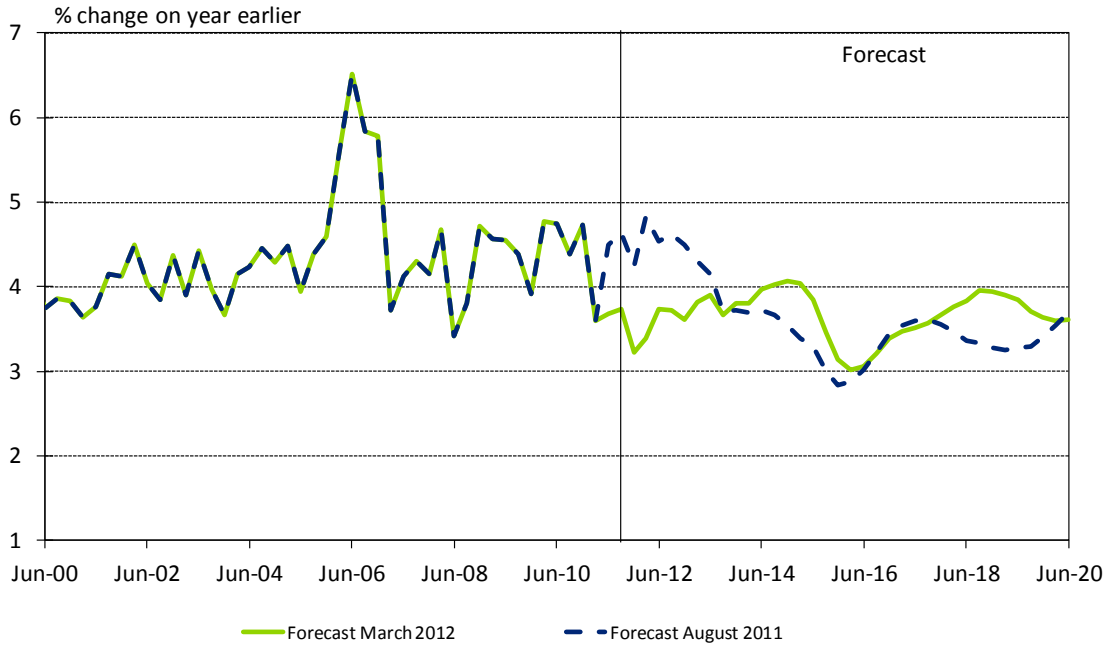
- Growth in EBA wage rates seen in newly submitted agreements has broadly been between 4% and 5% per year, as has the increase in the sectoral LPI.
- After a period of rising wage growth, recent EBA trends suggest a moderation in utilities sector wages pressures is underway – with new agreements seeing implied wage rises of around 4%, rather than the 4.5% implied by all EBA's.

The current rate of growth (4.4% per annum for all agreements operating at the end of June 2011, slightly down on the results seen during 2010) will have an impact on wage growth over the medium term – only around one in every ten agreements are re-negotiated in any given quarter, meaning a typical agreement lasts just over three years.

5.2.2 Changes since August 2011

As Chart 5.10 below shows, developments in recent months have affected the wage outlook in the utilities sector since the time of Deloitte Access Economics' August 2011 report.

Chart 5.10: Changes in the forecast for utilities LPI growth



Source: ABS, Deloitte Access Economics' labour cost model

The short term wage forecasts for the utilities sector are not as strong as they were last August. The resultant gap peaks at around 1 percentage point in year-to terms.

In part that is because recent LPI results in the utilities have already been weaker than expected. In addition, and as noted above, the outlook for the sector remains clouded by some important investment negatives, including the lack of a bipartisan approach to carbon pricing.

Looking further ahead, we still expect wage growth in the utilities sector to fluctuate in the 3% to 4% range.

6 Competitor industry economic and wage outlooks

Wage growth in individual sectors of the economy also reflects the pace of demand and the availability of supply among relevant types of skilled labour.

This chapter discusses the economic and wage growth outlooks for industries which compete most heavily for labour with the utilities sector – the mining and construction sectors – as well as the administration services sector.

6.1 Mining sector

6.1.1 Updated economic outlook

The mining sector is in the fast lane of Australia's 'two-speed' economy. Indeed, most of the growth in our economy currently rests on mining investment. Australia's miners are looking to produce much more as soon as they possibly can, and they already have remarkable investment plans in place to achieve that aim.

Other things equal, miners say they are looking to raise their development spend in 2012-13 to a level close to 10% of national income – versus a longer run average which has been closer to 1% of national income. To take a simple example, ABARES notes more than half the world's planned additions to LNG capacity are currently under construction here in Australia.

Yet recent history is a reminder of some key caveats. Across the better part of a decade, no Australian construction project costing more than a billion dollars has managed to be delivered both on time and on budget. Now the number and scale of projects in the pipeline is much bigger than anything we've ever seen before.

Accordingly, that enormous demand is likely to run into some of the same supply side constraints evident in recent years – only more so. Deloitte Access Economics therefore remains concerned about emerging skill shortages.

For its part, the Government has promoted its Enterprise Migration Agreements with vigour. That said, pressures on working age population are growing, and construction and mining will be trying to grow very fast at a time when Australia's 'people power' will be growing very slowly.

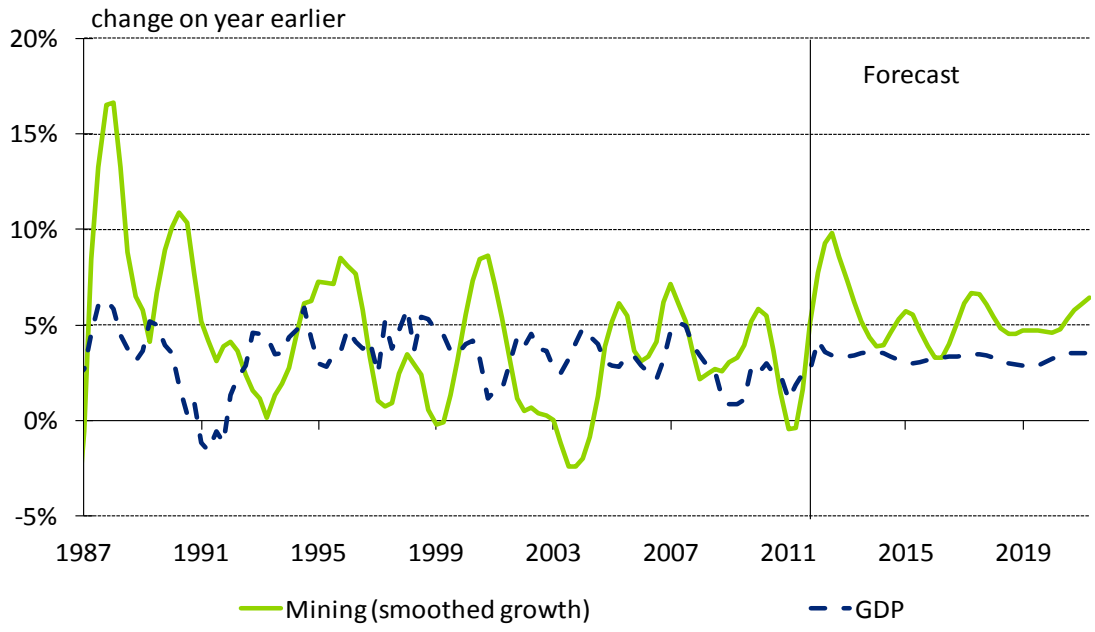
Besides, skill shortages aren't the only issue here. Even with the high commodity prices of the moment, some miners are having difficulty getting finance, while others are having difficulty getting approvals – either the Federal, State, local, environmental and native title approvals often required for mining projects, or even the internal corporate approval as projects in Australia compete with those overseas for scarce development dollars amid the scramble of the moment.

That combination points to supply side constraints which will provide ongoing challenges for Australia's mining sector, and there are growing risks to global commodity demand from slowing world economy.

That said, much of the investment in mining is already underway – or well and truly committed. In turn, that says future output capacity already looks much larger than today's, with gains in output to be expected across all three key export commodities: gas, iron ore and coal. The very long term nature of mining investment decisions means this sector would become even more important to Australia's growth prospects if things were to go wrong. That is because, if the Eurozone does fail its current test, there are reasons to hope that the sheer momentum of the investment surge underway in resources – a response to the demand for our minerals coming from China – could help us through the crisis as it did in the GFC.

Overall, as Chart 6.1 shows, Australia's mining sector is projected to continue to see a very sharp recovery in mining output from the one off losses in 2011 associated with floods and cyclones, followed by an extended period of strength over coming years.

Chart 6.1: Mining output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

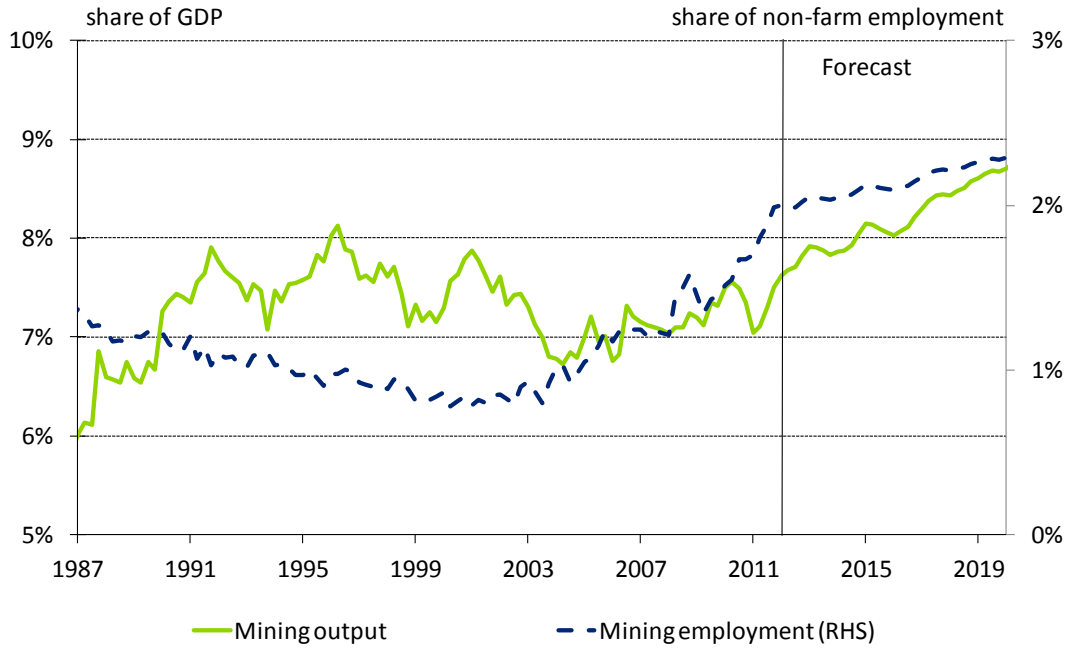
All this should come as no surprise. After all, this is a nation experiencing a 'once-in-a-century' mining boom, with high commodity prices driving unprecedented increases in investment.

This will be a long cycle in this sector as far as mining output is concerned – the pipeline is huge, and the delivery of it will be slow. Even so, and for the purposes of this report, it serves as a reminder that the mining sector can be expected to remain a formidable competitor for some of the same workers currently (or potentially) employed in the utilities sector.

Indeed, there were more people employed in the utilities than in mining as recently as 2003, but these days the mining sector employs seven people for every five in the utilities sector, and that ratio is projected to lift to nine miners for every five utilities workers by 2020.

The latter is a reflection of the growing role of the mining industry as a key employer. As Chart 6.2 shows, the mining industry now accounts for more than double the share of jobs that it did just seven years ago, and is expected to continue to increase that share in coming years.

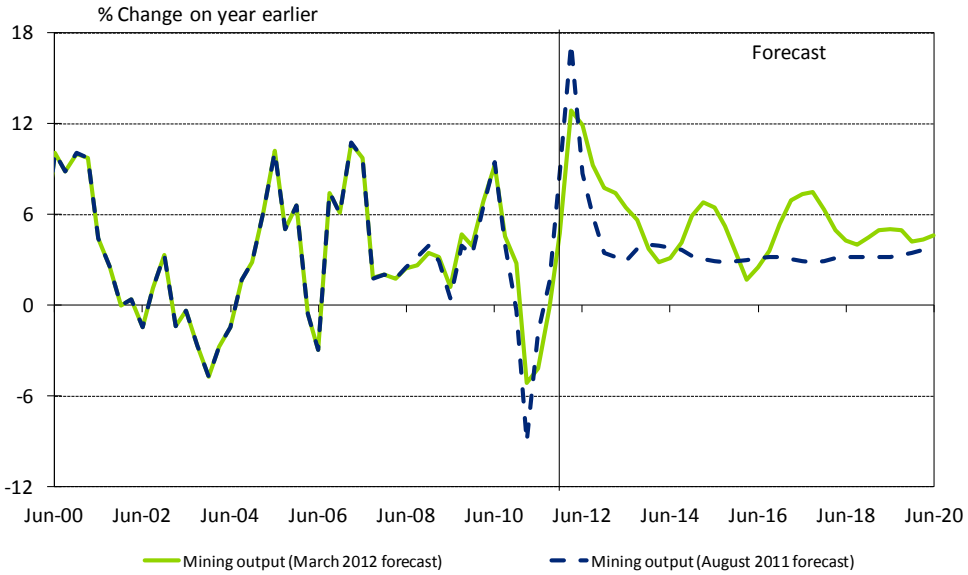
Chart 6.2: Mining industry share of key economic aggregates



6.1.2 Changes to the economic outlook since August 2011

As Chart 6.3 below shows, recent developments have had only a modest impact on the outlook for output growth in the mining sector since the time of our August 2011 report.

Chart 6.3: Mining output forecast change



Source: ABS, Deloitte Access Economics' macroeconomic model

The rebound in the near term is not quite as strong as previously expected mainly reflecting the slightly less than expected impact on mining output of the floods in late 2010 and early 2011. Thereafter, the mining sector maintains a strong outlook.

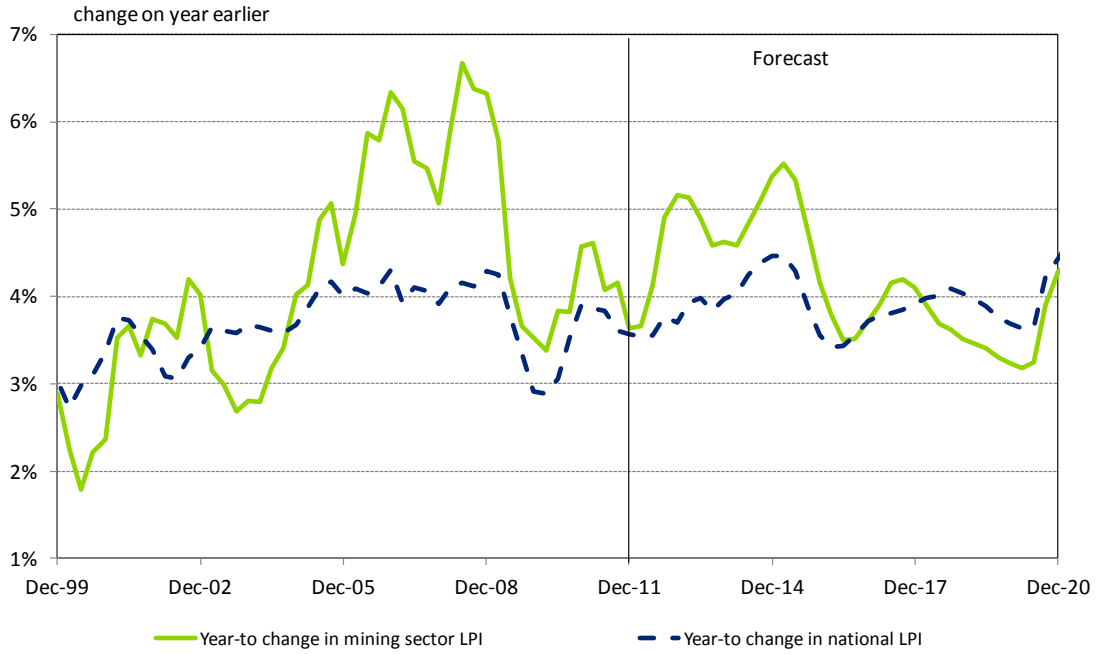
6.1.3 Latest LPI projections

The mining sector's fortunes effect wages in the utilities sector.

That is because some workers in the utilities sector are able to transfer their skills relatively readily across these two sectors, so when wages in one sector move higher relative to the other, then employees are able to move – or able to at least point to the potential for making that move when they conduct wage negotiations.

Those correlations became increasingly important during the first commodity price boom (broadly from 2006 to mid-2008), which generated strong growth in both profits and employment (though not output) in the mining sector. The extent of the skill shortages saw mining wages grow at rates of around 6% for several years (see Chart 6.4).

Chart 6.4: Mining LPI growth forecast



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Those trends ended abruptly in late 2008 as miners retreated rapidly from expansion plans and shut operations that were deemed unprofitable.

Yet as the discussion in section 6.1.1 above notes, a renewed investment boom in the mining sector will soon shift to a production boom – adding significant pressure to wages in the sector over the course of 2012 which may persist for some time.

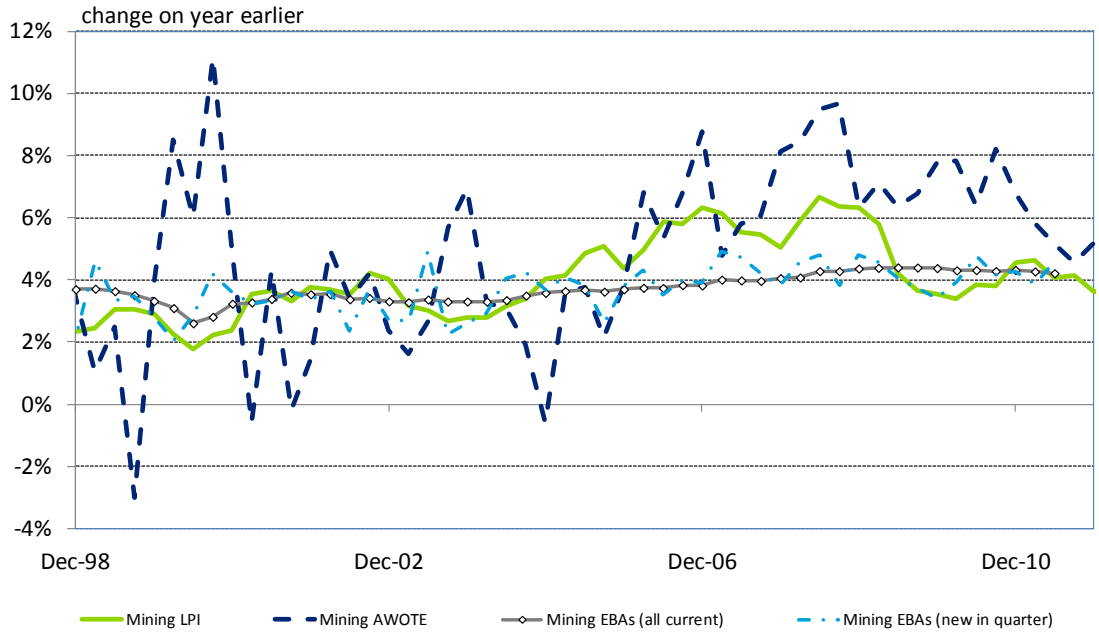
It is worth remembering that these increases will occur on top of the relative gains achieved over the first mining boom prior to the GFC – meaning strong growth in wages which are already at elevated levels compared to those in other industries.

This will limit the growth in mining wages to around 5% rather than the 6% levels seen in the last boom, as the notable increase in wage relativities in the sector over recent years keeps the gap between mining wage growth and national wage growth more modest than the 2-2.5% seen in recent history.

That said, there are continuing concerns around shortages of key skills in the sector, meaning the ability of the supply side to adjust to growing demand for workers will be very important – not merely to wage outcomes in mining, but indirectly to those in the utilities as well.

Movements in the mining sector LPI have been strongly correlated with trends in new EBAs in the sector (see Chart 6.5). There has also been a closer relationship between the LPI and AWOTE series in this sector than in the others considered here.

Chart 6.5: Alternative measures of mining sector wage growth



Source: ABS, Department of Education, Employment and Workplace Relations

As the mining boom has gathered strength there has been a lift in the rate of wage increases in newly submitted EBAs – the latest data showing that increases in the mining sector are now running second only to the construction sector.

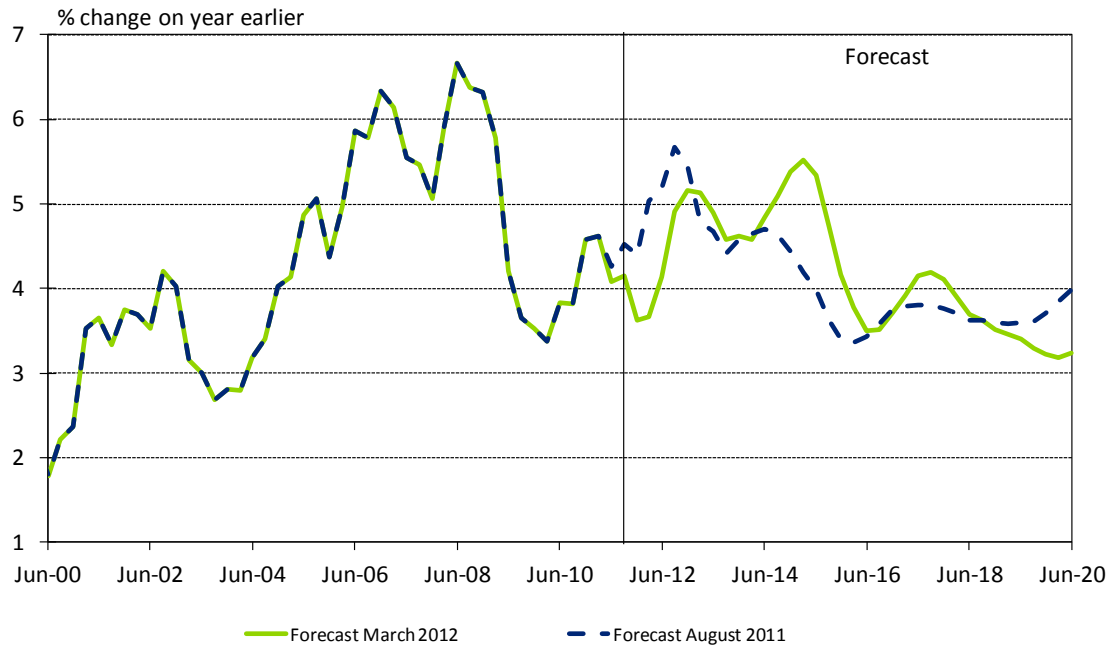
That too is to be expected – both because mining does compete with the construction sector for workers (and hence must respond to the wage rises elsewhere), but also because the engineering construction boom is a precursor to further mining expansion.

That pick up in wage growth for new agreements is a reminder of the growing wage pressures both within the mining sector, and on other industries seeking the same skilled workers.

6.1.4 Changes to the LPI outlook since August 2011

As Chart 6.6 below shows, developments in recent months have had a small impact on the outlook for wage growth in the mining sector since the time of Deloitte Access Economics' August 2011 report.

Chart 6.6: Changing forecasts of the LPI: mining sector



Source: ABS, Deloitte Access Economics' macroeconomic model

As the chart shows, our latest forecasts are more moderate in the short term, with the weaker global economic environment and the lower commodity prices accompanying it enough to see a short term moderation – one already partly evident in the LPI data for the mining sector.

Accordingly, our short term wage forecasts for the mining sector are not as strong as they were last August. However, the gap is modest – peaking at just over 0.5 percentage points in year-to terms.

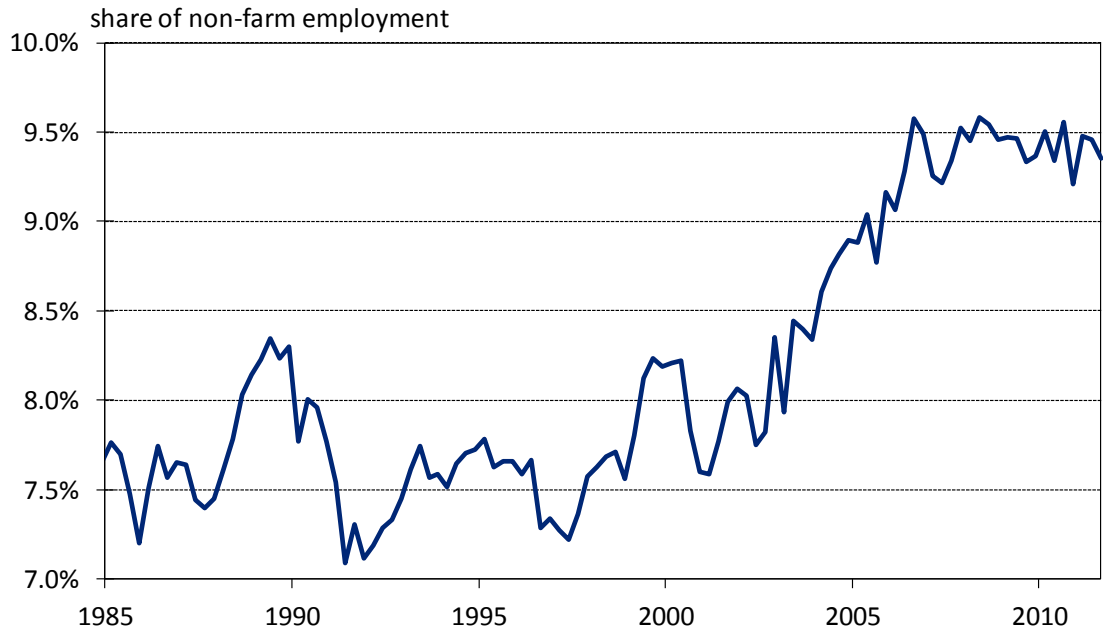
Looking ahead, we still expect wage growth in mining to remain robust, fluctuating in the 3½% to 5½% range.

6.2 Construction sector

6.2.1 Updated economic outlook

Nor is the mining sector the only key competitor to consider. For the mining sector to grow fast, the engineering construction sector has to do the same first. And following the long housing boom between 2000 and 2008, the construction sector employs almost seven times the number of workers that the utilities does.

Chart 6.7: Construction as a share of non-farm employment



Source: Australian Bureau of Statistics

Construction grew by 5.6% in trend terms in the year to the December quarter – among the fastest growth of any of the major sectors in the Australian economy. This sector is growing fast, and Deloitte Access Economics expects that to continue.

That may come as a surprise. After all, there are a number of stories about residential construction companies laying off workers, and both current conditions and future prospects in commercial construction are weak amid slow retail sales and a recent fall off in the pace of employment growth.

Construction has three components – housing, commercial construction and engineering work. It is the latter which is most closely linked to the current boom in mining, and it is this component which is driving the current growth in construction activity.

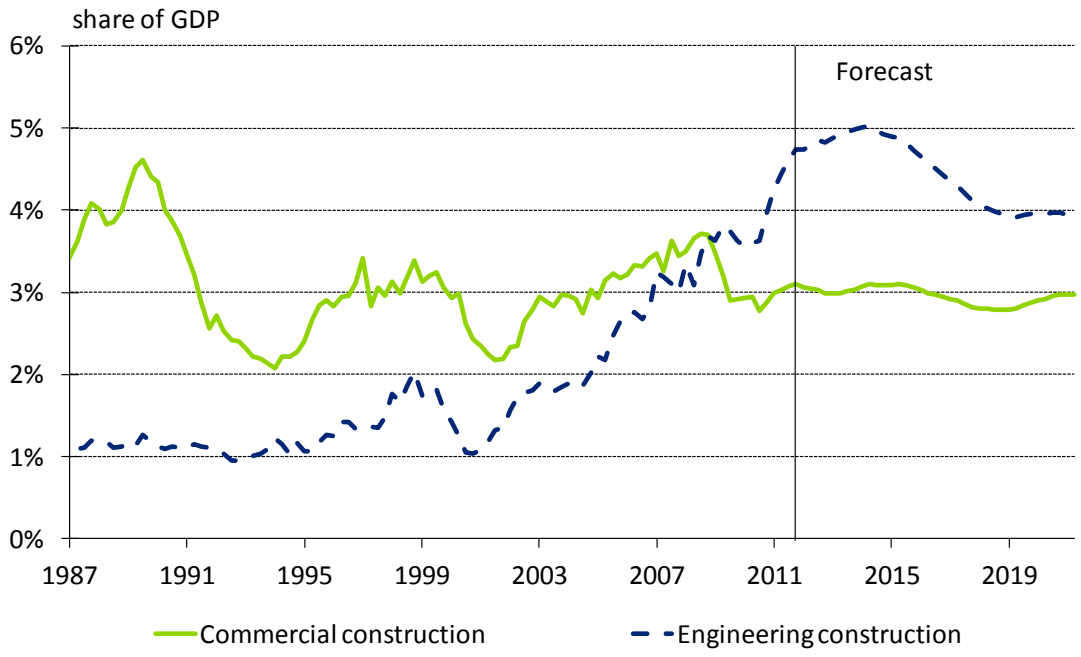
Just over a decade ago, **engineering construction** accounted for 1% of Australia's economy – a proportion it had averaged across earlier decades as well. It has been rising rapidly since then. Although there was a brief pause in 2009 amid the confusion of the GFC, spending on engineering construction had already risen to 3½% of Australia's economy by that stage. Recent data have it weighing in at a remarkable 5½% – one eighteenth of the entire economy. Indeed, in recent months engineering construction work more than accounted for all the growth in Australia's economy as a whole. Although that latest data was particularly remarkable – and saw the fastest increase in engineering work in some decades – there's still a full pipeline of projects ahead for the sector.

The strength of commodity prices has produced a large rise in Australia's national income, which in turn can be seen in the profitability of the corporate sector. The strength of commodity prices has underpinned a strong lift in company profits, led by the miners. Since the mid-1980s, company profits before income tax have generally accounted for between 4%

and 6% of national income. However over the past five years they have averaged around 14% of national income, and in late 2010 they reached their most recent peak, at 15.5%.

In turn, the increase in profitability has generated an increase in the return to investment, encouraging firms to expand capacity and sparking a construction boom which has spread well beyond the mining sector. The lift in engineering construction activity since 2003, shown in Chart 6.8, has been remarkable.

Chart 6.8: Components of non-residential construction



Source: Australian Bureau of Statistics, Deloitte Access Economics

While the resources sector has been the key driver of the lift in engineering construction investment, the strength of the commodity boom also revealed the degree of underinvestment in Australian infrastructure in recent decades. That was most obvious in port capacity in Queensland and Western Australia, but was more broadly true across much export-focused infrastructure. In addition, decades of under-investment by State Governments in urban and related infrastructure also became apparent at much the same time.

Table 6.1: Engineering construction projects (level and change over last year)

	Definite		In planning		Total	
	$m	% change	$m	% change	$m	% change
Manufacturing	9,559	-12.3	23,633	-1.0	33,192	-4.5
Transport	83,864	13.8	200,293	63.7	284,157	44.9
Communication	36,749	18274.5	0	-100.0	36,749	-10.6
Mining	189,431	63.2	216,444	-12.0	405,875	12.1
Power & water	22,539	-5.8	33,357	29.2	55,896	12.4
Rural and forestry	455	0.0	0	0.0	455	0.0
Total engineering	342,597	52.1	473,727	3.2	816,324	19.3

Source: Deloitte Access Economics' *Investment Monitor*

As Table 6.1 above shows, much of the lift in engineering construction is in the resources sector, with a number of huge projects already underway, including the Gorgon LNG project (weighing in at $43 billion – the most ever spent on a construction project in Australia), and the likes of the Pluto LNG project (well on its way to being completed, and costing $14.9 billion). Moreover, work has now begun on two enormous coal seam gas projects in Queensland – Gladstone LNG and Queensland Curtis LNG.

There are also major projects in iron ore, as well as a rush of projects in coal and base metals. And outside of the resources sector is work such as that for the National Broadband Network (NBN), itself accelerating at a notable pace.

That combination is expected to lift engineering construction to more than 6% of the economy, with that ratio reached in early 2014. Moreover, although the engineering spend may shrink thereafter, we still see it in a decade's time at somewhere around 5% of the economy. Or, putting it in terms of the historical average, that is about five times bigger than this sector averaged in the decades up to 2000.

In contrast, the **commercial construction** sector has been hard hit by both current and recent developments. On the one hand, government spending on commercial construction is ebbing fast. And on the other hand the two big drivers of commercial work – retail and offices – are both facing weak business conditions. With savings rates now higher than they've been in a quarter of a century, and growing online competition for traditional retailers, there's not much interest in retail work at present. Moreover, and with some conspicuous exceptions (such as Westfield work in Pitt Street Mall or some regional shopping centres such as Stockland's work at Shellharbour), the global financial crisis saw relatively few projects get the go ahead in 2009, and that's showing up as a dearth of projects currently underway.

Table 6.2: Commercial construction projects (level and change over last year)

	Definite		In planning		Total	
	$m	% change	$m	% change	$m	% change
Trade	7,555	20.5	4,399	30.0	11,954	23.8
Business parks	2,969	-20.5	1,341	0.0	4,310	-15.1
Hotels and resorts	306	-7.6	1,057	19.6	1,363	12.2
Offices	2,938	-7.6	1,108	-63.4	4,046	-34.8
Education	20,375	-2.6	595	93.8	20,970	-1.2
Health and community services	19,301	29.3	3,610	-48.2	22,911	4.6
Culture, recreation & other	7,556	-6.4	4,193	6.3	11,749	-1.9
Business services	680	66.7	3,715	-	4,395	6.6
Government	1,728	-19.6	532	-	2,260	5.2
Mixed use	9,440	47.8	3,064	5.4	12,504	34.5
Total other commercial	72,848	11.4	23,614	-12.5	96,462	4.4

Source: Deloitte Access Economics' Investment Monitor

Much the same is true for office blocks. Moreover, with employment growth having weakened notably through 2011, it's perhaps no surprise that building approvals for new offices did the same.

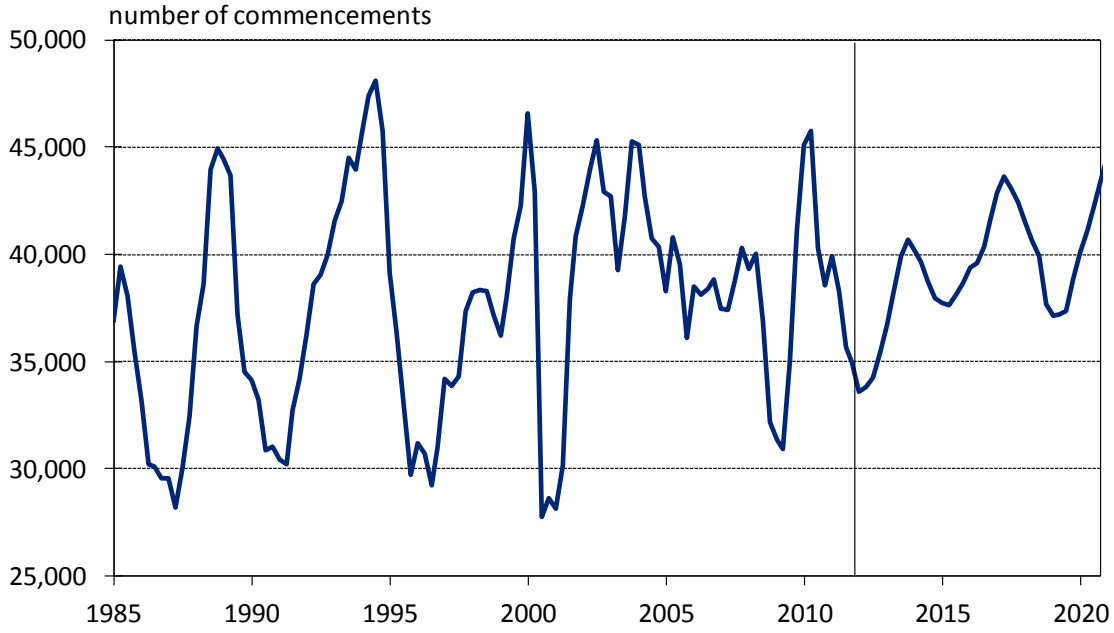
Although the latest data saw some improvement in commercial construction, it may not be until towards the end of 2012 that this sector begins something of a cyclical recovery, and that recovery is expected to be mild at best.

At the same time, **housing construction** activity remains weak when builders, not unreasonably, might have expected it to be picking up. After all, even though Australia's population growth has just dropped to a five year low, that is because the last five years saw a surge in the number of people in Australia, and our housing stock hasn't yet caught up. The building of new houses made a half hearted recovery in response to new first home buyer incentives from the Federal Government, but that recovery peaked in the first half of 2010 and has since faded. There's a lack of interest across a range of parties, including investors and first home owners, with today's weakness also concentrated in Western Australia (where approvals are down by a third in the last year alone) and New South Wales (with approvals down notably over the past year) and coming after a long run of relatively weak results.

A series of factors are to blame, including tighter credit conditions in the wake of interest rises through 2010, but also the continuing slow pace of land release in many States, and increasingly now a shortage of skilled labour as well.

As seen in Chart 6.9 below, we expect a further weakening in housing starts through much of 2012 before the long awaited recovery in residential construction finally gets its act together.

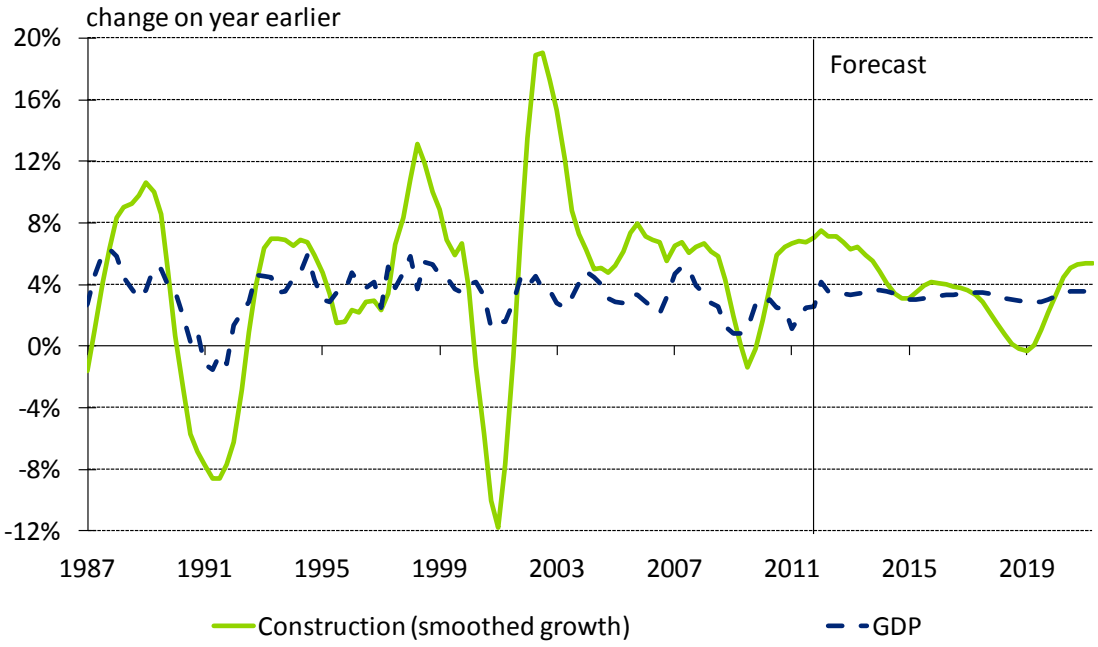
Chart 6.9: Quarterly housing starts



Hence housing – the largest single component of the construction sector – is currently weak, and is only headed for a relatively modest recovery (one that looks likely to still leave a worrying degree of pent up demand in a number of markets).

Yet the weakness in residential and commercial construction is less important than the surge under way in engineering construction. As a result, as seen in Chart 6.10, construction can expect further strong growth over the next two years.

Chart 6.10: Construction output growth



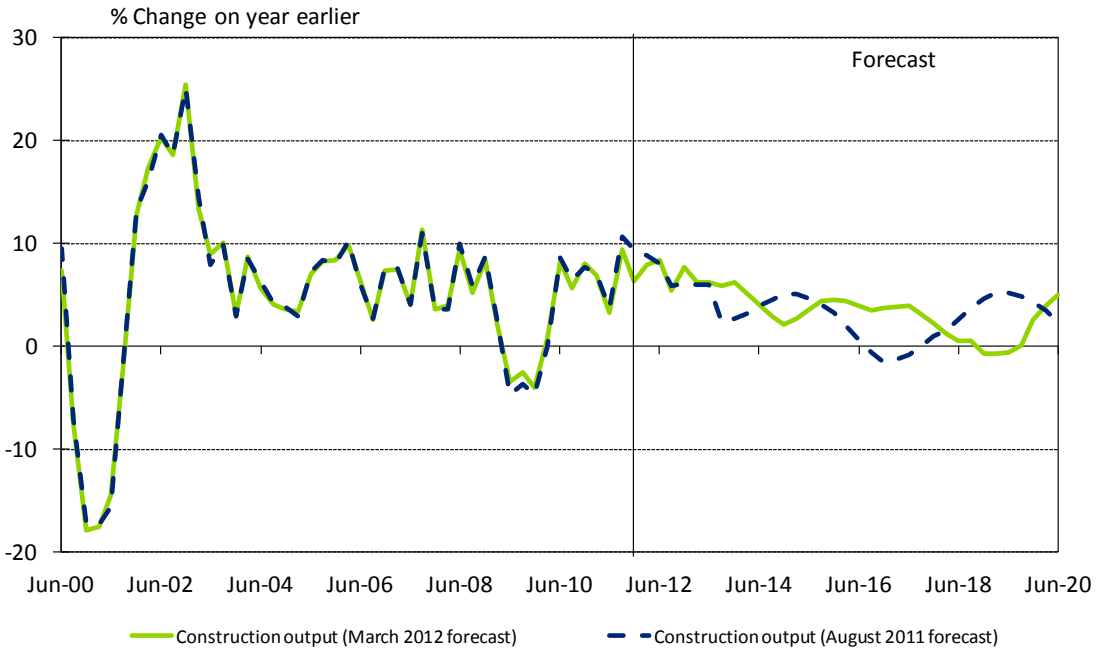
Source: ABS, Deloitte Access Economics' macroeconomic model

That strength will see the construction sector competing hard for skilled workers – particularly those with a trade – and represents a degree of added pressure on the wages of workers who might otherwise be employed in the utilities.

6.2.2 Changes to economic outlook since August 2011

As Chart 6.11 below shows, developments in recent months have had little effect on the outlook for output growth in the construction sector since the time of Deloitte Access Economics' August 2011 report, with the timing shifts in the chart mostly attributable to changed expectations around the timing of housing construction cycles.

Chart 6.11: Construction output forecast change



Source: ABS, Deloitte Access Economics' macroeconomic model

6.2.3 Latest LPI projections

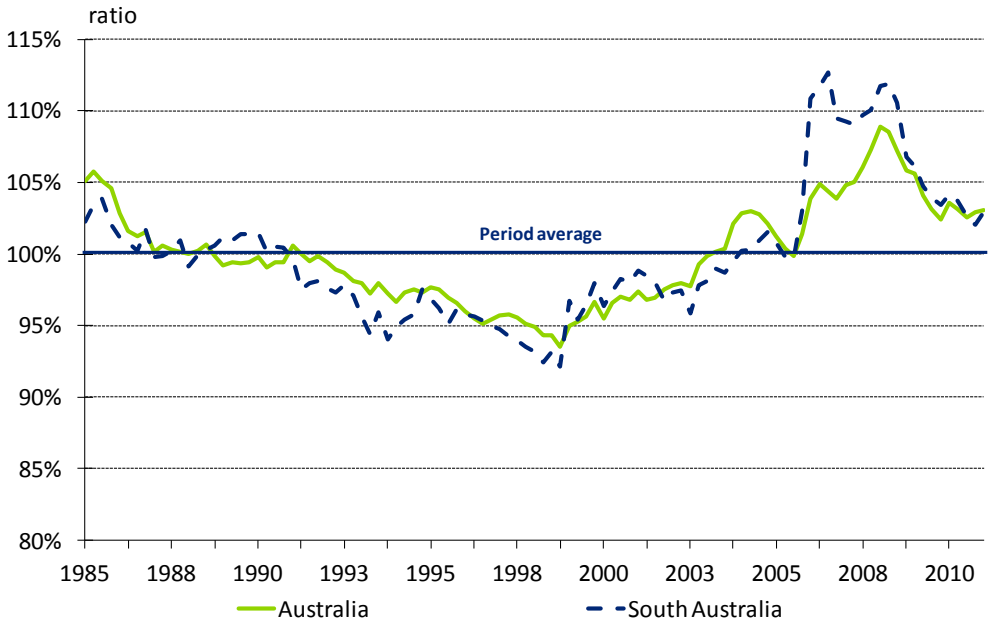
The construction sector has always played a large (and cyclical) role in Australia's economy. When Australia does well, construction grows strongly, and when Australia slows, construction can fall notably.

The broad-based strength of business investment from 2003 onwards has had a pronounced impact on construction costs. As the pipeline of work yet to be done rapidly reached record highs, demand for labour and materials outstripped supply, pushing up input costs for a range of major projects.

The flow-on effects to construction wages were rapid due to skill shortages – a problem exacerbated by the location of much of the new work in areas of relatively low population density.

Chart 6.12 below shows the impact on engineering construction costs relative to consumer prices. While the global economic downturn saw a fall in these relative prices, current conditions – and especially continuing good growth in China and India – are projected to generate a renewed lift in relative prices.

Chart 6.12: Price of engineering construction relative to consumer prices



Source: Australian Bureau of Statistics, Deloitte Access Economics

With similar pressures building, and engineering work outside of mining such as repairing flood and cyclone damaged infrastructure in northern Australia and building the national broadband network, the demand for construction workers is high – and expected to remain so through 2012 and 2013.

Construction wages have been growing more rapidly than wages in other sectors for a number of years now, and they are once again lifting ahead of the coming boom.

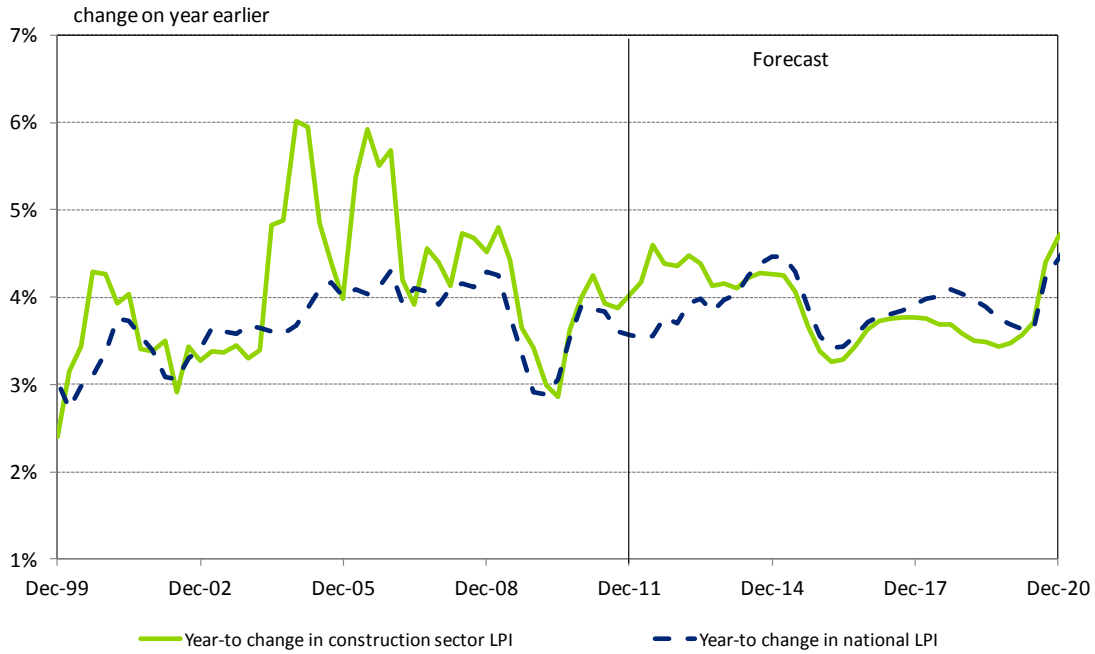
As Chart 6.13 below shows, wages in the sector are currently running ahead of national wage outcomes, as they have done for some time.

Moreover, that gap is expected to widen as the current pipeline of major engineering construction projects plays out.

While wage growth in the sector is not likely to match that seen at the height of the last boom, it is worth remembering that the relative wage gains over coming years will be atop already impressive increases relative to wages in other sectors over the past decade.

However, it is worth stressing that this relative boost to wages ultimately proves temporary – it brings forward the timing of demand in these two sectors, but has less of an impact on relative wages by the end of the forecast horizon shown here.

Chart 6.13: Construction LPI growth forecast



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

In part that reflects the role of the supply side, as more workers leave occupations in other sectors, arrive from overseas, put off study, stay longer in the workforce, or return to the workforce.

Or, in other words, the expected strong demand boost to mining and construction provides a long-lived impact on wage relativities in these sectors, but not a permanent one.

The construction sector is one of the most cyclical in Australia, with the eventual slowdown in the sector dragging LPI growth lower in later years.

This last trend also reflects the fact that construction wages have moved relatively early in the current boom compared to other sectors – as many of the coming mega-projects will employ builders first, before miners take over once construction is complete.

Construction sector EBAs have seen a significant upward trend in recent years. The average rate of increase for EBAs in the construction sector has lifted from 4½% in the middle of 2008 to close to 5½% at present.

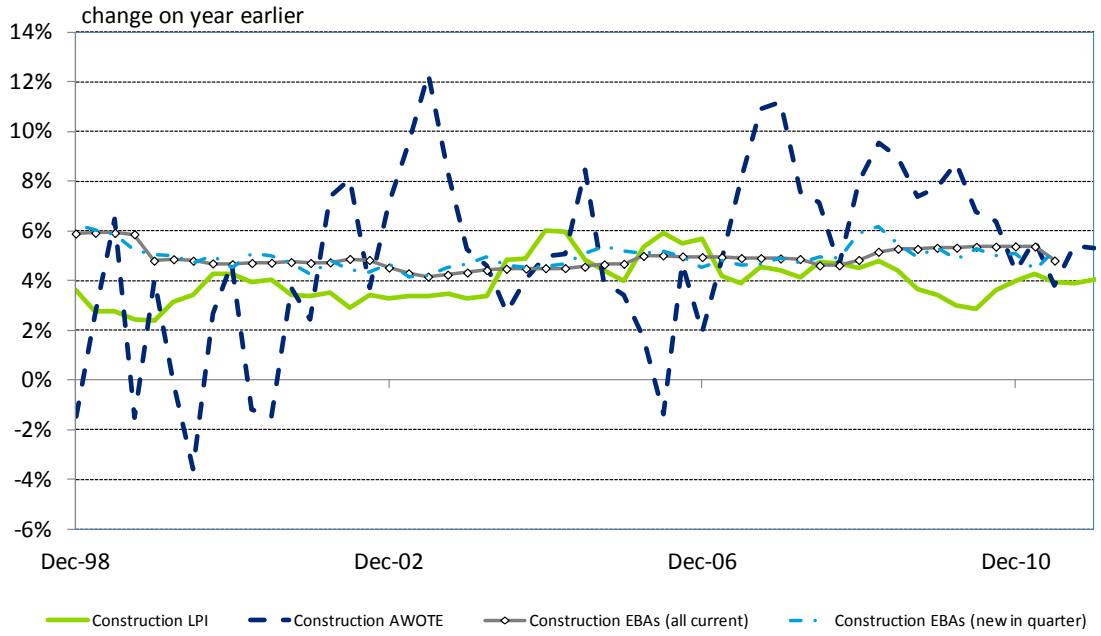
As Chart 6.14 makes clear, and following a sharp decline in growth as the GFC hit, wage growth in the sector rapidly returned to strength as it became apparent that:

- the downturn to national growth was likely to be less than initially feared
- government stimulus would be weighted heavily towards the construction sector, most notably through the Building the Education Revolution scheme; and
- many major engineering projects were less sensitive to the global downturn than had been feared.

That initial surge has stabilised of late, although strength in the EBA measures of growth has largely remained evident even though the growth in measured LPI has eased.

That said, and as the chart below shows, most measures are now giving a relatively similar reading on current wage pressures in the sector.

Chart 6.14: Alternative measures of construction sector wage growth



Source: ABS, Department of Education, Employment and Workplace Relations

It is worth noting, however, that only around 15% of construction sector employees are covered by the EBAs included here – below the national average and the lowest proportion of the key sectors considered in this report.

6.2.4 Changes to LPI outlook since August 2011

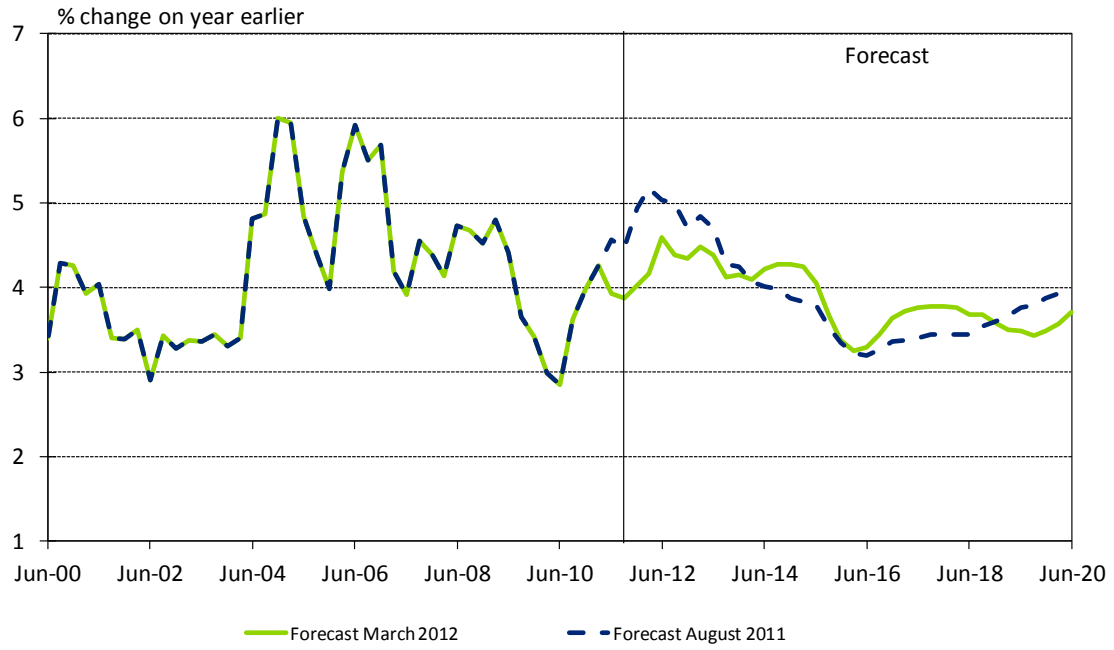
As Chart 6.15 below shows, developments in recent months have affected the wage outlook in the construction sector since the time of Deloitte Access Economics' August 2011 report.

When prospects for Australia's economy more generally were brighter, it looked as though wage growth in the construction sector would top the 5% rate mark over the coming year. However, two speed economy negatives elsewhere in the economy have moderated demand for catch up post-GFC wage gains generally, with some flow-on effects for the construction sector in the near term.

In addition, the continuing pressures on housing and commercial construction have also taken their toll, and the sector's LPI has been running at year-to growth rates close to 4% for a few quarters.

Looking further ahead, we expect wage growth in construction to remain robust, fluctuating in the 4% to 4½% range in the next three to four years, before moderating thereafter.

Chart 6.15: Changing forecasts of the LPI: construction sector



Source: ABS, Deloitte Access Economics' macroeconomic model

6.3 Administration services sector

6.3.1 Updated economic outlook

Administration services is a 'catch all' sector, containing disparate sectoral elements with a range of different economic drivers. It can be broken into two broad areas:

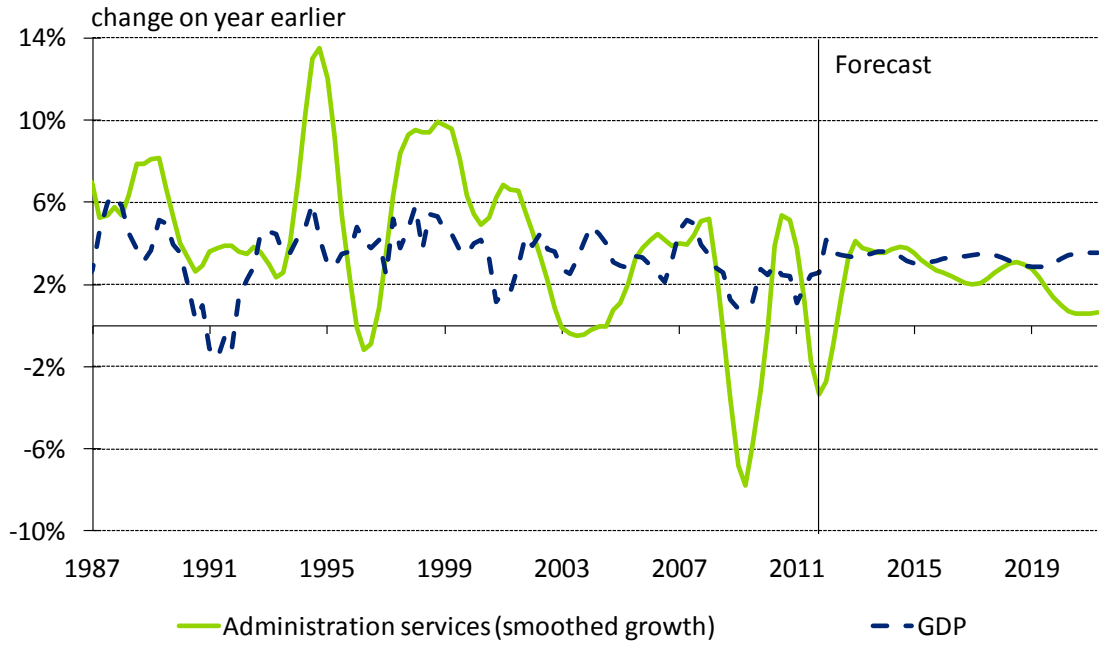
- Traditional administrative services, of which the largest component is employment services (including employment and recruitment services and labour supply services); and
- Building and pest control services.

The impact of the GFC was felt keenly in the administration services sector (see Chart 6.16) – in fact during the worst of the downturn only the manufacturing sector saw larger decreases in output (the latter's peak year-to decline was 11.2%, compared with 8.8% in administration services, with the next weakest being the dip in the transport sector of 5.1%).

Administrative services (most notably employment services) suffered more in the downturn – employer-led demand fell away as recruitment of new employees stopped (even though employment levels tended not to decline). In addition, employee-led demand (from workers looking to move to a better job) also fell away as workers became reticent to risk their current jobs.

Some strength in building and pest control services employment across 2009 did limit the downside in the sector, although the overall sector did decline as a share of total employment overall, falling slightly faster on average than overall employment.

Chart 6.16: Administration services output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

As Chart 6.16 shows, there has been a subsequent surge in growth – partly catch-up from previous declines – which saw the sector move ahead of overall growth in Australia's economy across 2010. That said, the short term projection is for output growth in this sector to return to growth more or less in line with the national average by late 2012.

While the term business services tends to conjure up images accountants and lawyers, it is worth remembering that household services such as cleaning and gardening are also in this category. And the latter are doing well as rising pressures on personal and business time leads many to outsource.

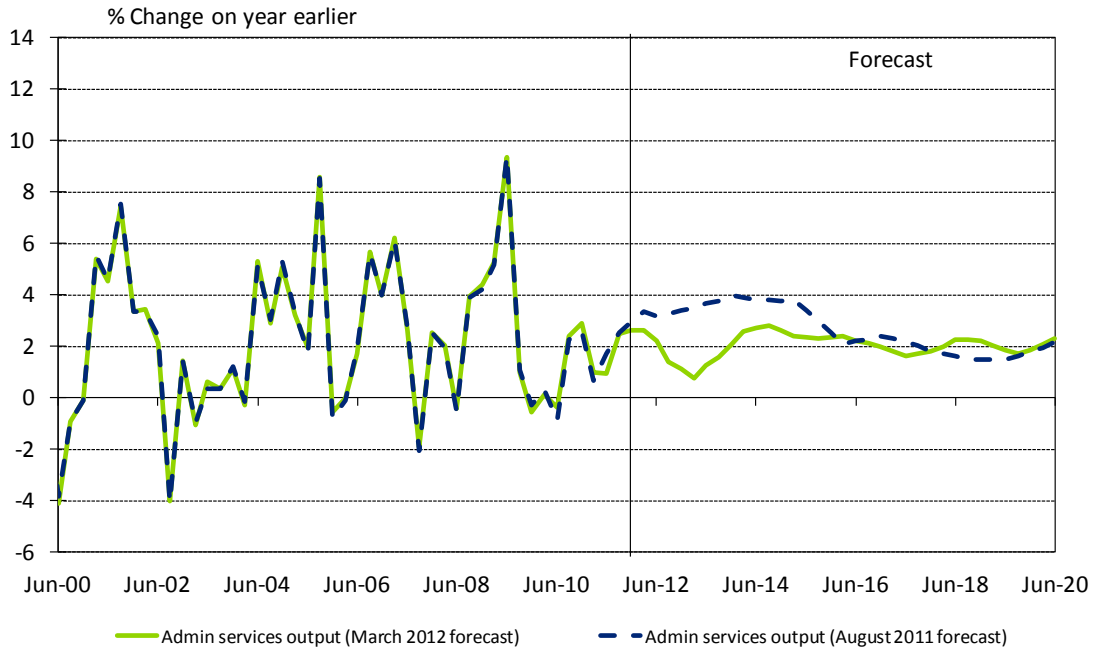
Although these services are also subject to the pressures of the business cycle, their relative resilience amid current conditions is noteworthy, and their longer term outlook is good.

That said, the experience of the GFC highlights the greater risks posed to the administrative services sector if the European crisis were to end in collapse. Indeed, in such a scenario, this sector may well take some pressure off wages in other sectors, including the utilities.

6.3.2 Changes to economic outlook since August 2011

As Chart 6.17 below shows, developments in recent months have affected the outlook for output growth in administration services since the time of Deloitte Access Economics' August 2011 report.

Chart 6.17: Administration services output forecast change



Source: ABS, Deloitte Access Economics' macroeconomic model

Our short term forecasts for the administration services sector are not as strong as they were last August, with the slowing outlook for the finance sector (and, to a lesser extent, business services) moderating demand for administrative services relative to our earlier forecasts. The gap peaks at over 1 percentage point in year-to terms.

6.3.3 Latest LPI projections

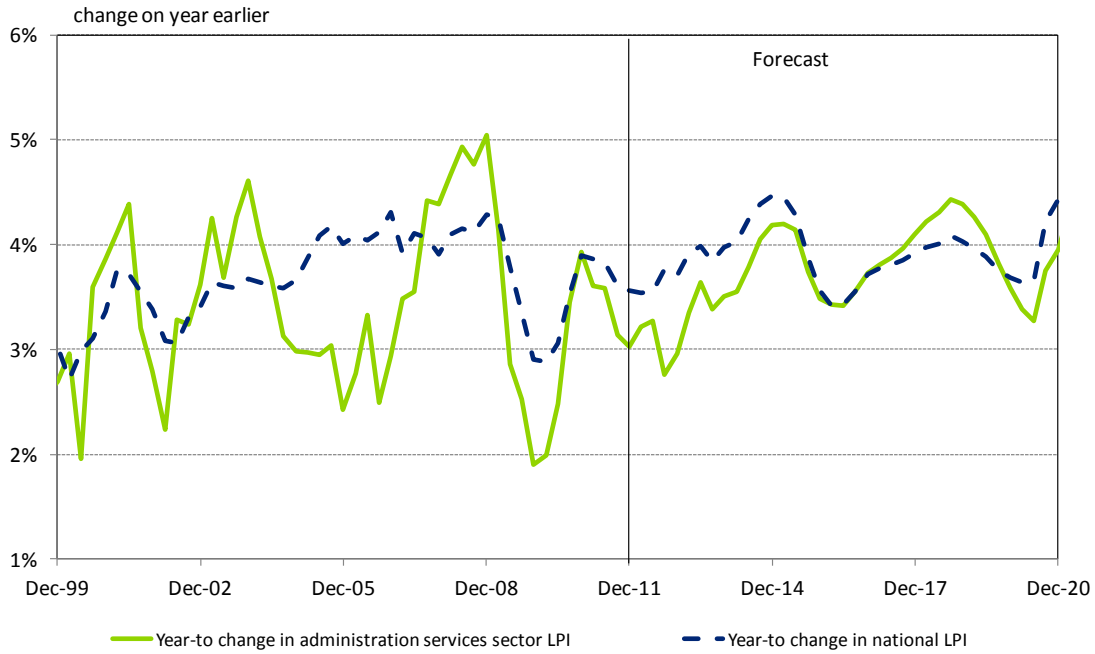
In contrast to the mining and construction sectors considered above, LPI growth in the administration services sector has lagged well behind the national average over recent years.

While the volatility in the data means there have been some periods of relative strength (as can be seen in 2003 and 2008 in Chart 6.18 below), labour costs in the sector have been falling relative to those in other industries.

An export focused boom in construction and resource sectors means that relative costs should continue to decline in administrative services, a sector which does not directly benefit from the strength in emerging economies driving growth elsewhere in the economy.

As Chart 6.18 shows, growth in the LPI in this sector has been volatile in recent years, and currently stands lower than overall LPI increases (at 3.1% in the past year).

Chart 6.18: Administration services LPI growth forecast



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

This sector contains a significant number of workers on minimum wage levels. As a result, legislated changes to those wage rates will have a more measurable impact on the LPI in this sector than may be obvious more generally.

For example, the weakness in this sector in 2009 (where measured LPI rates actually fell on a quarter-to-quarter basis) can be linked directly to the decision by the Australian Fair Pay Commission to maintain the standard Federal Minimum Wage and all adult rates of pay in Australian Pay and Classification Scales at 2008 levels.

Since that decision, the Federal Government introduced legislation designed to modernise the Australian award system. The Fair Work Bill, passed in March 2009, provided for a new Australian workplace system, including the introduction of modern awards and the National Employment Standards from 1 January 2010.

The Fair Work Bill aimed to replace existing State and Federal awards containing a wide variety of terms and conditions with a consolidated set of 93 modern national awards. The National Employment Standards will act as a safety net of award provisions and supersedes the Australian Fair Pay and Conditions Standard.

These changes have a stronger impact on the administration services LPI than on other sectors.

In particular, recent data suggests that some employers have been transitioning to the new *Modern Award* system more rapidly than required. This has resulted in some large wage increases, particularly in Tasmania.

While that affected the results for 2009-10, Deloitte Access Economics projects that the pace of growth in the admin sector's wages will struggle to keep up with the average in the medium term. As noted above, other sectors are more likely to see growth driven by skill shortages

and (unlike utilities and to a lesser extent manufacturing) this sector is not a direct competitor with those sectors, limiting the likelihood of 'catch-up' wage demands.

Moreover, average skill levels are lower, whereas there is a longer term trend towards an increased skill differential in wages and salaries.

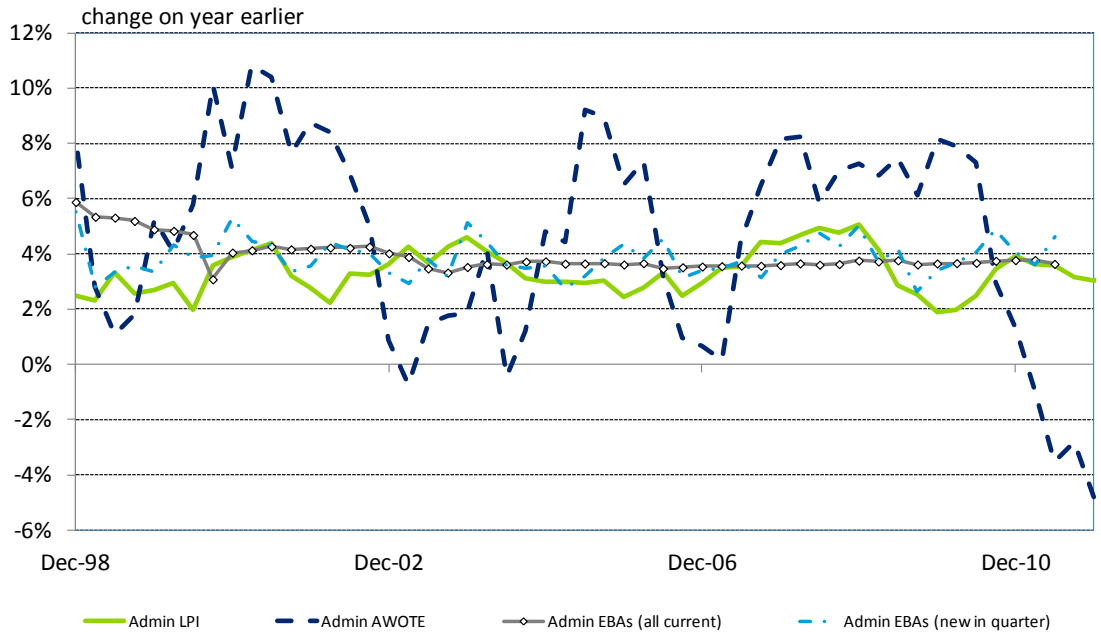
That said, the latter phase will not last forever, and wage growth in the administration services sector is likely to move gradually towards tracking the general rate of LPI increase.

Growth in wages under EBAs in the administration services sector has been somewhat weaker than that for the mining and construction sectors, in line with the measured performance of the LPI in the sector.

Slightly fewer than average workers in this sector are covered by EBAs (around 18% – compared with 19% overall and close to 30% in the utilities sector).

Agreements in this sector have tended to run for a relatively long period (around a year longer on average in the last couple of years), suggesting it may take longer for the acceleration in general wage growth to flow through to this sector – constraining wage growth somewhat in the short term.

Chart 6.19: Alternative measures of administration services sector wage growth



Source: ABS, Department of Education, Employment and Workplace Relations

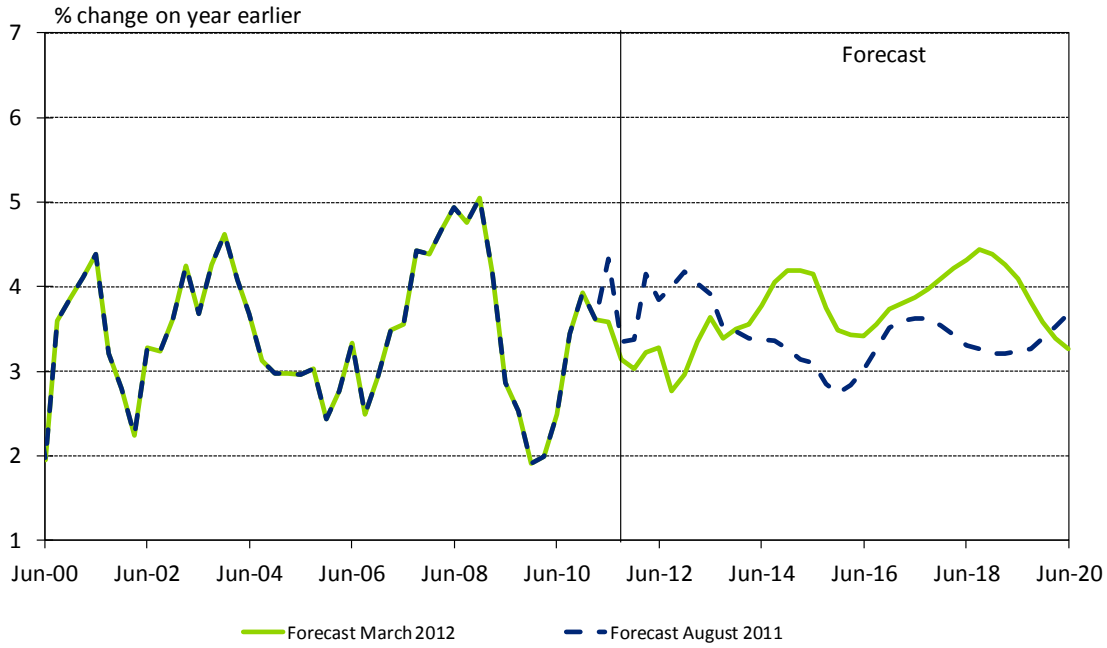
EBA outcomes for the 2010-11 financial year suggest the impacts of transitioning to the new awards system are beginning to flow through to the LPI measure – new agreements in the financial year averaged an implied growth of 4.3% –above the average of 3.7% for existing agreements.

That suggests some upward pressure on the LPI in the sector in the short term, as seen in the forecasts in Chart 6.18 above.

6.3.4 Changes to LPI outlook since August 2011

As Chart 6.20 below shows, developments in recent months have affected the wage outlook in administration services since the time of Deloitte Access Economics' August 2011 report.

Chart 6.20: Changing forecasts of the LPI: administrative sector



Source: ABS, Deloitte Access Economics' macroeconomic model

Deloitte Access Economics' earlier forecasts saw administration services wage growth top the 4% rate mark over the coming year. Since then, however, weakness in the finance and business services sector has weighed on prospects for this sector too – generating downward revisions in the short term, but with a subsequent catch up phase.

6.4 Sectoral projections at the national level

The forecasts for national and sectoral wage growth are shown in Table 6.3. Forecast components include real and nominal LPI, and real and nominal productivity adjusted LPI.

Table 6.3: National wage forecasts by sector

Financial year changes in nominal national industry sector LPI

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	3.0	3.8	3.6	3.8	4.0	4.4	3.6	3.7	3.9	4.0
Utilities	4.5	4.1	3.5	3.8	3.8	4.0	3.2	3.4	3.7	3.9
Mining	3.6	4.3	3.9	5.0	4.7	5.3	4.0	3.8	4.0	3.5
Construction	3.2	3.9	4.2	4.4	4.1	4.2	3.4	3.6	3.7	3.6
Administration services	2.2	3.6	3.2	3.2	3.6	4.1	3.5	3.7	4.1	4.3

Financial year changes in real national industry sector Labour Prices

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	0.7	0.7	0.8	0.7	1.1	1.8	1.0	0.9	1.3	1.7
Utilities	2.1	1.0	0.7	0.6	0.8	1.4	0.6	0.6	1.0	1.6
Mining	1.2	1.1	1.1	1.8	1.7	2.7	1.5	1.0	1.3	1.2
Construction	0.9	0.8	1.3	1.2	1.2	1.6	0.9	0.9	1.1	1.3
Administration services	-0.1	0.5	0.4	0.1	0.6	1.5	1.0	1.0	1.5	2.0

Financial year changes in nominal productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	2.0	4.8	1.3	2.1	2.1	2.8	1.6	1.3	2.0	2.5
Utilities	3.2	5.6	1.4	2.1	1.9	2.3	1.2	1.1	1.7	2.4
Mining	2.2	6.9	2.4	3.2	2.7	3.6	2.0	1.5	2.0	2.0
Construction	2.2	4.5	1.4	2.8	2.3	2.6	1.4	1.4	1.8	2.1
Administration services	2.2	4.7	1.5	1.5	1.7	2.6	1.6	1.5	2.2	2.8

Financial year changes in real productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	-0.4	1.6	-1.5	-1.0	-0.8	0.2	-0.9	-1.4	-0.6	0.2
Utilities	0.8	2.5	-1.4	-1.0	-1.0	-0.3	-1.3	-1.6	-0.9	0.1
Mining	-0.1	3.7	-0.4	0.1	-0.2	1.0	-0.4	-1.2	-0.6	-0.3
Construction	-0.1	1.4	-1.4	-0.3	-0.7	0.0	-1.0	-1.4	-0.8	-0.2
Administration services	-0.1	1.6	-1.2	-1.6	-1.2	0.0	-0.9	-1.2	-0.4	0.5

Source: ABS, Deloitte Access Economics Macroeconomic model, Deloitte Access Economics Labour Cost model

7 Utilities and competitor sector wage growth by State

This chapter sets out the updated projections for LPI projections at the State level for the utilities sector and in the three key competitor industry sectors.

7.1 Technical changes since the August 2011 report

Some important factors affecting industry history and projections and the State history and forecasts have also affected our detailed results.

While there is some additional discussion of these matters in Appendix B, the key points to bear in mind are:

- Not all industries have LPI published for all States (see Table B.1 for a detailed list).
- Since the June quarter of 2010, information on new and existing Enterprise Bargaining Agreements (EBAs) by State and by industry has been released by the Department of Education, Employment and Workplace Relations.
- The historical LPI series included in this report reflect the addition of this latter source to the estimation of past LPI movements. As a result, there have been some minor changes to the historical data presented here.
- For some industries average weekly earnings data are available and have been used to supplement the LPI and EBA data. As noted later, the differential movements in overall AWOTE (compared with overall LPI) need to be accounted for if the AWOTE measure is used to inform an estimate of the detailed LPI measure.

7.2 Role of national trends

National trends by industry will tend to dominate at the State and Territory level – particularly in the larger States, while volatility ('noise' in the data) can lead to significant movements in smaller jurisdictions.

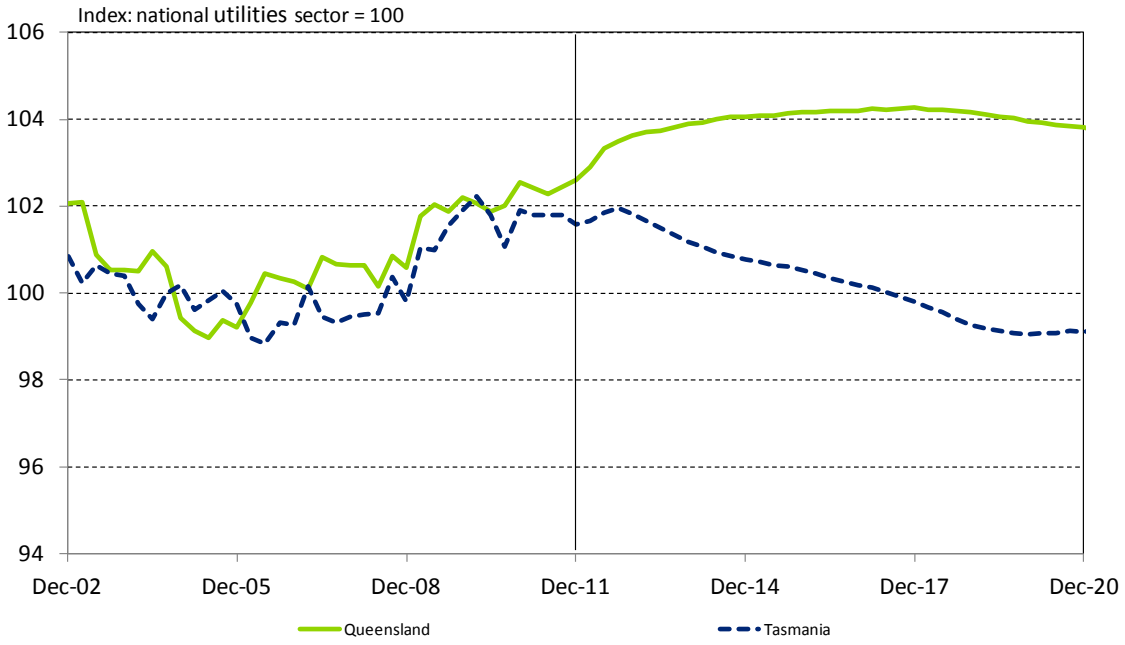
Over the longer term, the underlying trends in wages for each sector (that is, at the national level) dominate the movements by State. There are deviations from State to State, with these differences driven by a combination of:

- General trends in State wage growth. Slower growing States will likely see slower LPI growth; and
- One-off factors that affect a particular industry – such as movements in a specific award level or a single EBA.

However, as noted in section 3.1.2, there are limits to how far wage rates can deviate over the longer term – large relative swings in either direction will tend to be prevented by competition between State and industries and the ability of workers to move towards better paying jobs.

Overall, the differences in index levels for utilities wages are best seen when expressed in relative terms, as they are in Chart 7.1 below. In this chart the national utilities index at any point in time is set to a value of 100 and the index in each State is expressed relative to that value[7]. Both the volatility at the State level and the tendency for indices to revert towards the national average over time are evident.

Chart 7.1: Relative movement in utilities sector LPI by State



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

The general downward trend in the Queensland and Tasmanian figures from 2001 to 2005 reflects the long run upswing in New South Wales' utilities LPI across that period. Since 2007 the strength in utilities LPI has been seen in Queensland, South Australia, Western Australia and the Northern Territory – the other States having lost ground in relative terms.

We have noted that the fact that relative wages have diverged in recent years does not mean those moves are necessarily permanent. Short term wage growth in the sector at the State level is affected by growth in the sector and in the State, but there is also a longer term trend towards a narrowing of wage relativities.

Relatively small movements are more likely to be maintained. The forecast profile in Chart 7.1 shows a moderation in Tasmania's relative performance while Queensland's recent gains are largely maintained. These patterns are partly driven by the relative strength of the two State economies – the more rapid pace of general economic growth in Queensland being more conducive to generating a change in the differential in wages than the slower growth that is projected in Tasmania.

[7] As noted earlier, this does not imply an ordering for wage levels, as each individual series is an index equal to 100 in 2008-09.

However, these deviations are quite modest compared with the general upward trend in the utilities sector LPI.

The volatility in the State indices implies that actual movements in State-by-industry LPI in the future are likely to be far less smooth than shown in the charts here. This makes picking point-to-point growth rates particularly hard.

The results in Chart 7.1 therefore illustrate the broad trends in movements – both relative and absolute.

7.3 Queensland projections

Table 7.1 below summarises Deloitte Access Economics' updated forecasts wages growth expected in the utilities and competitor sectors in Queensland.

Table 7.1: Queensland wage forecasts

Financial year changes in Queensland nominal Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	3.3	3.9	3.8	4.1	4.2	4.5	3.7	3.9	4.2	4.2
Utilities	5.2	4.4	4.0	4.6	4.1	4.2	3.3	3.5	3.7	3.8
Mining	3.7	3.9	3.6	5.7	5.2	5.9	4.5	4.3	4.5	3.9
Construction	2.9	3.6	5.7	5.1	4.5	4.5	3.7	4.0	4.1	3.9
Administration services	1.6	3.4	3.0	4.2	3.7	3.9	3.7	4.2	4.1	4.0

Financial year changes in Queensland real Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	0.6	0.6	1.5	1.2	1.0	1.5	1.0	1.1	1.5	1.9
Utilities	2.4	1.0	1.8	1.6	0.8	1.1	0.6	0.7	1.1	1.5
Mining	1.0	0.6	1.3	2.7	1.9	2.8	1.8	1.5	1.8	1.6
Construction	0.2	0.3	3.4	2.1	1.2	1.5	1.0	1.2	1.5	1.6
Administration services	-1.1	0.1	0.7	1.2	0.4	0.9	1.0	1.4	1.4	1.7

Financial year changes in Queensland nominal productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	3.8	6.5	-0.5	0.2	1.0	2.7	1.3	1.0	1.4	2.3
Utilities	3.8	6.4	1.5	2.5	1.9	2.5	1.2	1.0	1.6	2.2
Mining	2.3	7.4	1.9	3.5	3.0	4.1	2.4	1.8	2.3	2.3
Construction	1.9	4.3	2.3	3.2	2.4	2.9	1.6	1.6	2.0	2.3
Administration services	2.0	4.8	1.2	2.1	1.6	2.3	1.7	1.8	2.0	2.5

Financial year changes in Queensland real productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	1.1	3.1	-2.7	-2.6	-2.2	-0.3	-1.3	-1.7	-1.2	0.0
Utilities	1.1	3.0	-0.8	-0.4	-1.3	-0.5	-1.4	-1.7	-1.0	0.0
Mining	-0.4	3.9	-0.3	0.5	-0.2	1.1	-0.3	-0.9	-0.3	0.1
Construction	-0.8	0.9	0.0	0.3	-0.8	-0.1	-1.0	-1.2	-0.6	0.0
Administration services	-0.7	1.4	-1.1	-0.8	-1.6	-0.6	-1.0	-0.9	-0.6	0.2

Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Detailed discussion of these forecasts follows.

7.3.2 The utilities sector

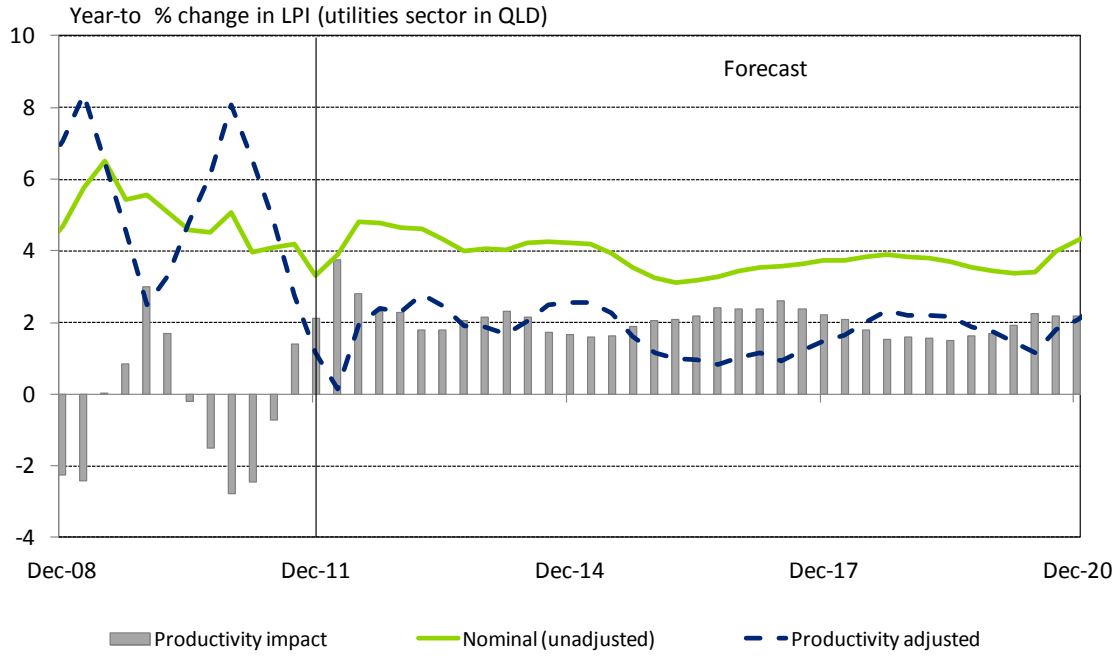
Even among the massive surges in engineering construction that has taken place across Australia in recent years, the growth in the Queensland utilities sector has been impressive.

The acceleration in construction in the utilities sphere saw, on average, four times as much building in the last decade than in the 1990s, and the second half of the last decade saw three times as much building as the first. And while the aftermath of the GFC saw some falls in demand and an easing in the stock of work to be done, capital expenditure on resource projects in Queensland in 2011 is expected to have been almost double that achieved at any point prior to the GFC.

In a survey conducted by Deloitte Access Economics as part of a study commissioned by the Queensland Resources Council (QRC),[8] 66 projects were identified with a combined capital expenditure in excess of $142 billion over the period to 2020. If all these projects go ahead, the resources sector in Queensland will require over 5,000 MW of electricity and almost 200,000 ML of water.

Just as the competition for workers by miners during the last boom began to affect the wages paid to the broader Queensland workforce (and not merely the State's utilities workers), Chart 7.2 below indicates that the coming surge in mining and engineering construction should keep pressure on the LPI in the Queensland utilities sector.

Chart 7.2: Queensland utilities LPI forecasts

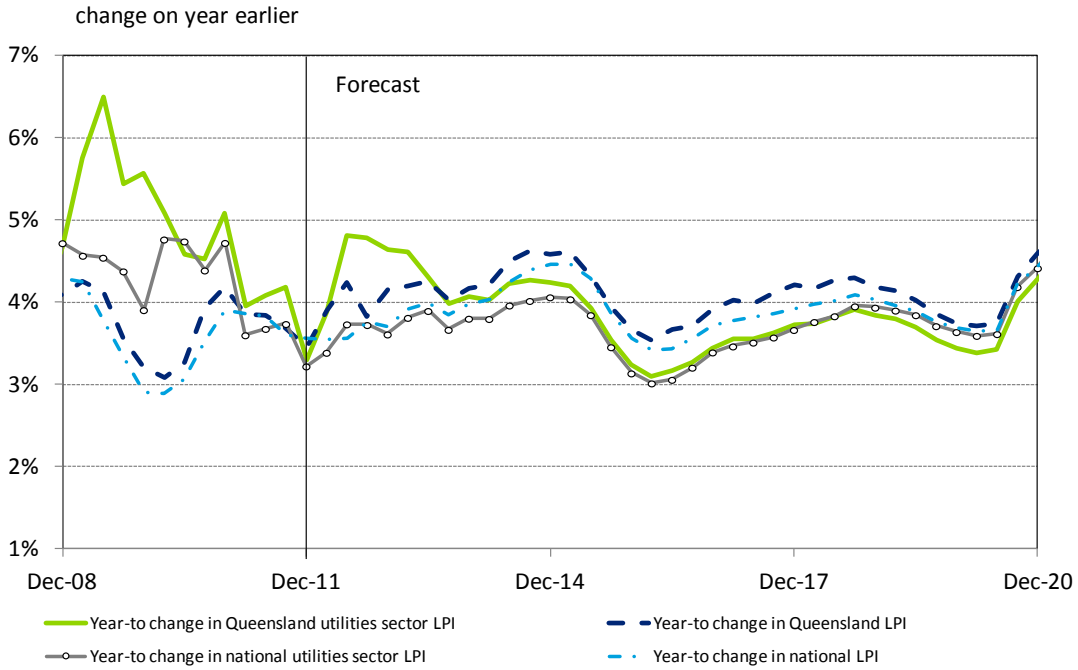


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

[8] *Queensland Resource Sector State Growth Outlook Study*, November 2011.

As evident in Chart 7.3 below, Deloitte Access Economics therefore projects that utilities sector wage growth in Queensland will remain well ahead of the State-wide average through until 2014.

Chart 7.3: Queensland utilities LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

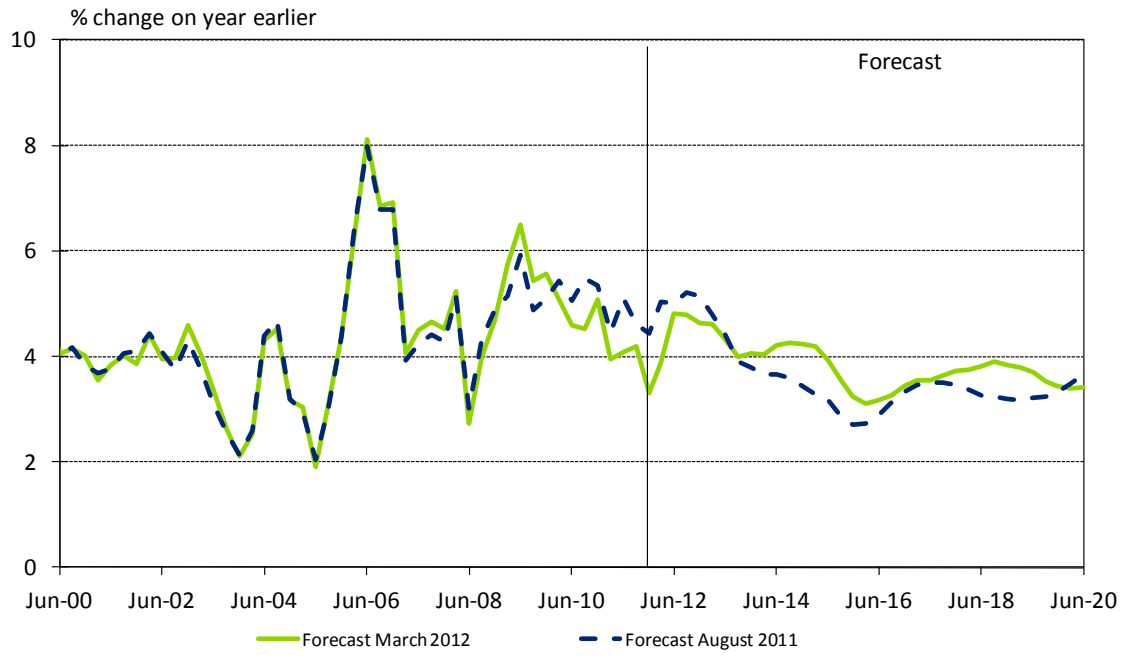
Beyond 2014 the cyclical slowdown in the construction cycle and the easing of competition pressures on wages may see some moderation in LPI growth in the sector, although rates are projected to remain relatively high compared to their historical averages.

As Chart 7.4 below shows, developments in recent months have affected the wage outlook for Queensland's utilities since the time of Deloitte Access Economics' August 2011 report.

Our short term wage forecasts are not quite as strong as they were last August. Reflecting the national forecasts, wage gains in Queensland's utilities have moderated on account of the impact which a series of two speed economy negatives have been having on wage negotiations in recent times.

Looking ahead, we still expect wage growth in Queensland utilities to accelerate in the short term, and to be around the 4% mark for much of the forecasting period.

Chart 7.4: Changing forecasts of the LPI: Queensland utilities



Source: ABS, Deloitte Access Economics' macroeconomic model

7.3.3 The mining sector

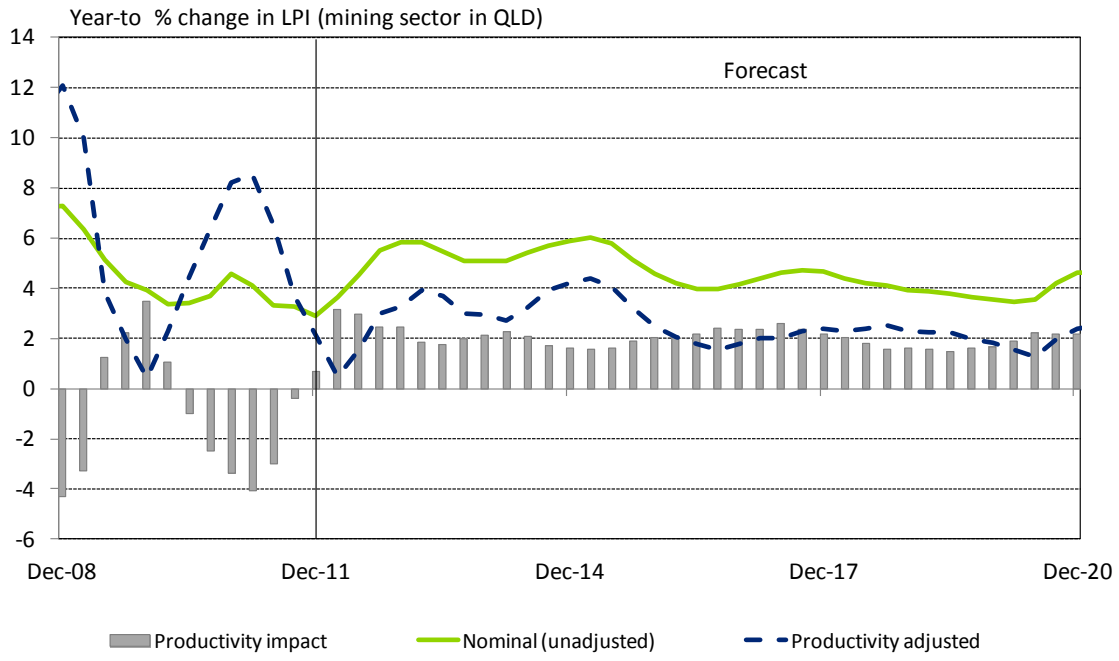
Weaker industrial commodity prices hurt the mining sector in Queensland through 2009. It also led to job losses in the coal rich Bowen Basin and the temporary shelving of some plans to further develop the State's resource riches.

Over the last year or so, the Queensland mining sector also took a short-term demand hit in the aftermath of last year's tsunami in Japan, and the destruction of short-term supply from Queensland mines that were inundated by floods and cyclonic rains in early 2011.

Finally, coking coal prices have dropped from their 2011 peaks amid a construction slowdown in China and weakness in Europe.

That said, the medium to longer term economic outlook for Queensland mining remains very solid. Queensland is on the right side of a global industrial revolution that has seen demand for its coal surge, boosting export strength. This is reflected in the latest wage projections as evident in Chart 7.5 below.

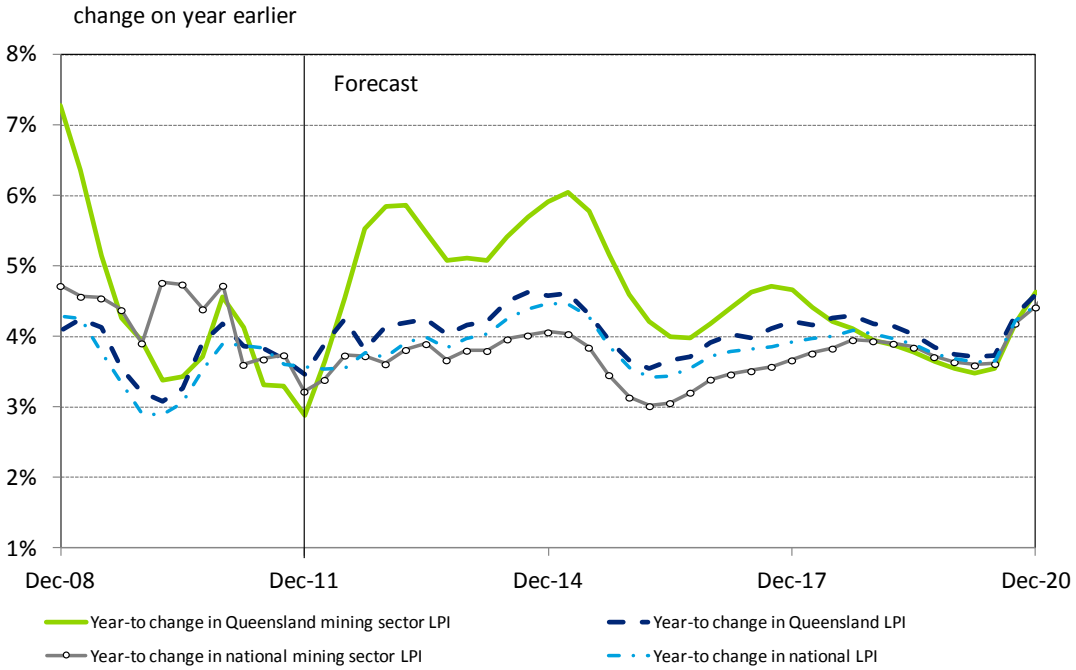
Chart 7.5: Queensland mining LPI forecasts



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

That will again put slightly more upward pressure on local wages than seen nationally – and as a result Queensland's mining LPI growth is projected to exceed the national mining LPI growth rates (see Chart 7.6).

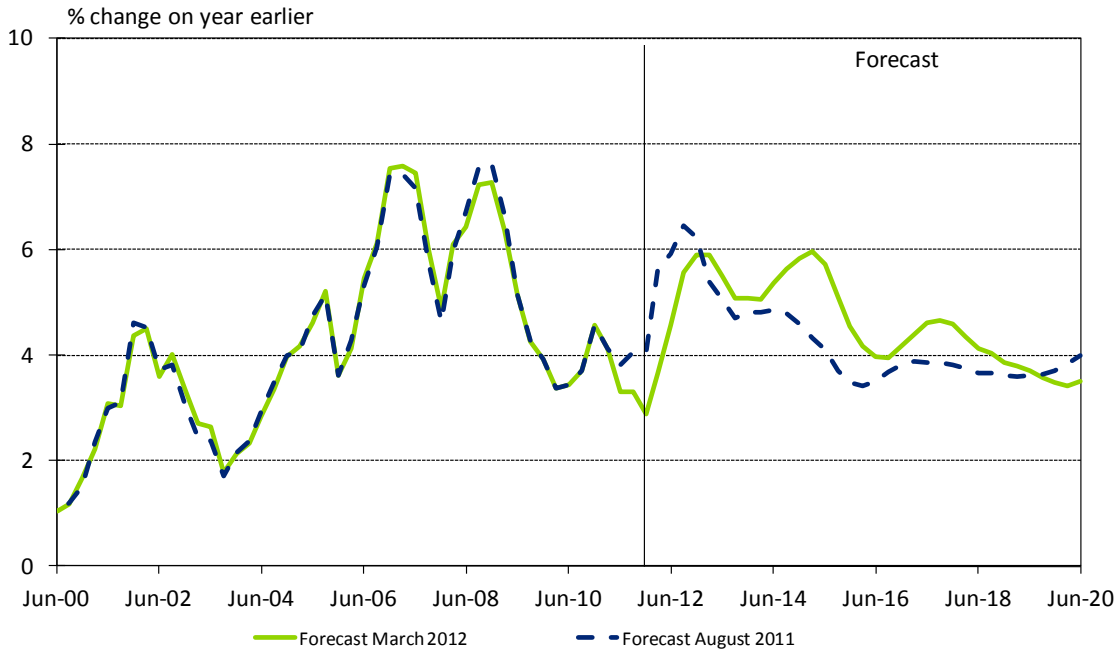
Chart 7.6: Queensland mining LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.7 below shows, developments in recent months have affected the wage outlook since the time of Deloitte Access Economics' August 2011 report.

Chart 7.7: Changing forecasts of the LPI: Queensland mining



Source: ABS, Deloitte Access Economics' macroeconomic model

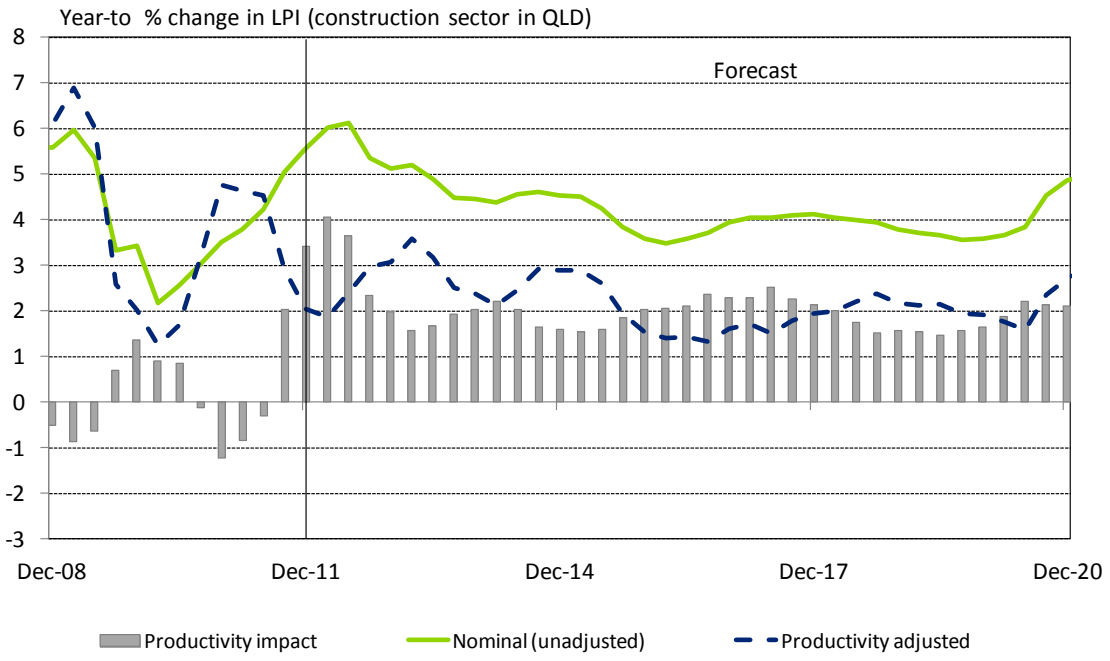
Reflecting the national forecasts, wage gains in Queensland's mining sector have moderated a little on account of the impact which two speed economy negatives have been having on wage negotiations in recent times. Looking ahead, we still expect wage growth in Queensland mining to push up towards the 6% mark over the next couple of years before easing slightly to around 4% in the remainder of the forecasting period as demand and supply-side pressures ease.

7.3.4 The construction sector

The past five years have seen wages in Queensland's construction sector follow an even more volatile path than their national counterparts, surging relatively quickly in the lead up to the global downturn and slumping relatively more in the aftermath, particularly once the peak of the backlog of construction pipeline had been worked through.

As Queensland returns to its place as one of the faster growing regions of Australia, construction sector LPI growth in the State is projected to surge back ahead of both general Queensland LPI growth and the construction sector nationally (see Chart 7.8 below).

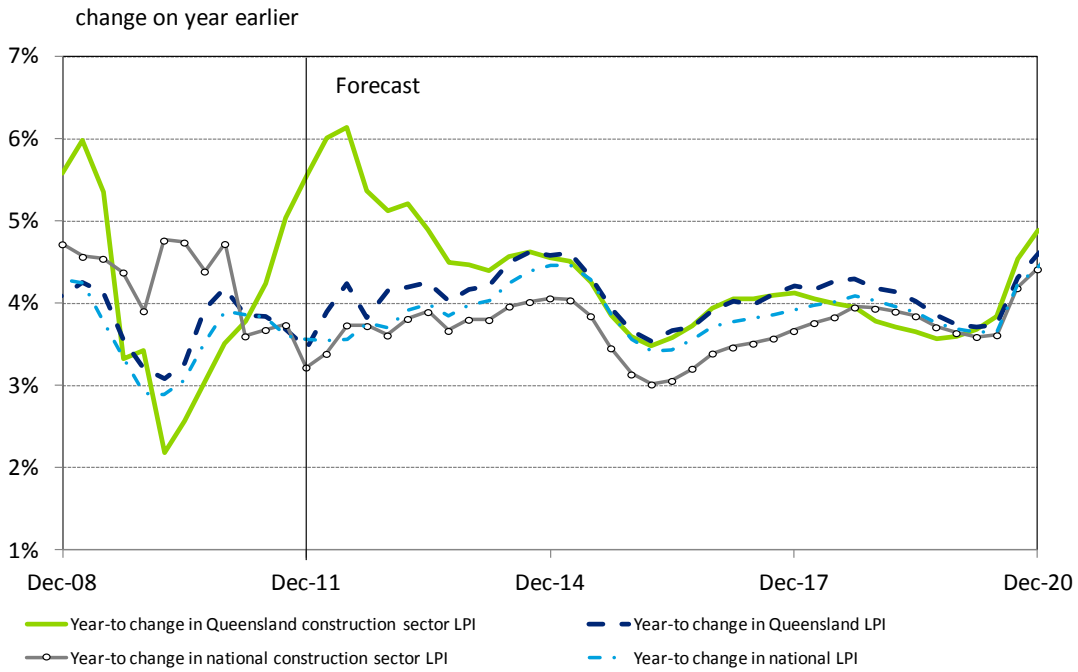
Chart 7.8: Queensland construction LPI forecasts



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Once the State returns to its place as one of the faster growing regions of Australia, construction sector LPI growth in the State should move back ahead of the national equivalent, before then moving closely in line with the construction cycle over the longer term.

Chart 7.9: Queensland construction LPI forecast comparison

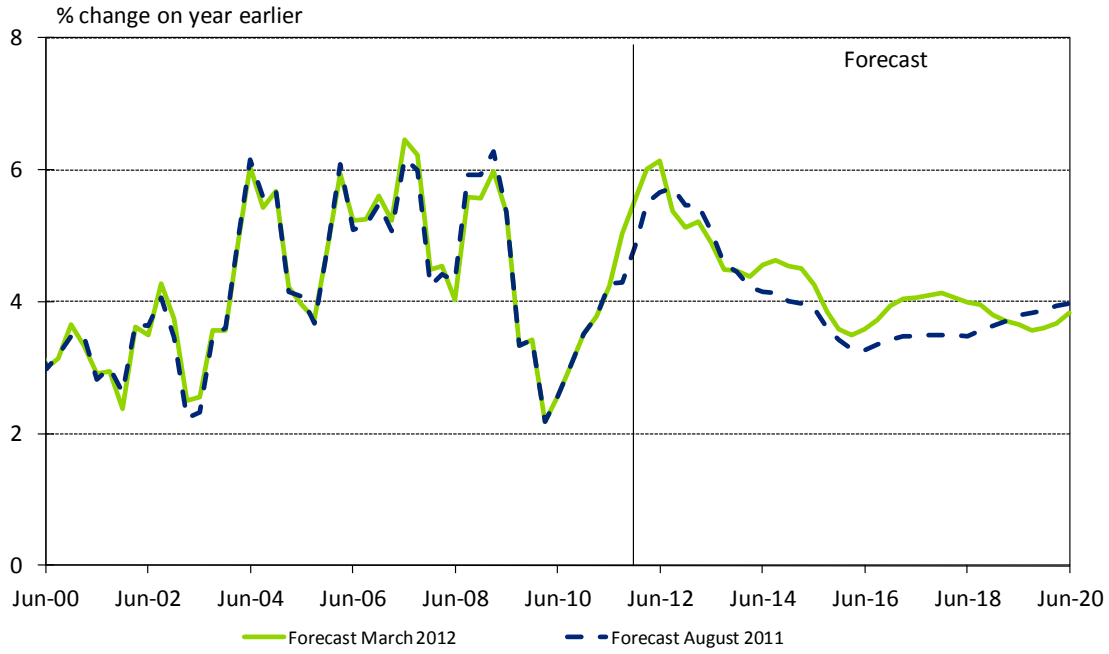


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.9 above shows, the national rate of construction LPI growth is already moving ahead of the all sector average – and Queensland is forecast to do so as well.

Developments in recent months have had only as minor impact on the wage outlook in Queensland construction since the time of Deloitte Access Economics' August 2011 report as evident in Chart 7.10 below.

Chart 7.10: Changing forecasts of the LPI: Queensland construction



Source: ABS, Deloitte Access Economics' macroeconomic model

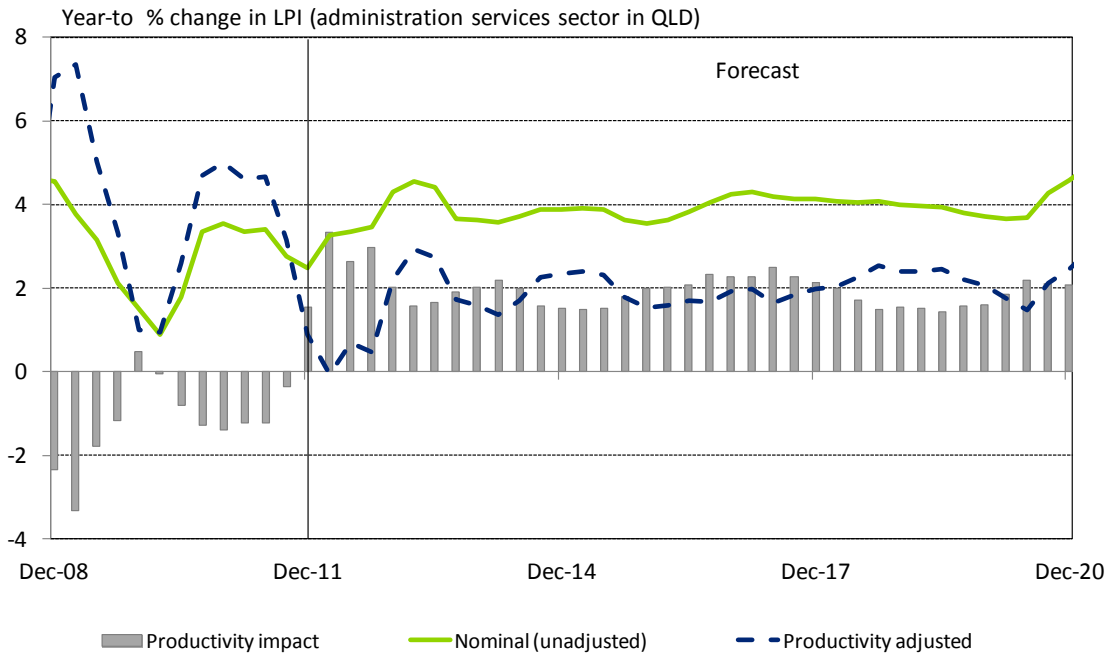
7.3.5 The administration services sector

If administration services in Queensland saw a downturn during the GFC, it was particularly modest in terms of employment, and it was unwound rapidly. In particular the building services side of the industry remained strong, actually increasing its overall importance to the national industry in recent months. Nearly a quarter of all building service employees nationally are located in Queensland – well above the 18% share that the broader administration service sector accounts for in Australia.

There have been areas of weakness, and they appear to still be suffering thanks as much to the recent recovery as to the earlier downturn. Most obvious has been the impact on tourism-dependent employment – such as tour organisers – of the high $A which has discouraged foreign visitors here, as well as tempting Australians to head overseas. And while that may appear to be to the benefit of travel agents, they are struggling thanks to the rapid increase in competition from online booking services.

Yet, as Chart 7.11 shows, the sector's local LPI eased particularly rapidly following the GFC, with growth falling to a trough at below 1% growth in early 2010 (while total State LPI grew by more than 3% across the same period).

Chart 7.11: Queensland administration services LPI forecasts

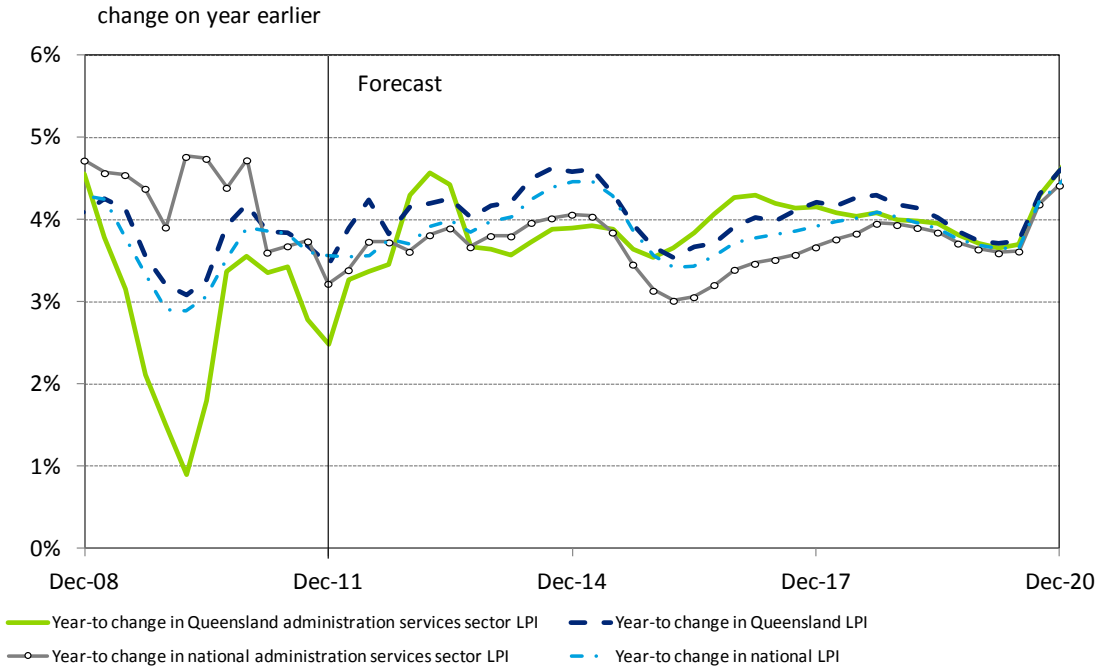


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

There has been a recovery across the past year or two, partly due to the continued strength in employment in the sector and partly due to one-off impacts from the transition to the *Modern Awards* system with became evident in the September quarter 2010 data which may have added around one percentage point to the LPI rise in the year to date, but will prove to be a one-off event. That goes some way to explaining the drop in growth in the September and December quarters 2011.

Underlying expectations for the sector in Queensland are for a gradual acceleration in LPI growth over the coming year. That would drive local sectoral LPI growth well ahead of the national average in the medium term as the Queensland economy recovers and its construction and building sectors begin to hit their straps again (see Chart 7.12 below).

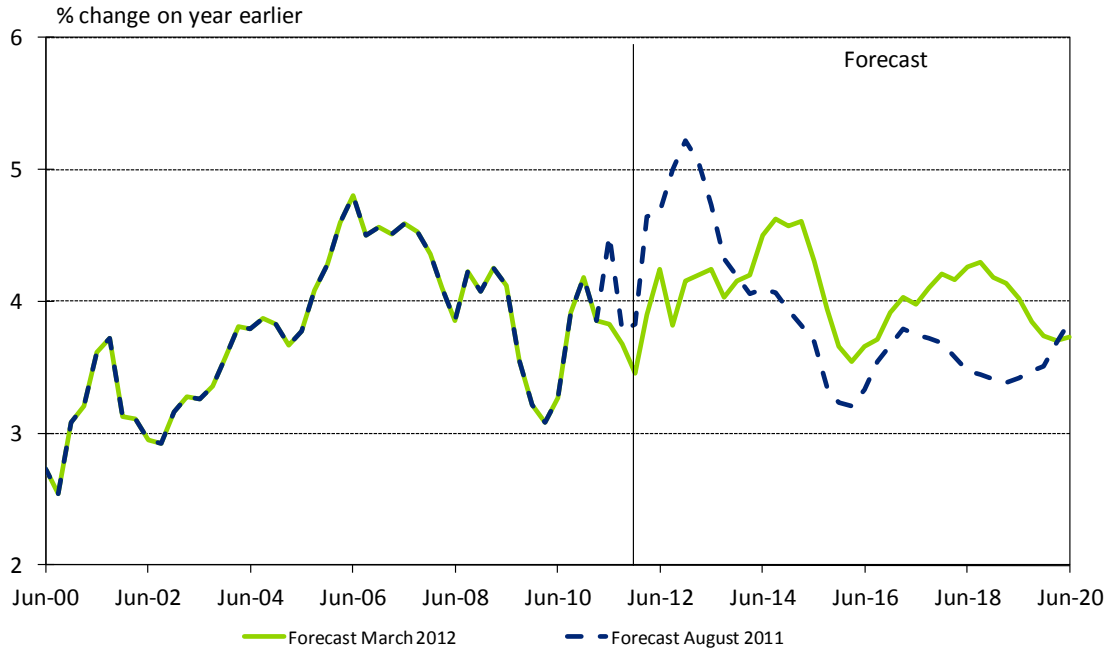
Chart 7.12: Queensland administration services LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.13 shows, developments in recent months have affected the wage outlook in the State's administration services sector since the time of Deloitte Access Economics' August 2011 report.

Chart 7.13: Changing forecasts of the LPI: Queensland administration services



Source: ABS, Deloitte Access Economics' macroeconomic model

In the short term, as at the national level, LPI growth in the sector in Queensland is not expected to be as strong as previously projected as two speed economy issues dampen wage negotiations a little. Beyond 2012, however, LPI growth in the sector is expected to be a little stronger in line with our updated expectations for LPI growth in the State as a whole.

7.4 Tasmanian projections

Table 7.2 below summarises Deloitte Access Economics' updated forecasts wages growth expected in the utilities and competitor sectors in Tasmania.

Table 7.2: Tasmanian wage forecasts

Financial year changes in Tasmania nominal Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	3.8	3.4	3.7	3.1	3.5	4.1	3.4	3.4	3.8	4.0
Utilities	5.8	3.9	3.6	3.8	3.2	3.6	2.9	3.1	3.3	3.4
Mining	5.7	3.6	3.8	4.3	4.0	4.9	3.7	3.4	3.7	3.5
Construction	4.3	2.5	3.7	4.0	3.9	4.1	3.3	3.5	3.7	3.7
Administration services	3.2	4.6	3.3	3.5	3.2	3.8	3.2	3.4	3.6	3.5

Financial year changes in Tasmania real Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	1.1	0.5	1.1	0.0	0.1	1.3	0.7	0.6	1.1	1.7
Utilities	3.1	1.0	1.0	0.6	-0.2	0.7	0.2	0.3	0.6	1.1
Mining	3.0	0.8	1.2	1.1	0.6	2.0	1.1	0.6	1.0	1.2
Construction	1.6	-0.3	1.1	0.8	0.5	1.2	0.7	0.6	1.0	1.4
Administration services	0.5	1.7	0.7	0.4	-0.2	0.9	0.5	0.5	0.9	1.2

Financial year changes in Tasmania nominal productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	1.1	4.4	2.0	2.1	2.9	2.2	1.8	1.8	2.2	2.6
Utilities	4.2	5.7	1.7	2.2	1.4	1.9	0.9	0.8	1.4	1.9
Mining	4.0	7.4	3.0	2.5	2.3	3.3	1.8	1.2	1.8	2.0
Construction	3.2	2.8	0.8	2.5	2.1	2.5	1.4	1.3	1.8	2.2
Administration services	3.8	5.7	2.2	1.8	1.5	2.3	1.3	1.2	1.7	2.1

Financial year changes in Tasmania real productivity adjusted Labour Price aggregates

Annual % change	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
All industries	-1.5	1.5	-0.6	-1.0	-0.5	-0.6	-0.8	-1.0	-0.4	0.3
Utilities	1.5	2.8	-0.9	-0.9	-1.9	-0.9	-1.7	-1.9	-1.2	-0.3
Mining	1.3	4.4	0.4	-0.6	-1.1	0.4	-0.8	-1.6	-0.8	-0.3
Construction	0.6	-0.1	-1.8	-0.6	-1.2	-0.3	-1.2	-1.5	-0.8	0.0
Administration services	1.1	2.8	-0.4	-1.2	-1.8	-0.6	-1.3	-1.5	-0.9	-0.2

Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

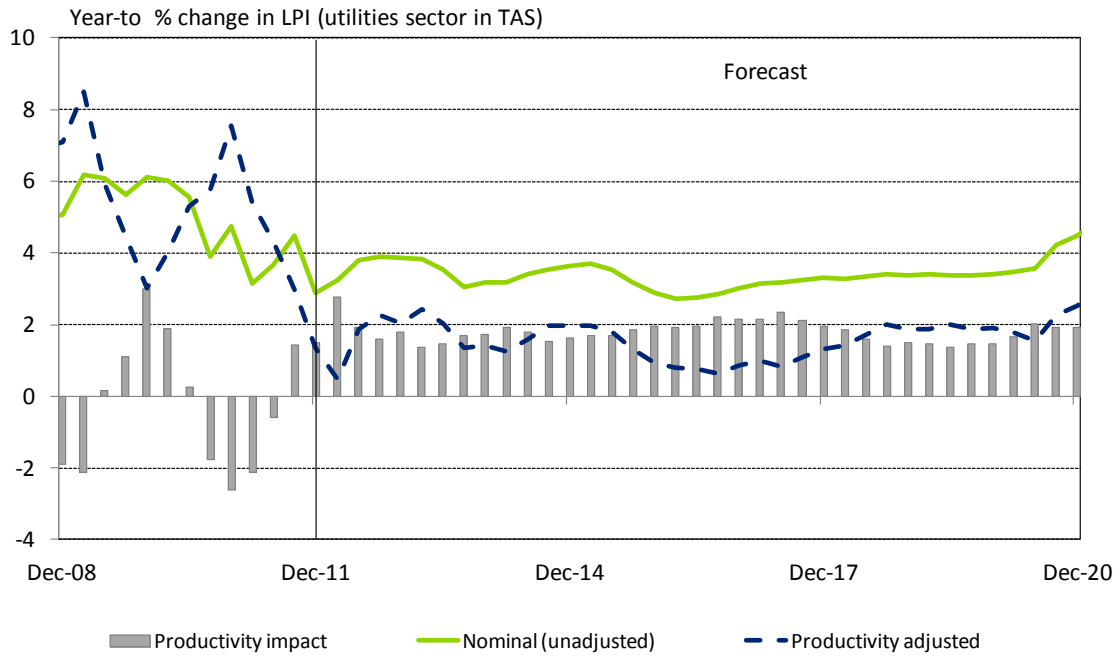
Detailed discussion of these forecasts follows.

7.4.2 The utilities sector

With the State's population growth modest, so too is the demand for utilities connections driven by new housing construction. Moreover, with exchange and interest rates high, the State's manufacturing and tourism sectors are struggling, affecting business driven demand for the output of the utilities in Tasmania.

It is true that there is supply side potential in renewable energy, as well as the potential for interstate commerce in power. That said, it is the modesty of the demand side which is central to the LPI forecasts in Chart 7.14 below.

Chart 7.14: Tasmanian utilities LPI forecasts

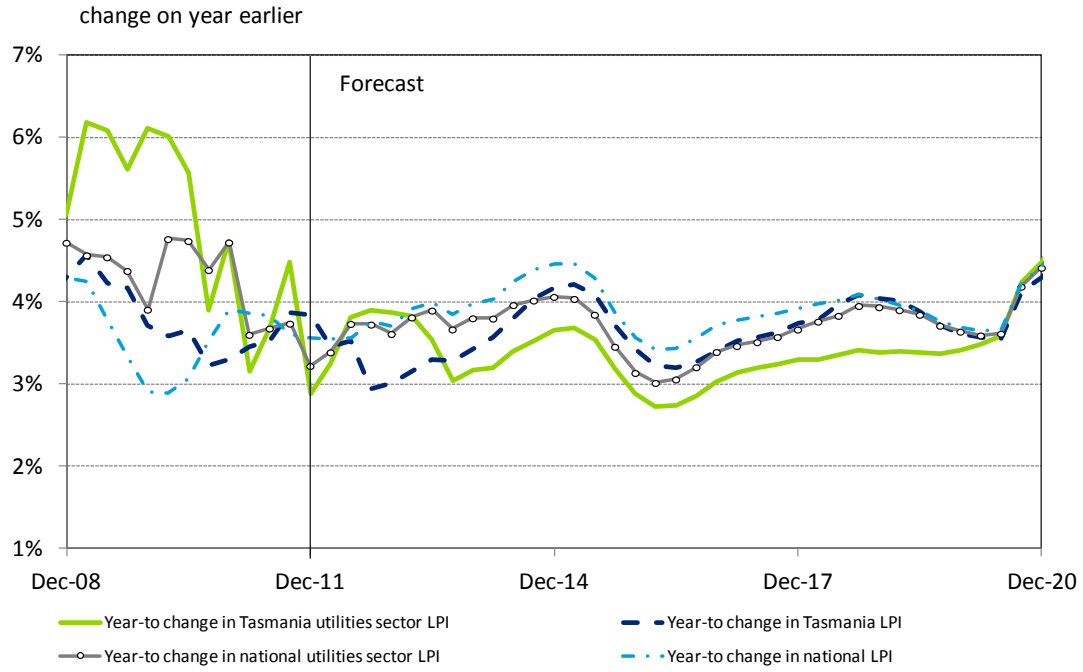


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.15 below shows, Tasmania's utilities sector LPI is estimated by Deloitte Access Economics to have grown consistently ahead of the national equivalent in recent years, lifting to almost 7% growth in the year to June 2009. Growth rates only eased gradually as the stock of work to be done was worked through at the end of 2009 and into 2010 and as uncertainty over the likely impact of the GFC on household finances became clearer.

Looking ahead however, utilities wage growth in Tasmania is expected to be slower than the national average, giving up some of its recent relative gains. The related easing in the construction sector and some respite in mining sector demand as commodity prices stabilise will lower the pressure on utilities sector wages, allowing different factors (such as productivity impacts) to be reversed.

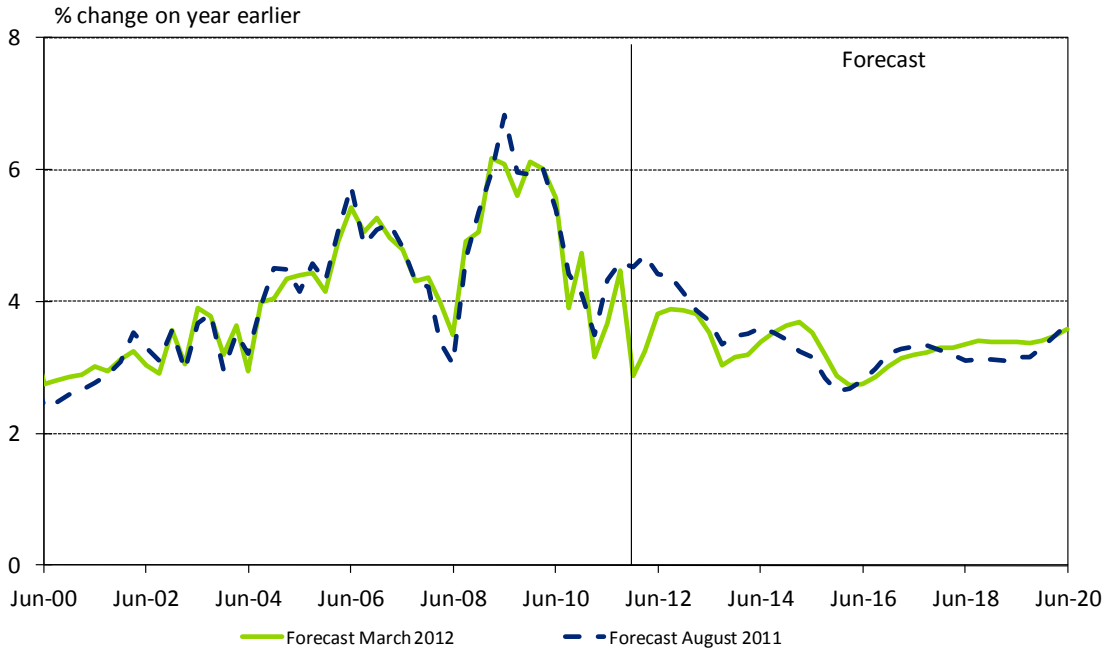
Chart 7.15: Tasmanian utilities LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.16 below shows, developments in recent months have affected the short term wage outlook since the time of Deloitte Access Economics' August 2011 report.

Chart 7.16: Changing forecasts of the LPI: Tasmanian utilities



Source: ABS, Deloitte Access Economics' macroeconomic model

In the short term, as at the national level, LPI growth in the sector in Tasmania is not expected to be as strong as previously projected as two speed economy issues have affected wage

negotiations. Beyond 2012, however, LPI growth in the sector is expected to be maintained at around current levels.

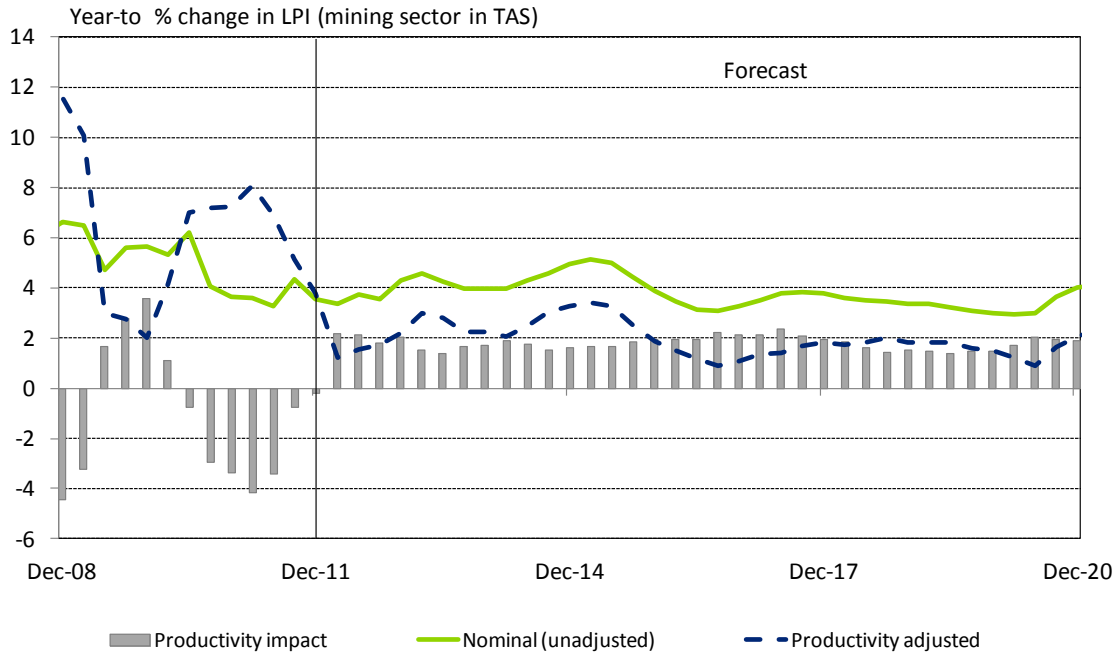
7.4.3 The mining sector

Tasmania exports copper, iron ore, zinc, lead and coal (as well as producing building construction materials for the domestic market – although mainly within Australia).

However, its mining sector is relatively small in size, and mining investment in the State has been limited relative to other States such as WA and the Northern Territory.

As was seen in most other States, mining sector productivity has performed relatively poorly in recent years. Chart 7.17 shows that productivity in the mining sector in Tasmania slumped as the GFC hit – but, unlike the other States, Tasmania saw fairly stable output levels from mining by a rise in measured employment in the sector.

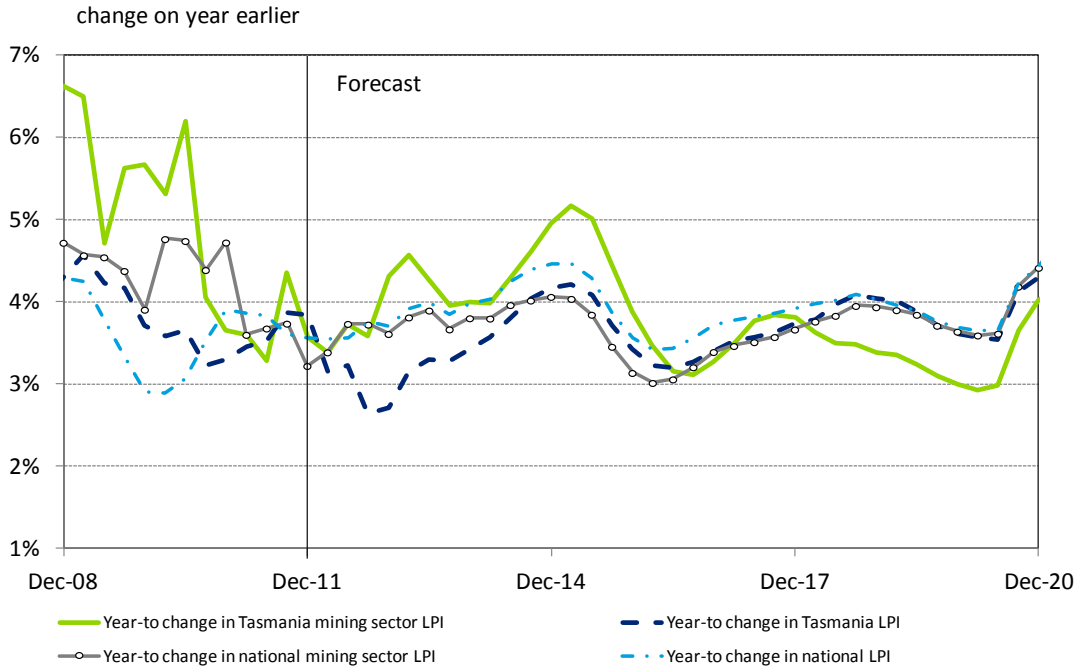
Chart 7.17: Tasmanian mining LPI forecasts



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.17 suggests, we expect a fairly stable picture for the Tasmanian mining sector. Employment grows slightly less rapidly than output, with longer term implied productivity also growing fairly sedately. By the end of the forecast period, mining only accounts for 1.5% of total employment in Tasmania.

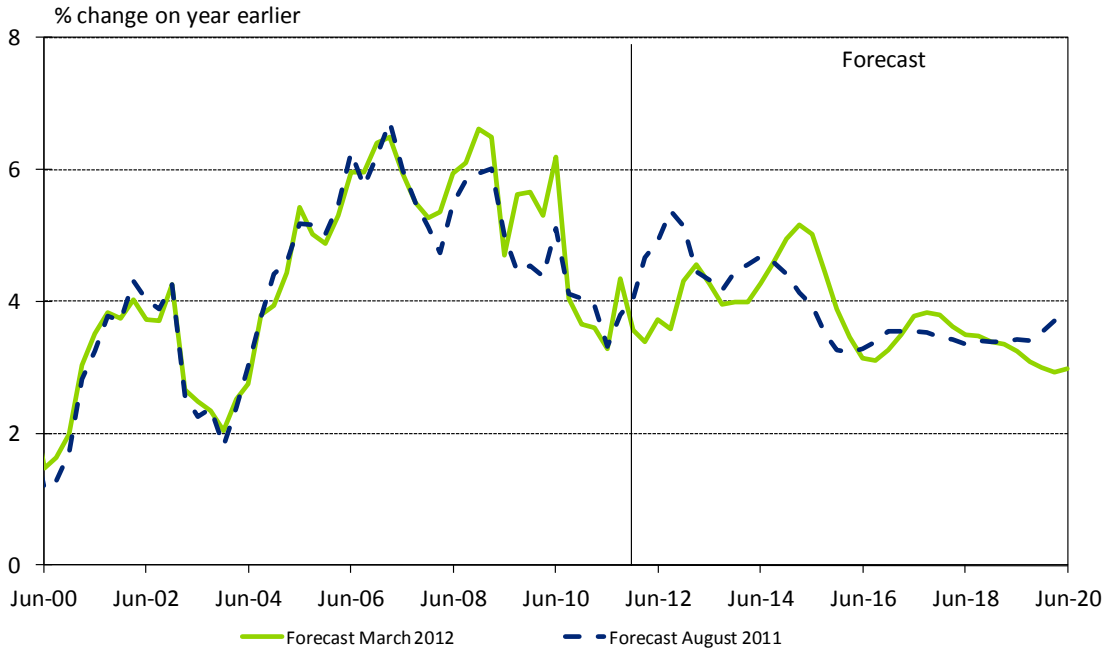
Chart 7.18: Tasmanian mining LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.19 shows, developments in recent months have affected the short term wage outlook in the State's mining sector since the time of Deloitte Access Economics' August 2011 report.

Chart 7.19: Changing forecasts of the LPI: Tasmanian mining



Source: ABS, Deloitte Access Economics' macroeconomic model

As at the national level, LPI growth in the sector in Tasmania is not expected to be as strong in the short term as previously projected, in part due to continuing weakness in the State's economy – itself partly a function of two speed economy issues which have affected wage negotiations. Beyond 2012, however, LPI growth in the sector is expected to fluctuate around current levels before easing later in the forecasting period.

7.4.4 The construction sector

Private business investment as a share of the Tasmanian economy is smaller than the Australian average, and is typically driven by a series of individual projects rather than a broad-based investment schedule. Business investment is projected to remain below this average in coming years, particularly as Tasmania will not be a major beneficiary of high commodity prices.

In addition, engineering activity is not a large part of the State's economy, while the rising interest rates seen in 2010 and the winding back of subsidies to first time buyers have hit the State's housing construction sector pretty hard. Forward indicators of housing activity remain subdued.

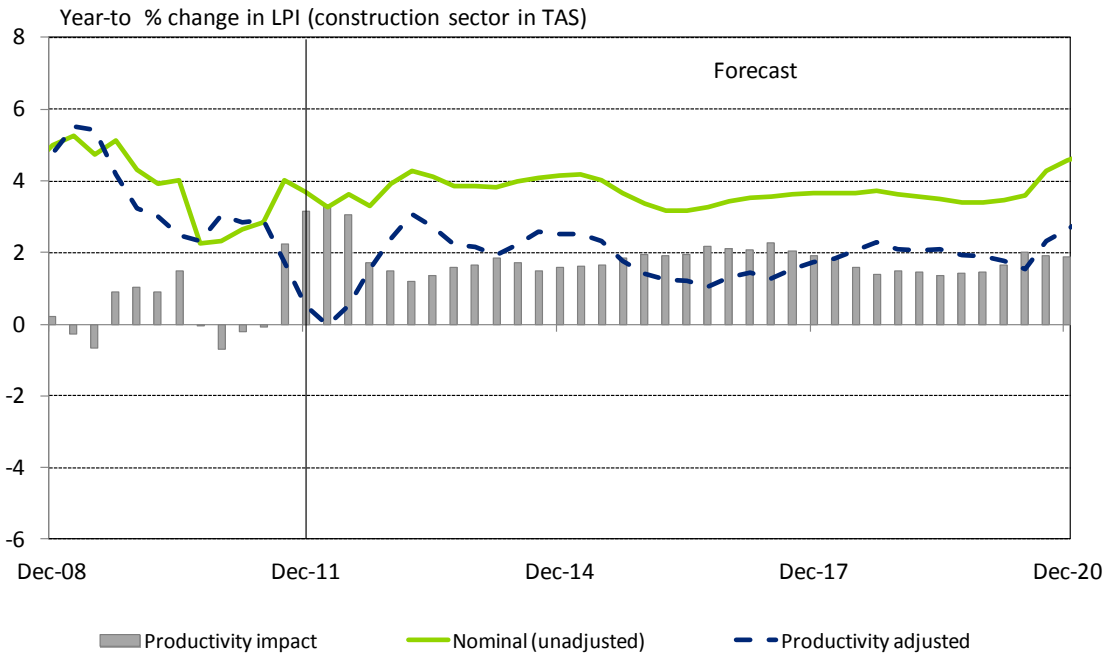
The modest slate of projects and the resultant downturn in construction demand is reflected in the weak growth in construction wages in Tasmania (while LPI figures for this sector of the State are not published by the ABS, there is data on movements in sectoral AWOTE).

Wage growth in the local sector has slipped sharply in the past year or so. It did so partly due to wider sectoral influences (with construction sector wage rates lifting across the country) and partly due to the general movements in the LPI (recovering from the artificial lows it hit when a bigger downturn was expected in the State's economy).

While the construction outlook is still modest, the impacts of competition from other local sectors (as well as the Queensland and Western Australian mining and related sectors) will mean the local construction sector LPI will need to grow relatively rapidly to allow businesses to keep hold of their current, skilled, workforce.

As a result, the relatively wage growth in Tasmania has started to lift. The State's construction wages drifted well below those available elsewhere – its latest sectoral AWOTE measure is close to $200 per week below the national equivalent. Combined with some improvement in the construction outlook (and strong rise wage increases in this area nationally) local construction wages have risen recently – and will continue for some time yet (see Chart 7.20 below).

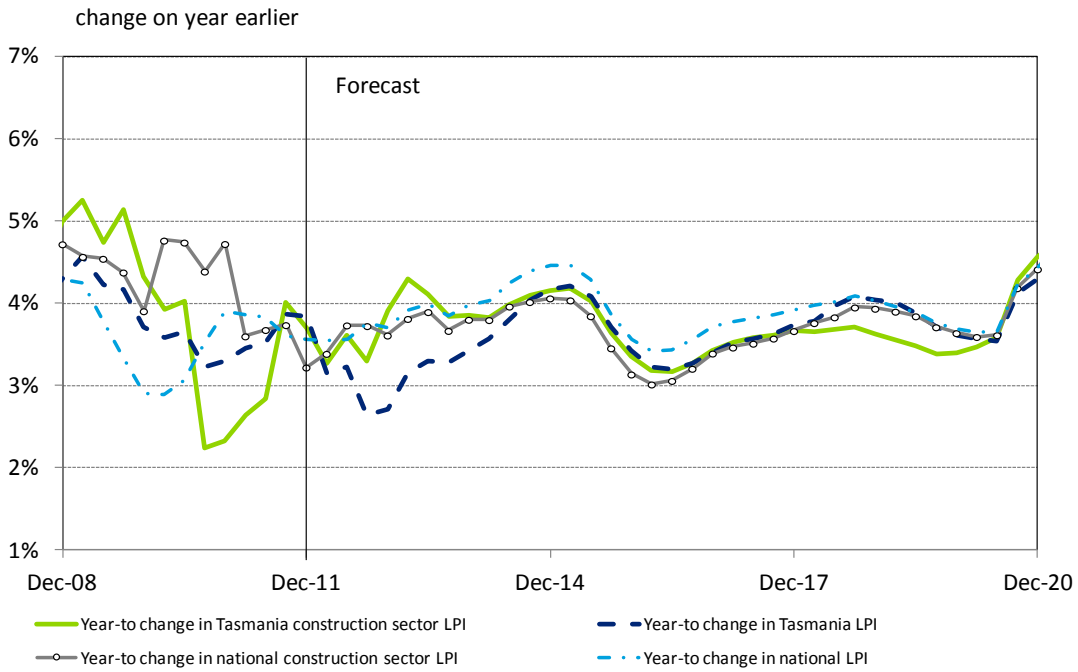
Chart 7.20: Tasmanian construction LPI forecasts



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Accordingly, Chart 7.21 shows Deloitte Access Economics' projection that LPI growth in this sector will be more closely aligned to the general construction sector growth rate (and the underlying construction cycle) than it is to broader local trends.

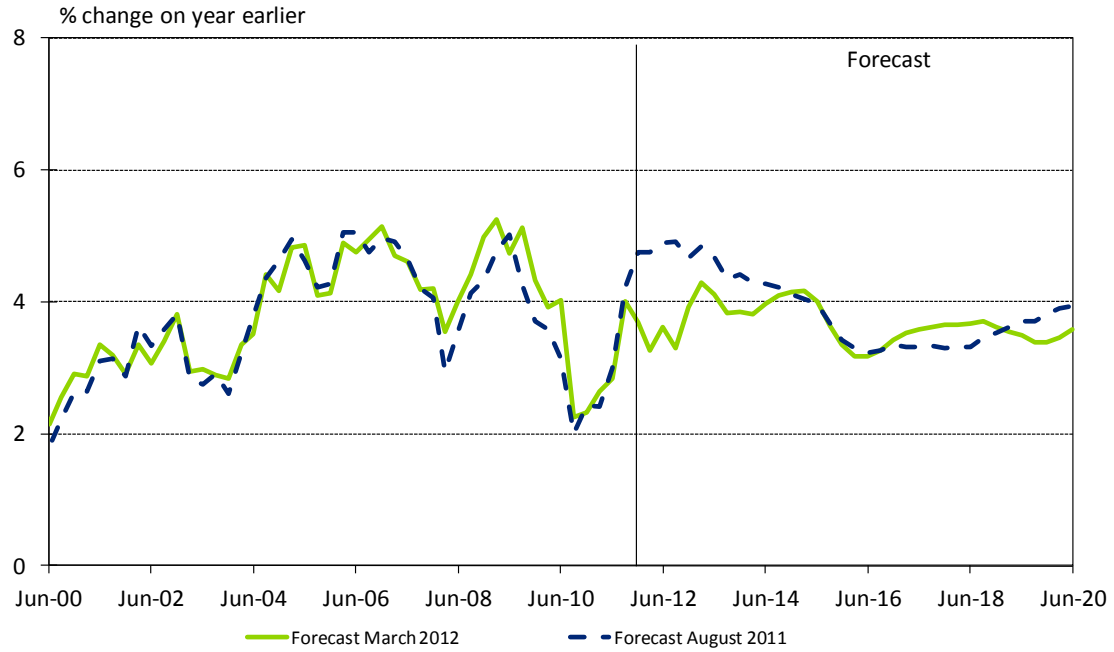
Chart 7.21: Tasmanian construction LPI forecast comparison



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As Chart 7.22 below shows, developments in recent months have affected the short term wage outlook in the State's construction sector since the time of Deloitte Access Economics' August 2011 report. The effect is similar to that seen for the sector nationally, with the added impact of the particular weakness evident in Tasmania's economy at the present moment.

Chart 7.22: Changing forecasts of the LPI: Tasmanian construction



Source: ABS, Deloitte Access Economics' macroeconomic model

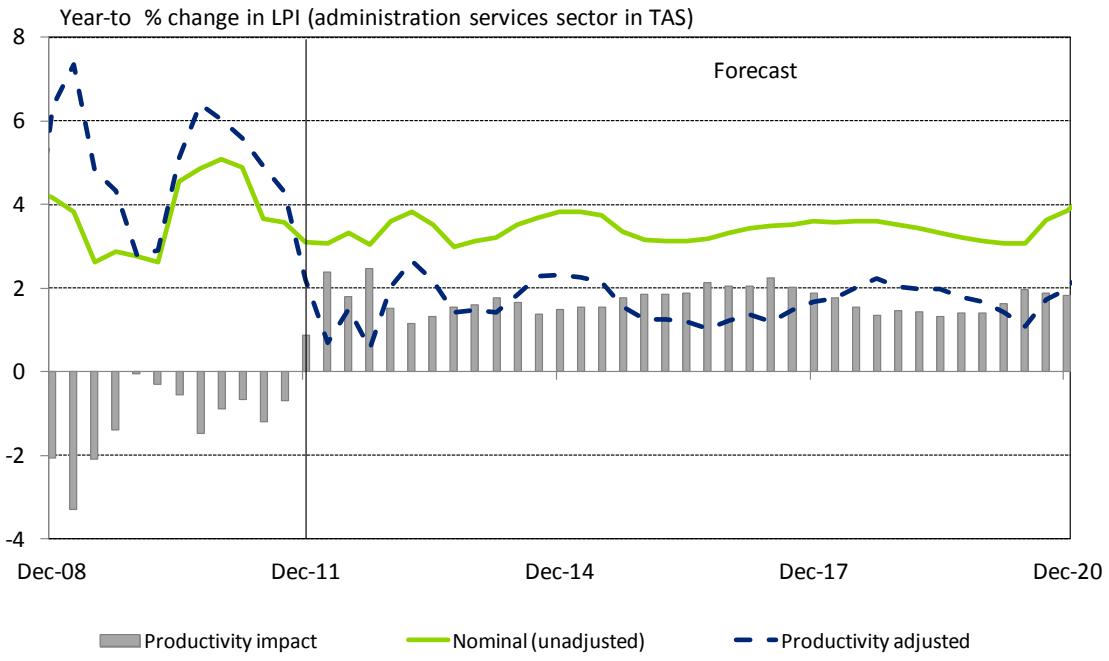
7.4.5 Administration services

As with the utilities sector, the ABS does not produce either LPI or wage rates data for the administration services sector in Tasmania. This means that estimates for the historical movements in LPI for this particularly sector are undertaken by Deloitte Access Economics.

In addition to the usual complications that this brings, the change to the *Modern Awards* and the National Employment Standards add an additional level of complexity to the results. It has been assumed that the change would have lifted Tasmania's LPI in the sector by 1% in the quarter, roughly in line with the one-off change in the national result.

This would also reflect the flow through of recent minimum wage increase handed down by Fair Work Australia. They have a relatively strong impact on Tasmania, where wages tend to be lower.

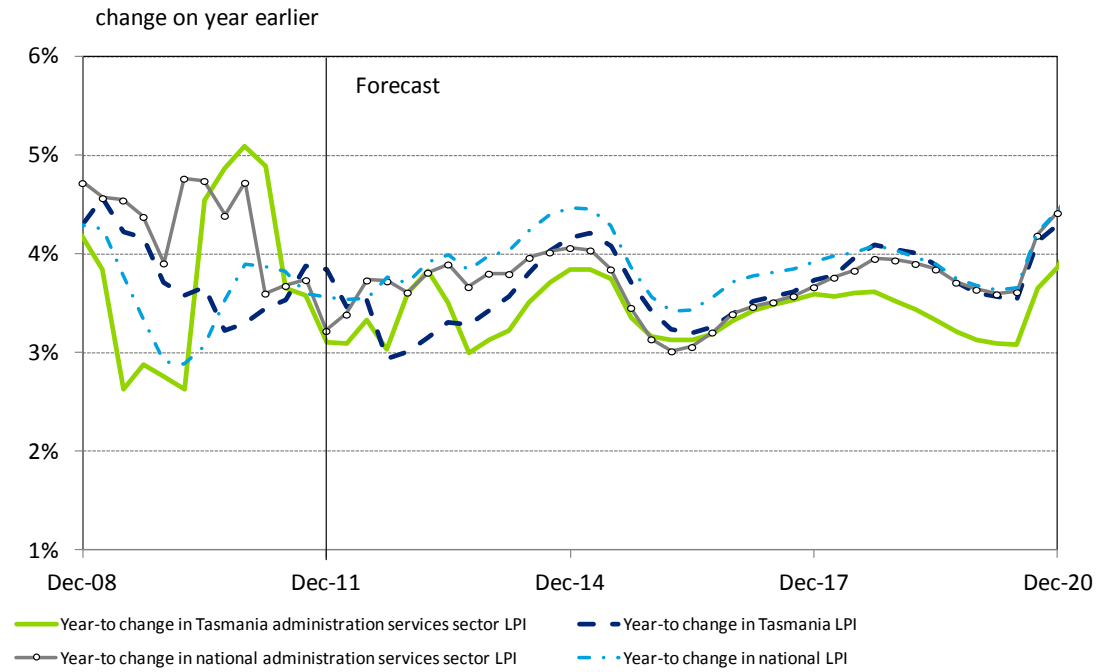
Chart 7.23: Tasmanian administration services LPI forecasts



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

The traditional trends seen in the growth of administration services wages are projected to re-emerge, meaning that wage growth in the sector will lag the broader State average (see Chart 7.24 below).

Chart 7.24: Tasmanian administration services LPI forecast comparison

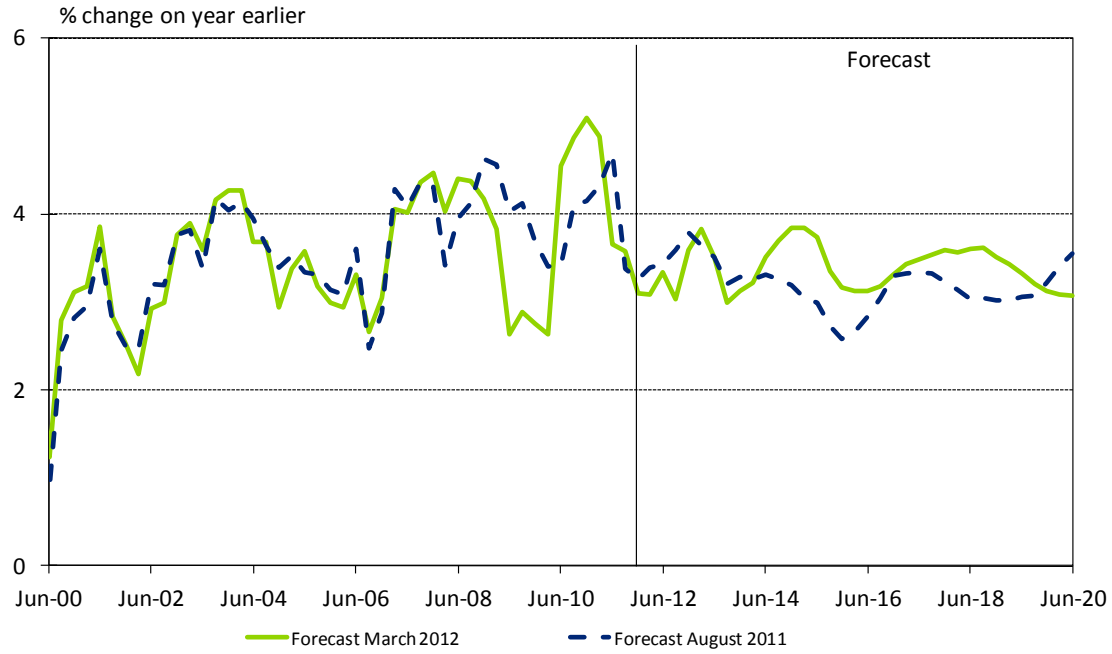


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Similarly, Tasmania sectoral wages tend to lag the national average in line with broader patterns evident in the State. However, over the longer term the rates of growth will tend to converge, although wage levels (in actual dollar terms) continue to see significant differences between industries and between States.

Chart 7.25 shows the wage outlook in the State's administration services sector seems largely unaffected by underlying developments since Deloitte Access Economics' August 2011 report. Technical revisions in recent history account for the slight variations evident over the forecasting period.

Chart 7.25: Changing forecasts of the LPI: Tasmanian administration services



Source: ABS, Deloitte Access Economics' macroeconomic model

Appendix A: Macroeconomic and wage forecasting methodology

Introduction

Deloitte Access Economics uses a macro-econometric model of the Australian economy (AEM) to derive quarterly forecasts for a broad range of economic variables. These include variables relating to domestic production, prices and wages, financial variables (such as interest rates and exchange rates) and the labour market.

Labour market variables in the AEM include employment, unemployment and the participation rate, and the price and wage variables include the Consumer Price Index, a central wage measure (average quarterly earnings) and other wage measures (including average weekly earnings, average weekly ordinary time earnings, and the Labour Price Index).

The AEM model is used to produce forecasts at the national level. Separate (but linked and related) models are then used to produce State and industry forecasts. A further separate (but linked and related) wage model is then used by Deloitte Access Economics to derive forecasts of the LPI by State, by industry, and 'by State by industry' (such as for the utilities in Queensland for example).

Key aggregates, including overall wage and productivity movements, and projections for output and employment by State and for Australia are used to drive LPI measures at more detailed levels.

Note that this report is essentially based on the forecasts Deloitte Access Economics prepared based on the September quarter 2011 national accounts, updated for subsequent LPI and CPI releases. Although some of the results in the December quarter 2011 national accounts are noted in the text, the latter have not yet been fully incorporated into these forecasts.

The following are **excerpts** from the full model documentation that cover the creation of the key driver of the detailed wage model. Full documentation for this component of the model has been provided separately to the AER.

Macroeconomic forecasting

AEM is a macroeconometric model of the Australian economy. It is made up of numerous accounting identities and behavioural equations which describe the aggregate actions of households, businesses, government and foreigners. The formulation of these behavioural equations is based on mainstream theory. The resultant model is best described as a small open economy model in which all foreign (world) prices and interest rates are taken as given (that is, they are exogenous to the model).

The structure of AEM has evolved over time in response to various forecasting and policy simulation challenges. Significant changes to current and future Australian population

characteristics have led to a number of changes in the structure of the AEM over the previous version (version 5).

In brief, the model now has a better spelled out supply side, with an endogenous role for capital deepening and an exogenous role for total factor productivity growth, which along with a more detailed treatment of population dynamics acts as a long term anchor for output.

As Treasury Secretary Ken Henry noted in March 2007, Australia cannot:

> *"… generate higher national income without first expanding the nation's supply capacity: one of the 3Ps — population, participation or productivity. Now you might be thinking that that's all pretty obvious. It is, after all, a tautology. But one of my messages to you today is that if you understand what I have just been talking about, then you are a member of a rather small minority group."*

The redesigned model adds to the sectoral structure of the previous version, which included a business sector, a housing services sector and government sector, by netting out farm output from the business sector. Given the variable nature of farm output, this change allows us to account for volatile changes that could not be captured when farm output was combined with non-farm output.

In the new model, business sector factors of production (capital and labour) produce non-farm business sector output, which is non-farm GDP less the service flow from housing and the value of government services. The level of business sector output is the sum of potential output and the output gap.

Potential business sector output is the level of output that would exist if there were no temporary or cyclical influences. In constructing potential business sector output, considerable attention is paid to the population characteristics which influence labour force participation, the growth rate of residual total factor productivity and the expected rate of capital deepening. The output gap is the gap between actual and potential business sector output. Negative output gaps imply the economy is operating below its potential, while positive gaps imply the economy is operating above its potential.

Fluctuations in the output gap are driven by a number of cyclical factors, including fluctuations in interest rates, foreign GDP and the terms of trade.

Imports are effectively intermediate goods in the latest version of the AEM model. They are combined with domestically produced traded goods to produce gross national expenditure on traded goods. Higher domestic demand raises the demand for imports. In contrast to the previous version of the model, the level of exports is determined by foreign demand conditions rather than domestic supply conditions. Just as stronger domestic demand raises the demand for imports, stronger foreign demand raises the demand for exports.

The demand for capital and labour in the new model has been reworked so that the short and long run paths of capital and labour are consistent with the forecast potential output path.

One of the new features of the model is the introduction of an equation forecasting the price of business sector investment. This change was necessary because the previous model assumption that the pricing of consumption and investment goods are similar no longer fits

with the data. This change should yield more accurate forecasts of investment and the returns to investment.

Changes to the household sector in the model were minor. The most significant change involved the introduction of equations for the price of consumption and housing investment.

With the exception of some minor changes caused by the introduction of distinct prices for consumption and investment, the balance of the model remains unchanged.

Finally, model parameters are estimated using quarterly data extending from September 1974 to the most recent quarter for which data are available. Quarterly data are used as annual data is too aggregated to allow analysis of turning points and interest rate movements. Monthly data is not feasible because most key ABS collections are produced on a quarterly basis – notably the national accounts, the balance of payments, CPI and international investment data. Another advantage of quarterly data over annual data is that both calendar and financial year totals can be calculated.

Domestic production

Domestic production is divided into farm and non-farm. Non-farm production is further divided into household, general government and business sector production.

The current version of the model nets out **farm sector** production from total production. Given the variable nature of farm output, this change allows us to account for volatile changes in farm output that could not be captured when farm output was combined with non-farm output. Farm output is an exogenous input to the model.

In keeping with the previous version of the model the **household sector** produces housing rental services. This is the household sector's only output. The service flow is modelled as a fixed proportion of the housing capital stock.

Public sector production is limited to general government output, which comprises general government services (equal to the wage cost of the general government employees) and general government gross operating surplus (equal to the depreciation of general government capital).

All other non-farm production takes place in the **business sector**, which incorporates private and public enterprises. Business sector output is produced using capital and labour via a standard constant returns production technology. Business sector production is also influenced by the level of total factor productivity.

To capture the impact of cyclical fluctuations on the economy business sector output is divided into potential output and an output gap. **Potential business sector output** is the level of output that would exist if there were no temporary or cyclical influences. In constructing potential business sector output, considerable attention is paid to population characteristics which influence labour force participation, the growth rate of residual total factor productivity and the expected rate of capital deepening.

The **business sector output gap** is the gap between actual and potential business sector output. Negative output gaps imply the economy is operating below its potential, while positive gaps imply the economy is operating above its potential. Fluctuations in the output

gap are driven by a number of cyclical factors including fluctuations in interest rates, foreign GDP and the terms of trade. Output gaps play an important role in determining the level of price and wage inflation.

AEM forecasts all components of aggregate demand. To ensure consistency between aggregate expenditure and aggregate output, the model uses adjustment factors which trim individual expenditure components so that aggregate expenditure equals aggregate output.

Labour market

The size of the **labour force** is forecast using exogenous assumptions about age specific **population growth** and **labour force participation**.

There are two measures of employment in the model. There is the potential employment that underlies the estimate of potential output and actual employment. The output gap to a large extent reflects the gap between the actual and potential employment.

Potential employment is the actual labour force less the level of unemployed workers implied by the natural rate of unemployment, where the natural rate of unemployment is the level of unemployment that would exist in the absence of cyclical fluctuations.

Actual employment is the actual labour force less the level of unemployed workers implied by the actual rate of unemployment.

There are three types of workers in the economy, civilian non-government (business sector workers), civilian general government and defence employees. Demand for business sector workers is endogenous, while the demand for the other two types is exogenous.

Business sector employment is driven by a standard labour demand function that relies on labour productivity, real wages and business sector output growth. Since labour force participation is tied down by exogenous assumptions, the actual unemployment rate for the economy is the residual after subtracting employment (for all three types of workers) from the labour force.

Other measures of employment, such as **wage and salary earners** are assumed to grow at the same rate as total employment.

Prices and wages

In addition to national account price deflators, the model also includes the underlying and headline measures of the **consumer price index (CPI),** and prices for **new cars, house building materials, material used in manufacturing, and preliminary stage domestic and imported commodities.**

The model also includes a number of measures of wages. The central measure is **average quarterly earnings** estimated from the national accounts. Other measures include **average weekly ordinary time earnings, average weekly earnings** and the **labour price index**.

Price and wage inflation in AEM are governed by the behavioural equations of the:

- business sector output gap;

- real exchange rate;
- import prices (including oil prices);
- monetary policy reaction function;
- average quarterly wages; and
- underlying consumer price index.

The way these equations interact is best observed through some examples.

A positive shift in domestic demand that raises the gap between actual and potential output (a positive output gap) will have a direct impact on price inflation by raising the underlying CPI. Wages respond with a lag to changes in underlying CPI inflation, with the long run real wage tied to CPI inflation and labour productivity growth.

A positive output gap also has a direct and indirect effect on real interest rates via the monetary policy reaction function, with the typical reaction to a widening output gap and higher price inflation being higher nominal interest rates. Higher interest rates dampen domestic demand which narrows the output gap and relieves upward pressure on price and wage inflation. Over time this mechanism forces the output gap back to zero, interest rates to a neutral position and inflation to return to the RBA target level.

A change in real wages that exceeded the change in labour productivity raises price inflation in the short run. Since wages increase by more than labour productivity this raises nominal unit labour costs, which in turn raises underlying CPI inflation. Wages in turn respond to changes in underlying CPI inflation. Over time wage inflation will equal price inflation (plus changes in productivity growth). In the long run, price inflation is governed by the same mechanism at work in the output gap example above, which forces the CPI inflation rate to return to the RBA target level.

While the real exchange rate and import prices do not have an import role in the output gap and real wage scenarios, they are key players in the next foreign price shock example. Holding other things constant, higher world prices raise domestic import prices. Higher import prices have a direct impact on price inflation by raising the underlying CPI. Higher price inflation causes nominal interest rates to rise via the monetary policy reaction function. Higher domestic interest rates and incomplete pass-through of world price changes to domestic prices causes the differential between domestic and world real interest rates to rise.

Ordinarily this would imply an appreciation of the real exchange rate but in the Australian case this is more than offset by a deterioration of the terms of trade due to higher import prices which causes a depreciation of the real exchange rate. Combined with incomplete price pass-through the nominal exchange rate appreciates in the short run, which partly offsets the rise in domestic import prices due to rising world price. Over time there is full pass-through of world prices to domestic prices, which eliminates the gap between domestic and foreign real interest rates and returns the terms of trade to its pre-price shock level. Just as in the domestic inflation example, wages respond with a lag to changes in underlying CPI inflation, with the long run real wage tied to CPI inflation and labour productivity growth.

Wage forecasting

The wage forecasting methodology adopted in this report involves estimation of the deviations between industry – and State-specific wage measures and the broadest measures of wages in the Australian economy. In other words, the AEM model has provided an overall picture for how the LPI will move, and the remainder of the modelling determines which industry, State and industries within States will see their LPI measures grow faster or slower than this value.

Industry and State Labour Price Indices

Modelling of specific labour price indices (LPIs) begins with the movements in the total Australian LPI – taken from the Deloitte Access Economics Macroeconomic model. This measure serves as an anchor to overall wage rates in every part of the economy, in part because it provides a measure of the wage rises that other employees are receiving, making it a common starting point for negotiations.

From this initial index, the model adds in deviations from the average. Three key factors will drive these wage differentials:

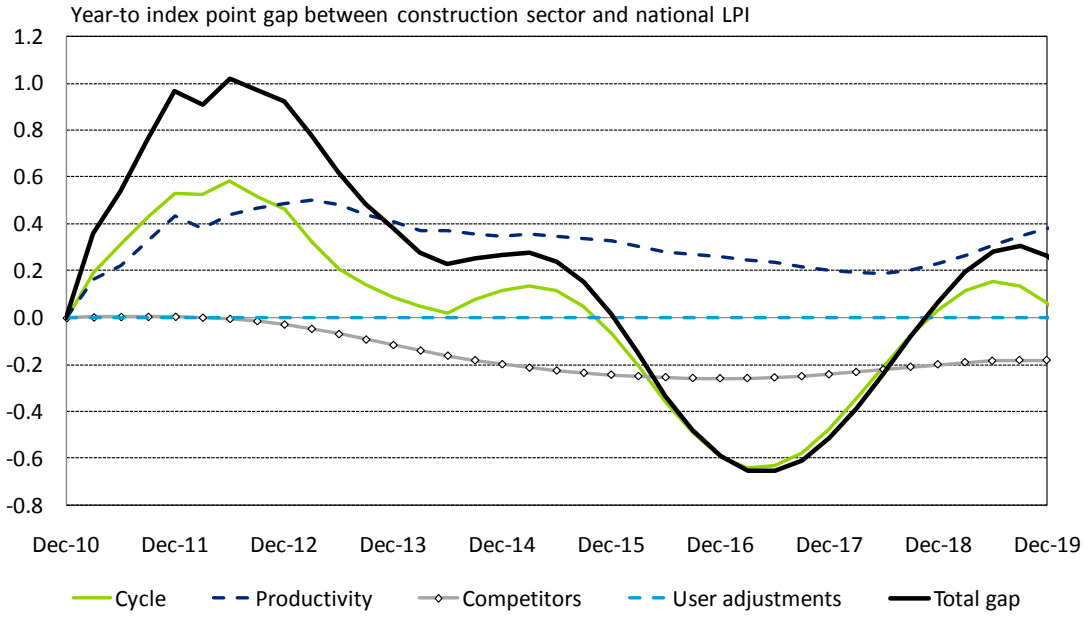
- **Business cycle factors**. Deviations in industry (or State) performance from the national average. Faster growing industries and States will tend to see faster growth in wages and vice versa. In this model, the key factor is how fast the industry (or State) is growing relative both to the national average, as well as to historical averages. So, while manufacturing growth in the future may be below the national average, if the gap is relatively less that has been seen in recent years, this is view as an out-performance by the sector and would see some upward pressure on wages. In this model the methodology is forward-looking, with forecast growth across the next six months (as well as the past twelve) used to determine the current performance of an industry.
- **Productivity factors**. The model assumes that industries with faster growth in productivity will see faster growth in wages – workers across an industry being rewarded for increasing the average amount of output per employee faster than the national average. As these factors take some time to become evident (and due to the inherent volatility in productivity measures at the State and industry level) an average productivity trend across the past two years is used.
- **Competition (relative wage) factors**. Depending on the nature of the industry, workers will have skills that are relatively more or less transferable to other sectors where wages may be rising faster than in their own. Indeed, many workers will be performing effectively the same task (or same occupation – effectively their job description) across different industries (as their industry classification is determined by what their employer produces, rather than what they do). This will tend to limit the ability of wage rates to diverge. As wage rates in (say) mining rise higher, companies in (say) the construction sector will be forced to pay higher wages to keep their staff. Similar factor operate across States – although they are likely to be less significant (and react only to relatively larger discrepancies in wages). The modelling here will see wages in competitor industries tend to move more closely together – with industries that are benefiting from the two previous factors tending to be drawn back towards the average, and wages in otherwise slow growing industries boosted.

In addition to these three 'mechanical' factors, there is often the need to use judgement to determine movements in wages – particularly when other data is volatile (which employment

data currently is) and when factors not relevant to wage determination are having effects on broader output and employment measures.

It is important to remember that the LPI for an industry is a composite measure and can, in certain situations, behave in the perverse manner. When there is a significant change in the occupational structure of an industry, movements in the LPI may not be reflective of movements in the wages of individual employees. In an extreme case, it would be possible for (say) all the high-paid workers in an industry to take a pay cut but the overall LPI measure in the industry to rise is all the low-paid workers left the industry all together – shifting the average wage towards the higher level.

Chart A.1: Sample composition chart of sectoral wage drivers (national level)



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

The chart above (analysing the national construction sector) compares movements to the national LPI – above the line means growth in the index of more than would be expected if it rose in line with the national LPI and below the line implies growth in the index less than that implied by the national LPI.

In the case of the construction sector chart above, this indicates the following:

- The recent strength in the construction sector will keep upward pressure on the wages in the sector (represented here by the **Cycle** line). By the end of 2012 growth rates will begin to move in line with the overall economy and the cyclical pressure will diminish (and reverse further out); but
- The higher rate of productivity growth in the utilities sector will put upward pressure on the LPI for construction across the forecast period (the **Productivity** line). This effect will largely dissipate further out; but
- The relatively strong growth in construction sector wages implied by these first two trends (and the recent strength in the LPI) means the sector will face minor downward wage pressure from other sectors. Weakness in the manufacturing sector is particular

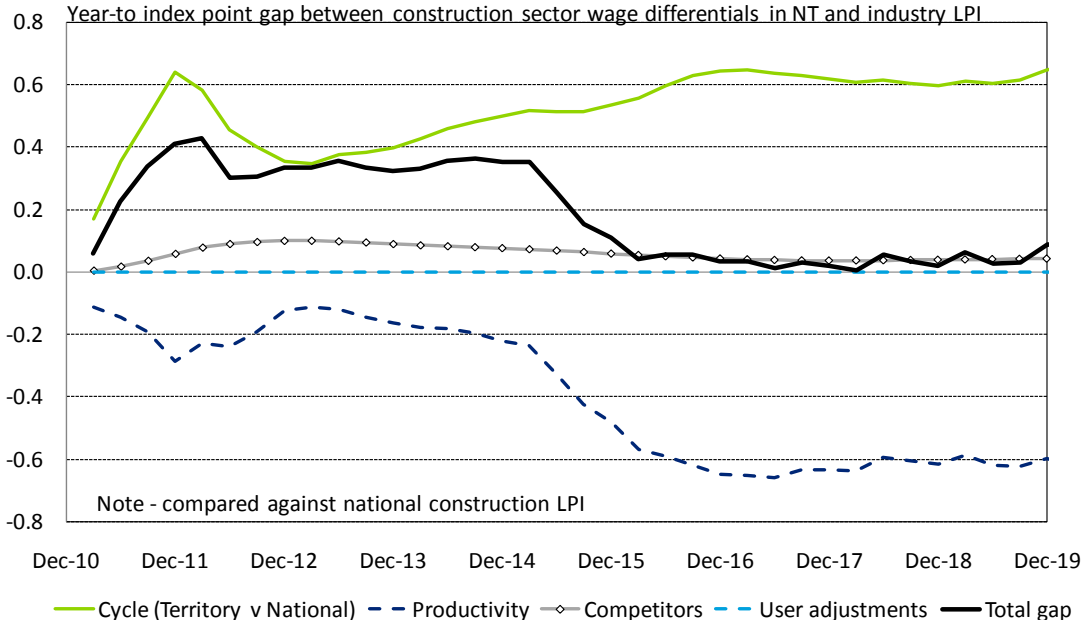
will limit the impact from competitor industry wages (the **Competitors** line). In the longer term the otherwise stronger wage growth in the sector will not see a need for wages to rise to maintain pace with growth in competitor sectors (mining, construction and manufacturing) to prevent workers being tempted to move.

The final result of all of these effects is construction sector LPI growth well ahead of the national average early on, but lagging in later years.

In the case of State-level indices, our point of departure is the national industry LPI. So the chart below implies that Northern Territory's construction sector LPI will:

- Grow relative fast as the Territory's growth will be well ahead of national averages through the forecast period;
- See a strong offset due to relatively weaker productivity growth, particularly in the latest years; and
- Will initially be boosted as the Northern Territory's LPI is currently low by historical standards, but will be constrained in the longer run as the LPI soon grows ahead of the national rate.

Chart A.2: Sample composition chart of sectoral wage drivers (State level)



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Labour prices versus labour costs

The methodology above estimates movements in labour prices – the cost of employing the average employee, whether broadly in the Australian economy, or in a specific industry in a specific State.

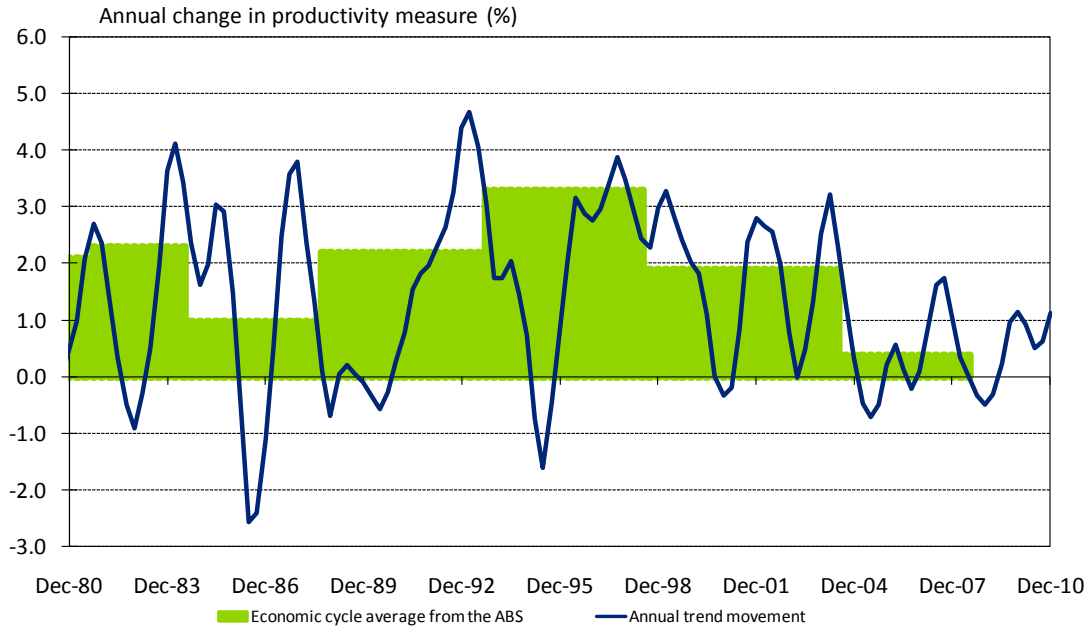
However, labour costs will rise at a different rate due to the effects of labour productivity growth. Effectively, labour productivity measures the number of units of output an individual employee can produce in a given time period. The more units of output each worker can

produce, the fewer workers are required to create a given level of industry output. If productivity is rising, the total cost of labour (the price of each employee multiplied by the number of employees) will rise less rapidly than the individual employee's price.

The measure adopted for increases in labour costs is the growth in productivity-adjusted labour prices. Because so many factors can influence productivity (for example, during times of rapid expansion in employment, productivity may fall as new workers are often less productive that those who have been working in an industry for longer, but productivity may also rise as 'economies of scale' become available, and workers who may has been underemployed in their workplace increase their effective level of output) it is often best measured over an entire economic cycle. The chart below shows annual growth in a simple productivity measure against the ABS' cyclical average measure (the last published cycle ends in 2007-08, so the last few years have no official cyclical productivity growth measure).

For the last two economic cycles (1998-99 to 2003-04 and 2003-04 to 2007-08) the ABS has produced a labour productivity measure adjusted for the quality of hours worked. This measure is closer to the basic measure (output per employee) over the cycle than the simpler output per hour worked measure over this period.

Chart A.3: Growth in productivity – annual methodology vs economic cycle methodology

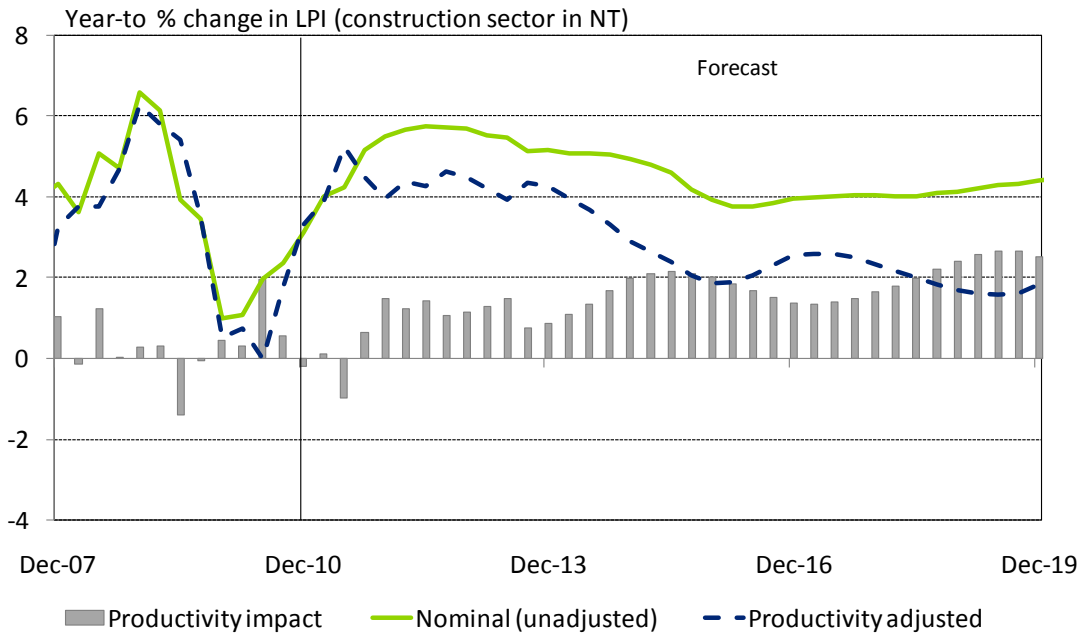


Source: ABS

At the 'by State by sector' level (for example, the Queensland utilities sector), Deloitte Access Economics believes that the labour productivity estimates (derived using the above measure of 'output per worker') are too volatile to use with confidence.

However, in the methodology used here the volatility in the underlying productivity data is minimised by creating a composite productivity measure based on a weighted average of the labour productivity estimates for the relevant State as a whole and the relevant industry at the national level.

Chart A.4: Sample measure of forecast productivity effects



Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

In the example above, the cyclical impact of productivity becomes more clear. Across the latter part of the forecast (from 2012 to 2018), the nominal (or unadjusted) LPI rises by 4.0% per year, while the rate of increase adjusted for productivity improvements is just 2.0% per year – the gap implying productivity improvements of 2.0% per year.

Appendix B: LPI sectoral history at the State level

As noted in this report, the historical LPI data is not necessarily released for each sector by State. This is due to small sample sizes, and related reasons of confidentiality. In some cases, where a specific LPI series is not available, a comparative series for average weekly ordinary time earnings (AWOTE) can be obtained.

The following table shows (for the key States and sectors modelled) which data is available in time series for the LPI and (for those where LPI is not available) AWOTE. These are data series provided on the new ANZSIC06 basis. In the case of LPI data this has been provided across the period from September quarter 2008 to December quarter 2011 (14 quarters of data on a consistent basis).

For the AWOTE data only estimates for the past eight quarters (since May 2009[9]) have been calculated by the ABS.

Table B.1: Wage data series availability

	Utilities	Mining	Construction	Administration services
Queensland	AWOTE	LPI	LPI	LPI
Tasmania	-	AWOTE	AWOTE	-

Source: ABS

As the table shows, LPI data is missing for both utilities series and for the competitor industries in Tasmania. As a result, there is a need to estimate historical values of the LPI for five of the eight key series included in this report.

To do so, Deloitte Access Economics has developed an approach which incorporates the full range of known information from three data sources:

- The LPI itself, which provides adequate coverage for three of the four Queensland sectors in this report.
- Alternative ABS data available through the AWOTE series by State and by industry.
- Since the June quarter of 2010, information on new and existing Enterprise Bargaining Agreements (EBAs) by State and by industry has been released by the Department of Education, Employment and Workplace Relations.

The historical LPI series included in this report reflect the addition of this latter source to the estimation of past LPI movements. As a result, there have been some minor changes to the historical data presented here.

[9] AWE/AWOTE measures are defined for the mid-month of quarter, so the initial AWE/AWOTE data here is from the May 2009 publication. The LPI data is referred to by the entire quarter.

Where EBA data is not available, the AWOTE data helps to fill some of the remaining gaps. That said, AWOTE is both volatile and inconsistent with the LPI data for Australia. Rather than using the raw data, to obtain a State by industry LPI we have used the deviations in the AWOTE growth from State AWOTE averages and applied a consistent ratio to the known State LPIs.

In other words, if the Queensland utilities sector AWOTE measure is rising faster than the overall Queensland AWOTE measure, then we allow the Queensland utilities sector LPI measure to rise faster than Queensland's overall LPI over the past six months. Because the AWOTE data has been far more volatile than LPI in recent years, we limit the deviations that this might imply[10].

[10] We do that by comparing the variations in published AWOTE and LPI measures within each State and adjust the unknown deviations accordingly.

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