Deloitte Access Economics

Forecast growth in labour costs in Victoria

Report prepared for the AER

28 May 2012

Deloitte.

Deloitte Access Economics Pty Ltd
ACN: 149 633 116

Level 1, 9 Sydney Ave
Barton ACT 2600
PO Box 6334
Kingston ACT 2604

Tel: +61 2 6175 2000
Fax: +61 2 6175 2001
www.deloitte.com.au

Kevin Cheung

Australian Energy Regulator

28 May 2012

Dear Kevin,

Report on Victorian utilities sector WPI

Our report on the Wage Price Index (WPI) for the Victorian utilities sectors is attached.

Yours sincerely,

Chris Richardson
Director
Deloitte Access Economics Pty Ltd

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Executive Summary

Key conclusions

Wages in the utilities have grown faster than the national average over the past decade amid a resources boom which has driven up demand for workers in sectors such as mining and construction. As these sectors compete with the utilities sector for some types of skilled labour, that pressure from competitor sectors has been a key driver of relative wage gains in the utilities sector in Australia, including in Victoria.

Nor has this surge yet stopped. Miners can be expected to remain a formidable competitor for some of the same workers currently (or potentially) employed in the utilities sector. And for the mining sector to grow fast, the construction sector has to do the same first. The construction sector employs almost seven times the number of workers that the utilities does.

That said, neither of these two sectors is as important in Victoria as they are for Australia as a whole. The State's mining sector is (relatively) small and stagnant, and its housing construction sector – having done magnificently well for some time – has come back to earth.

Accordingly, these sectors are less relevant as competitor employer for those in the Victorian utilities sector, as most workers would need to change States as well as change jobs to take advantage of the opportunities on offer.

The outlook for Victoria

The global backdrop has weakened: tensions have flared in Europe again, and China has slowed more than expected. That said, the forecasts presented in this report assume that policymakers in Europe and China continue to 'muddle through', and avoid major problems for the global economy.

Australia is also facing a degree of weakness, with 'two speed troubles' – the effects of the relative strength in Australian exchange and interest rates – weighing on economic growth.

Nonetheless, and provided Europe and China 'hold' (that is, perform broadly as expected, and navigate the major shoals evident before them), then chances are that Australia's economic prospects will also hold up.

Even so, recent developments at home and abroad have seen Federal Treasury and the Reserve Bank wind back their forecasts for economic growth and price inflation, and DAE has done the same.

Those effects are evident at the State level too, though Victoria is continuing to (just) maintain its lead over the Australian average on population growth. That success hasn't been a flash in the pan: it's been evident for five years now. And a resurgence in foreign student numbers is also boosting the State's potential on the population front.

Yet although some of the news on Victoria's economy is still good, much of it is not. The main reason is simple: the State's manufacturers are feeling pain from the strength of the $A, and so too are farmers and the State's large international education sector.

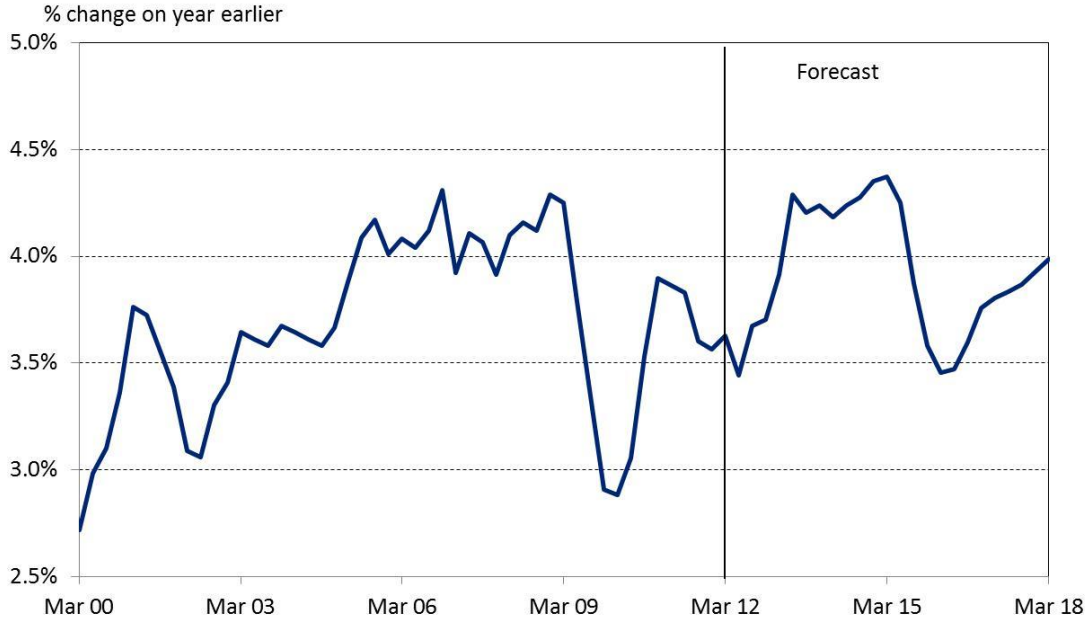
That has pegged back Victoria's performance on indicators such as retail sales and jobs. In addition, manufacturing in Victoria is relatively energy intensive, meaning that the arrival of carbon pricing in coming weeks may pose some transitional costs on this sector.

Hence, and although Victoria is better protected against the finance sector negatives currently threatening NSW's outlook, the overall picture is modest at best – housing construction is headed down, and overall economic growth is headed with it.

National wage growth

The pace of wage gains accelerated in the aftermath of the global financial crisis – both because economic prospects were lifting, and also because employees were looking to catch up to wage rises forgone during the crisis itself.

Chart i: Overall Wage Price Index forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

But that acceleration tapered off over the past year or so (see Chart i above) as two speed economy negatives had an impact on a number of sectors and States, and with more recent results in wage negotiations starting to be affected by fears over what could happen in Europe. With job growth also relatively stagnant, and the economic outlook uncertain outside of a handful of super strong sectors and States, wage inflation appears to have levelled off a little under 4% for the moment. That moderation in wage growth is good news, all the more so because wage gains have outrun productivity growth by a substantial margin for some time.

That said, weak inflows of migrants and strengthening outflows of retirees are tightening the supply side of Australian labour markets, and the resource investment pipeline remains strong.

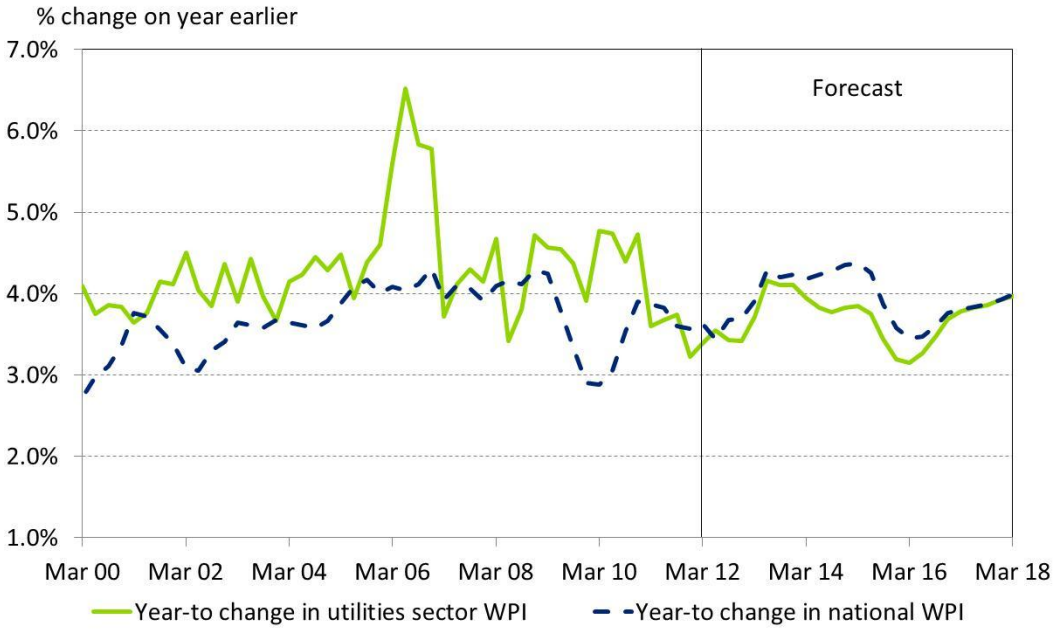
As Chart i therefore shows, Deloitte Access Economics sees national wage growth (as measured by the WPI) remaining below 4% in the short term, before lifting above it for a time through 2013 and 2014. Once the surge in resource investment starts to wane, overall WPI growth moderates below 4% once more.

Utilities wage growth

As Chart ii shows, until recently growth in the utilities WPI had run consistently ahead of the national average. From 2002 to 2008 this relative strength in the utilities occurred at a time when Australia's

rate of wage growth itself accelerated. Even after the national wage growth rate slipped sharply in 2009, utilities growth stayed broadly in the range of 4.0-4.5% per year.

Chart ii: Wage growth nationally and in the utilities



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

Chart iii shows wages in the utilities relative to national wages.[1] It is evident that the WPI in the utilities sector consistently outpaced the national equivalent over much of the period shown, with moderation becoming evident more recently.

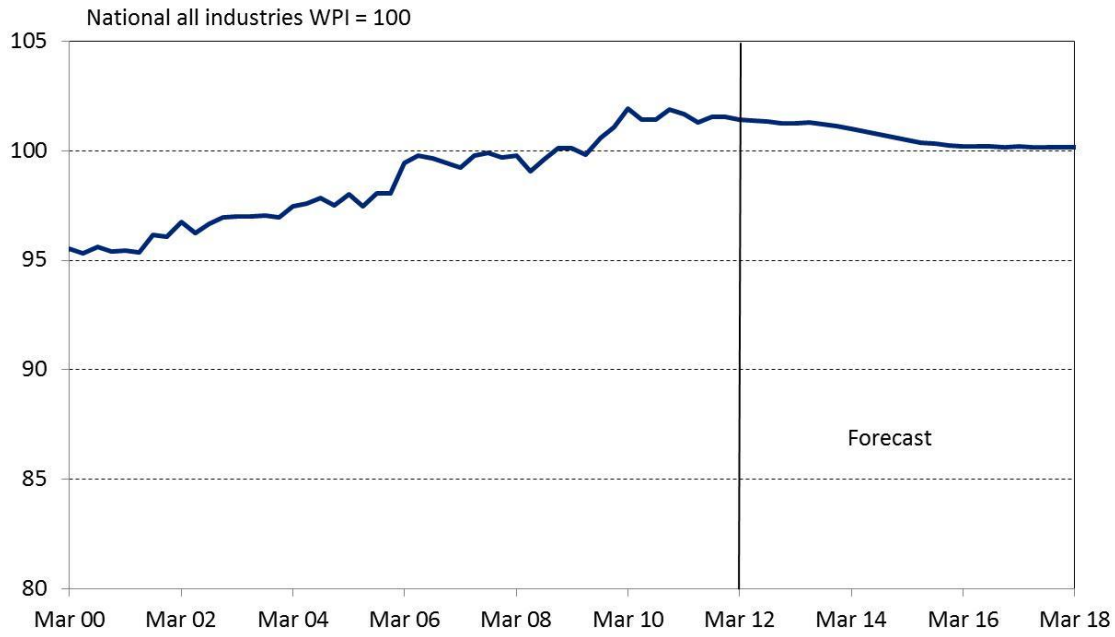
For the utilities the composition of the job boom evident over much of the past decade was significant. Blue collar occupations did far better than previously. As a result, a number of trades saw shortfalls in available labour, driving labour 'prices' higher.

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 WA, Queensland and the Northern Territory.

As a result of links to these fast growing sectors, the utilities saw relative wages lift across the decade, as seen in Chart iii. This was true in the period of strong growth from 1999 to 2008, but was even more evident as the economy stuttered from mid-2009 to early 2010, with the WPI in the utilities sector rising by about 2 percentage points relative to the national WPI.

[1] 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.

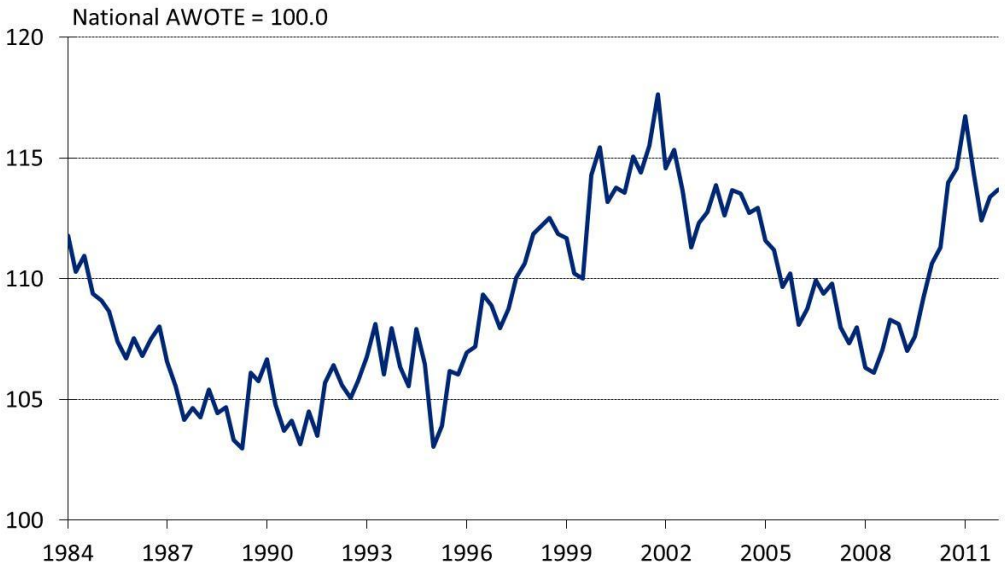
Chart iii: Utilities WPI relative to national WPI



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

As is also evident in Chart ii, over the last year or two wage gains nationally in the utilities have fallen slightly below the national rate (which was itself slowing). This partly reflects a degree of unwinding of previous gains, as well as weakness in the wider utilities sector. Indeed, output in the utilities sector is currently shrinking at the fastest ever recorded pace for this industry.

Chart iv: The utilities AWOTE relative to the national AWOTE



Source: ABS

DAE projects this to be a turning point in relative utilities wages – albeit a modest one. It is true the engineering construction boom of the moment is very big, and that booms in demand usually add to relative costs. However, the gains to date 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 rewards are best.

It is, after all, worth noting that the period over which the WPI 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. Hence it is useful to look at the WPI comparison seen in Chart iii, but to also go back further in time using an AWOTE-based comparison (seen in Chart iv). 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 iii).

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. Indeed, they have weakened of late, though they are likely to remain elevated for some time.

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

In fact, and as seen in Chart iii, that process of partial unwinding of earlier strength has already been underway for more than two years now.

That is not to say that the utilities sector is immune to broader wage pressures. Indeed, as Chart ii earlier shows, there is an upswing in national utilities wage growth on the horizon, with growth expected to accelerate over the coming three years. Looking further ahead, we still expect wage growth in the utilities sector to fluctuate in the 3% to 4% range.

General labour cost growth in Victoria

Victoria remains on the wrong side of two speed economy pressures, and has an above-average share of industries hurt by a strong $A (manufacturing, agriculture, higher education) and by relative strength in interest rates (housing construction and the retail sector).

Even so, overall wage growth is expected to remain relatively close to the national average through 2012, despite the lift in the latter being generated by the mining States.

That said, we do not project wage growth in Victoria to lift as much as it does in Australia as a whole across the peak period of 2013 and 2014. In part that is due to the 'two speed troubles' increasingly affecting Victoria's industrial base. And in part it is because the impact of strength in wage gains in mining and in engineering construction (as opposed to construction more widely) will be rather more in evidence in the rest of Australia than in Victoria itself.

Accordingly, the growth in Victorian WPI is expected to continue to trend upwards in line with the national average through 2012, before stabilising below that average at close to 4% through to early 2015. That is, despite the challenges of the two speed economy, and the related string of high profile job losses through the first half of 2012, Victoria's labour market is expected to remain solid over coming years. Beyond that, we expect wage gains to move back into line with the national average in the long run.

Table i: State WPI forecasts

Financial year changes in nominal Wage 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	3.9	4.2	4.3	3.6	3.7	3.9	4.1
Victoria	2.8	3.8	3.5	3.8	4.0	4.0	3.4	3.7	3.9	4.1

Financial year changes in real Wage 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	1.2	1.0	1.4	1.7	1.0	1.0	1.3	1.7
Victoria	0.7	0.4	1.1	0.9	1.2	1.4	1.0	1.1	1.2	1.7

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

Utilities wage growth in Victoria

Wage gains in Victoria's utilities sector have been running at a steady rate of close to 4% in recent years, and job growth is expected to remain positive, supported by new investment in key infrastructure (including the $5.7 billion desalination plant in Gippsland).

That said, the utilities sector in Victoria saw wage gains drop to 3.4% over the year to the March quarter 2012. Moreover, the sector is seeing output growth slip nationally, and is currently shrinking at its fastest ever recorded pace. Indeed, Victoria has already seen its share of that weakness, given the challenges for the utilities arising from:

- the 'two speed troubles' gripping its manufacturing sector,
- the impact of past price increases on the sector's output,
- the good rains of the past two years (which have reduced demand for water utilities),
- the developing slowdown in housing construction (and hence the pace at which utilities will be connected to new homes), as well as
- the introduction of a carbon price from 1 July.

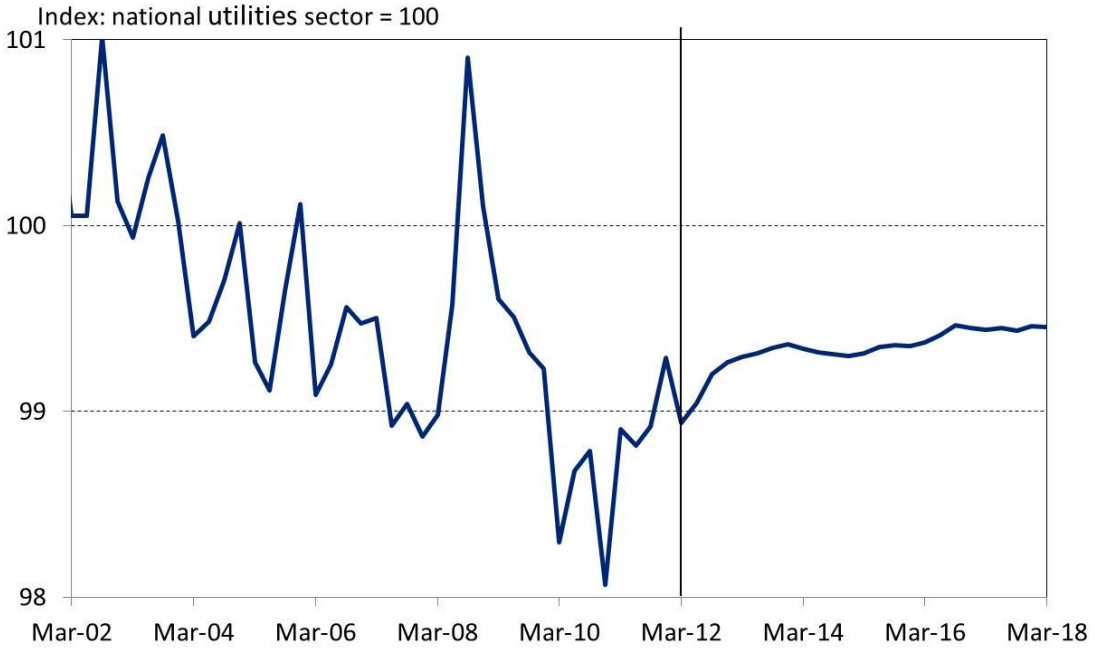
The full effect of these latter two factors – the developing slowdown in housing construction and carbon pricing – on wage growth in the utilities in Victoria is yet to be fully felt. Moreover, the same is true of the relatively weaker competitive threat posed by mining and construction in Victoria than in Australia in general, and by manufacturing as well.

Indeed, the pace of wage growth in Victoria's utilities sector in the short term may be affected by recent job losses elsewhere in Victoria's industrial base, along with the slowdown in the State's housing construction sector. That will make the task of finding workers easier than it would otherwise be at a time when unemployment remains low.

Combined with continued modest growth in output, and subdued wage growth in the broader Victorian economy, that should provide a chance for wage pressures in the sector to ease over the course of 2012, with WPI growth expected to be 3.4% over the calendar year – that is, in line with its current rate. Such a view is also broadly consistent with outcomes from EBAs in the sector, which have been slowing. Average annualised wage increases across all current agreements have been falling consistently from 4.9% in the June quarter of 2010 to stand at 4.4% in the most recent (September quarter 2011) data.

Still, and as Chart v below shows, as broader wage growth moves higher through 2013, wage growth in the utilities sector may also gather pace, outpacing increases in the national WPI. That reflects the combination of a recovery in construction in the State emerging as two speed negatives begin to fade, as well as a broader strengthening of the State and national economies, and a degree of competitive pressure from other sectors and States looking to lure workers from Victoria's utilities sector.

Chart v: Victorian utilities WPI relative to national average



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

Looking further forward, we see a period of slower growth in utilities wages nationally feeding through into subdued wage growth in the sector in Victoria. Through both 2014 and 2015 that is expected to see wage growth in the utilities below that in the State as a whole, and further below the national all industry average.

Summary results

Summary tables of results follow.

Table ii: Summary results – key variables

Calendar year changes in key variables

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Output	2.5	2.0	3.3	3.4	3.4	3.2	3.3	3.5	3.1	2.9
Consumer price index	2.8	3.4	1.9	3.1	2.8	2.5	2.6	2.7	2.4	2.2
Wage price index	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Average weekly earnings	5.1	4.1	4.0	4.4	4.5	3.7	3.1	3.4	3.4	3.4

Source: ABS, Deloitte Access Economics macroeconomic model

Table iii: Summary results – economic variables

Calendar year changes in key Economic variables

Annual % change (unless noted)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consumption										
Private sector	2.9	3.4	2.8	2.8	2.3	2.7	2.7	2.5	2.8	3.0
Public sector	3.4	1.8	-0.1	0.0	2.3	3.2	2.6	2.7	2.8	3.0
Private sector investment										
Non-business housing	4.1	1.1	-0.3	8.8	5.3	2.3	9.2	8.9	-3.3	-3.2
Non-business real estate	-5.7	-10.2	2.3	8.0	4.8	2.2	8.7	8.4	-2.6	-2.4
Non-residential building	-4.1	-1.2	10.5	5.8	4.5	1.9	5.0	4.2	3.4	4.5
Engineering construction	-1.8	39.9	29.8	12.1	4.7	-2.0	0.5	-0.1	-0.8	0.2
Machinery and equipment	-3.3	13.3	14.3	3.1	1.1	7.2	6.6	5.0	4.3	3.4
IP and livestock	4.1	4.6	8.3	11.4	6.5	2.8	3.9	2.9	2.2	2.4
Public investment										
General Government	30.7	-5.4	-6.8	-9.4	0.1	1.4	2.4	0.2	1.9	1.9
Public enterprises	33.8	-10.8	29.1	10.7	2.7	2.3	-1.8	-4.1	0.7	0.5
Domestic final demand	3.6	4.1	4.5	3.2	2.6	2.7	3.3	2.9	2.2	2.4
Private sector	1.9	5.4	5.7	4.4	2.8	2.6	3.5	3.2	2.1	2.3
Public sector	9.2	-0.3	0.4	-0.8	2.0	2.9	2.2	1.8	2.5	2.6
Gross national expenditure	4.1	4.4	4.2	3.2	2.7	2.6	3.3	3.1	2.3	2.4
International trade										
Exports	5.8	-1.6	4.9	10.8	8.4	4.9	6.8	9.7	7.7	9.2
Imports	14.1	11.6	7.8	8.7	4.6	2.6	6.3	7.4	4.3	6.8
Net (% additon to growth)	-1.0	-2.4	-0.5	0.1	0.8	-0.1	0.1	0.4	0.6	0.4
Total output (GDP)	2.5	2.0	3.3	3.4	3.4	3.2	3.3	3.5	3.1	2.9
Non farm output	2.6	2.1	2.9	3.4	3.4	3.2	3.4	3.5	3.1	2.9
Employment	2.7	1.6	0.6	1.6	1.6	1.5	1.4	1.3	1.6	1.5
Unemployment rate (%)	5.2	5.1	5.4	5.6	5.4	5.5	5.4	5.1	5.0	5.1

Source: ABS, Deloitte Access Economics macroeconomic model

Table iv: Summary results – wages and prices

Calendar year changes in national wage and prices variables

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consumer price index (CPI)	2.8	3.4	1.9	3.1	2.8	2.5	2.6	2.7	2.4	2.2
Wage price index (WPI)										
Nominal	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Real	0.5	0.3	1.7	1.0	1.5	1.5	0.9	1.1	1.6	1.7
Average weekly earnings (AWE)										
Nominal	5.1	4.1	4.0	4.4	4.5	3.7	3.1	3.4	3.4	3.4
Real	2.2	0.6	2.1	1.3	1.7	1.2	0.4	0.6	1.0	1.1
Average weekly ordinary time earnings (AWOTE)										
Nominal	4.9	4.4	2.8	4.5	4.3	3.9	3.5	3.7	3.9	4.0
Real	2.0	1.0	1.0	1.3	1.5	1.4	0.9	1.0	1.4	1.7
Unit labour costs										
Nominal	4.1	5.2	1.7	3.1	3.3	2.8	2.0	1.8	2.5	2.3
Real	1.2	1.7	-0.2	0.0	0.5	0.3	-0.6	-0.9	0.0	0.1

Source: ABS, Deloitte Access Economics macroeconomic model

Table v: Summary results – national sectoral wages

Calendar year changes in nominal national industry sector WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Utilities	4.7	3.6	3.4	4.0	3.8	3.6	3.4	3.8	4.0	3.9
Construction	3.4	4.0	4.1	4.1	4.1	3.9	3.2	3.4	4.0	4.1
Administration services	3.0	3.3	3.4	3.9	3.5	3.6	3.7	4.1	4.2	4.1

Source: ABS, Deloitte Access Economics labour cost model

Table vi: Summary results – State utilities sector

Calendar year changes in nominal utilities sector WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National	4.7	3.6	3.4	4.0	3.8	3.6	3.4	3.8	4.0	3.9
Victoria	3.6	4.1	3.6	4.2	3.8	3.6	3.5	3.9	4.0	4.0

Source: ABS, Deloitte Access Economics labour cost model

WPI/LPI

Previous reports prepared by DAE for the AER have referred to the total rates of pay, excluding bonuses series as the LPI. While this series is from the LPI publication, it is in fact a wage price index (WPI) series, and it is referred to as such in this report.

To be clear, this does not represent any change to the underlying series used in the analysis or forecasts presented in this report, but to the name of the series only.

AWOTE versus WPI

There has also been an ongoing debate as to the merits or otherwise of using AWOTE or even AWE data rather than WPI data.

The ABS has reviewed its production of AWE and AWOTE measures at the industry by State level (that is, the AWOTE for the utilities sector in Victoria). This information will now no longer be produced.

A key reason was the high standard errors for these series. In the case of the AWE/AWOTE publication, sample selection is stratified across States and across industries, but not both. That means that as the businesses in the sample change from quarter to quarter (and about 8% of the 5,000 do each time) there is no guarantee that the State by industry samples can be readily compared. This led to questionable comparability of detailed AWE/AWOTE results from quarter to quarter as the changes may be driven by changes in the sample, rather than changes in wages.

The WPI, by contrast, suffers as little as possible from this problem because its sample follows specific "jobs" over an extended period (at least five years). This limits the rotation problems that the AWE/AWOTE series suffered from.

Deloitte Access Economics
28 May 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 to 2017-18 for Victoria, as well as for Australia as a whole.

Specifically, AER requested:

- An analysis of forecast labour costs for the utilities industry in Victoria;
- An comparative analysis of forecast labour costs for the utilities industry with other industries that compete for utilities workers (mining, construction and administration services);
- An analysis of forecast general labour cost growth in Victoria; and
- How market conditions are expected to affect the labour forecasts.

Deloitte Access Economics' report:

- **Discusses the economic outlook**, starting with Australia as a whole (see Chapter 2), then looking at Victoria (see Chapter 3), and then at the utilities sector (see Chapter 4), as well as the outlook for sectors which compete with the utilities sector for workers (mining, construction and administration services – see Chapter 5).
- **Discusses the outlook for wages**, starting with Australia as a whole (see Chapter 6, which also discusses the related outlook for prices), followed by **overall rates of WPI growth at the State level** (see Chapter 7), and then an examination of wage growth in Australia's utilities sector (see Chapter 8), as well as wage growth in those sectors which compete with the utilities sector for workers (mining, construction and administration services – see Chapter 9).
- The report then discusses **detailed forecasts at the State level of wage growth in the utilities and competitor industries** (see Chapter 10).
- Chapter 11 considers **the debate over 'the best' measure of labour costs**.
- **The Appendices** cover regional wage and price variations, as well as an outline of the methodology used in the Deloitte Access Economics macro model and the Deloitte Access Economics wage model, a discussion of different wage measures, and a discussion of data sources and derivation.

2 The Australian economic outlook

2.1 The global backdrop

In March, the prevailing view was that the Eurozone would 'muddle through' its current economic woes on the back of substantive liquidity injections into financial markets by the European Central Bank (ECB).

That remains the most likely outcome. However, the possibility of a disorderly Greek exit from the Eurozone, and a full-scale Euro collapse, has lifted of late.

Elections in Greece and France as well as in regional Germany have undermined market confidence in the euro. On the 6th of May, a general election in Greece failed to produce a government, on the back of strong anti-austerity sentiment amongst the community political parties. In short, Greek citizens, already hard hit by five years of a shrinking economy and spending cuts are simply not willing to accept the austerity measures tied to further EU/IMF support.

A further election has been called for the 17th of June. Major ratings agency Fitch has warned:

> *"In the event that the new general elections scheduled for 17 June fail to produce a government with a mandate to continue with the EU-IMF programme of fiscal austerity and structural reform, an exit of Greece from EMU [European Monetary Union] would be probable".*

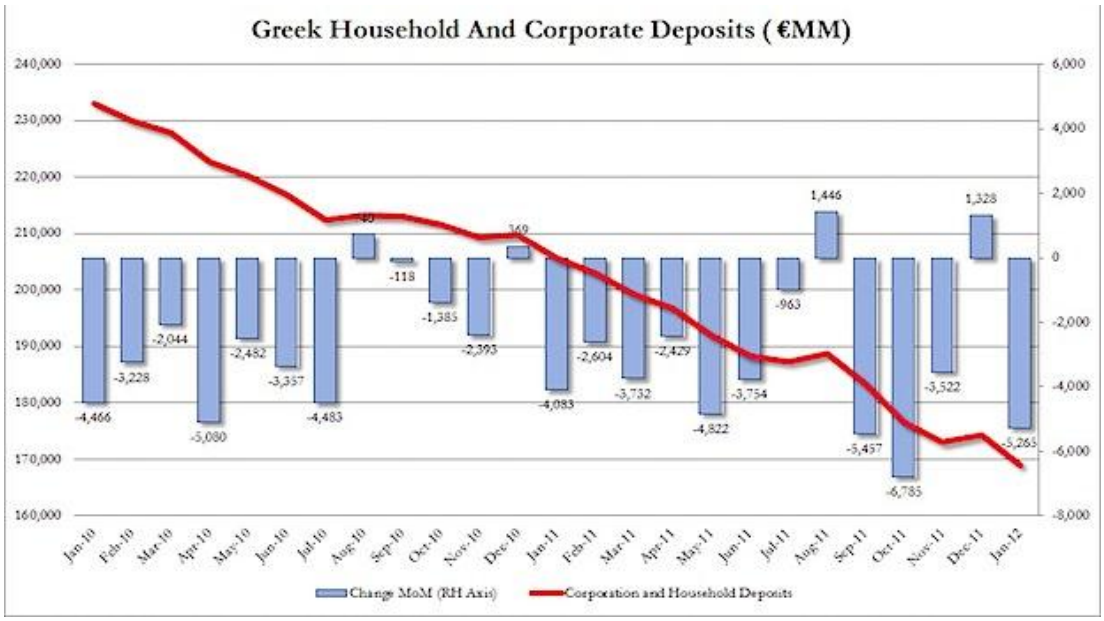
The big risk for some time has been that Europe would cast a pall over global growth. So far that hasn't happened – in part because Europe's central bank provided large amounts of liquidity to the market in recent months. Yet risks are rising once more. It is not just the election in Greece that has markets spooked. So too does the change of leadership in France and the regional elections in Germany which saw Angela Merkel's governing party get hit hard.

What next? Its debts were always too big for Greece to do anything other than default. Indeed you could argue it has gone a long way towards defaulting already. And the next step may see not merely a default but the potential for Greece leaving (or being punted from) the Eurozone in coming weeks.

Worryingly, there is now a threat of 'bank runs' – panicked withdrawals by depositors that can develop overwhelming momentum.

It could if money then pours out of the banks in Italy and Spain and Portugal as depositors decide they want their money in German banks rather than risk losing lots amid financial chaos and the potential for a Euro breakdown. Indeed, and as the chart below shows, there is already some evidence of this occurring.

Chart 2.1: Greek household and corporate deposits



Source: http://blogs.reuters.com/felix-salmon/2012/05/16/how-europes-banking-crises-threaten-the-eurozone/

Most of the global economic fears raised by the problems in the Eurozone centre around the fate of banks. In particular, some European banks now face the diabolical dual threat of:

- Losses from debt defaults – both by governments and potentially also by households and businesses as the crisis deepens
- Bank runs, prompted not merely by bank losses, but also by the fear that depositors will see their Euros replaced with much less valuable local currencies if a Eurozone breakup were to occur.

And if panicked withdrawals from banks start in nations outside of Greece, there's no guarantee that central bank action would save the day. Not only is the German public less than convinced of the need to keep some nations in the Euro, it's not clear they could succeed anyway if markets build up enough momentum.

It is also worth noting that many of the economic imbalances behind the recent Greek crisis remain unresolved in the larger southern European nations of Italy and Spain. Tied to a Euro which remains too high, these countries will still have to address their woefully uncompetitive economic positions. In essence, that will require a choice between the long and painful grind of lowering wages through austerity, or a sudden and potentially damaging exit from the Euro.

Given the reaction of Greek and French voters to the path of austerity over recent months, the latter looks increasingly likely.

Although substantial political and economic pain is certain, the more likely outcome is still one where the problems are mostly confined to Europe rather than infecting the rest of the world. That said, the global banking system remains sufficiently fragile that the cost of default to a number of banks could trigger a renewed round of panic (and so bringing attendant 'double dip risks' to the wider world economy).

That is notable, because the distinguishing feature of the global financial crisis (GFC) is that banks went bust, and the chance of that happening again is on the rise.

Moreover, these risks are becoming evident at much the same time that China's slowdown has also become more evident. Although the latter is not marked, it is clear that industrial production and electrical power output have both faded, and the authorities have recently eased monetary policy in response.

Accordingly, expectations of Chinese economic growth have been revised down. For example, the Bank of America-Merrill Lynch has lowered its June quarter 2012 growth forecast for China's real GDP growth from 8.5% to 7.6% and its 2012 growth forecast from 8.6% to 8.0%.

Of course, the Chinese Government has an array of both fiscal and monetary tools in its arsenal, far more so than many other countries, and it has already shown a willingness to employ them in response to slowing growth.

However, and combined with worrying developments in Europe in general and Greece in particular, China's slowdown has come at an inopportune time for Australia's economic prospects.

Note that a major meltdown in Europe and the spread of that to China and Australia is no certainty. It remains more likely that the world 'muddles through'. However, the risk of renewed global financial crisis has risen notably once more.

Looking further forward, and for all the concerns that many have about the longevity of this global growth cycle – and Deloitte Access Economics shares some (but not all) of those doubts – it is worth remembering that the recovery from the GFC remains young, and that the world still has some slack: unemployment is high and many factories are not working at full pace, especially in the developed world.

And although many governments in the advanced economies of the world are juggling debts and deficits, suffering much angst as they do so, it remains true that profits are up and families are saving more than they have in a while. Although that duo has not yet translated into increased spending on investment by businesses and a return to retail therapy by families in some of the major advanced economies, these latter phases will come.

In addition, although the developed world is hearing much sabre rattling about the size, scale and speed of cutbacks to government spending in the pipeline, so far that mostly reflects the rhetoric of politicians amid the unpopularity of debts and deficits. True fiscal tightening is really only evident in the UK and parts of Europe's periphery, leaving the dominant influence on fiscal finances as a modest unwinding of earlier stimulus rather than an aggressive cutback in spending.

2.2 Implications for Australia

Provided Europe and China 'hold' – that is, perform broadly as expected, and navigate the major shoals evident before them – then chances are that Australia's economic prospects will also hold up. However, the past two months did see the global backdrop to Australian prospects darken.

With risks in both Europe and China weighted toward the downside, the outlook for Australia's economy has equally become less rosy since what looked like a possible return to normality over the first half of this year.

The Reserve Bank of Australia's (RBA) Statement of Monetary Policy issued on May 4 noted:

> *"The available partial indicators and liaison suggest that the domestic economy has been growing at a modest pace in early 2012"*

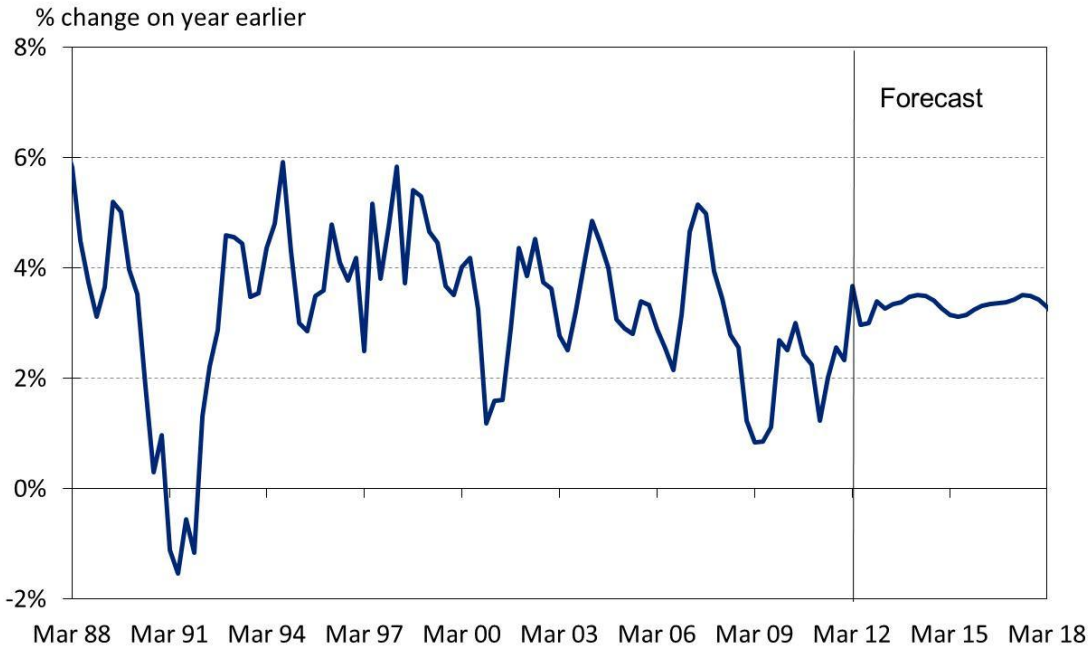
This was followed by the Federal Budget, released on May 8, which noted (on page 1-5 of Budget Paper 1) that although the situation in Europe had improved somewhat, there remain:

> *"...substantial downside risks to the global economic outlook. In particular, many advanced economies still face the significant task of generating growth while at the same time placing public finances on a sustainable footing."*

In line with its view, the RBA decided to lower the official cash rate by 50 basis points on May 1, noting that both economic growth and inflationary pressures had proved somewhat weaker than expected. Importantly, these assessments by Federal Treasury and the RBA were made before (or around the same time as) the Greek election on the 6th of May which once again raised concerns surrounding the possibility of a Eurozone collapse. Much depends on the outcome of the Greek election on the 17th of June. If the anti-austerity parties form government, then the global and Australian economic outlooks may well deteriorate further.

For now, that leaves many financial indicators close to where they were six months ago. At that time concerns over sovereign or bank defaults saw money rush to 'safe havens' and away from 'at-risk' jurisdictions, while sharemarkets posted losses, commodity prices slipped, and the $A dropped below parity with the $US.

Chart 2.2: Real (year-to) output growth in the Australian economy



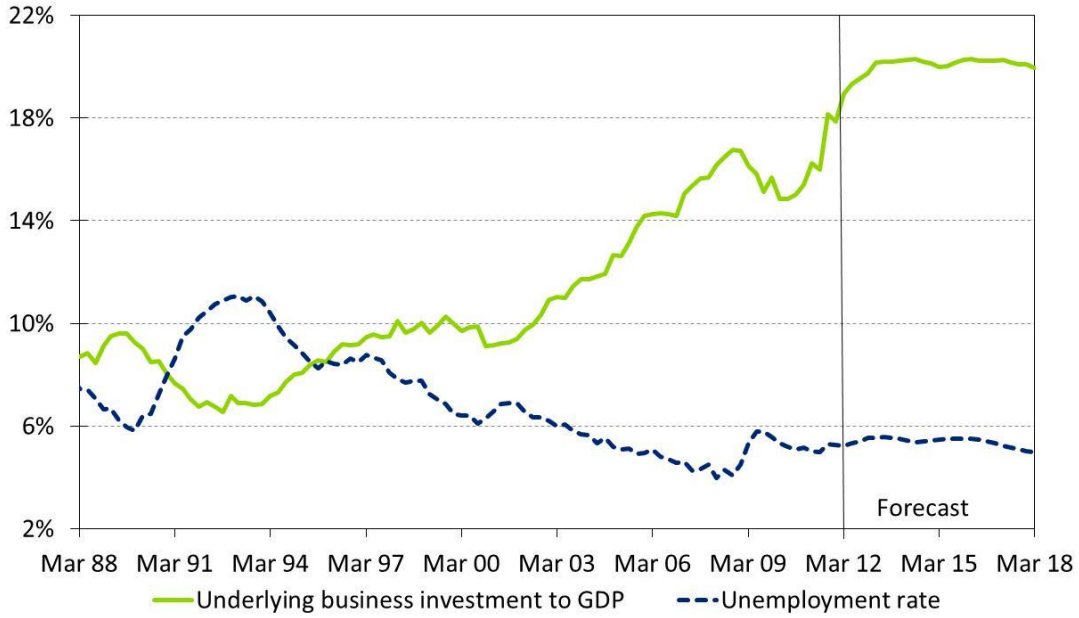
Source: ABS, Deloitte Access Economics' macroeconomic model

Growth has slowed (see Chart 2.2) amid the tough trading conditions felt by many sectors and States from the strength in Australian interest and exchange rates. And the fears about what might happen in Europe have combined with a slowdown in Chinese construction to see a drop off in the pace of national income growth as well.

Although the Federal Budget included new payments to families, there are question marks on the extent to which those payments will flow through to retailers. In particular, the Westpac-Melbourne Institute Index of consumer confidence is 8.3% lower than it was a year ago. Further, consumer confidence is continuing to fall, despite being at its lowest since the trough recorded at the worst of the global financial crisis.

But to be aware of the many negatives facing the Australian economy should not mean being blind to the positives. And one positive in particular remains the elephant in the room – the strength of the capex outlook.

Chart 2.3: Business investment and the unemployment rate



Source: ABS, Deloitte Access Economics' macroeconomic model

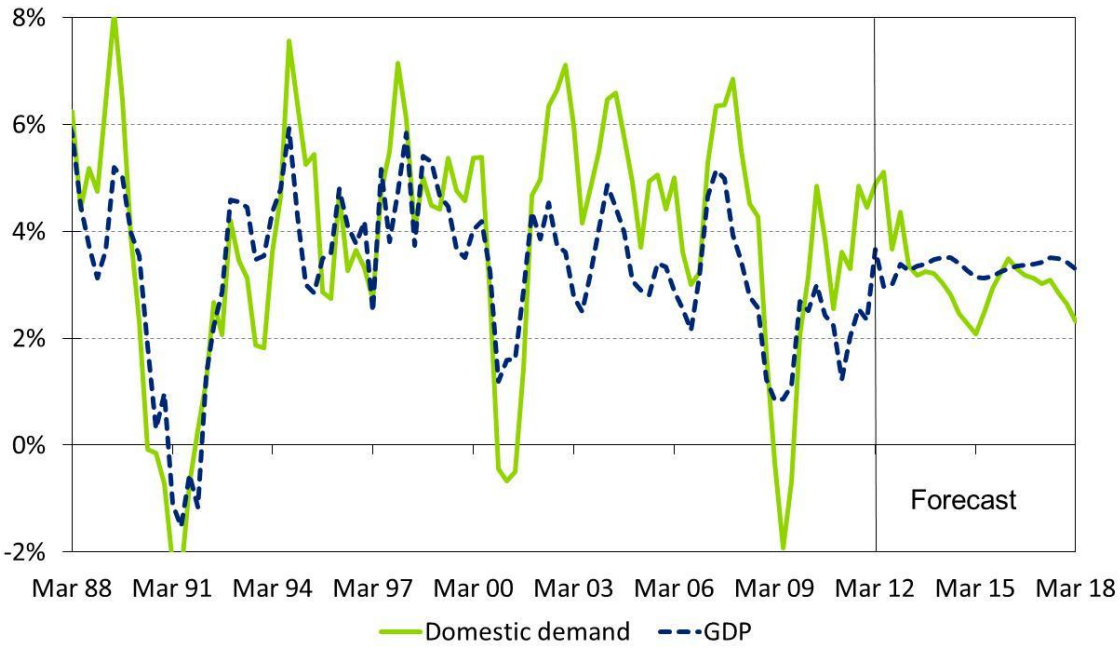
More than all of the growth in the economy this financial year will be explained by a surge in business investment as firms – especially those in the resource sector – try hard to increase their capacity. Hence although it's true that families are saving rather than spending, that housing construction is weak and getting weaker, that governments are tightening the purse-strings, and that the deadly duo of strength in our interest and exchange rates is weighing heavily on businesses and business models, those many negatives aren't yet enough to put paid to Australia's expansion. It may be a lopsided period in Australian growth, but growth it will be.

Despite recent moves by the likes of BHP, Rio Tinto and the Queensland Government to cut back or delay major investment projects, the short term pipeline of business investment remains very large. Almost all the growth in business investment is among resource sector companies, but that growth is remarkable nonetheless. As Chart 2.3 above shows, Australia's investment spending as a share of the economy, already at almost Asian Tiger-like levels, is projected to climb further in the next few years.

And the split in that growth is widening further. We have yet again revised up the outlook for capital spending by businesses – meaning Australia's key strength is still getting stronger. At the same time the negatives have been revised down: weaker retail, weaker housing construction, and weaker government spending. That says the two speed split in Australia's economy, which was already large, is getting larger still.

Yet provided Europe can continue to 'muddle through', that two speed split doesn't stop the overall outlook for Australian economic growth – the one on which the Reserve Bank has to act – still looking rather better than expected.

Chart 2.4: Real (year-to) output and domestic demand growth in the Australian economy



Source: ABS, Deloitte Access Economics' macroeconomic model

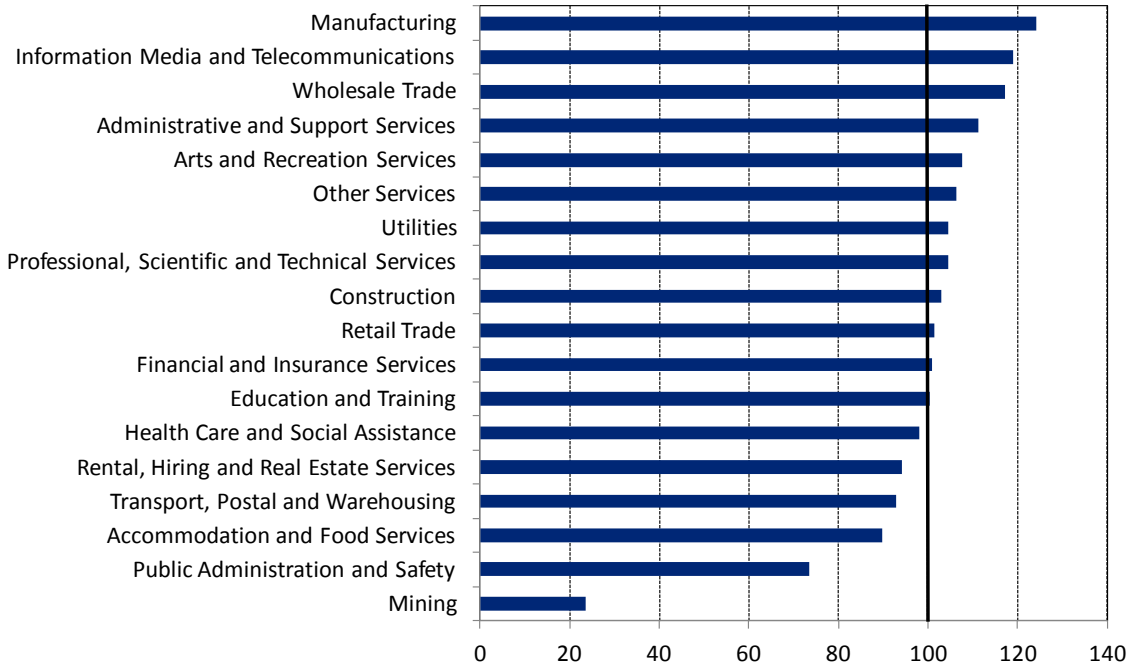
So we repeat our longstanding view – growth in Australia in the next year or so never depended on much by way of extra spending by families, or on the pace of housing construction, or what's happening to government spending as the Federal stimulus runs its course. Rather, Australia's growth outlook at present is largely a business investment story.

3 Victorian economic outlook

3.1 The structure of Victoria's economy

Chart 3.1 below ranks the relative intensity of employment in Victorian industries against that seen nationally. If an industry ranks above the 100% line, it accounts for a relatively higher share of the State employment base compared to nationally.

Chart 3.1: Ratio of Victorian employment shares to national industry shares – 2011



Source: ABS, Deloitte Access Economics

Sectors which stand out for their relatively strong representation in Victoria include:

- **Manufacturing**, in particular transport equipment manufacturing and paper manufacturing. Both of these sectors have struggled in recent years – automotive manufacturing has shed around 40% of jobs since 2005.
- **Information services**, with the State accounting for a high share of telecommunications sector workers thanks in part to the location of Telstra's headquarters.
- **Financial services**, where Melbourne has made considerable gains in market share at Sydney's expense over the past decade.
- **Arts and recreation services**, helped by Melbourne's reputation as Australia's cultural and sporting capital, but also due to Crown Casino.
- **Wholesale trade**, partly a result of the State's agricultural production, partly due to the downstream wholesaling of the State's motor vehicle production and also due to imports via the Port of Melbourne.

Sectors which stand out for their relative lack of representation in Victorian employment include:

- The **mining** sector. That does not mean Victoria doesn't benefit from the mining boom – just that the benefits do not show up in direct employment in that sector; and
- **Public administration**, primarily due to the concentration of this sector in Canberra.

3.2 Medium term pressures from the resources boom

At present, the strength of the $A and interest rates that remain well above those in the rest of the rich world have placed Victoria's key industries under pressure. That mix of exchange and interest rate strength poses problems for manufacturers (food, clothes, wood and paper, plastics and chemicals), as well as for tourism operators and education providers. The deadly duo of strong exchange and interest rates is also plaguing farmers.

In fact, the bigger the boom in China and other emerging economies and the longer that commodity prices stay very high, the greater the pressure on trade exposed industries such as manufacturing, tourism and education.

Victoria has an above-average share of industries adversely affected by a strong $A (manufacturing, agriculture, higher education) and by relative strength in interest rates (housing construction and the retail sector).

Australia's resources boom since 2003 has been associated with a sharp rise in Australia's terms of trade and the $A, as the price of key export commodities such as iron ore and coal have surged.

Indeed, the $A 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 phenomenon, then many manufacturers could simply consider it as short term profit pain rather than a longer term threat to business viability. However, the $A's dalliance with $US parity has lasted a while, and more and more manufacturers are wondering whether they can keep going with the struggle against keenly priced import competitors.

This issue has been labelled by some commentators as a 'two speed economy' effect or 'the Dutch disease'. This says that in an economy with limited supplies of labour and capital, a surging resources sector pushes up the $A and makes life hard for manufacturers and other trade exposed sectors – those sectors must shrink (at least in relative terms) in order to allow the resources sector to expand. Other assorted side effects of the resources boom – including higher than otherwise interest rates, and higher than otherwise input prices – also weigh on the outlook for these sectors.

Structural adjustment driven by the resources boom has already been occurring over the last few years. Mining has expanded its share of the national economy relative to other industries, with recent analysis by the Reserve Bank of Australia and the Federal Treasury showing that the pace of structural change has picked up in recent years (although structural change has always been occurring, and isn't a new phenomenon). Their analysis finds that this is especially true in terms of nominal output and investment. If the resources boom continues over the medium term, and the $A remains at around its present elevated level, structural change is likely to continue.

That said, while commodity prices are expected to remain elevated over the next few years, they should ease over the longer term as global supply catches up to demand. The $A is also expected to decline to more historically normal levels over time. This would provide relief for some trade exposed sectors, but is not expected to occur for some time.

While the resources boom has some clear negative effects for non-resource rich States such as Victoria, it also brings benefits to the State. By making imported goods cheaper, the higher $A has significantly boosted the real income of households and businesses across Australia, including in non-resource States such as Victoria. This allows for increased spending (or saving) by households and businesses. Meanwhile, some business services provided to the mining industry are provided from outside the mining States, and the expansion of the mining industry increases the demand for those services; this is especially true for Victoria, as the head offices of several large mining companies are located in Melbourne. The profits of mining companies are distributed to resident shareholders across Australia (who also see a boost to their wealth from expectations of future profitability which increase mining company share prices); mining company profits are also taxed by the Federal Government, which spends across Australia.

These beneficial effects of the resources boom for the non-resource States have been observed over the past few years. While resource rich States such as Western Australia have outperformed in terms of output and population growth, non-resource rich States such as Victoria have experienced solid economic growth.

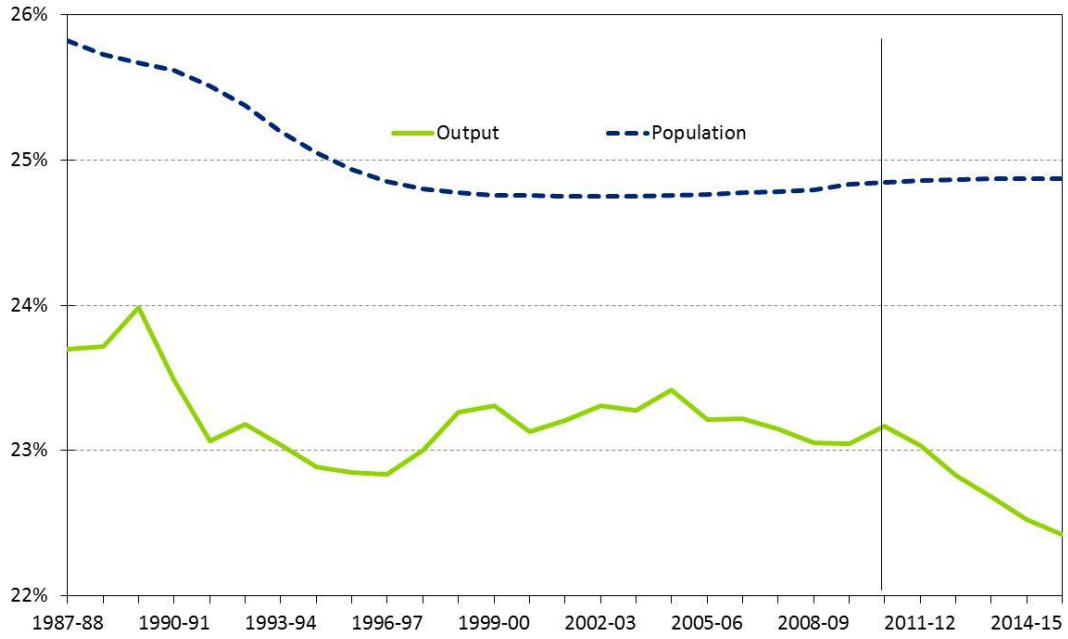
In particular, since the resources boom commenced in 2003, Victoria has experienced solid real household income growth, and employment growth, while its unemployment rate has declined. Indeed, Federal Treasury analysis shows that the spread of unemployment rates across States declined during the first phase of the current resources boom.

Hence, while increasing pressure for structural change is expected if the resources boom continues over the medium term, there will also be some benefits for non-resource States like Victoria, and recent history suggests that the economy is well placed to cope with this structural change without major dislocation.

3.3 The State's economic outlook

The last decade saw Victoria performing remarkably well. It strived through adversity and built new subdivisions on Melbourne's outskirts while other States lagged in their own efforts. The related boosts to housing activity from that (and the boost to population growth it facilitated) allowed Victoria to hold on to much of its 'market share' within the Australian economy despite fortune being well and truly aligned with the resource rich States.

Chart 3.2: Victoria output and population share



Source: ABS, Deloitte Access Economics' macroeconomic model

And there's some continuing good news for Victoria too. This State took a battering as foreign student numbers fell away in recent years, with the bulk of that fall concentrated among Indian students, and with a disproportionate effect here in Victoria. Yet the corner has now been turned – visa applications from prospective Indian students are up by a third, and late last year the Federal Government accepted a number of recommendations from the Knight Committee into student visa regulations. That should provide further impetus on the foreign student numbers for this State.

Indeed, Victoria is continuing to (just) maintain its lead over the Australian average on population growth. That success hasn't been a flash in the pan: it's been evident for five years now. And the recent resurgence in foreign student numbers should ensure population growth in Victoria stays strong into the future.

Yet although some of the news is still good, much of it is not. The main reason is simple: Victoria lies on the wrong side of Australia's two speed economy. Not all the macro indicators are negative, but many are and others are close.

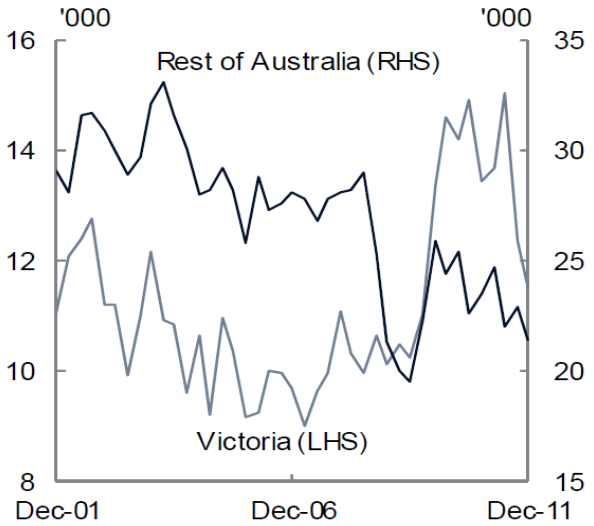
In particular, housing starts are down around a third from their mid-2010 peaks and leading indicators are still slipping rapidly, suggesting that the days of Victoria leading the way in house building look numbered. And it doesn't help that housing prices have been falling.

That said, the days of ever-increasing rates of year-on-year growth are over. The value of non-residential building construction approvals in Victoria has fallen. The fall is symptomatic of the weakness in retail turnover and a relatively modest jobs market, which are undermining investor enthusiasm. Furthermore, new residential housing starts have fallen notably of late (see Chart 3.3 below) and are not expected to return to pre-GFC levels – at least for the forecast period.

It is noteworthy that the Federal Budget released on May 8 referenced the size of the slowdown in housing construction in Victoria, noting (at page 2-22 of Budget Paper 1) that *"Over the past three years dwelling investment has been supported by particularly strong growth in Victoria's new housing market,*

but that market is now returning to more normal levels of activity, while demand in other markets is expected to remain weak."

Chart 3.3: Quarterly numbers of dwelling commencements



Source: Federal Budget Paper No. 1, page 2-23.

Of course that fall in housing activity is not a surprise for the State. These falls are better seen as a return to normality, not a plumbing of the depths like New South Wales and Queensland have done of late. Moreover, with population growth easing back towards the national average, the outlook remains for a sedate deflating of local activity across the next few years. In part that is as the level of building in recent years leaves far less pent up demand in Victoria than in other States.

Still, falling activity in the housing construction sector has pegged Victoria's performance back into line on indicators such as retail sales – where it is back growing in line with the Australian average rather than (as it did over much of the last decade) beating that average.

At the same time, the high Australian dollar and terms of trade have hurt the manufacturing sector in recent years and forward projections do not look any brighter. That sector went from 'the frying pan' of the GFC to 'the fire' of the strong $A, capping what would otherwise have been a stronger Victorian economic recovery.

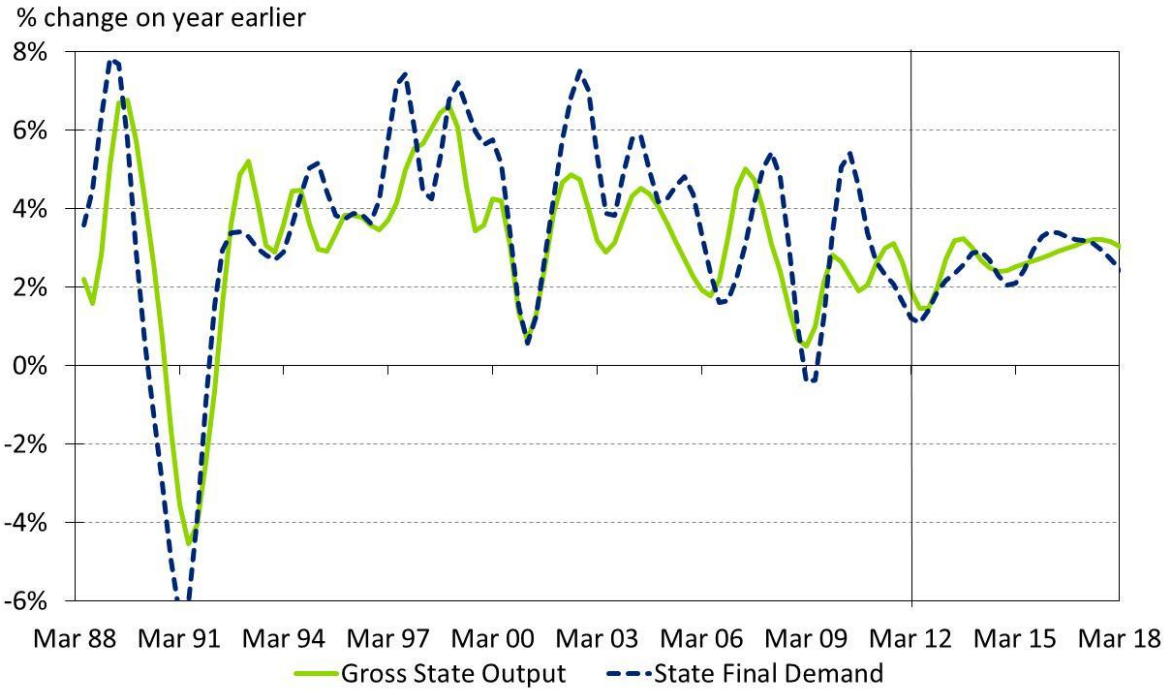
Moreover, almost regardless of what happens in 2012, the outlook for manufacturing remains relatively modest: either it will be held back by continuing strength in the $A, or by gory headlines inspired by problems in Europe leaving businesses and families unwilling to spend on buying the State's manufactured goods.

So there's no getting away from the fact that two speed troubles are hurting Victoria's industrial base. Job losses have been large in recent months, with no immediate sign of a let up. And the woes of the State's business services sector haven't yet completely disappeared.

In addition, manufacturing in Victoria is relatively energy intensive, meaning that the arrival of carbon pricing in coming weeks may pose some transitional costs on this sector.

On balance, we see a tough 2012 for the State, followed by a recovery that may not return the State to the growth rates it has averaged over the past decade (see Chart 3.4).

Chart 3.4: Victoria output and demand



Source: ABS, Deloitte Access Economics' macroeconomic model

Table 3.1 below sets out Deloitte Access Economics' current forecasts for Victoria's economy.

Table 3.1: Victorian demand and output forecasts

Calendar year changes in Victoria key economic variables

Annual % change (unless noted)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consumption										
Private sector	-5.3	-0.4	7.0	5.3	5.2	2.8	3.2	3.2	2.8	2.7
Public sector	2.7	2.0	1.4	-0.4	1.7	3.2	3.1	2.8	2.8	2.9
Private sector investment										
Dwelling investment	5.4	7.7	0.2	-2.8	4.9	-2.8	3.8	9.2	1.3	-7.1
Non-residential building	-6.2	-5.0	7.3	7.1	6.1	0.5	3.3	4.3	2.8	3.1
Engineering construction	13.2	5.5	3.3	12.2	10.9	-0.3	2.2	3.0	1.3	1.4
Machinery and equipment	1.6	-2.2	-1.9	5.4	1.4	4.5	8.8	5.6	4.8	5.5
IP and livestock	3.1	4.2	4.5	0.3	4.2	2.7	3.7	4.2	3.1	3.4
Public investment										
General Government	34.0	16.6	-16.4	-12.7	-4.3	0.2	2.2	1.2	0.9	1.8
Public enterprises	26.1	2.8	-5.4	11.8	0.6	1.1	-0.4	-4.2	-1.6	0.9
Real final demand	3.8	3.2	1.5	1.9	2.8	2.2	3.3	3.2	2.6	2.3
Private sector	2.8	2.9	2.5	2.8	3.3	2.1	3.4	3.5	2.7	2.2
Public sector	7.9	4.3	-2.2	-1.4	0.8	2.7	2.8	2.1	2.3	2.6
Gross State output	2.3	2.5	2.3	2.3	2.8	2.5	2.8	3.1	3.1	2.4
Employment	2.8	3.6	0.0	1.9	1.3	1.0	1.1	1.0	1.2	1.3
Unemployment rate (%)	5.5	5.2	5.4	5.6	5.6	5.6	5.6	5.4	5.1	5.2

Source: Australian Bureau of Statistics, Deloitte Access Economics

*Excludes real estate transfers

3.4 The State's outlook if troubles in Europe and China worsen

Of course, the analysis above essentially assumes that the global backdrop is 'more of the same'. It is also worth considering what impact a major deterioration Europe (and China) might have on Victoria's outlook – and perhaps particularly on the State's manufacturing and finance sectors.

On the one hand, a deeper crisis in Europe might even have something of a silver lining for Victoria. Victoria's employment base is far more manufacturing oriented than its national counterpart. If the outlook (both globally and nationally) deteriorates much further, then the State's manufacturers may finally see some long awaited relief from the challenges brought by a strong $A. A falling currency will also stand to benefit the State's retailers, as well as its international education sector.

However, this is not much of an upside. Or, more to the point, the offsetting negatives would be larger still. If economic growth slows, then consumers will likely wind back spending on all products, including manufactured and retail goods. And if global economic growth slows so too will the number of international students seeking an Australian education.

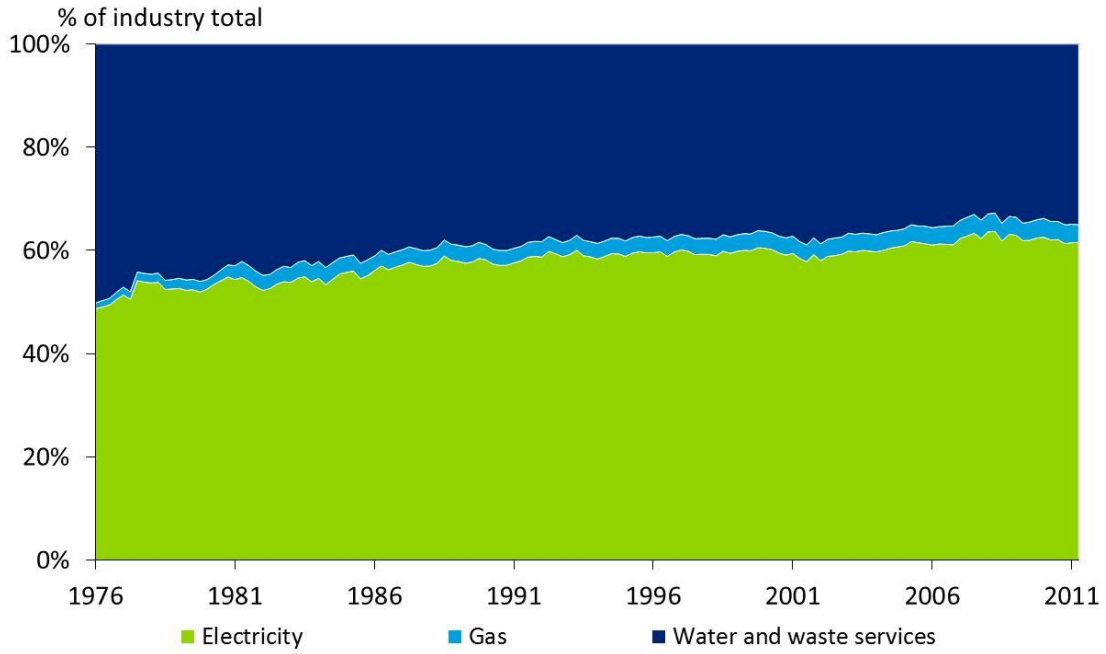
4 The utilities sector outlook

The utilities sector (technically the electricity, gas, water and waste services industry, which is division D of the Australian and New Zealand Standard Industrial Classification, Revision 1.0 of 2006) covers economic units engaged in the provision of:

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

As Chart 4.1 below shows, electricity accounted for a rising share of the utilities sector over time. However, that stopped being true after the GFC, with electricity's share of the wider utilities sector edging down thereafter.

Chart 4.1: Composition of output in the utilities sector



Source: ABS

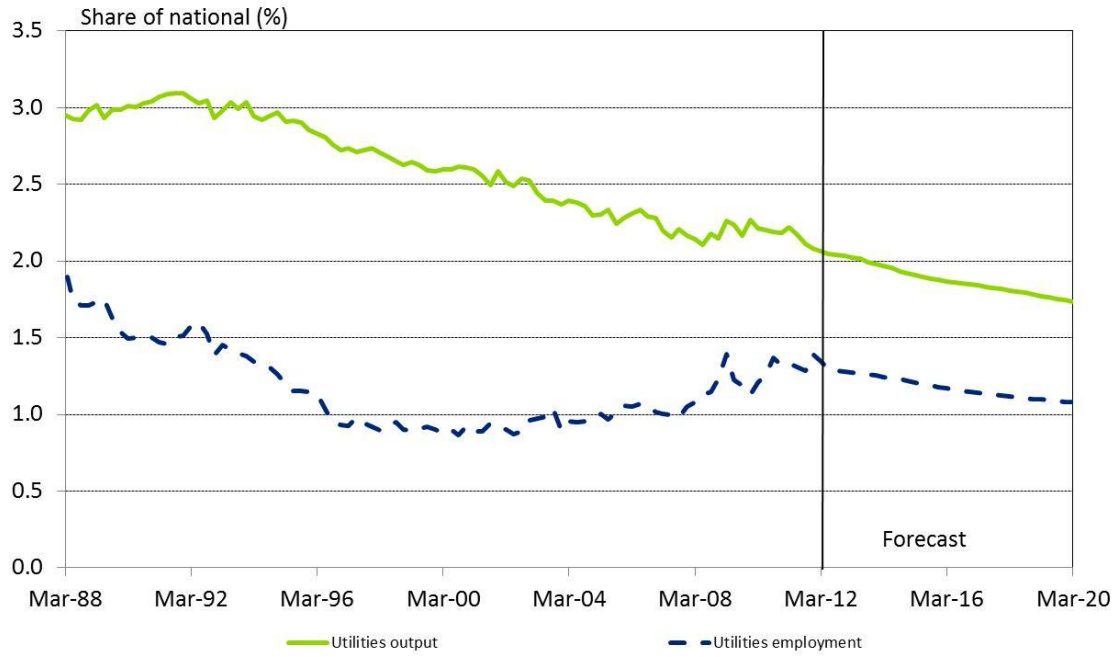
As that chart also shows, there is a similar story for gas. Gas has accounted for a rising share of the utilities sector over time. However, that stopped being true after the GFC, with the share of the wider utilities sector accounted for by gas easing down thereafter.

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, that growth has not been sufficient to stop the long running downtrend in the utilities' share of Australia's economy. (Chart 4.2 below shows that employment has fared better – though the flipside has been a large fall in the productivity of this sector in the past decade.)

Chart 4.2: The utilities as a share of Australia's economy and employment



Source: ABS, Deloitte Access Economics

As Chart 4.3 below shows, the utilities sector recently saw a fall in growth. Indeed, the utilities sector is currently shrinking at the fastest ever recorded pace for this industry.

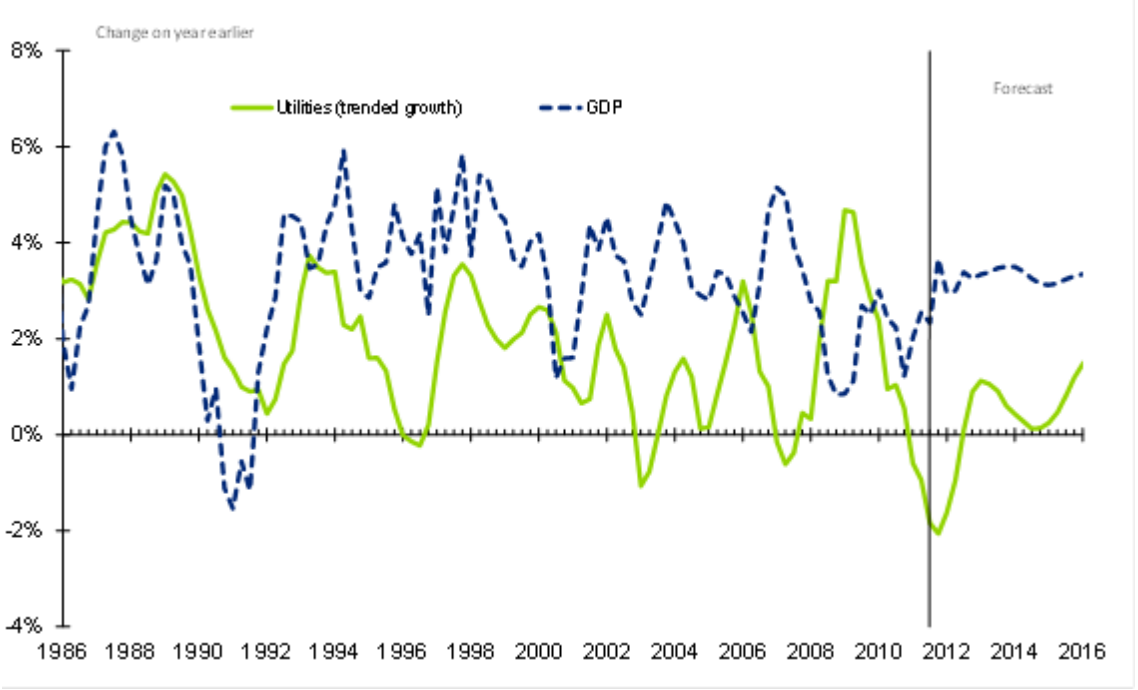
In part that is because population growth in general and new housing construction in particular are well off their peaks – reducing the growth in demand for the utilities.

In part that's due to the impressive rain of the last two years which cut some of the call on water utilities. And in part it is in response to the big price hikes which have made consumers more cautious (electricity sector output is smaller today than three years ago).

On the other side of the ledger environmental policies are generating a rising volume of recycling which has boosted waste services. But we see the notable downswing in output growth – to the point where this sector is now shrinking – as being also notably affected by a lack of investment certainty as squabbles over carbon pricing continue.

It has been the unfortunate fate of this sector to find its cost and regulatory backdrop the subject of the biggest single football in Australian politics. Although the forecasts here see a modest recovery over the next two years, that owes as much to lifting rates of housing construction (and the flow on demand for connecting up household utilities) as it does on a resolution of this running sore.

Chart 4.3: Utilities output growth



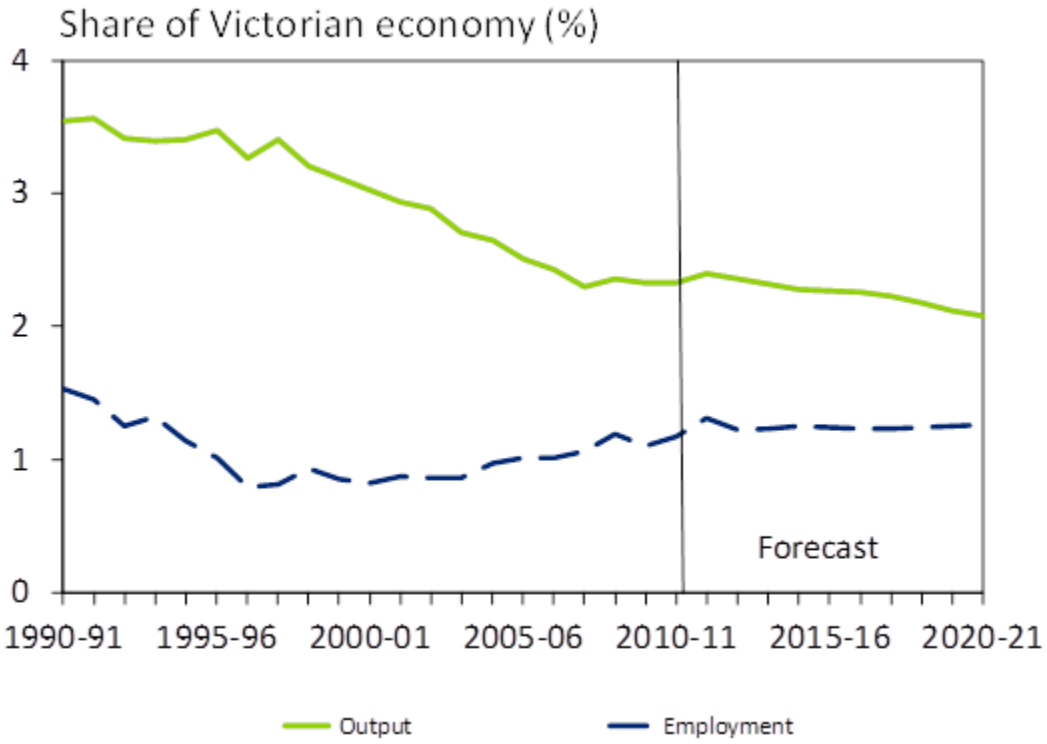
Source: ABS, Deloitte Access Economics' macroeconomic model

That makes forecasting this sector particularly hard. On the one hand, demand fundamentals should pick up from their current low. On the other hand, it is less than clear businesses will want to stump up the money to supply that extra demand in the absence of greater certainty.

There has also been little activity in the utilities sector in Victoria over the past year. Output has remained steady as a share of the Victorian economy off the back of some disappointing years. Looking forward, investment in the sector should keep job growth positive.

Construction of the Mortlake natural gas power plant and the Latrobe Valley low emission coal fired power station continue, while the $5.7 billion Gippsland desalination plant will be completed shortly. Meanwhile, the Eastern water treatment plant at Carrum is being upgraded at a cost of $417 million, and Melbourne Water is spending $220 million replacing main sewers in the Melbourne CBD.

Chart 4.4: The utilities as a share of Victorian output and employment



Source: ABS, Deloitte Access Economics' macroeconomic model

4.1 The carbon price backdrop

The current carbon price debate is not a focus of this report. That said, this section notes some factors important as a backdrop to forecasting labour costs in the utilities sector.

In brief, climate change policies are, among a range of factors, having a large bearing on the electricity generation sector and the price of electricity paid by customers.

A broad-based carbon price represents the lowest cost means of reducing carbon pollution. That said, the shape of the future carbon pricing system in Australia was somewhat of an unknown quantity for a considerable time. That has generated considerable investment uncertainty for utilities corporations. The electricity sector in particular is a large producer of carbon emissions (mainly through coal-fired power plants), and the absence of a carbon policy framework has hampered long term investment decisions.

At the same time electricity prices in Australia for both industrial and residential customers have risen substantially over the last few years. Prices have increased notably since 2006, with electricity prices paid by households outpacing those faced by businesses, though all electricity consumers have seen steep price increases. While these prices remain lower than the OECD average, the prices for industrial users are now higher than in some economies such as South Korea, which are large importers of Australian thermal coal.

Hence a key issue is that climate change policies affecting the utilities sector are occurring in the context of an increasing electricity price environment. This places greater importance on not only minimising

uncertainty on relevant (especially long term) policy action but ensuring that policy responses are directed at least cost abatement options.

The climate change policy environment presently comprises a mix of Commonwealth- and State-based schemes with the stated aim of directly reducing the level of carbon emissions.

- At the State level, policies include mandated building standards for energy efficiency, solar rebates and feed-in tariffs.
- Federally, subsidy programs for household solar hot water and electricity generation are in place to encourage the deployment of small-scale low-emission technologies.
- The Federal Government's carbon pricing scheme aims to move Australia away from coal-fired electricity generation towards lower carbon power generation. The scheme also aims to increase the efficient use of electricity and will hence affect demand.

A national Renewable Energy Target (RET) has also been established to foster renewable energy generation. The RET requires that 20% of Australia's electricity is sourced from renewables by 2020. Under recent changes, the scheme will now run to 2030.

A carbon price has been set, with provision to transition to an emissions trading scheme thereafter. As expectations for future carbon prices are now clearer, this has created greater certainty around investment decisions – though that clarity remains subject to considerable political uncertainty.

The newly announced carbon tax will indirectly affect the retail price of electricity through the wholesale market. Treasury modelling estimates the impact to be $3.30 per week in 2013 on average for households. The Treasury modelling indicates investment in renewable energy will be 18 times its current size by 2050, with 40% of electricity generated by renewable sources, while gas-fired electricity will increase by 200%.

Any company producing at least 25,000 tonnes of direct carbon dioxide equivalent (CO2-e) per annum will be included in the scheme, unless exempt. The highly emissions intensive nature of electricity generation makes it likely that fossil fuel electricity generators will be among the 500 companies directly affected by the scheme.

The Government will provide payments for the closure of approximately 2,000 megawatts of very high emitting electricity generators, eligibility for this scheme is limited to coal-fired generators (such as Port Augusta's Playford B and Victoria's Hazelwood power stations). Replacement power generation and the subsequent impact on wholesale electricity prices will need to be addressed, so these closures will likely take place over time.

Under the Clean Energy Finance Corporation the Federal Government has made provisions for the allocation of $5.5 billion over five years to assist highly emissions intensive coal-fired generators adjust to the carbon price. Cash will be provided in 2012-13 (the first year of the scheme) followed by free carbon permits thereafter. Assistance will be based on generators adopting clean energy investment plans to reduce emissions.

To assist investment in commercialisation and deployment of renewable energy and enabling technologies, as well as energy efficiency and low-emission technologies, the Government will provide $10 billion over five years from 2013-14 in the form of equity investments, loans and loan guarantees.

5 The competitor industry outlook

Individual sectors can be expected to see their wage cycles differ from the average:

- Longer term wage outcomes by occupation and by sector tend to reflect developments in labour productivity and inflation.
- Shorter term outcomes also reflect the pace of demand and the availability of supply among relevant types of skilled labour.

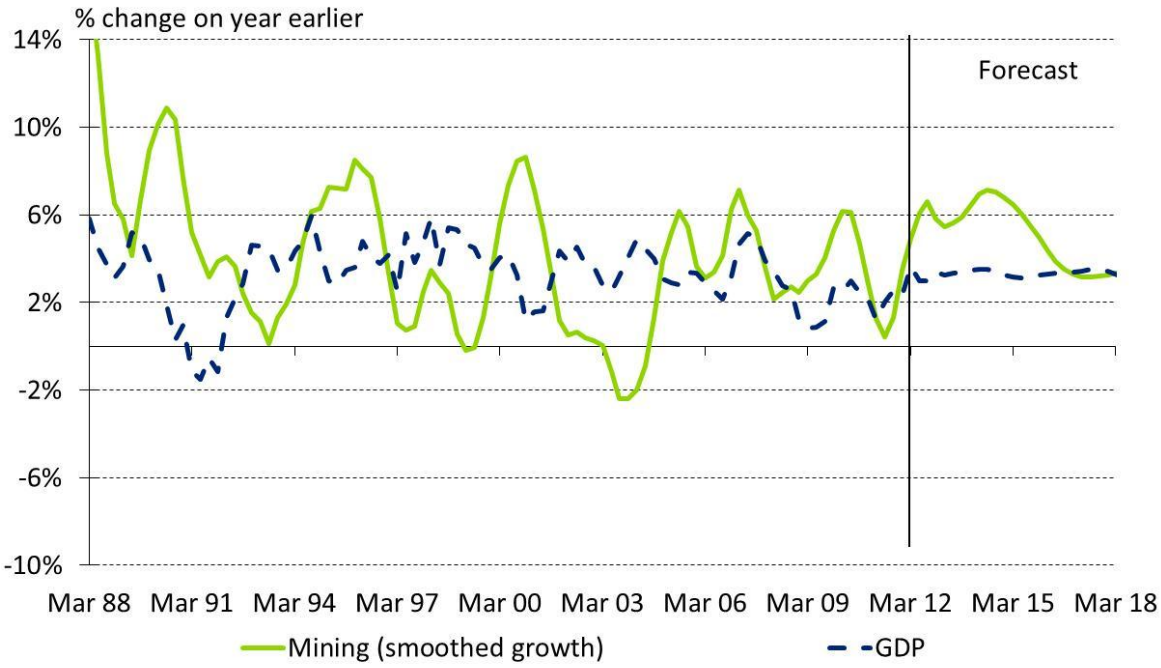
This chapter discusses the industries which compete most heavily for labour with the utilities sector – the mining and construction sectors – as well as the administration services sector.

In brief, coming years will be characterised by strength in mining and related solid growth in the construction sector.

5.1 The mining industry

For a long time growth in the mining sector has been hobbled by shortages among skilled labour, delays in projects, delays in commissioning, the disastrous and lingering impacts of floods and cyclones, the advent of the global financial crisis, and the controversy over mining taxes. Each of these factors has slowed the supply side response of Australia's mining sector to the historic opportunities currently on offer.

Chart 5.1: Mining output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

But past performance is no guarantee of future performance. The relative slowness of the supply response in the last few years (as well as the recent negatives of cyclones and floods) is about to give way to a massive surge in mining output amid a once in a lifetime boost in investment.

It is hard to overstate the size of the imminent surge. The Government's official commodity forecaster, the Bureau of Resources and Energy Economics (BREE), suggests that the next five years will see Australia's LNG production triple in volume, while each of thermal coal, iron ore and uranium will more than double. Coking coal lags behind that pack, being projected to rise by 'only' 50% across that same five year period.

Other minerals are expected to also average excellent growth rates in output – essentially seeing their output growing at twice the rate of the Australian economy across the same five year period. That's true, for example, for nickel and copper, as well as for gold, alumina and zinc.

As BREE themselves put it in their Resources and Energy Quarterly March 2012:

> *"High levels of mining investment are expected to continue. Significant expansions to iron ore and coal production capacity are also underway, and will contribute to solid growth in resource export volumes over the foreseeable future".*

Not all the news in the mining outlook is good of course. Overall energy output might be expected to surge thanks to LNG, but Australia's oil production fell by almost a fifth in 2011, dropping to its lowest in more than four decades. Not all of that was due to the continuing run down of production in the Gippsland Basin. A stepped up pace of maintenance work and redevelopment didn't help either, while the combination of weather related interruptions and relatively weak demand were also weighing on the outcome.

Added to that, recent moves by the likes of BHP, Rio Tinto and the Queensland Government to cut back or delay major investment projects represent setbacks to the otherwise impressive pipeline of business investment in the short term.

Where will the extra volume across the mining sector as a whole come from in the next few years?

- Now that the giant Pluto project is increasingly part of the current production base, the further (and considerable) good news in LNG will come from a who's who among the other mega projects dotting the Australian industrial landscape, including the likes of Ichthys, Curtis, Wheatstone, Prelude and further expansion on the North West Shelf.
- The gains in thermal coal are coming as a result of the numerous expansion projects underway in NSW and Queensland, while the good news in coking coal is being pushed along by Wesfarmer's Curragh mine and Xstrata's Newland Northern underground mine.
- Finally, the tub thumping result in iron ore volumes will benefit from the likes of Mt Gibson Iron's Extension Hill Direct Shipping Ore project, Rio Tinto's Hamersley Iron Brockman 4, BHP Billiton's Rapid Growth 5 project, and Fortescue Metal Group's expansion at Chichester Hub.

All up, and as Chart 5.1 above shows, that sees the recent gains in investment becoming notable gains in mining output over the next handful of years, comfortably outpacing growth in the Australian economy as a whole across that period.

With Australia's resource sector in the midst of the greatest boost in investment in living memory, you would expect the mining sector in Victoria to be reaping the benefits. Yet that is just not the case. Indeed, it seems that even with an investment portfolio to the value of $412 billion, of which close to $100 billion has been added to the value of definite projects over the past year, Victoria's mining sector remains both (relatively) small and stagnant. These investment dollars are being consumed by larger and more lucrative investments in the resource rich States. Victoria's mining sector simply cannot compete with the likes of Queensland and Western Australia for investment.

In part, that reflects the reality that the outlook for those components of the resources sector that are linked to domestic demand is far less positive. Victoria's brown coal deposits in particular face an uncertain future as domestic demand from coal fired electricity generators dries up under the incoming carbon tax package.

Accordingly, the mining sector is less relevant as a competitor employer for those in the Victorian utilities sector, as most workers would need to change States as well as change jobs to take advantage of the opportunities on offer.

Even so, the sheer scale of developments in the mining sector nationally looks set to be a source of competitive pressure on Victorian utilities sector wages over coming years.

5.2 The construction industry

Nor will the mining sector be the only competitor to consider here. For the mining sector to grow fast, the construction sector has to do the same first. And the construction sector employs almost seven times the number of workers that the utilities does.

Construction has three components – housing, commercial construction and engineering work. Of these, the housing sector is the biggest, but is also currently the weakest.

Almost every State and Territory is seeing weakness in building approvals flowing through to matching weakness in housing starts, with the likes of the ACT seeing the biggest falls of all. That's part of the reason why construction growth as a whole softened in recent months – housing accounts for half of all the activity in this sector, and housing itself is in reverse. Moreover, the negatives in the pace of housing construction have a little further to run yet: the forward indicators are uniformly negative, and the impact of that will take some time to flow through the system.

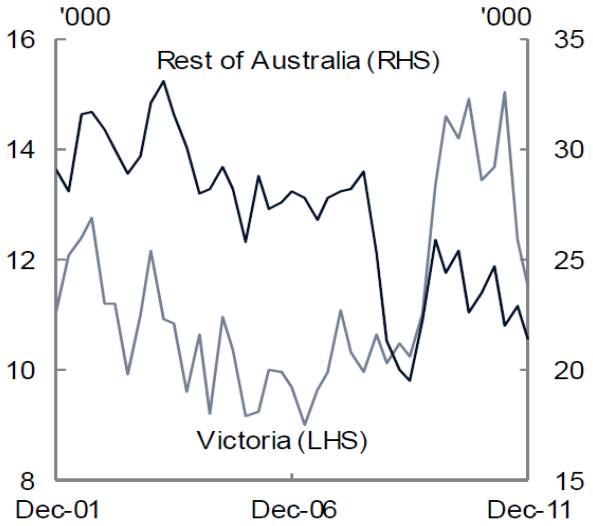
There are other negatives to consider here too: developers are still finding it hard to get loans for high rise construction, investors aren't convinced of short term capital gain prospects and so are sitting on the sidelines, while first home owners are still also largely sidelined by high entry level prices. Add in the weaker migration flows of recent times, and there are some clear negatives for housing construction.

On the other side of the housing activity ledger there are some bright points to consider. Chief among these is the surprise 50 basis point interest rate cut announced by the RBA on 1 May. While not all of that cut was passed on by the banks, it does provide some welcome relief to prospective home buyers – particularly in the struggling eastern States. At the same time, migration is starting to edge off its lows. In addition, although it's easy to overstate the level of pent up demand for housing here in Australia, there clearly is quite a lot, and continuing weakness in construction means that level of pent up demand is still growing.

On balance, that sees a negative outlook for housing construction for 2012 (which is important, because housing accounts for almost half of all the activity in the wider construction sector), but a more positive housing outlook for both 2013 and 2014.

Perhaps more to the point, and as noted in Chapter 3, the problems evident for housing construction are larger still in Victoria. Even the Federal Budget released on May 8 referenced the size of the slowdown in housing construction in Victoria, noting (at page 2-22 of Budget Paper 1) that *"Over the past three years dwelling investment has been supported by particularly strong growth in Victoria's new housing market, but that market is now returning to more normal levels of activity, while demand in other markets is expected to remain weak."*

Chart 5.2: Quarterly numbers of dwelling commencements



Source: Federal Budget Paper No. 1, page 2-23.

Of course that fall in housing activity shown in Chart 3.2 and repeated as Chart 5.2 above, is not a surprise for the State. As noted earlier, these falls are better seen as a return to normality, not a plumbing of the depths like New South Wales and Queensland have done of late. Moreover, with population growth easing back towards the national average, the outlook remains for a sedate deflating of local activity across the next few years. In part that is as the level of building in recent years leaves far less pent up demand in Victoria than in other States.

Or, in other words, although construction is a competitor for workers in the utilities, that competition is less in Victoria than it is elsewhere.

Nor is there much joy in commercial construction either – the weakness in job growth is weighing on the pace of office construction, as is the impact of the 'hole' in the pipeline of office activity from projects which didn't get the go ahead while GFC fears dominated the landscape.

Chart 5.3: Construction as a share of non-farm employment

Source: ABS

And it's much the same in retail too, with weak retail demand combining with a relatively modest pipeline in retail construction as a result of the GFC ructions.

Table 5.1: Commercial construction projects (level and change over last year)

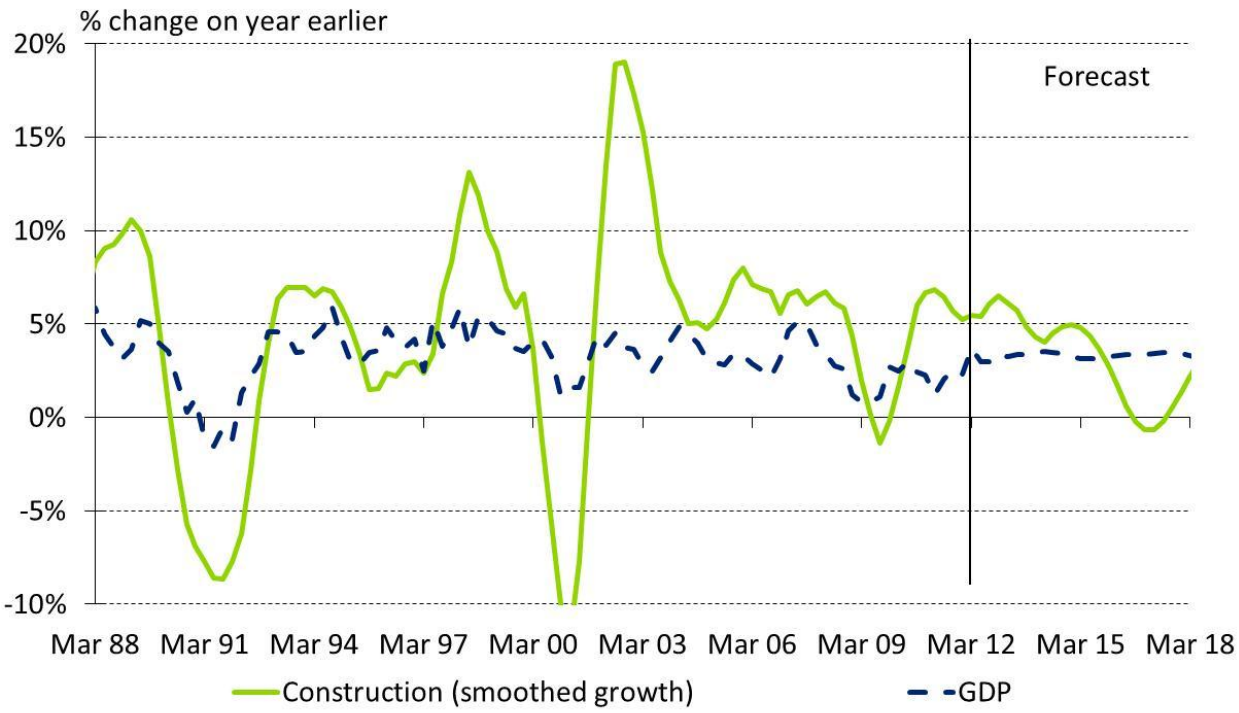
	Definite	% change on Dec 2010	In planning	% change on Dec 2010	Total $m	% change on Dec 2010
Trade	$7,555	21%	$4,399	30%	$11,954	24%
Business parks	$2,969	-21%	$1,341	0%	$4,310	-15%
Hotels and resorts	$306	-8%	$1,057	20%	$1,363	12%
Offices	$2,938	-8%	$1,108	-63%	$4,046	-35%
Education	$20,375	-3%	$595	94%	$20,970	-1%
Health and community services	$19,301	29%	$3,610	-48%	$22,911	5%
Culture, recreation & other	$4,665	34%	$3,938	-10%	$8,603	10%
Business services	$680	67%	$3,715	0%	$4,395	7%
Government	$1,728	-20%	$532	100%	$2,260	5%
Mixed use	$9,440	48%	$3,064	5%	$12,504	35%
Total ($m)	**$69,957**	**13%**	**$23,359**	**-13%**	**$93,316**	**5%**

Source: Arup and Deloitte Access Economics' Investment Monitor

That said, there has been some better news of late. Although we don't see continuing momentum, this part of the wider construction sector is better described as treading water rather than being in active retreat.

So it is poor marks in housing and only a modest contribution from commercial construction. However, the return to overall construction sector growth mapped out in Chart 5.4 below is driven by engineering construction activity.

Chart 5.4: Construction output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

That should come as no surprise. After all, and as noted earlier, mining investment and the associated pipeline engineering construction are now the major drivers of growth throughout the Australian economy.

Table 5.2: Engineering construction projects (level and change over last year)

	Definite	% change on Dec 10	In planning	% change on Dec 10	Total $m	% change on Dec 10
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 in $m	**$342,597**	**52.1%**	**$473,727**	**3.2%**	**$816,324**	**19.3%**

Source: Arup and Deloitte Access Economics' *Investment Monitor*

The value of **engineering construction** commencements in Victoria has been falling of late. That suggests activity will soften over the medium term, perhaps even more so given that the $5.7 billion Gippsland desalination plant (which has been the lead project in the State over the past few years) will shortly be completed.

There are still some key bright spots, however, including the $5.3 billion Regional Rail Link project linking West Werribee to Melbourne's Southern Cross Station. The 50 kilometre rail link is expected to remain under construction until 2016. Other projects under construction include a number of other transport projects, such as the $1.3 billion Peninsula Link joining EastLink with the Mornington Peninsula at Mount Martha, due to be completed in 2013, along with the $980 million Western Ring Road expansion from

the Hume Highway to the West Gate Freeway. A range of repairs to roads and other transport infrastructure following the floods of early 2011 are ongoing, while the Western Highway is being duplicated between Ballarat and Stawell at a cost of $404 million. Meanwhile the Eastern water treatment plant at Carrum is being upgraded at a cost of $417 million, and Melbourne Water is spending $220 million replacing main sewers in the Melbourne CBD.

Looking forward, the list of engineering projects in planning includes a proposed $300 million expansion of Melbourne airport's passenger terminal and car parking, while plans to expand the Port of Hastings into a second container port for Melbourne have been announced.

Commercial construction activity has fallen from around 3.7% of Victoria's economy to close to 2% more recently, and the value of approvals remains modest – pointing to yet another vulnerability in the State's outlook. The fall is symptomatic of the weakness in retail turnover and relatively modest job market, which are undermining investor enthusiasm. Current projects include the $700 million Bourke Junction development, which includes two office towers, a hotel, medical centre and shops, along with a $400 million redevelopment of the Greensborough town centre. A $300 million expansion of the Highpoint shopping centre is due to be completed in 2013, while a new $286 million Ikea centre at Springvale is being finalised. The $1.1 billion Parkville cancer centre project is due to be completed in 2015, while a $447 million redevelopment of the Box Hill hospital is underway, as is the $112 million second stage of the Warrnambool hospital redevelopment in the State's west. Meanwhile, the $363 million first stage of a redevelopment of Melbourne's Olympic Park is underway, and a $300 million redevelopment of the Ararat Prison is due to be completed at the end of the year, while a $55 million refurbishment of the Southern Stand at the MCG is ongoing.

Projects in planning include the $575 million first stage of the Bendigo hospital development, along with a $520 million upgrade to the Chadstone shopping centre.

5.3 Administration services

The administration services sector can be broken into two broad areas:

- 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 5.5 and Chart 5.6). In fact during the worst of the downturn only Australia's 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%).

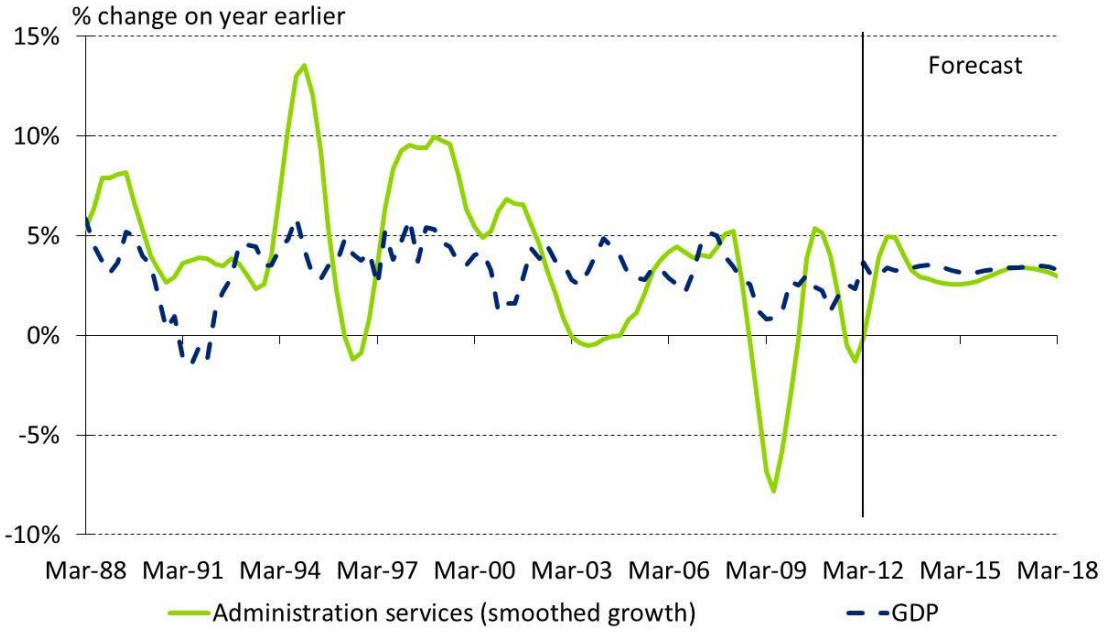
Administrative services (most notably employment services) suffered more in the downturn – employer-led demand fell away as recruitment of new employees stopped (even though employment levels as a whole tended not to decline). In addition, employee-led demand (from workers looking to move to a better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

Chart 5.5: Administration services as a share of non-farm employment

Source: ABS

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

Chart 5.6: Administration services output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

As Chart 5.6 shows, the industry has since seen a partial catch-up from previous declines which saw the sector move ahead of overall growth in Australia's economy across 2010. More recently, that surge in growth has faded, with output in the administrative services sector trailing well behind that of the broader economy since mid-2011.

Just as the declines during the GFC saw some unwinding in 2010, more recent short term weakness could see something of a bounce in growth ahead. Beyond that short term lift in growth, the projection is for this sector's output to return to growth in line with the national average.

That would be a solid outcome given the last decade has seen the sector lag well behind growth in the wider economy. 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 solid.

That is because while the term administration services tends to conjure up images of accountants and lawyers, it is worth remembering that household services such as cleaning and gardening are also in this category. And the latter – think Jim's Mowing – will continue to do well as the Australian population ages and as rising pressures on personal and business time leads many to outsource.

6 The national outlook for wages and prices

Note that the specifics of the national wage outlook are covered in section 6.3 below, but this chapter also considers a series of related issues.

Australia has experienced a period of low unemployment and high demand for particular types of skilled workers. Although the demand for workers is still very high, it is also very concentrated, and the latter means that mismatches between demand and supply are growing increasingly evident across different regions, industries and occupations.

Those patterns have seen gains in both engineering construction and mining as the latter tries to facilitate Australia's swing in its industrial structure towards the big dollars available in resources.

At the same time there have been notable job losses in those with the slower of the 'two speeds': manufacturing, wholesale and retail trade, and transport.

Such swings represent not merely the woes of the losing sectors and the strengths of the gainers, but also the difficulty in sourcing any workers at all to achieve the growth that some desperately want to achieve, with construction and mining increasingly having to poach workers from other sectors.

6.1 Shifts in wage and cost relativities are rarely permanent

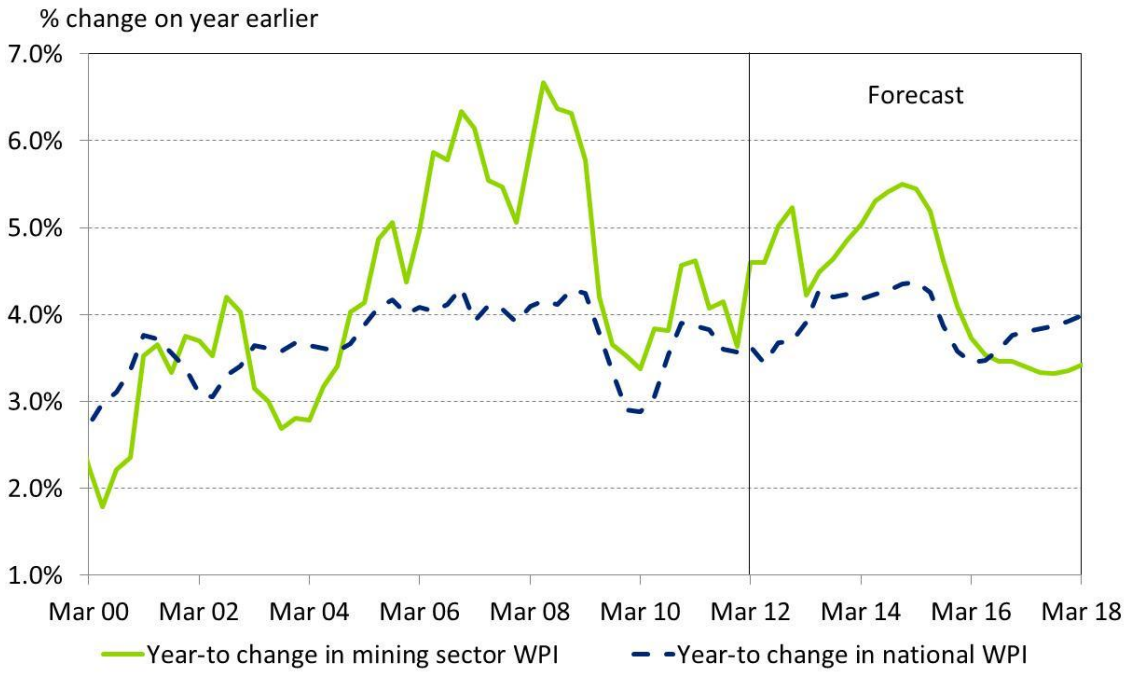
With fierce competition for workers between sectors and States, the Australian labour market has seen sustained shifts in relative wages over recent years.

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 that the skill shortages of the recent past 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, followed by a further burst of similar demand side factors from 2010.

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. 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.

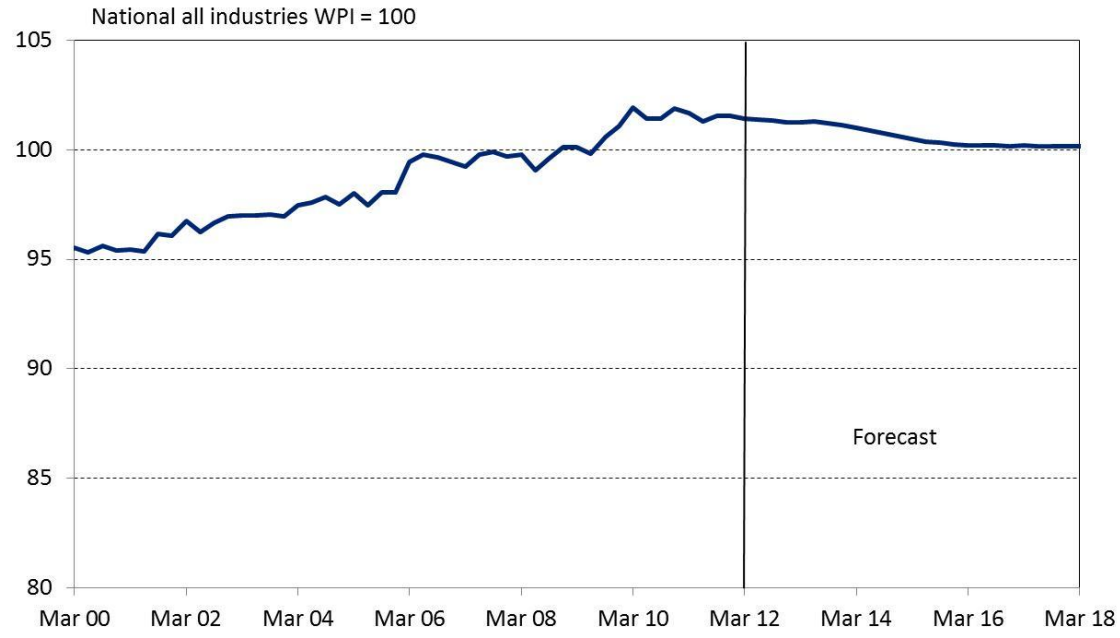
Chart 6.1: Trends in mining WPI



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

The Wage Price Index (WPI) doesn't go back far enough in time to see if history can shed light on this debate, but the Average Weekly Ordinary Time Earnings (AWOTE) series does. The key difference is that the AWOTE relativities tell a very different story in the pre-1998 period than they do in more recent years – see Chart 6.2 and Chart 6.3 below.

Chart 6.2: Utilities WPI relative to national WPI



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

Chart 6.3 in particular 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.

Chart 6.3: Utilities wages relative to national wages (AWOTE)[2]

Source: ABS, Deloitte Access Economics

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 types 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 WPI is meant to be cognisant of such structural shifts.

However, most factors 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.

Over a long enough time growth rates in the costs of materials and labour across different regions should not differ too much at all.

That is because, if prices or wages became too different over time, then there would be money to be made in shipping products or people moving home so as to limit those divergences once more.

Similarly, 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:

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

- 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.
- 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 a 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 less 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.

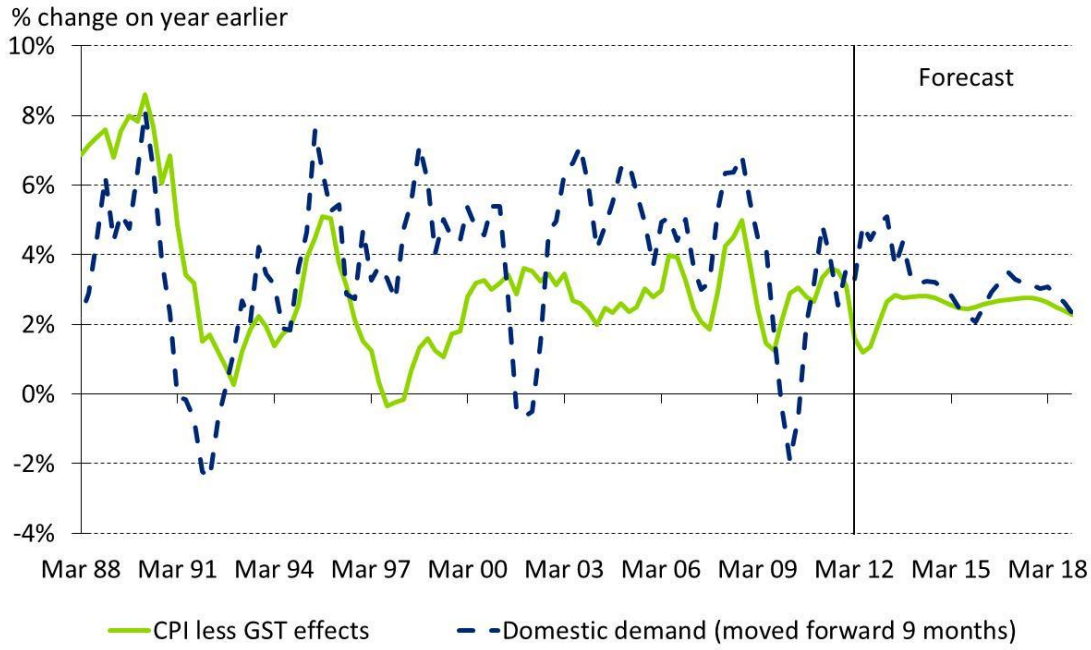
6.2 The outlook for the CPI

Price pressures in the economy are essentially driven by a combination of final demand, labour costs and the cost of importing foreign goods.

On the demand front, resource-related businesses are already spending a fortune on expanding their capacity, and those dollars are expected to climb very rapidly. That said, some of the surge in spending is being met straight from imports – particularly true of gas projects.

That import leakage limits the demand damage to the inflation outlook. And while businesses may be spending up a storm, consumers are not. That means the overall impact of demand on prices – seen in Chart 6.4 below – is a little less dramatic than it otherwise looks.

Chart 6.4: CPI and domestic demand



Source: ABS, Deloitte Access Economics' macroeconomic model

On the other hand, and as has been true for a long time, a number of sectors – especially those well protected from international competition – have driven a lot of inflation pressure over time. In fact inflation among those products which are not subject to international competition has averaged 4% or so a year over the past decade, and ran at a still healthy 3.7% through 2011.

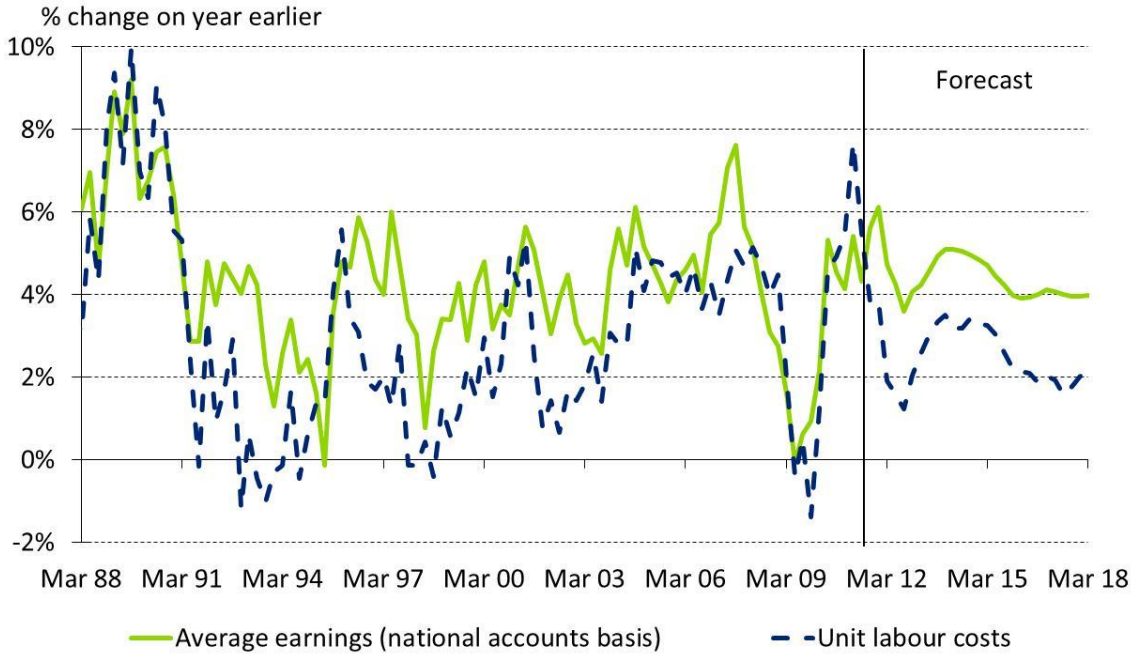
That strength remains very evident in the likes of housing cost inflation, which remains almost as robust as ever, while there continues to be quite spectacular growth in the cost of utilities – cost growth that will get a further boost as carbon tax related effects hit those prices. Then consider childcare and health costs, petrol prices, postal services, school fees and insurance, and that's a list which is a reminder that there are a bunch of prices which have marched on for a long time now with little by way of the restraining hand of global competition to help keep them in check.

On the other side of the ledger, margins remain tight in key sectors such as retail – this group is an excellent example of weakness in demand flowing through to subdued pricing pressures. Even the earlier push to food prices from the early 2011 floods may see only a pale echo following the floods of early this year.

On balance, that suggests demand pressures are likely to be adding to inflation risks in Australia, but not substantially so, and that it will take something of a recovery in retail before those risks become more pronounced.

The second major building block of the inflation outlook lies with labour costs. Most people simply think of wages when economists talk about labour costs, but that's wrong. The true impact on inflation comes from the combination of wage growth and productivity growth. The more that wages outstrip productivity – that is, the faster that the unit labour costs seen in Chart 6.5 increase – the bigger the risk to the inflation outlook. The news on wages remains pretty good. Most measures of wage growth have remained on the safe side of 4% over the past year, with their earlier momentum sapped by slow job growth and concerns among companies, employees and unions that Australia's 2012 could be marked by European-related weakness.

Chart 6.5: Wages and labour costs



Source: ABS, Deloitte Access Economics' macroeconomic model

Although wage growth in Australia has been relatively low for a while, our productivity performance has been even worse. The end result is that unit labour costs have been quite frisky – the picture seen in Chart 6.5 above.

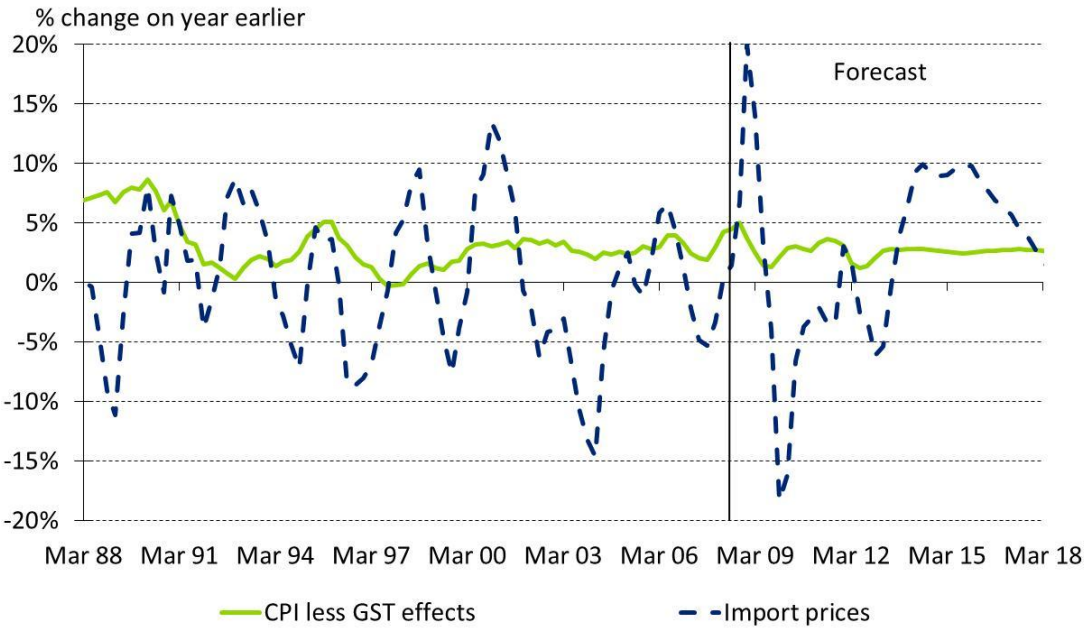
The good news is that Australia's productivity performance is lifting from its recent poor performance. It's not lifting because State and Federal Governments are championing marvellous economic reforms. Rather, it is lifting as many sectors are finding their profits under pressure and hence are having a closer look at worker efficiencies than they've done in a while. That is increasingly generating better news on the productivity front.

That lift in productivity growth is particularly important as an upswing in productivity is central to our forecast in Chart 6.5 that labour costs will continue to moderate as a threat to the inflation outlook.

So the message is similar looking at both demand and wage driven price pressures in Australia – both are still quite restrained, but both run the risk of becoming more evident in 2013 and beyond. And that's an accurate description of the import price outlook as well: the last major building block of the inflation outlook.

There are many things which have grown substantially in price over the past 20 years. Tobacco prices are now five times what they were in 1991, and insurance costs more than three times what they were, while electricity and education costs are two and a half to three times higher today. Yet it's easy to forget that many import prices have been remarkably subdued or even fallen over the same period.

Chart 6.6: Import prices



Source: ABS, Deloitte Access Economics' macroeconomic model

For example, clothes cost the same today as they did back in 1991, while the cost of TVs and other electronic equipment has fallen strikingly.

The latter reflects two important trends. On the one hand, technology is making a bunch of imports cheaper. On the other hand, so too is 'globalisation' as factories move from high cost nations to low cost China and India. Both these latter factors can be expected to continue over time. That's very important, because it means that even if everything from education to housing tends to grow more costly at a pretty rapid rate, Australian consumers have the natural hedge of cheaper import prices.

However, although average import price growth may be low or negative, the big swings in Chart 6.6 are driven by the matching swings in the $A. The equation is pretty simple – if the $A stops gaining ground, then inflation must rise. With renewed global turmoil evident in financial markets, the $A is once again under pressure. To the extent that falls in the $A outweigh matching falls in demand on global markets, upside risks to the inflation outlook could grow. Although import price inflation may not rise to meet price growth among non-tradables, it could push the Reserve Bank's comfort zone.

Other things equal, an environment in which demand is strong is an environment in which inflation can be a threat. But other things are not equal and the May 2012 decision from the RBA to cut interest rates by 50 basis points indicates that the RBA does not believe strong demand growth to be putting upward pressure on inflation – at least in the short term.

Recent ABS data releases support this view. The March quarter CPI data showed that inflation has moderated more than expected. Indeed, the 'headline' CPI grew by only 1.6% in the year to March, with the Melbourne sub-index growing only 1.4% in the year to March.

In the minutes of its May meeting (http://www.rba.gov.au/monetary-policy/rba-board-minutes/2012/01052012.html), the Reserve Bank Board noted:

> *"Inflation in the March quarter was lower than expected, with various measures showing underlying inflation of around ¼ per cent in the quarter and 2–2¼ per cent on a year-ended*

basis. The headline CPI fell by 0.2 per cent in the quarter on a seasonally adjusted basis, to be 1.6 per cent higher over the year. A large fall in fruit prices, in particular banana prices, had subtracted 0.3 percentage points from quarterly inflation. More generally, tradables prices declined, reflecting both the softness in consumer demand and further pass-through of the earlier exchange rate appreciation, with the prices of some household goods, clothing and overseas holidays all falling in the quarter. Non-tradables prices, in contrast, increased by 0.7 per cent in the quarter and by 3.5 per cent over the year, underpinned by relatively large increases in a range of services prices but with falls in the prices of domestic travel & accommodation and new dwellings. The slowing in non-tradables inflation, and some of the decline in tradables prices, appeared to indicate that there had been pressure on margins owing to the relative softness in demand in the non-mining sector."

In light of the weaker-than-expected March inflation data and changing views on the strength of the domestic economy, the Reserve Bank of Australia's May Statement on Monetary Policy revised down both its GDP and inflation forecasts relative to the February Statement (see Table 6.1 below). Our own forecasts – also in that table – have equally been revised down.

A combination of the two speed economy factors are at play here. Corporate Australia has lost much of its pricing power – that has eaten into the margins of retailers in particular – and worries about Europe have subdued price growth. At the same time a bunch of commodity prices are off the peaks they saw in mid-2011, while growth in both jobs and wages have been modest.

So the demand pressures on the inflation outlook are a little less dangerous, a view reinforced by the continuing modest pace of credit growth to families for housing and to businesses for expansion, as well as the dampening impact of last year's fall in housing prices on the economic outlook.

However, it is worth noting that even these 'updated' forecasts are likely to be revised further, since both were made before the latest round of European turmoil – our current forecasts will be updated in June in the wake of the next release of the national accounts, while the RBA's updated its published forecasts in late April/early May.

That is because, to the extent that recent developments in Europe and China have hurt the economic outlook, overall price pressures will equally have dampened.

Table 6.1: RBA and DAE forecasts for economic growth and inflation

Annual % change	2011-12	2012-13	2013-14	2014-15	2015-16
RBA					
GDP	2¾	3 – 3½	3 – 4	na	na
DAE					
GDP	2.9	3.2	3.5	3.2	3.3
Year-to % change	**Jun-12**	**Dec-12**	**Jun-13**	**Dec-13**	**Jun-14**
RBA					
CPI (ex. carbon tax)	1¼	1¾	2 – 3	2 – 3	2 – 3
DAE					
CPI (ex. carbon tax)	1.2	2.0	2.8	2.8	2.8

Source: Reserve Bank of Australia, Deloitte Access Economics

6.3 The outlook for wage growth

The pace of wage gains accelerated in the aftermath of the global financial crisis – both because economic prospects were lifting, and also because employees were looking to catch up to wage rises forgone during the crisis itself.

But that acceleration tapered off over the past year or so as two speed economy negatives had an impact on a number of sectors and States, and with more recent results in wage negotiations starting to be affected by fears over what could happen in Europe. With job growth also relatively stagnant, and the economic outlook uncertain outside of a handful of super strong sectors and States, wage inflation appears to have levelled off a little under 4% for the moment.

Wages (as measured by the WPI) grew by 0.9% in the March quarter 2012 across Australia as a whole, a solid rate and slightly higher than market expectations (and ours too – we had factored in 0.8% for the quarter). That said, WPI growth over the past year remained at 3.6%, the same rate as seen for the past three quarters.

Over the past year private sector wages have grown by 3.7%, while public sector wages have risen by 3.1%.

As noted in the Reserve Bank's Statement on Monetary Policy (at page 63):

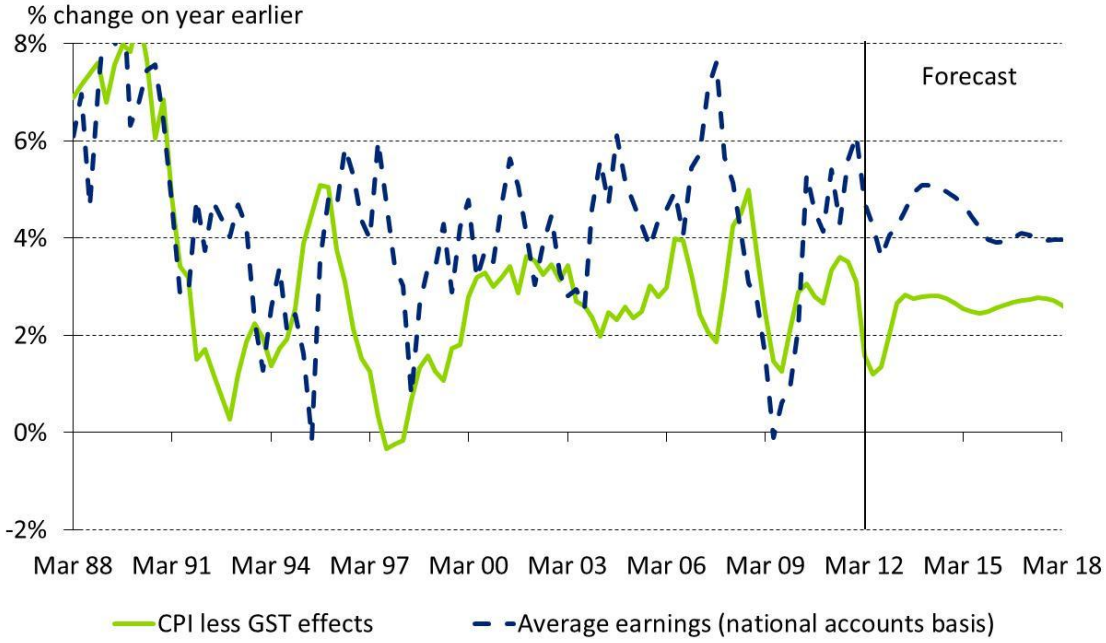
> *"The pace of aggregate wage growth appears to have moderated slightly over 2011. Private sector wage growth was little changed over 2011 despite soft momentum in employment growth. The private sector wage price index increased by 1 per cent in the December quarter, to be 3.8 per cent higher over the year (Graph 5.6). However, business surveys and the Bank's liaison with firms suggest a slight easing in private sector wage pressures in the March quarter (Graph 5.7). This is consistent with firms generally reporting that they are not experiencing significant difficulty finding suitable labour, except for in some mining-related industries and occupations. Public sector wage growth was relatively subdued over 2011. Although delays in the finalisation of new public sector enterprise agreements have likely overstated the extent of the slowdown in public sector wage growth, there is some genuine downward pressure on wage growth in the sector."*

Looking ahead, Europe's impact on jobs (and hence wages) may be evident. One of the impacts of uncertainty is that businesses may be more likely to give existing workers extra hours if they need more work to be done, rather than having the confidence to sign on new employees. In addition, both the

finance and public sectors have been responding to European-related challenges with cutbacks. In the case of the finance sector, Europe's woes have coincided with a period in which it has finally sunk in that weak credit growth may be the 'new normal'. In the case of the public sector, revenues are falling short of earlier expectations – both federally and for the States – leaving the public sector trying to address a deteriorating budget outlook.

Although these differentials remain reflective of two speed economy conditions, that is probably a tad less true than it has been, with recent developments broadly consistent with a narrowing in some differentials. Even so, the upshot is that wage growth is running close to trend, with business surveys continuing to point to relatively little evidence of upward pressure on wage inflation – suggesting that the short term outlook for wages is also relatively modest.

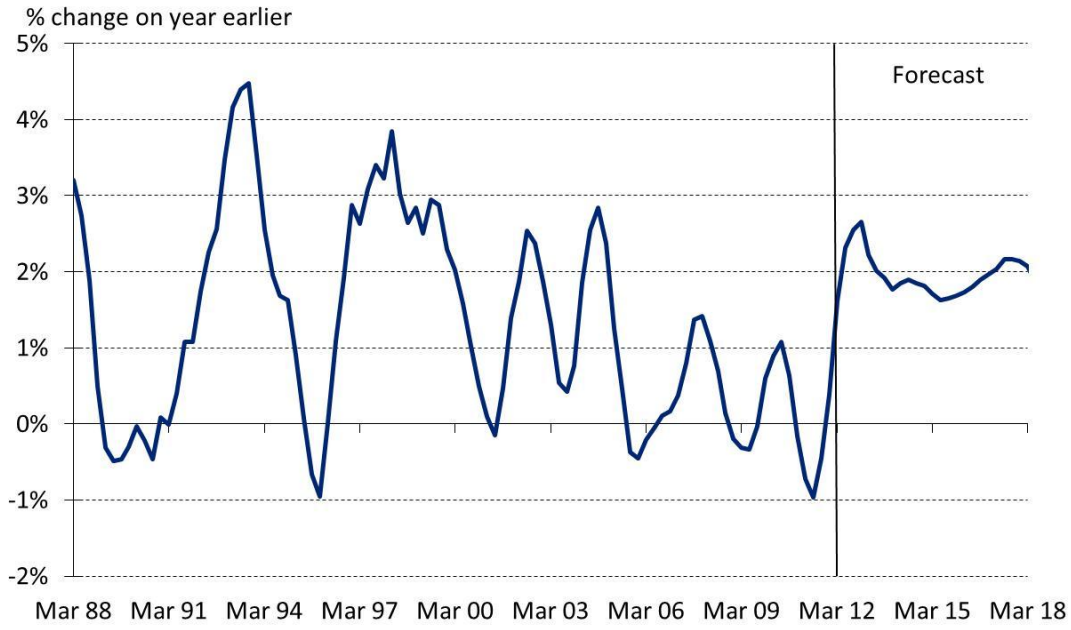
Chart 6.7: Wages and inflation



Source: ABS, Deloitte Access Economics' macroeconomic model

That moderation in wage growth is good news, all the more so because wage gains have outrun productivity growth by a substantial margin for some time. That said, productivity growth itself – seen in Chart 6.8 – may be showing some signs of growth for the first time in a while, with pressures on corporate profits encouraging firms to seek out efficiencies and improvements in work practices with a greater degree of enthusiasm than they have for some years.

Chart 6.8: Productivity growth

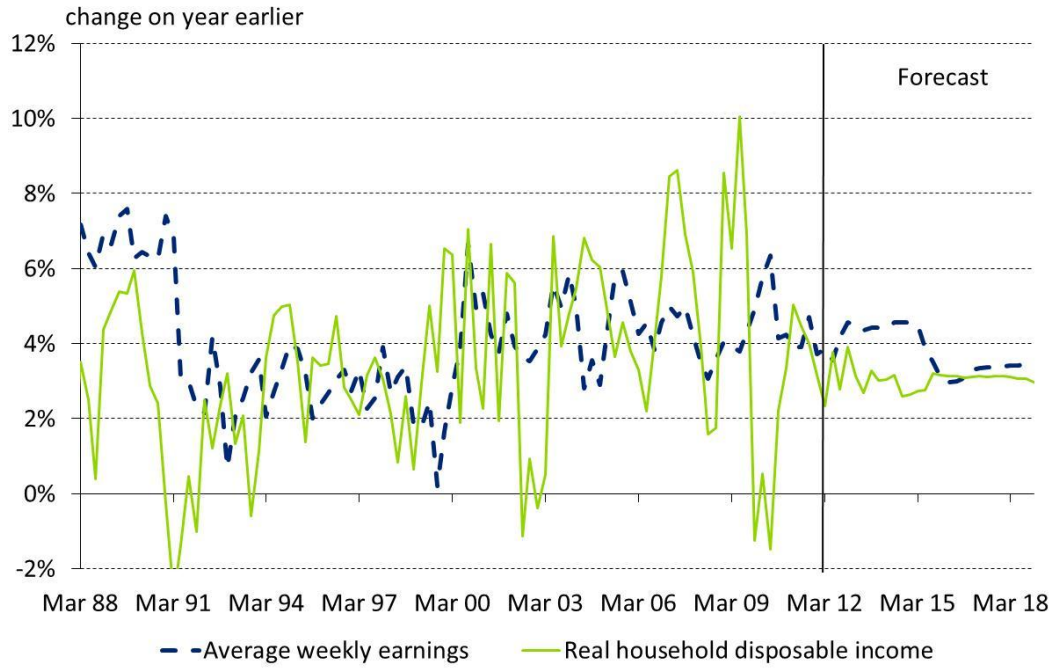


Source: ABS, Deloitte Access Economics' macroeconomic model

Looking ahead, there is little to be wary of in the short term wage outlook, though that may prove to be more of a pause than a sea change. In part that is because, even though migration is now starting to edge up again, the supply side of Australian job markets looks set to be quite squeezed by rising retirement in coming years. And in part it is because some of the factors which are driving weakness in employment at the moment may not last – if Europe continues to hold, then confidence will gradually lift. That should not only prove a boost for employment prospects, but may also see wage gains regather a degree of pace through 2013.

After all, a bit of longer term perspective is handy here – businesses investment is very strong, and there are still skill shortages in some key occupations. While some of the wage demand negatives of the moment are expected to fade, these latter wage demand positives are expected to remain robust.

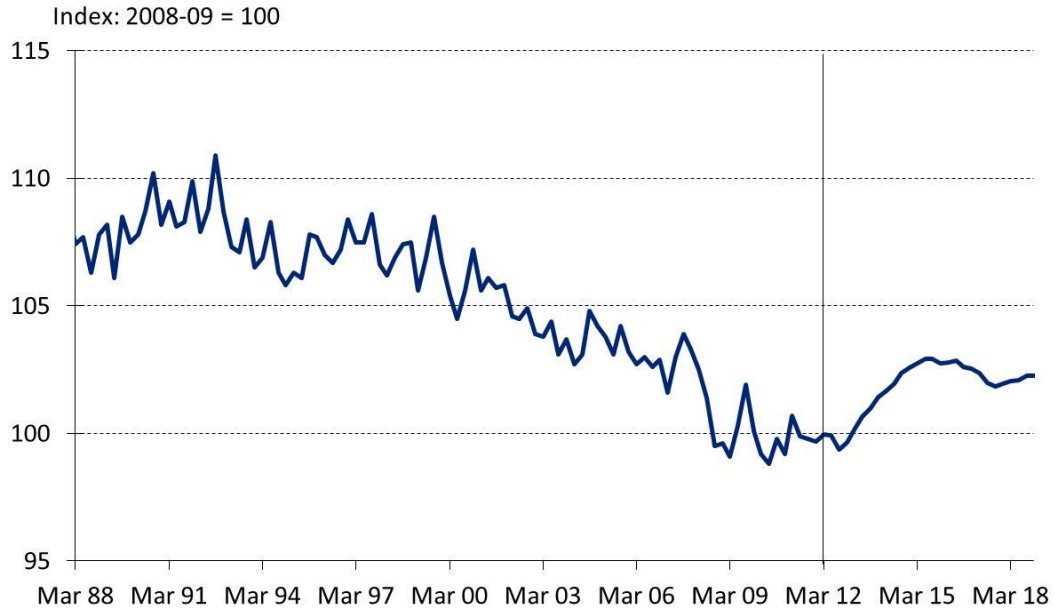
Chart 6.9: Wages and household disposable income



Source: ABS, Deloitte Access Economics' macroeconomic model

Moreover, the lift in wage inflation may coincide with a period of falling profit margins (it may surprise you to hear that today's margins are close to historic highs, though admittedly the story varies a lot across sectors). That combination of rising wage growth and falling business margins (especially in the resources sector) is projected to generate increases in real unit labour costs – reversing the long run trend as mapped out in Chart 6.10.

Chart 6.10: Real unit labour costs (Index: 2006-07 = 100)

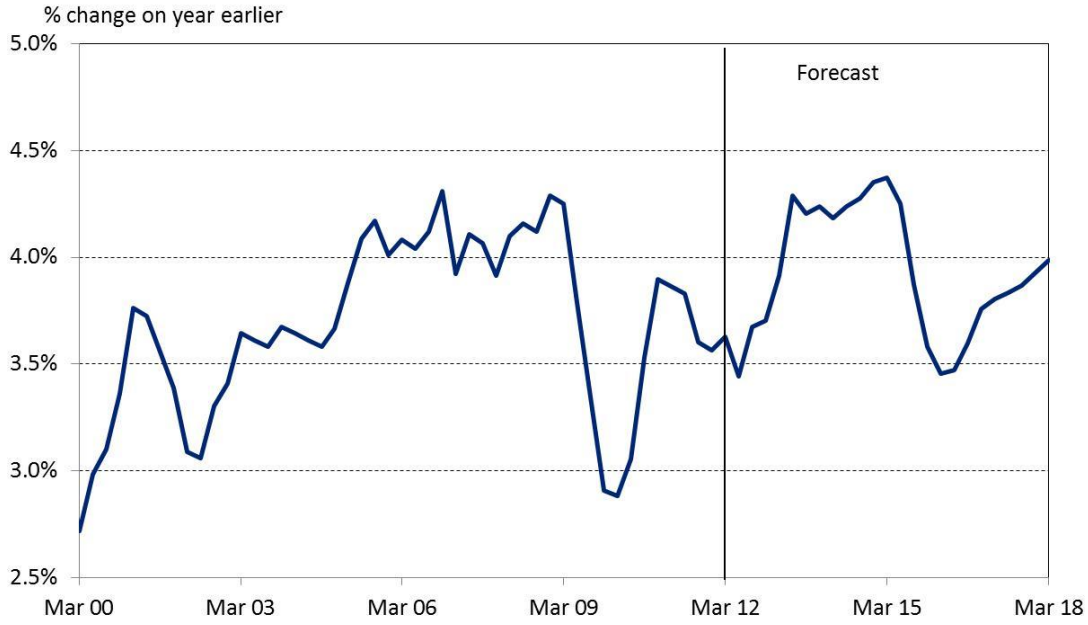


Source: ABS, Deloitte Access Economics' macroeconomic model

Weak inflows of migrants and strengthening outflows of retirees are tightening the supply side of Australian labour markets, and the resource investment pipeline remains strong. As Chart 6.11 therefore shows, Deloitte Access Economics sees national wage growth (as measured by the WPI) remaining below 4% in the short term, before lifting above it for a time through 2013 and 2014.

Once the surge in resource investment starts to wane, overall WPI growth moderates below 4% once more.

Chart 6.11: WPI forecast growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Table 6.2: National wage forecasts

Calendar year nominal wages forecasts

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Wage price index	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Average weekly earnings	5.1	4.1	4.0	4.4	4.5	3.7	3.1	3.4	3.4	3.4
Ordinary time earnings	4.9	4.4	2.8	4.5	4.3	3.9	3.5	3.7	3.9	4.0
Unit labour costs	4.1	5.2	1.7	3.1	3.3	2.8	2.0	1.8	2.5	2.3

Calendar year real wages forecasts

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Wage price index	0.5	0.3	1.7	1.0	1.5	1.5	0.9	1.1	1.6	1.7
Average weekly earnings	2.2	0.6	2.1	1.3	1.7	1.2	0.4	0.6	1.0	1.1
Ordinary time earnings	2.0	1.0	1.0	1.3	1.5	1.4	0.9	1.0	1.4	1.7
Unit labour costs	1.2	1.7	-0.2	0.0	0.5	0.3	-0.6	-0.9	0.0	0.1

Source: ABS, Deloitte Access Economics' Labour Cost model

7 General labour cost growth in Victoria

This chapter provides labour cost forecasts for Victoria. Table 7.1 provides a summary of State WPI forecasts to 2019 in real and nominal terms. Additional measures showing growth less the impacts of productivity growth are also given.

Table 7.1: State WPI forecasts

Calendar year changes in nominal State wage price index forecasts

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Victoria	3.1	3.8	3.5	4.0	3.9	3.8	3.5	3.9	4.0	3.9

Calendar year changes in real State wage price index forecasts

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National	0.5	0.3	1.7	1.0	1.5	1.5	0.9	1.1	1.6	1.7
Victoria	0.1	0.3	1.6	0.9	1.2	1.4	0.9	1.1	1.5	1.6

Calendar year changes in State nominal productivity adjusted wage price index

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National	3.5	3.3	0.8	2.4	2.5	2.3	1.6	1.7	2.5	2.5
Victoria	4.5	3.4	1.9	3.1	2.5	2.0	1.6	1.8	2.6	2.8

Calendar year changes in State real productivity adjusted wage price index

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National	0.6	-0.1	-1.0	-0.7	-0.3	-0.2	-1.0	-1.0	0.0	0.3
Victoria	1.4	-0.1	0.0	0.0	-0.2	-0.4	-0.9	-0.9	0.1	0.5

Source: ABS, Deloitte Access Economics' macroeconomic model

Much of the backdrop to these forecasts has been discussed in the earlier chapters of this report.

In brief, Victoria remains on the wrong side of two speed economy pressures, and has an above-average share of industries adversely affected by a strong $A (manufacturing, agriculture, higher education) and by relative strength in interest rates (housing construction and the retail sector).

Even so, the State has experienced some of the benefits of the boom, with solid real household income growth, employment growth, and a declining unemployment rate. That mix has seen recent wage gains in Victoria broadly matching those for the nation as a whole, and that situation is likely to continue in the short term (see Chart 7.1 below). Overall wage growth is expected to remain relatively close the national average, despite the lift in the latter being generated by the mining States.

That said, and as the chart shows, we do not project wage growth in Victoria to lift as much as it does in Australia as a whole across the peak period of 2013 and 2014. In part that is due to the 'two speed troubles' increasingly affecting Victoria's industrial base. And in part it is because the impact of strength in wage gains in mining and in engineering construction (as opposed to construction more widely) will be rather more in evidence in the rest of Australia than in Victoria itself.

Chart 7.1: Victoria general labour cost growth

Source: ABS, Deloitte Access Economics' macroeconomic model

Accordingly, as Chart 7.1 shows, the growth in Victorian WPI is expected to continue trend upwards in line with the national average through 2012, before stabilising below that average at close to 4% through to early 2015.

That is, despite the challenges of the two speed economy, and the related string of high profile job losses through the first half of 2012, Victoria's labour market is expected to remain solid over coming years.

Beyond that, we expect wage gains move back into line with the national average in the long run.

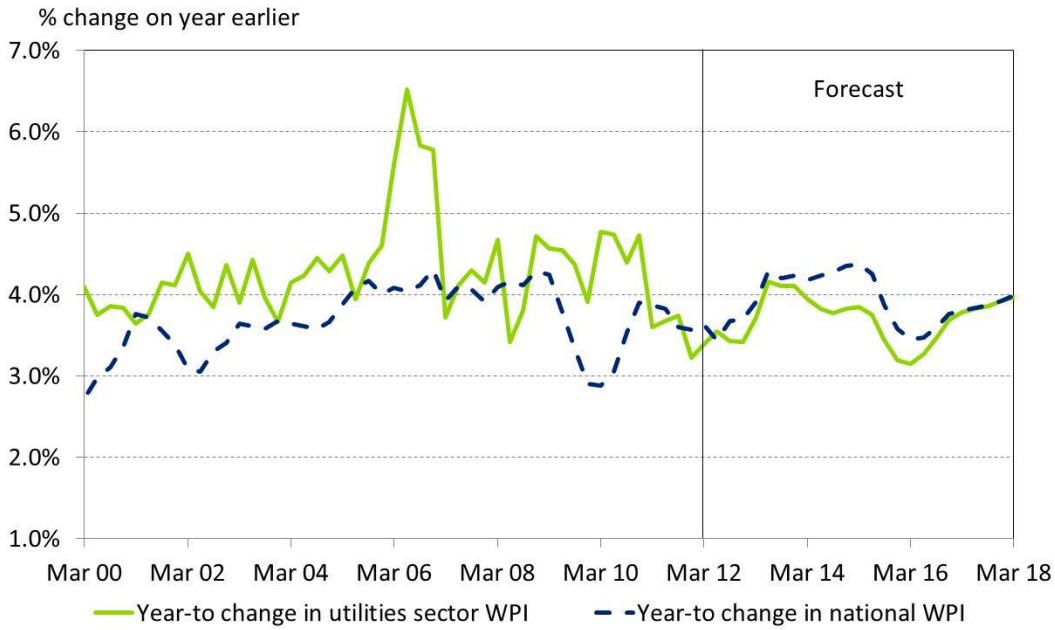
8 The national outlook for wage growth in the utilities sector

This chapter discusses the wage growth outlook for the utilities sector for Australia as a whole.

8.1 Relative strength in utilities wage growth in recent years

As Chart 8.1 shows, until recently growth in the utilities WPI had run consistently ahead of the national average across the period that WPI data has been published. From 2002 to 2008 this relative strength in wage gains in the utilities occurred at a time when Australia's rate of wage increase itself accelerated. Even after 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)

Chart 8.1: Wage growth nationally and in the utilities

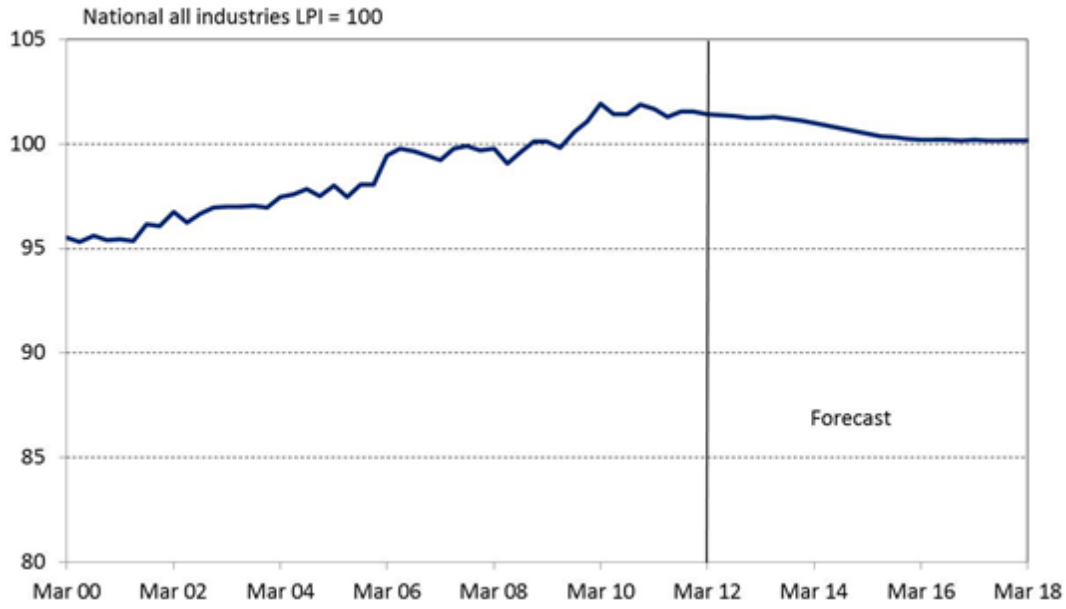


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Chart 8.2 below illustrates the relative strength of utilities wages over the same period. It shows wages in the utilities relative to national wages.[3] It is evident that the WPI in the utilities sector consistently outpaced the national equivalent over the period shown, with moderation becoming evident more recently.

[3] 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.

Chart 8.2: Utilities WPI relative to national WPI



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. Demand for 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 8.2.

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 WPI in the utilities sector rising by about 2 percentage points relative to the national WPI from mid-2009 to early 2010.

As is also evident in Chart 8.1 above, however, over the last year or two wage gains nationally in the utilities sector have fallen slightly below the national rate (which was itself slowing).

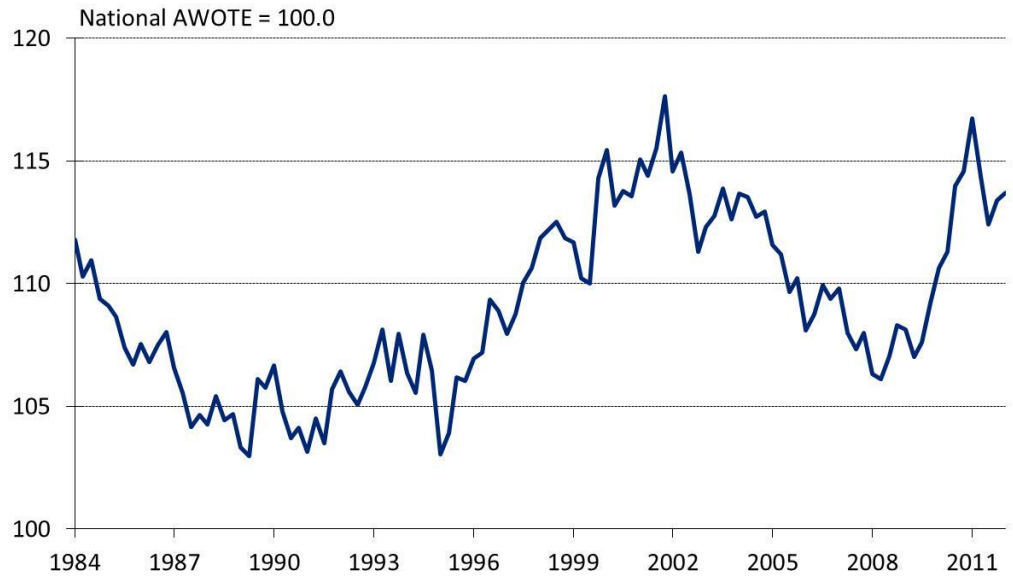
This easing partly reflects a degree of unwinding of previous gains, as well as weakness in the wider utilities sector. Indeed, the utilities sector is currently shrinking at the fastest ever recorded pace for this industry.

As Chart 8.2 above shows, we see this as a turning point in relative utilities wages – albeit a modest one. It is true that the engineering construction boom of the moment is very big, and that 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 WPI 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 WPI comparison seen in Chart 8.2, but to also go back further in time using an AWOTE-based comparison (seen in Chart 8.3). 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 8.2).

Chart 8.3: The utilities AWOTE relative to the national AWOTE[4]



Source: ABS

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 elevated for some time to come.

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

Indeed, and as seen in Chart 8.2, that process of partial unwinding of earlier strength has already been underway for more than two years now.

That is not to say that the utilities sector is immune to broader wage pressures. Indeed, as Chart 8.1 earlier shows, there is an upswing in national utilities wage growth on the horizon, with growth expected to accelerate over the coming three years.

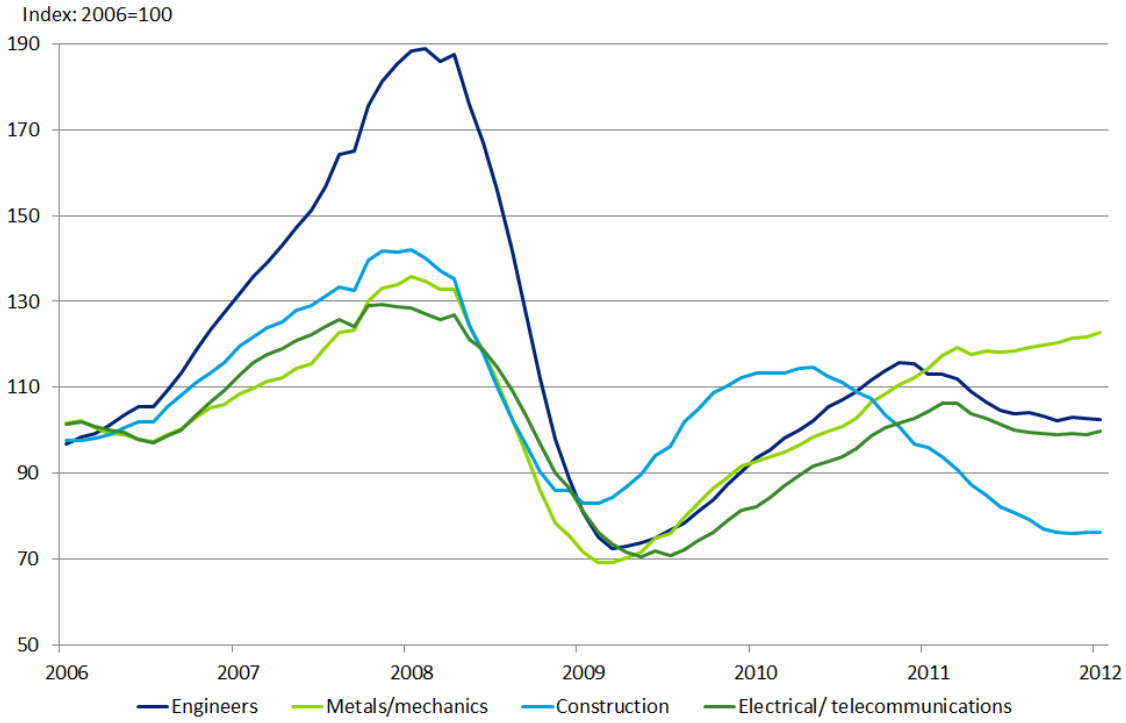
[4] Data before August 1994 has been spliced using the previous definition of the utilities sector.

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

8.2 Demand pressures on the utilities sector and its competitors

After the global financial crisis hit the economy, causing a sharp contraction in demand, some of the sectors covered in this report were among the ones to rebound first. Chart 8.4 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 – engineers, metal workers and mechanics, construction workers, and electrical and telecommunications workers.

Chart 8.4: Trades vacancies



Source: DEEWR Vacancy Report, Deloitte Access Economics

Note: In December 2011 the previous indices, based mainly on newspaper ads, were discontinued and replaced by new indices based on popular job search websites. Data are only available from 2006 for these new indices.

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.

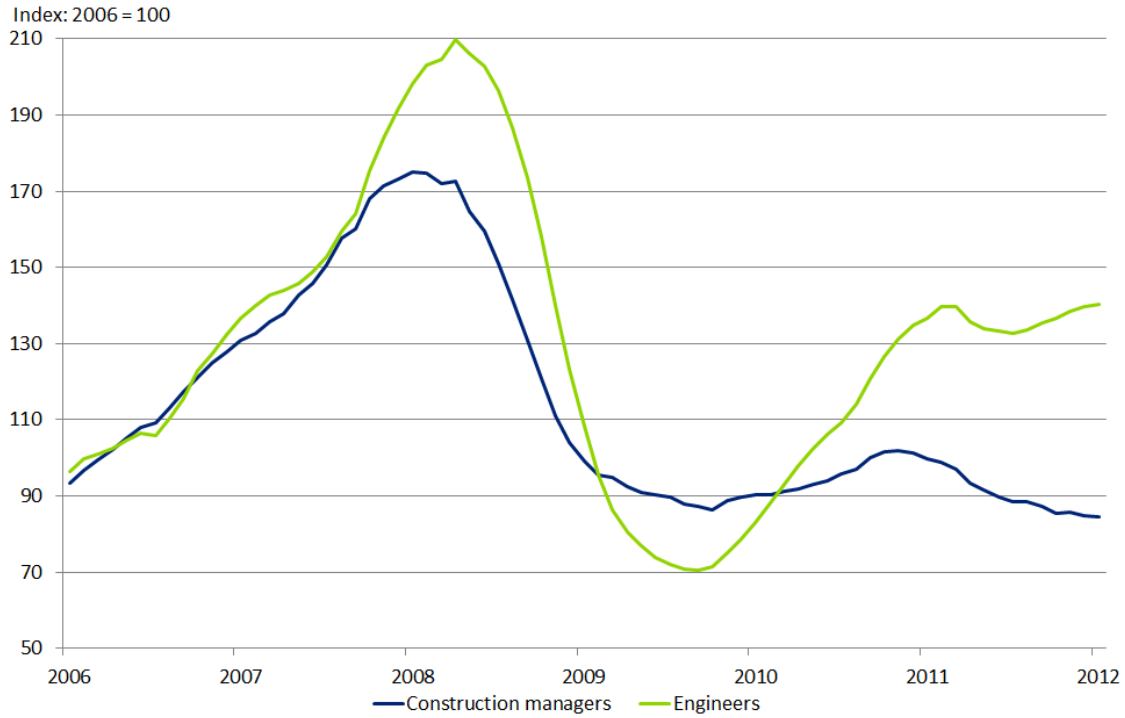
Engineering trades saw the sharpest rise in vacancies in the pre-GFC period, with many of these occupations highly sought after in the burgeoning mining sector. All four trades saw a sharp crash in vacancies as the GFC hit. Metal workers and mechanics have seen the steadiest recovery, and are the only one of the trades displayed above not to have seen a downturn in vacancies amid the Europe inspired turmoil of mid-2011.

Construction vacancies also fell in the downturn, but lifted sharply thanks to Federal stimulus spending on schools as well as improved demand for housing construction. That Federal assistance and the

population-led housing demand have now almost disappeared, and weakness in the housing market amid global uncertainty has seen construction vacancies fall steadily since the beginning of 2011 to below their GFC inspired trough of 2008-09.

Professional vacancies have shown broadly the same movements as the trades, although there are some notable differences. First, vacancies for professional engineers displayed a more notable upturn, and subsequent downturn in the GFC, than trades vacancies, and have also held up rather better amid the recent market turmoil. This is likely because the professional category displayed below is more heavily oriented toward the mining sector, whereas the trade category contains a good deal of non-mining occupations.

Chart 8.5: Professionals and associate professionals vacancies in building and engineering



Source: DEEWR Vacancy Report, Deloitte Access Economics

Note: In December 2011 the previous indices, based mainly on newspaper ads, were discontinued and replaced by new indices based on popular job search websites. Data are only available from 2006 for these new indices.

Second, the upturn in demand for construction managers as a result of Federal stimulus was less notable than that for construction trades, and so too has been the subsequent downturn in response to the latest bout of market weakness. This is to be expected – when a rush of construction work comes in, firms will need a lot more 'hands on' workers than they do site foremen. Similarly, when demand wanes, 'hands on' positions are often the first to go.

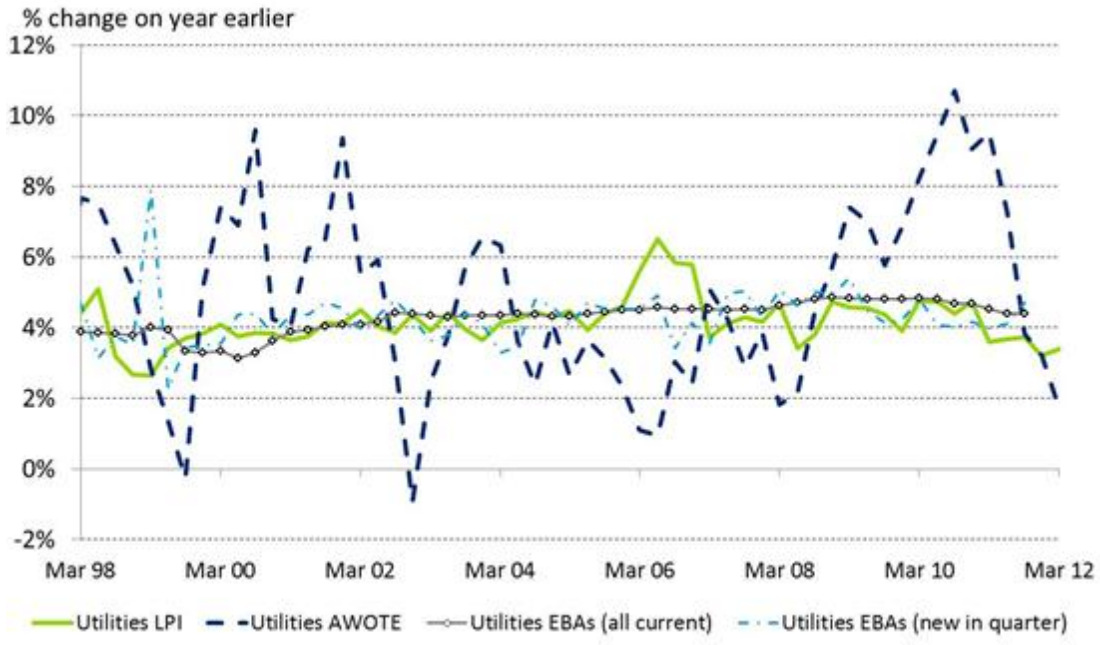
Overall, it is worth noting that all of the occupations displayed above are hovering at about the same level of vacancies as they were in 2006, and are well below the pre-GFC peak in 2008.

Further, most have seen a decline amid the ongoing concerns in Europe (and elsewhere). This explains the weakness in short term wage growth seen in Chart 8.1, with skilled labour shortages emerging throughout the coming investment and mining boom, rather than placing clear immediate pressure on wages in the sector.

8.3 Comparison with results from enterprise bargaining agreements

Chart 8.6 compares growth in the utilities sector WPI with a number of other wage growth measurements that are produced on a regular basis.

Chart 8.6: Measures of utilities sector wage growth



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

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 preferred WPI series.

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 WPI.
- 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 EBAs in the utilities sector is a solid predictor of the level and trend in the WPI 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 WPI (at least until recently).
- After a period of rising wage growth, recent EBA trends suggest a moderation in utilities sector wages pressures was underway in 2010 and much of 2011 – with new agreements over this period seeing implied wage rises averaging around 4%, rather than the 4½% average implied by all EBAs. The most recent data (the September quarter 2011) did however show an increase in wage rises associated with new EBAs to 4.7%.

The current rate of growth (4.4% per annum for all agreements operating at the end of September 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.

9 The national outlook for wages in competitor industries

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

In the short term, strong wage growth in the mining and construction sectors will mean the utilities face significant competition for workers.

To some extent, that pressure will be offset by weakness elsewhere in the economy, including in the administrative services sector and parts of manufacturing.

9.1 Construction

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.

As noted above, the construction sector faces both the best and the worst of Australia's two speed economy, with housing and commercial construction facing considerable weakness while engineering construction is struggling to deliver an unprecedented pipeline of work.

With overall construction growing solidly, the sector is currently facing faster than average wage gains as well.

Those gains would be greater still if not for the weakness in housing and commercial construction. While few of Australia's retail workers have the skills to move directly to the mining industry, many construction workers who were previously building new shopping centres can shift to working on the buildings and infrastructure needed to support the growing resource sector.

There are also longer term infrastructure needs that lie outside of the mining sector (the National Broadband Network is a good example), which will help to support construction as the resource boom fades.

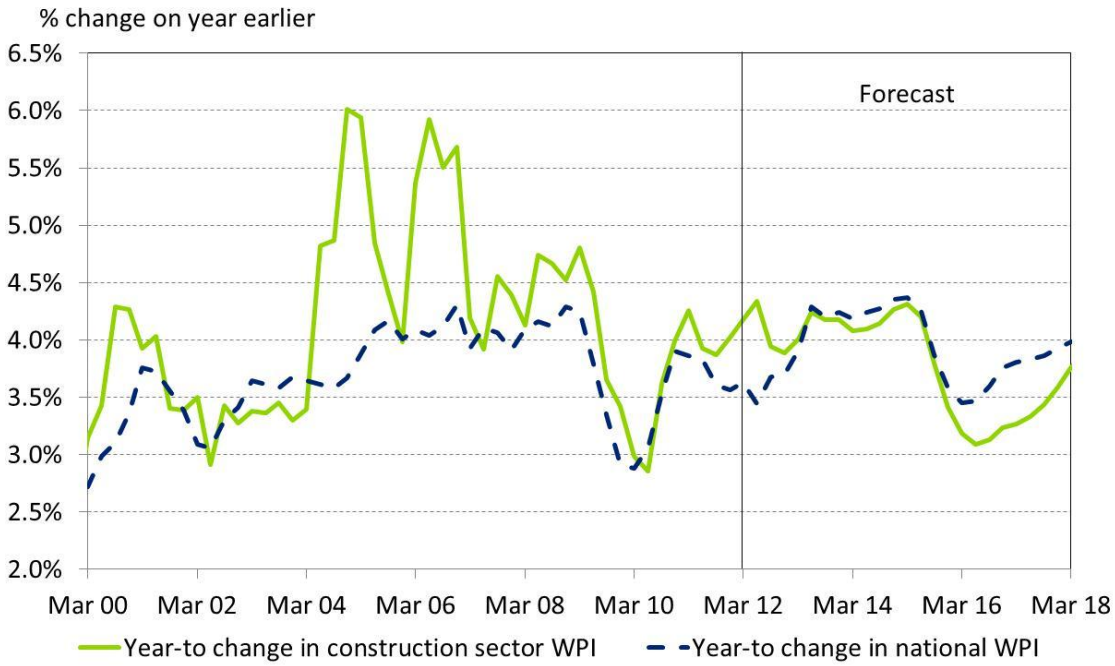
9.1.1 Current WPI projections

Chart 9.1 shows that the construction sector WPI can be quite volatile when compared with the overall WPI.

Construction wages had been outpacing those in the wider economy for some time prior to the GFC, and are already lifting at a faster pace in the period since. Over the year to March 2012, construction sector wages (measured by the WPI) grew 4.2%, a gain above that for all Australian wages (at 3.6%).

Over the next 18 months, good growth in the construction sector as a whole, and in engineering construction in particular, is expected to see the construction sector WPI generally growing at a faster rate than the national WPI (see Chart 9.1)

Chart 9.1: Construction wage growth forecast



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

That said, and as the current rush of resource related construction begins to peak, and as the negatives facing housing and commercial construction fade, the baton of construction growth will again shift. Through 2013 and 2014 a more positive outlook for housing in particular, and to a lesser degree in commercial work as well, is expected to underpin continued solid wage growth.

Growth in construction sector wages is expected to remain at or above than the national average through to mid-2015 (that is, until the current rush of engineering construction projects starts to wind down).

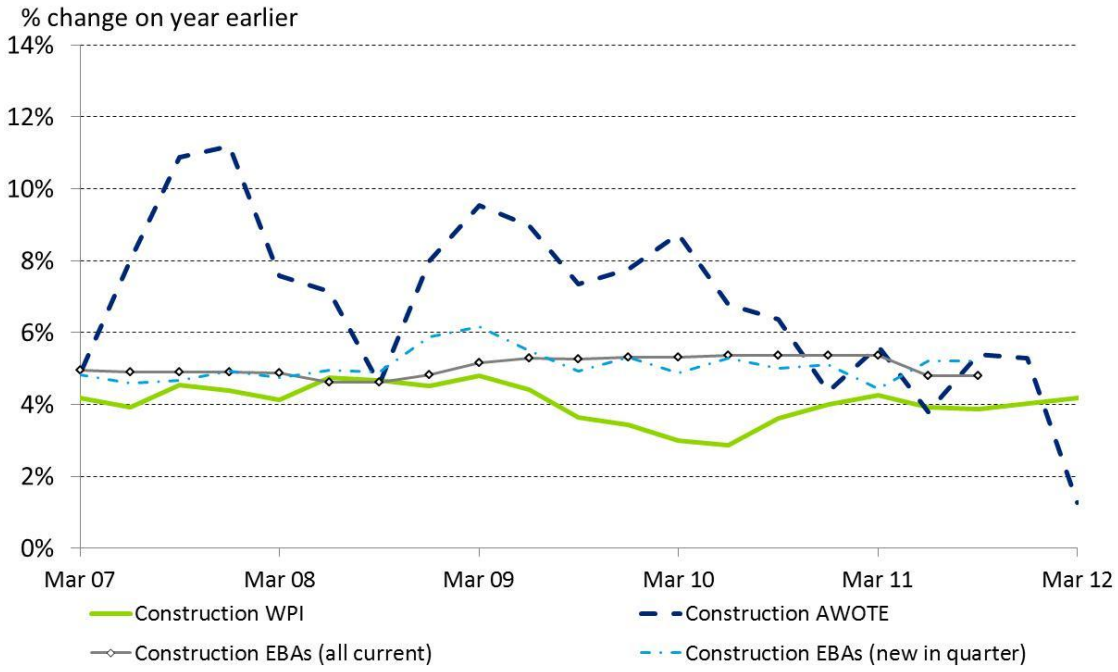
Wage gains are expected to cool thereafter alongside broader wage growth in general and engineering demand in particular.

9.1.2 Comparison with EBA results

Following a period of higher growth, construction sector Enterprise Bargaining Agreements (EBAs) have seen wage outcomes return to the levels typically seen prior to the upsurge in wage increases following the GFC. That leaves the average rate of increase for EBAs in the construction sector standing at 4.8% at present – in line with the average rate of growth since 2000.

As Chart 9.2 shows, the result is a closer match between WPI results and those from EBAs than has been the case for some time.

Chart 9.2: Measures of construction sector wage growth



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

That said, wage gains under new agreements were somewhat higher at 5.2% for both the June and September quarters of 2011, indicating a degree of upward pressure on average wage gains.

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 the report.

9.2 Administration services

Over recent years growth in WPI in the administration services sector has lagged well behind the national average, though the volatility in the data means there have been some periods of relative strength (Chart 9.3 shows stronger than average growth in 2003 and 2008 but saw significantly weaker growth in the period 2004-2006 and again in 2009).

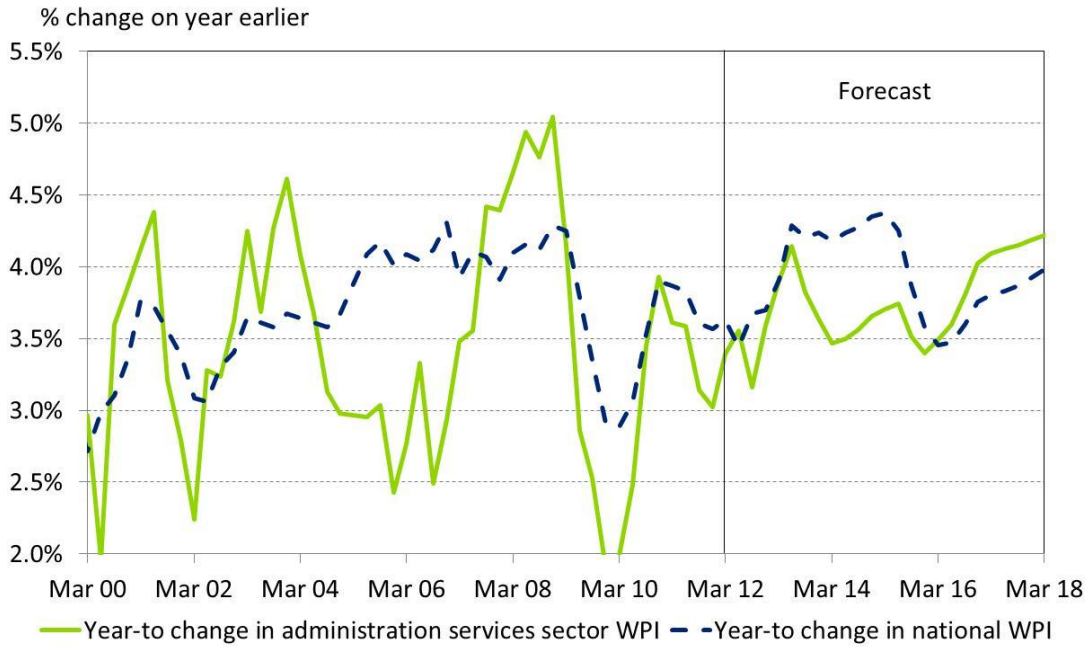
9.2.1 Current WPI projections

The earlier return to strength in emerging economies (combined with the relative boost to wages in sectors which have to compete with the mining and construction sectors) will continue to weigh on the relative wages in the administrative services sector, because it is a sector which does not directly benefit from the resource led boom.

As Chart 9.3 shows, growth in the WPI in this sector has been volatile in recent years, and currently stands at 3.4% in the year to March 2012. That is a lift from the historically low rates seen earlier, though the latter were at least in part driven by the very strong growth rates recorded in the run-up to the GFC, when the employment market was at its strongest.

That leaves wage growth in the administration services sector slightly below national WPI increases (which were 3.6% in the past year).

Chart 9.3: Administration services WPI 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 WPI in this sector than may be obvious more generally.

A 3.4% increase granted in the 2011 Annual Wage Review has therefore contributed to the administrative services sector holding its own relative to the national average in the short term.

As part of the 2012 Annual Wage Review, the ACTU has made a claim for a $26 per week, or 4.4% increase in the national minimum wage. While this claim is substantial, it represents a reduction from the matching $28 per week or 4.9% claim made in the 2011 review.

Moreover, our expectation is that the reduced claim may be notably discounted by the time it becomes a decision. The combination of 'two speed troubles' at home and Euro risks abroad means we see a relatively modest increase for those on award wages in the admin services sector. Such an outcome would be consistent with wage growth in this sector continuing to fall a little short of that for the economy as a whole over 2012-13.

With wider wage gains remaining solid through 2014 and 2015, 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, with the sector lying on the wrong side of the longer term trend towards increased skill differentials in wages and salaries.

In addition, the growth in the sector may also swing towards lower skill components of the sector – such as building cleaning and pest control – driving a compositional wedge between this sector and the national average.

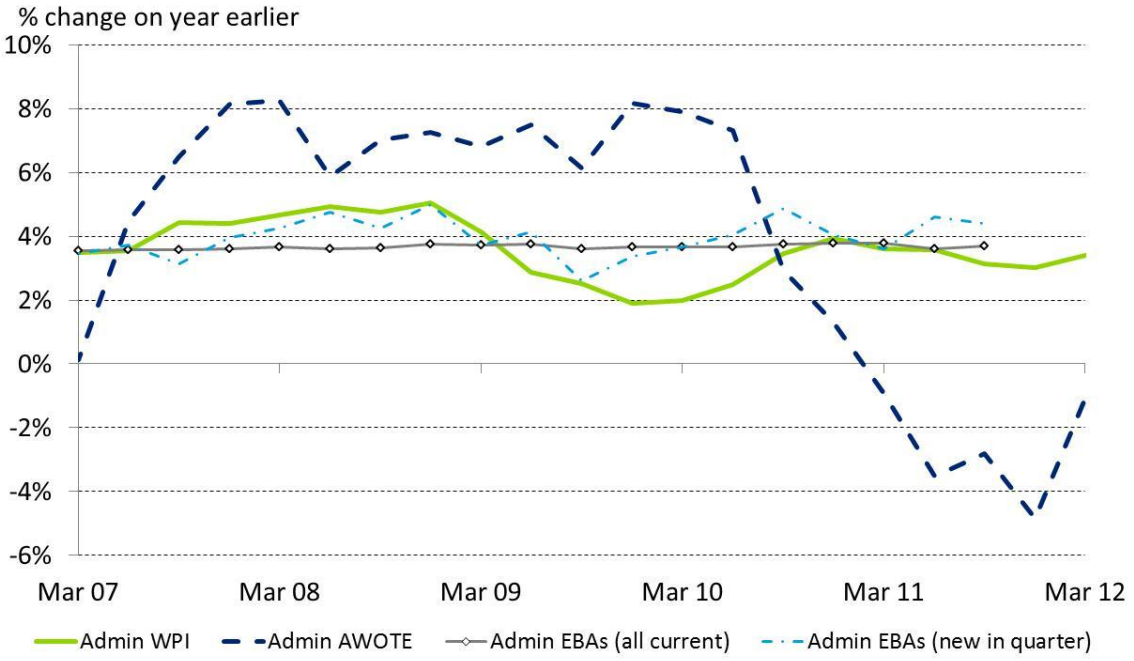
That said, the latter phase will not last forever, and wage growth in the administration services sector is likely to move towards tracking the general rate of WPI increase in the longer term.

9.2.2 Comparison with EBA results

Growth in wages under EBAs in the administration services sector eased across 2009, in line with the measured performance of the WPI 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).

Following the post GFC recovery, the sector has seen wage gains in new EBAs running at close to 4.5% through the June and September quarters of 2011 – healthy levels relative to past experience.

Chart 9.4: Measures of administration services sector wage growth



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

These results indicate a degree of upward pressure on wage gains in the sector, which is consistent with the upward path of WPI projections in the short term as shown in Chart 9.3 above.

9.3 Summary results

The forecasts for national and sectoral wage growth are shown in Table 9.1. Forecast components include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 9.1: National wage forecasts

Calendar year changes in nominal national industry sector WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	3.3	3.7	3.6	4.2	4.3	4.0	3.6	3.9	4.0	4.0
Utilities	4.7	3.6	3.4	4.0	3.8	3.6	3.4	3.8	4.0	3.9
Construction	3.4	4.0	4.1	4.1	4.1	3.9	3.2	3.4	4.0	4.1
Administration services	3.0	3.3	3.4	3.9	3.5	3.6	3.7	4.1	4.2	4.1

Calendar year changes in real national industry sector WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	0.5	0.3	1.7	1.0	1.5	1.5	0.9	1.1	1.6	1.7
Utilities	1.8	0.2	1.6	0.9	1.1	1.0	0.7	1.1	1.5	1.6
Construction	0.5	0.6	2.2	1.0	1.4	1.4	0.5	0.6	1.5	1.8
Administration services	0.1	0.0	1.5	0.7	0.8	1.1	1.1	1.4	1.7	1.8

Calendar year changes in nominal productivity adjusted WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	3.5	3.3	0.8	2.4	2.5	2.3	1.6	1.7	2.5	2.5
Utilities	5.1	3.4	0.9	2.2	2.0	1.8	1.4	1.6	2.4	2.5
Construction	3.2	3.1	1.3	2.5	2.3	2.2	1.2	1.3	2.4	2.7
Administration services	3.5	3.4	0.9	2.3	1.8	2.0	1.8	2.0	2.7	2.7

Calendar year changes in real productivity adjusted WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	0.6	-0.1	-1.0	-0.7	-0.3	-0.2	-1.0	-1.0	0.0	0.3
Utilities	2.2	0.0	-1.0	-0.9	-0.7	-0.7	-1.2	-1.1	0.0	0.2
Construction	0.3	-0.3	-0.5	-0.6	-0.4	-0.3	-1.4	-1.4	0.0	0.4
Administration services	0.7	0.0	-0.9	-0.8	-0.9	-0.5	-0.8	-0.7	0.3	0.5

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

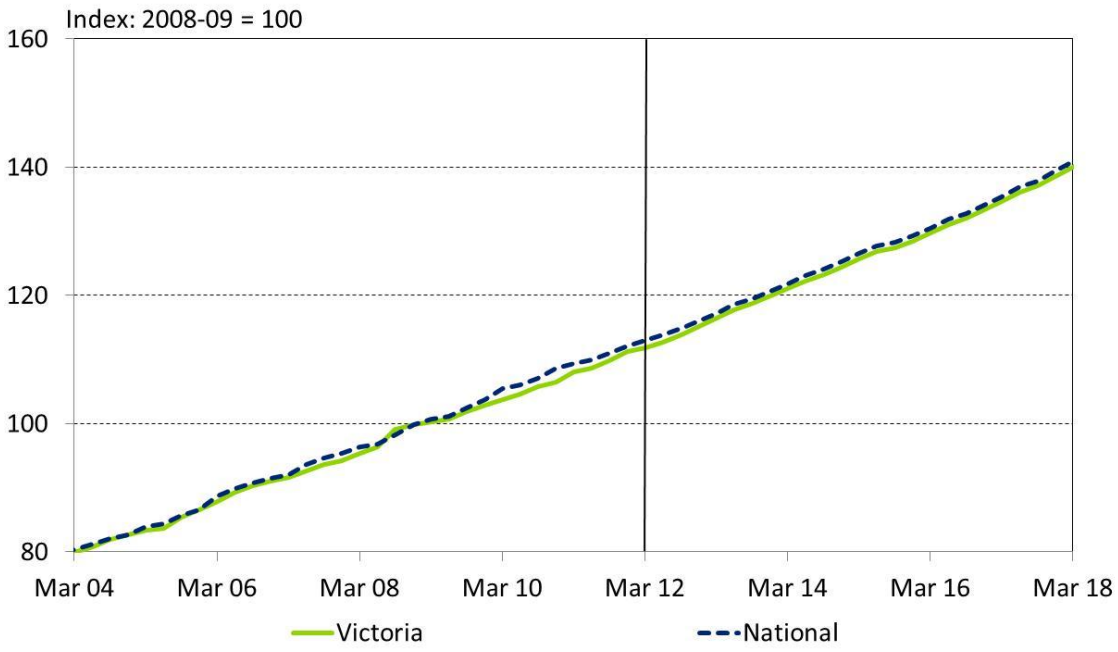
10 Utilities and competitor sector wage growth in Victoria

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

10.1 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.

Chart 10.1: Utilities sector WPI forecasts by State



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

As Chart 10.1 above shows, over the longer term the underlying trends in wages in the sector (that is, at the national level) dominate the movements by State. That said, there are deviations from the national trend, with these differences driven by a combination of:

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

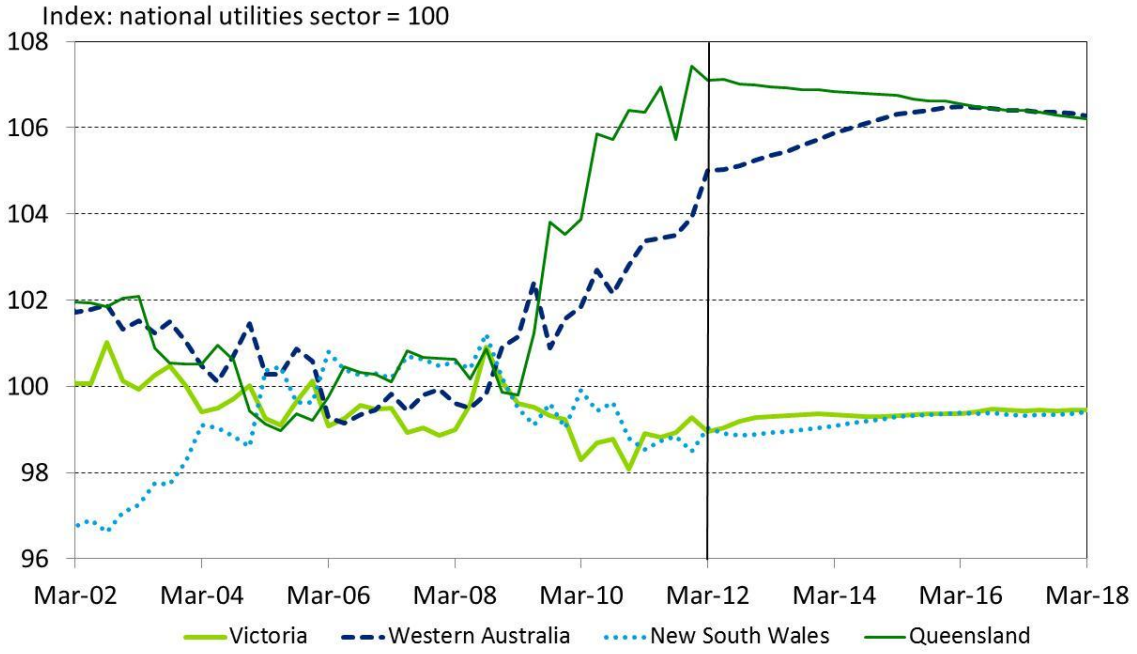
However, as noted elsewhere, there are limits to how far wage rates can deviate over the longer term – large relative swings in either direction will tend to be prevented by competition between States and industries and the ability of workers to move towards better paying jobs.

Overall, the differences in index levels for utilities wages by State are easier to see when expressed in relative terms, as they are in Chart 10.2 below.

In that 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[5]. Both the volatility at the State level and the tendency for indices to revert towards the national average over time are evident.

In brief, and although the utilities sector has seen relatively faster wage growth nationally, much of that strength from the late 1990s to around 2005 was due to strong growth in New South Wales. In more recent times the competition effects from the Queensland and Western Australia mining sectors have been a more important driver of WPI growth, with the larger eastern States, including Victoria, being left behind of late – at least in relative terms.

Chart 10.2: Relative utilities forecast by State



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

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 utilities 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.

That trend is evident in the forecast profile in Chart 10.2, which shows a moderation in the relative performance of Queensland in particular, but also Western Australia once the current engineering investment boom runs its course. At the same time, Victoria and New South Wales are expected to experience faster relative growth over coming years.

Even so, the recent gains of the major mining States are largely maintained. These patterns are partly driven by the relative strength of those two State economies – the more rapid pace of their economic growth being more conducive to maintaining the differential in wages.

[5] 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.

Note that the volatility in the State indices implies that actual movements in State-by-industry WPI 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 10.2 therefore illustrate the broad trends in movements – both relative and absolute.

10.2 The utilities sector

Wage gains in Victoria's utilities sector have been running at a steady rate of close to 4% in recent years, and job growth is expected to remain positive, supported by new investment in key infrastructure (including the $5.7 billion desalination plant in Gippsland).

That said, the most recent growth rate for utilities wages in Victoria has dropped back to 3.4%. Moreover, and as noted above in Chapter 4, the utilities sector is seeing output growth slip nationally, and is currently shrinking at its the fastest ever recorded pace.

Victoria has already seen its share of that weakness, given the challenges for the utilities arising from:

- the 'two speed troubles' gripping its manufacturing sector,
- the impact of past price increases for the sector's output,
- the good rains of the past two years,
- the developing slowdown in housing construction (and hence the pace at which utilities will be connected to new homes), as well as
- the introduction of a carbon price from 1 July.

The full effect of these latter two factors – the developing slowdown in housing construction and carbon pricing – on wage growth in the utilities in Victoria is yet to be fully felt.

Moreover, the same is true of the relatively weaker challenge posed by mining and construction in Victoria than in Australia in general, and that may be especially true of manufacturing as well. Indeed, the pace of wage growth in Victoria's utilities sector in the short term may be affected by recent job losses elsewhere in Victoria's industrial base, along with the slowdown in the State's housing construction sector. That will make the task of finding workers easier than it would otherwise be at a time when unemployment remains low.

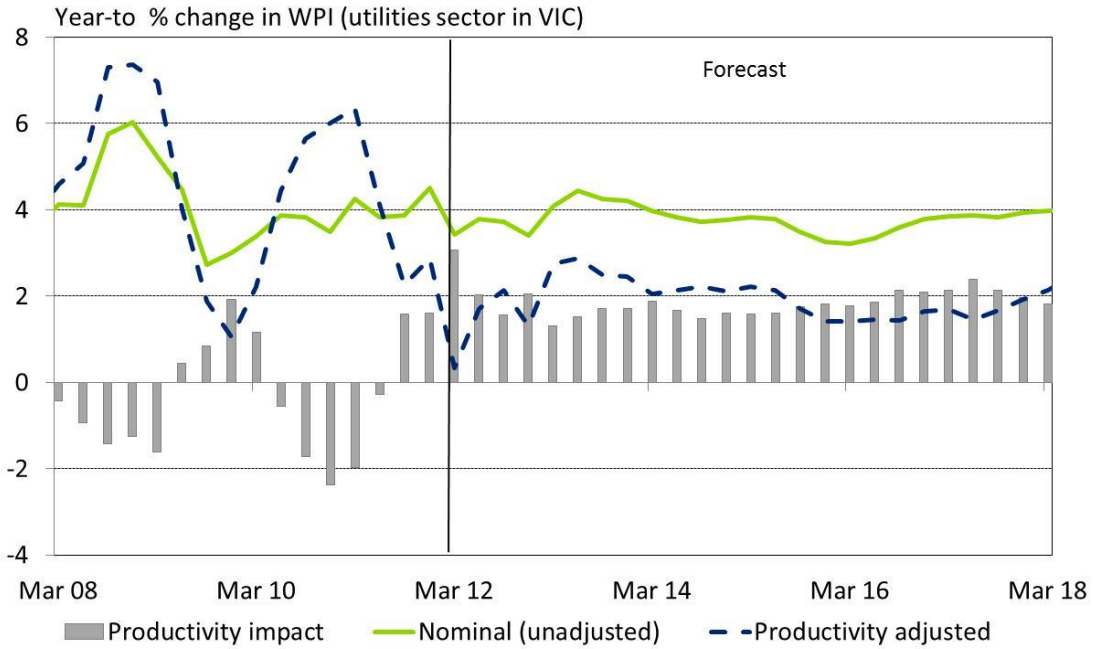
It is also noteworthy that the Australian Energy Market Operator has revised down its short-term demand forecasts for the Victorian gas market:

> *Monthly system demand forecasts…are lower than the monthly forecasts for 2011…The decreases mainly result from several prospective closures of industrial sites supplied via the Victorian gas Declared Transmission System (DTS). These sites, covering material and food production, are rationalising business processes onshore in Australia resulting in decreased demand from the manufacturing sector in Victoria.*[6]

A combination of continued modest growth in output, as well as subdued wage growth in the broader Victorian economy, should provide a chance for wage pressures in the sector to ease somewhat over the course of 2012, with WPI growth expected to be 3.4% over the calendar year – in line with the latest growth rate measured for this sector.

[6] http://www.aemo.com.au/en/Gas/Planning/Victorian-Gas-System-Adequacy

Chart 10.3: Victoria utilities WPI forecasts

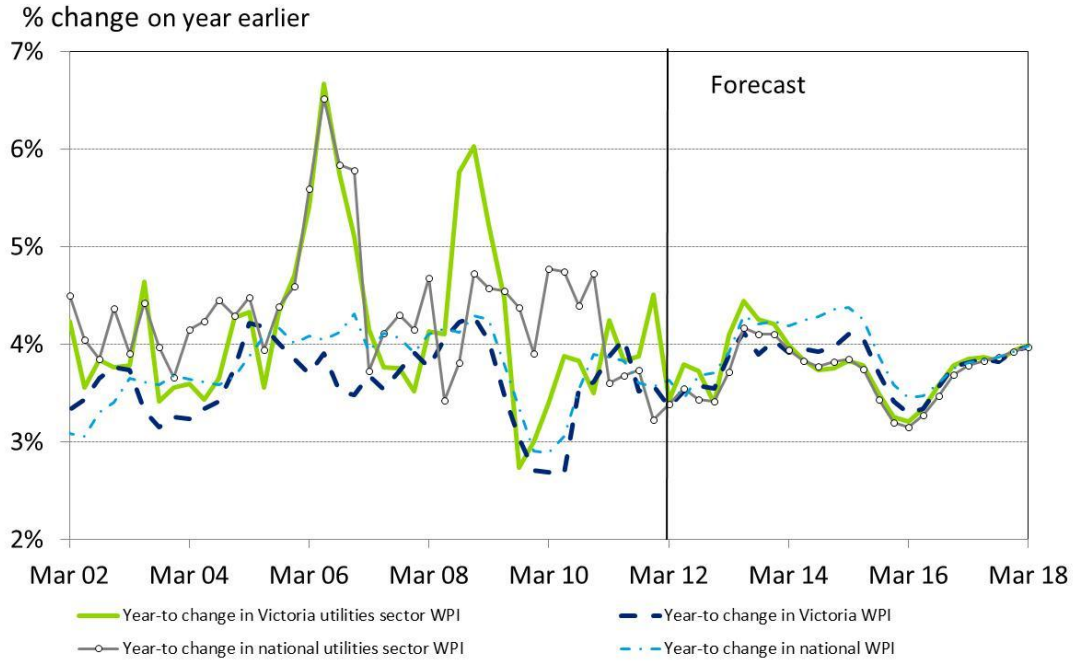


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Such a view is consistent with the trend in outcomes from EBAs in the sector, with average annualised wage increases across all current agreements falling consistently from 4.9% in the June quarter of 2010 to stand at 4.4% in the most recent (September quarter 2011) data.

As broader wage growth moves higher through 2013, wage growth in the utilities sector may also gather pace, slightly outpacing increases in the national WPI. That reflects the combination of a recovery in construction in the State emerging as two speed negatives begin to fade, as well as a broader strengthening of the State and national economies, and a degree of competitive pressure from other sectors and States looking to lure workers from Victoria's utilities sector.

Chart 10.4: Victoria utilities forecast comparison



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

Looking further forward, we see a period of slower growth in utilities wages nationally feeding through into subdued wage growth in the sector in Victoria. Through both 2014 and 2015 that is expected to see wage growth in the utilities below that in the State as a whole, and further below the national all industry average.

10.3 The construction sector

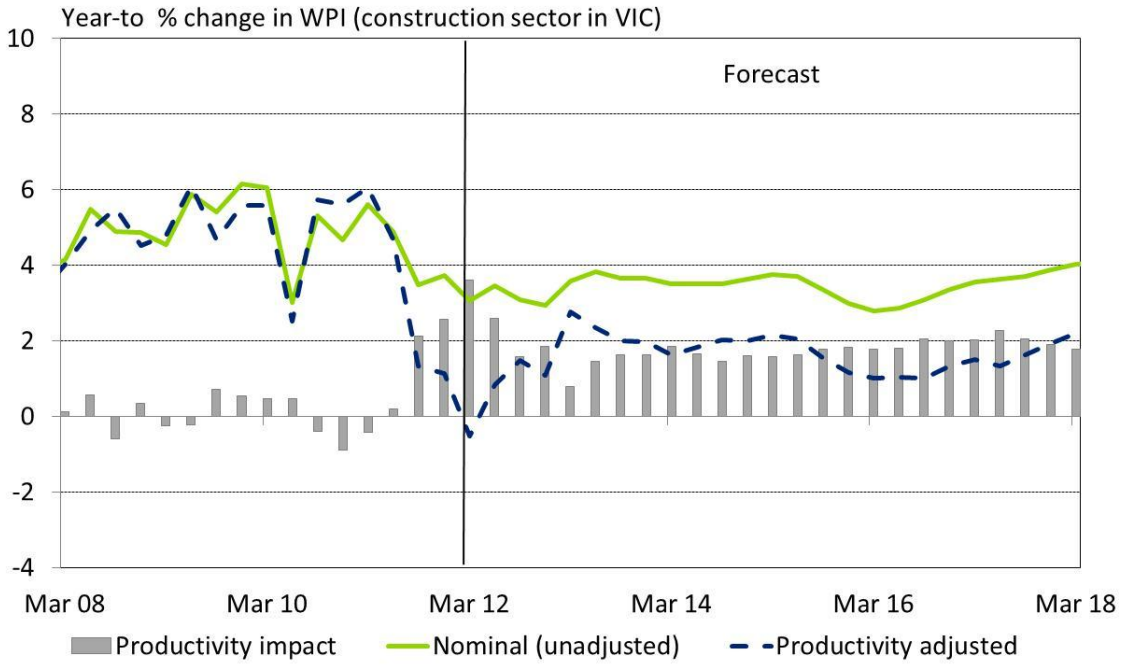
The last decade has seen a combination of higher levels of population growth and related housing construction lying behind a resilient overall Victorian economy.

New subdivisions on the outskirts of Melbourne together with the reconstruction efforts following the Black Saturday bushfires and flooding in regional Victoria saw construction activity in the State running well ahead of national trends.

And with construction in the State performing relatively well in recent years, it is therefore no surprise that wages in the construction sector have likewise seen strong growth in Victoria of late.

Indeed, even the GFC failed to halt the momentum of wage gains in the sector, as Chart 10.5 below shows.

Chart 10.5: Victoria construction WPI forecasts



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

However, wage growth has already weakened in the wake of significant falls in housing starts and other leading indicators of activity. With these indicators not expected to return to their pre-GFC levels, and amid continued weakness in Melbourne house prices, pressure on wages in the sector is likely to remain subdued.

Outside of housing, the picture is also soft, with the value of non-residential building construction approvals in Victoria falling due to weakness in retail turnover and a relatively modest jobs market.

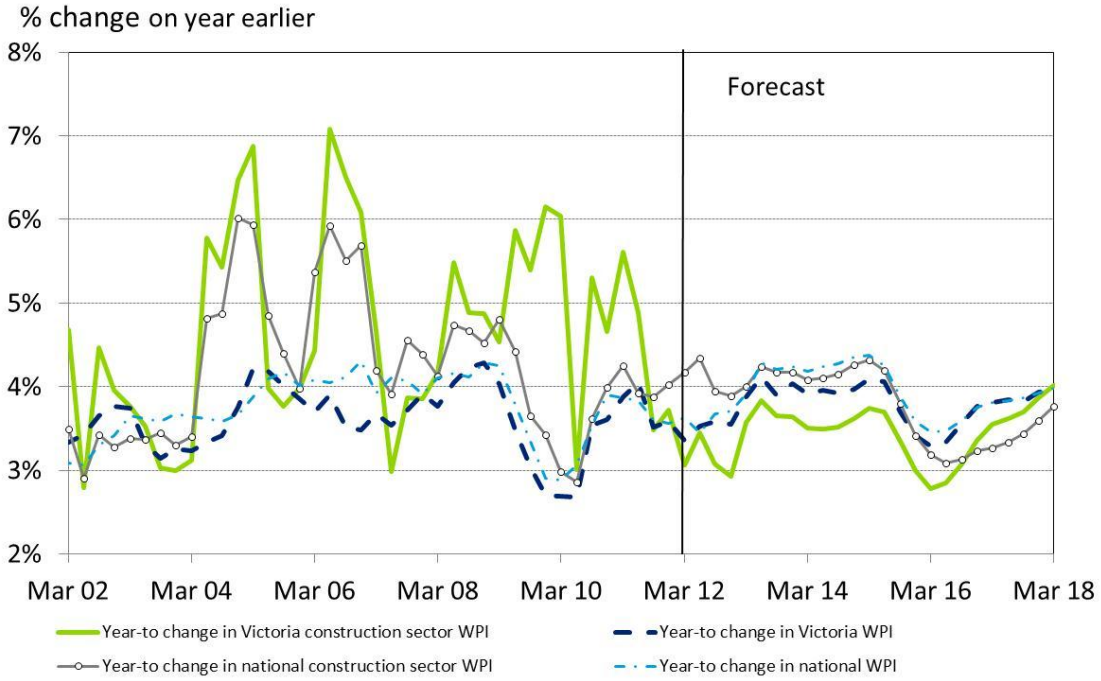
Indeed, commercial construction activity has fallen from around 3.7% of Victoria's economy to close to 2% more recently, and the value of approvals remains modest – pointing to further softness for construction going forward. Current projects include the $700 million Bourke Junction development, which includes two office towers, a hotel, medical centre and shops, along with a $400 million redevelopment of the Greensborough town centre. A $300 million expansion of the Highpoint shopping centre is due to be completed in 2013, while a new $286 million Ikea centre at Springvale is being finalised. The $1.1 billion Parkville cancer centre project is due to be completed in 2015, while a $447 million redevelopment of the Box Hill hospital is underway, as is the $112 million second stage of the Warrnambool hospital redevelopment in the State's west. Meanwhile, the $363 million first stage of a redevelopment of Melbourne's Olympic Park is underway, and a $300 million redevelopment of the Ararat Prison is due to be completed at the end of the year, while a $55 million refurbishment of the Southern Stand at the MCG is ongoing.

At the same time, Victoria's pipeline of engineering construction projects is also shrinking, suggesting activity in this component of construction will soften over the medium term. There are still some key bright spots, however, including the $5.3 billion Regional Rail Link project linking West Werribee to Melbourne's Southern Cross Station due for completion in 2016. Other projects under construction include the $1.3 billion Peninsula Link joining EastLink with the Mornington Peninsula at Mount Martha, along with the $980 million Western Ring Road expansion from the Hume Highway to the West Gate Freeway. A range of repairs to roads and other transport infrastructure following the floods of early 2011 are ongoing, while the Western Highway is being duplicated between Ballarat and Stawell at a cost

of $404 million. Meanwhile the Eastern water treatment plant at Carrum is being upgraded at a cost of $417 million, and Melbourne Water is spending $220 million replacing main sewers in the Melbourne CBD.

With activity in all three components of construction facing a slowdown in activity, that suggests the current slowdown in construction sector wage growth in Victoria will continue through 2012, as Chart 10.6 below shows.

Chart 10.6: Victoria construction forecast comparison



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

Note that this weakness in wage growth is in line with broader wage movement in the Victorian economy, but is more pronounced relative to the solid growth in national construction wages expected at present, reflecting relative strength in construction wages in the boom States of Western Australian and Queensland.

While there is a forecast lift in wage growth in the sector in response to broader cyclical wage trends, construction wages are expected to trail broader wage gains in the State for much of the forecast period.

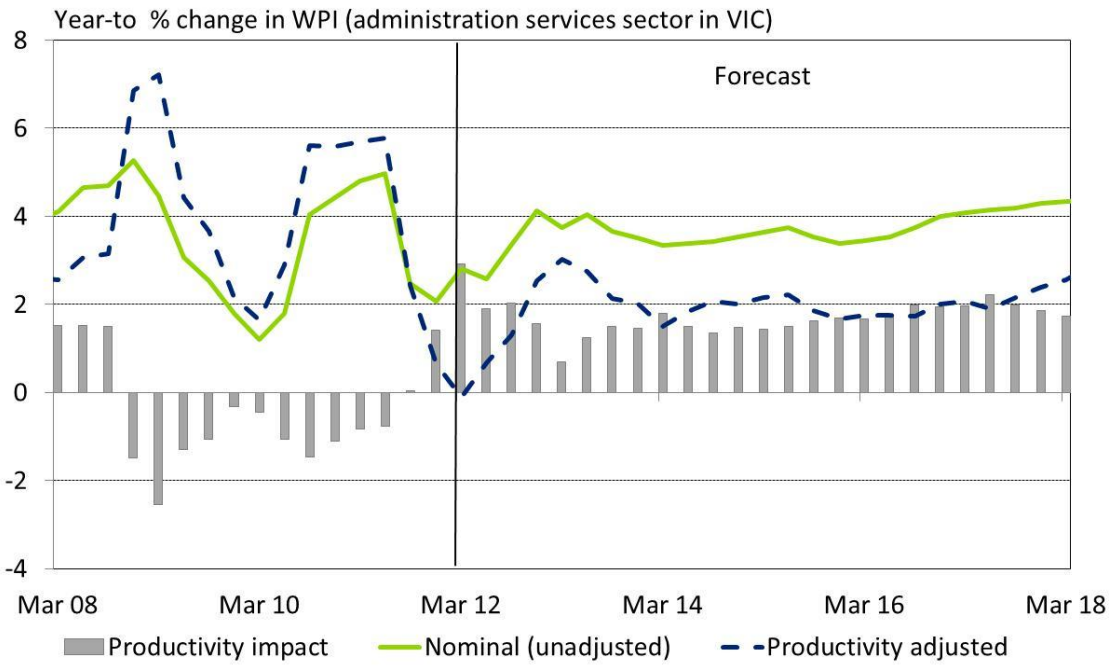
That said, a soft outlook for construction does not suggest a major downward shift in wage gains. Instead, Victoria is more likely to see a sustained period of relative easing in construction wages. That is particularly true given the State's recent performance has left less pent up demand for housing than other States, limiting the potential upswing in construction once two speed pressures ease.

In the longer term, wage growth is expected to return to levels similar to those across the broader Victorian economy.

10.4 The administration services sector

As Chart 10.7 shows, the administration sector's local WPI has been on something of a wild ride in recent times, with a major slowdown during the GFC followed by recovery across most of 2011, partly thanks to the rebound in wages generally, partly due to solid employment in the sector, and partly due to one-off impacts from the transition to the *Modern Awards* system which became evident in the September quarter 2010 data.

Chart 10.7: Victoria administration services WPI forecasts



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

While not as dramatic as the impacts seen in some States (most notably South Australia), this final point was a one-off event. That goes some way to explaining the recent rapid drop off in the year-to growth rates seen since the September quarter 2011, with WPI growth in the year to March 2012 standing at 2.8%.

That said, there are also underlying trends at play. Tougher times in property and business services in particular have seen commercial property in Melbourne's CBD, long a market darling among analysts, competing with Canberra for the worst demand performance seen during 2011. In turn, some of that weakness has translated into reduced demand for building services.

However, Melbourne's woes may be short and sharp. Provided Europe keeps its act together, we project the worst may soon be past in property and business services. And although Melbourne CBD is also exposed to finance sector risks, it may be able to navigate that challenge better than Sydney.

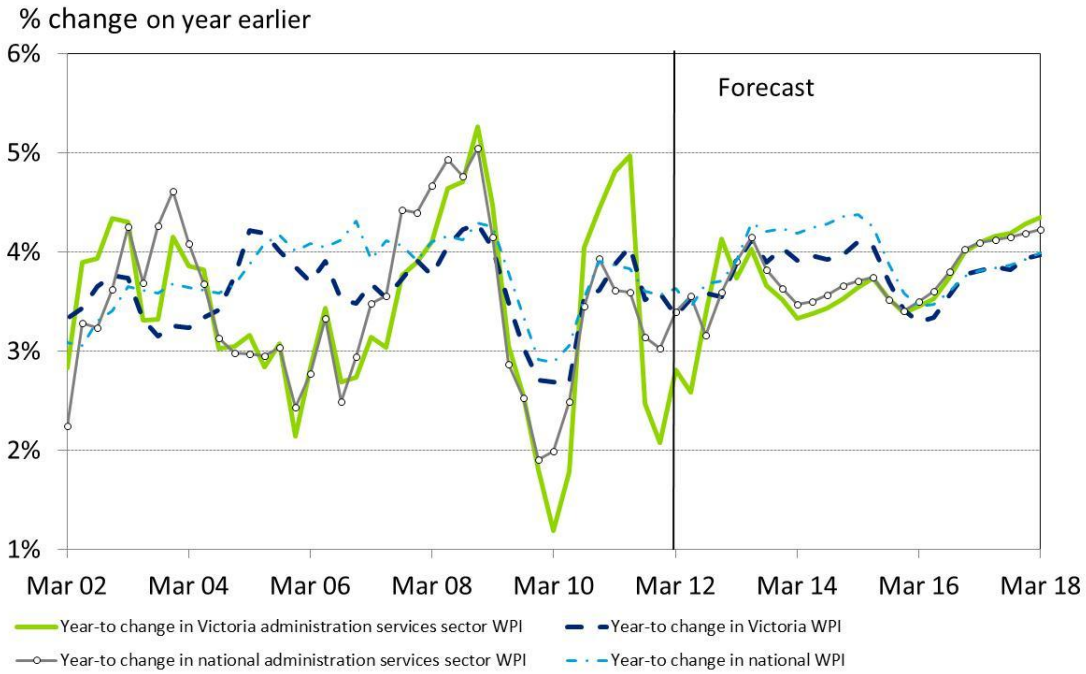
Accordingly, we see the slowdown of the moment as temporary rather than longer lasting, with the added advantage of being cushioned by the modest level of new office space coming into this market.

While the national administrative services sector has seen a similar pattern of growth, Victoria has seen more pronounced swings in wages than the national picture might suggest. That pattern of volatility is

likely to continue for a time, with wage gains in the sector outpacing their national counterparts as the recovery from current weakness takes hold.

That will see wage gains in the sector peak at close to 4% through late 2012 and into the first half of 2013, unwinding the effects of the period of underperformance seen in recent quarters (see Chart 10.8).

Chart 10.8: Victoria administration services forecast comparison



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

Moving forward, we expect wages in the Victorian administrative services sector to be broadly in line with those at the national level, which is to say they will see wages grow more slowly than the national all industries average through much of 2013 and 2014.

10.5 Summary results

Forecasts for State sectoral wage growth are shown Table 10.1 below. Forecasts include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 10.1: Victoria wage forecasts

Calendar year changes in Victoria nominal WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	3.1	3.8	3.5	4.0	3.9	3.8	3.5	3.9	4.0	3.9
Utilities	3.6	4.1	3.6	4.2	3.8	3.6	3.5	3.9	4.0	4.0
Construction	4.7	4.4	3.1	3.7	3.5	3.4	3.0	3.7	4.1	3.9
Administration services	2.9	3.6	3.2	3.7	3.4	3.6	3.7	4.2	4.4	4.3

Calendar year changes in Victoria real WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	0.1	0.3	1.6	0.9	1.2	1.4	0.9	1.1	1.5	1.6
Utilities	0.6	0.6	1.7	1.1	1.1	1.2	0.9	1.1	1.5	1.6
Construction	1.7	0.9	1.3	0.6	0.8	1.0	0.4	0.9	1.5	1.5
Administration services	-0.1	0.1	1.4	0.6	0.7	1.1	1.1	1.4	1.9	1.9

Calendar year changes in Victoria nominal productivity adjusted WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	4.5	3.4	1.9	3.1	2.5	2.0	1.6	1.8	2.6	2.8
Utilities	4.6	3.9	1.4	2.6	2.1	1.9	1.5	1.7	2.5	2.6
Construction	4.9	3.3	0.7	2.3	1.9	1.7	1.1	1.6	2.5	2.5
Administration services	3.9	3.6	1.1	2.5	1.9	2.0	1.8	2.1	2.9	3.0

Calendar year changes in Victoria real productivity adjusted WPI

Annual % change	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All industries	1.4	-0.1	0.0	0.0	-0.2	-0.4	-0.9	-0.9	0.1	0.5
Utilities	1.5	0.4	-0.4	-0.4	-0.5	-0.5	-1.0	-1.0	0.0	0.4
Construction	1.8	-0.2	-1.1	-0.8	-0.8	-0.7	-1.4	-1.1	0.0	0.2
Administration services	0.9	0.1	-0.7	-0.6	-0.8	-0.4	-0.7	-0.6	0.4	0.7

Source: ABS, Deloitte Access Economics labour cost model

Appendix A: Some rules of thumb for wage forecasting

Inflation has three main drivers:

- wage gains (or, to be more exact, wages relative to productivity),
- import prices, and
- the degree of pressure on prices coming from the spare capacity (or the lack of it) in the economy.

The Reserve Bank tries to keep consumer price inflation (CPI) to an average of 2 to 3% a year across the business cycle. That is an average both across time and across categories. For example, retail prices for imports have grown relatively slowly across the past decade, while prices for services have tended to grow faster.

Aiming for average CPI of 2 to 3% also requires aiming for average inflation in labour costs of the same.

- That is exactly what does occur – growth in nominal unit labour costs is close to growth in the CPI over time.
- Many people in the corporate world find that strange at first blush. After all, they see their own wages and those of people around them growing at faster rates.
- However, there are two other steps to take account of in translating wage growth into labour cost growth.
    - **First**, the workforce sees entries and retirements each year, with those retiring on higher earnings than the juniors who are entering. To look at the wage growth of individuals as a proxy for wage growth more widely is to forget that the group of individuals gains a year in experience and seniority every year whereas, due to retirements, the workforce as a whole sees rather less of an increase in experience and seniority every year.
    - **Second**, whether considering a specific group of individuals or the workforce as a whole, you have to remember that we get better at working over time – for example, thanks to working with better equipment. This growth in labour productivity saves money. For example, the work that last year took an hour may this year take 58 or 59 minutes. In turn, that productivity growth reduces the impact of rising wages on labour costs.

The above therefore helps to identify some rules of thumb:

- Across a long enough period, growth in prices will tend to average somewhere in the Reserve Bank's target range of 2 to 3% a year – perhaps 2.5%.
- The same is true for labour costs for a unit of output (nominal unit labour costs) – also averaging somewhere close to 2.5%.
- However, wages for the 'average' worker will tend to grow faster – the sum of both prices and productivity. As the latter has averaged around 1.5% over the past three decades, that might suggest that wages for the 'average' worker will grow by perhaps 4.0% in a typical year.
- There will be a divergence between wage growth on the one hand and price and productivity growth on the other over the course of a business cycle. When demand is strong relative to the available supply of workers, wage growth will exceed this rule of thumb measure – and vice versa.
- Moreover, wages for the typical 'specific' worker will tend to grow faster still, as their seniority and experience increases each year. It is harder to identify a general rule of thumb here, as the

reward for seniority and experience varies notably across sectors and occupations, as well as across the business cycle. That said, wages for the typical 'specific' worker will tend to grow by perhaps 5.0% in a typical year.

Appendix B: Regional wage variations in Australia

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 fewer 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 less Registered Nurses because wages for Registered Nurses have risen relative to those for Enrolled Nurses").

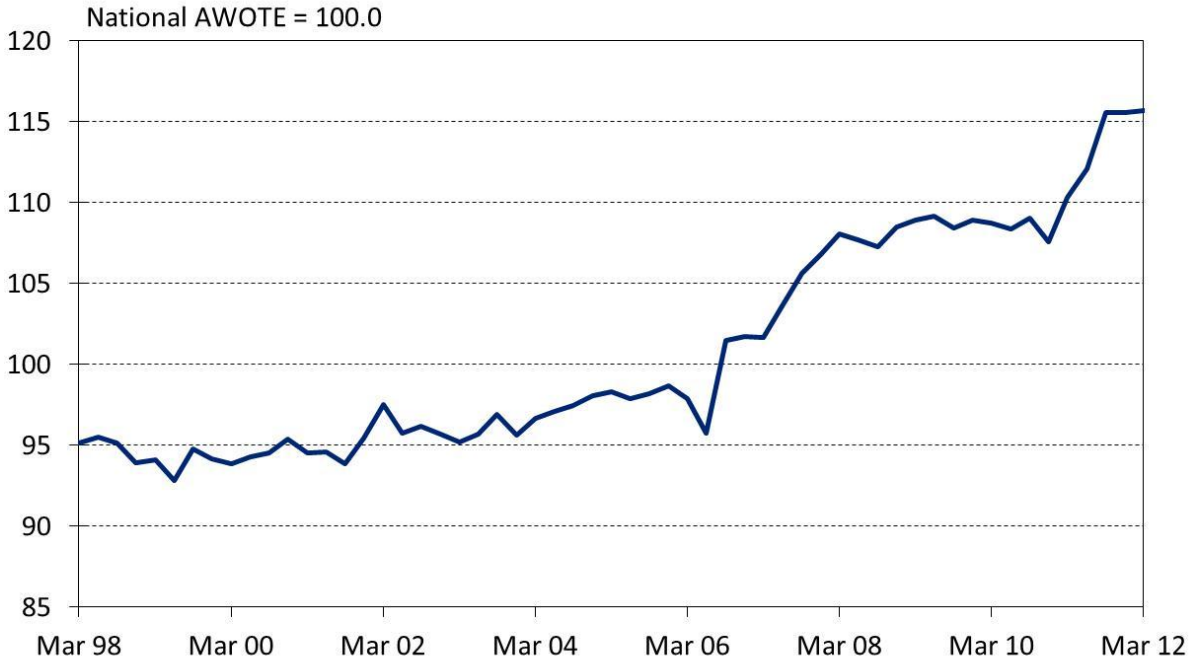
Many of these 'equilibrating factors' can be very slow to operate, meaning that divergences in wages across States (and, for that matter, across sectors and occupations within a State) can persist for long periods.

However, they will tend to narrow over time as these supply and demand factors in labour (and materials) markets gradually make their presence felt.

An example is Western Australian wages relative to national wages, as seen in the chart below.

That ratio rose during the boom, but is now starting to level off, and the next move in this ratio is likely to be downward.

Chart B.1: Western Australian wages relative to national wages



Source: ABS

Appendix C: Macroeconomic and wage forecasting methodology

Introduction

The model used by Deloitte Access Economics to forecast the WPI by State and by industry has been created as a subsidiary component of our Deloitte Access Economics Macro (AEM) model. Key aggregates, including overall wage and productivity movements, and projections for output and employment by State and for Australia are used to drive WPI measures at more detailed levels.

Previous reports prepared by DAE for the AER have referred to the total rates of pay, excluding bonuses series as the LPI. While this series is from the LPI publication, it is in fact a wage price index (WPI) series, and it is referred to as such in this report. To be clear, this does not represent any change to the underlying series used in the analysis or forecasts presented in this report, but to the name of the series only.

The macroeconomic forecasts presented in this report are based on the June quarter *Business Outlook* publication.

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 the then Treasury Secretary Ken Henry noted in 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 **wage 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 WPI will move, and the remainder of the modelling determines which industry, State and industries within States will see their WPI measures grow faster or slower than this value.

Industry and State Wage Price Indices

Modelling of specific wage price indices (WPIs) begins with the movements in the total Australian WPI – 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:

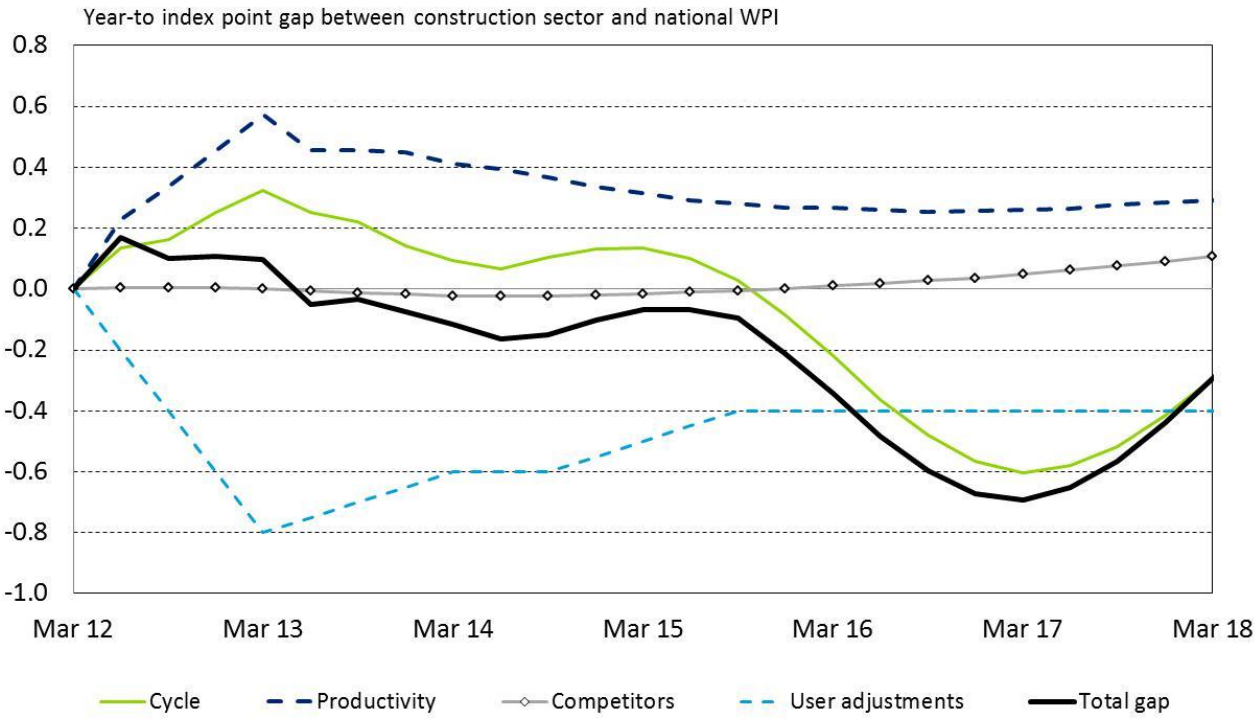
- **Business cycle factors**. Deviations in industry (or State) performance from the national average. Faster growing industries and States will tend to see faster growth in wages and vice versa. In this model, the key factor is how fast the industry (or State) is growing relative both to the national 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 WPI 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 WPI 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 WPI 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 C.1: Sample composition chart of sectoral wage drivers (national level)



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

The user-defined adjustments that are required have been explicitly shown in the charts that decompose the movements in industry WPI. The chart above (analysing the national construction sector) compares movements to the national WPI – above the line means growth in the index of more than would be expected if it rose in line with the national WPI and below the line implies growth in the index less than that implied by the national WPI.

In the case of the utilities 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 WPI 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 WPI) means the sector will face minor downward wage pressure from

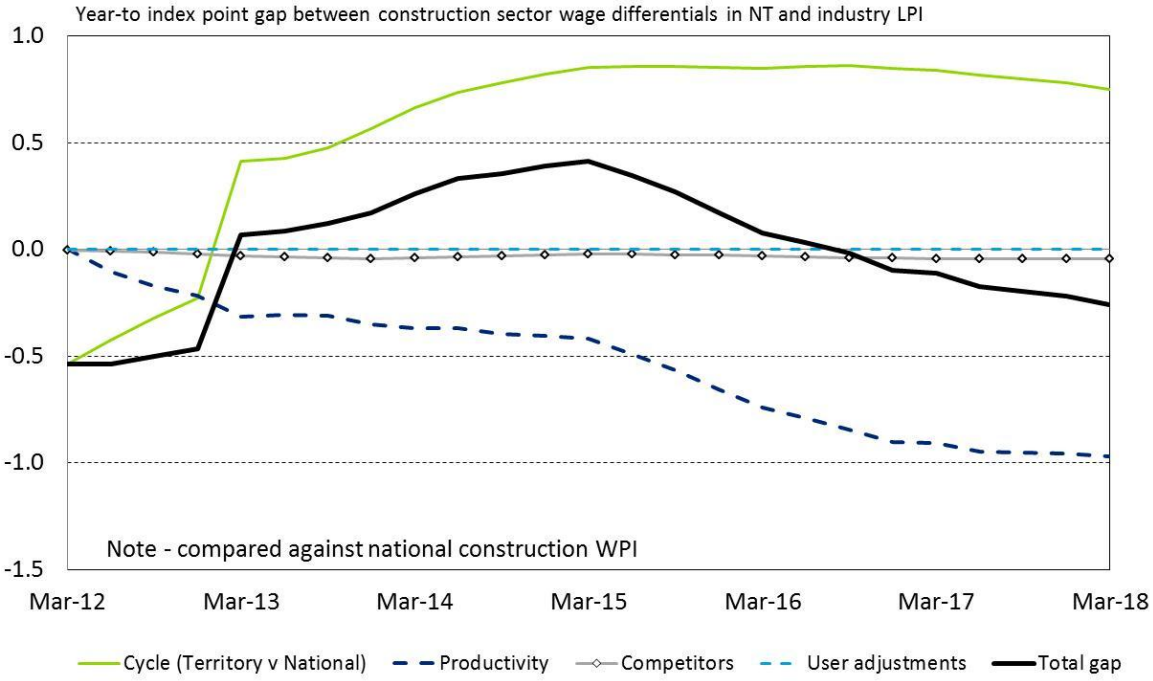
other sectors. Weakness in the manufacturing sector in particular will limit the impact from competitor industry wages (the **Competitors** line). In the longer term the otherwise stronger wage growth in the sector will not see a need for wages to rise to maintain pace with growth in competitor sectors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

The final result of all of these effects is construction sector WPI 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 WPI. So the chart below implies that Northern Territory's construction sector WPI will:

- Grow relative fast as 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 WPI is currently low by historical standards, but will be constrained in the longer run as the WPI soon grows ahead of the national rate.

Chart C.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.

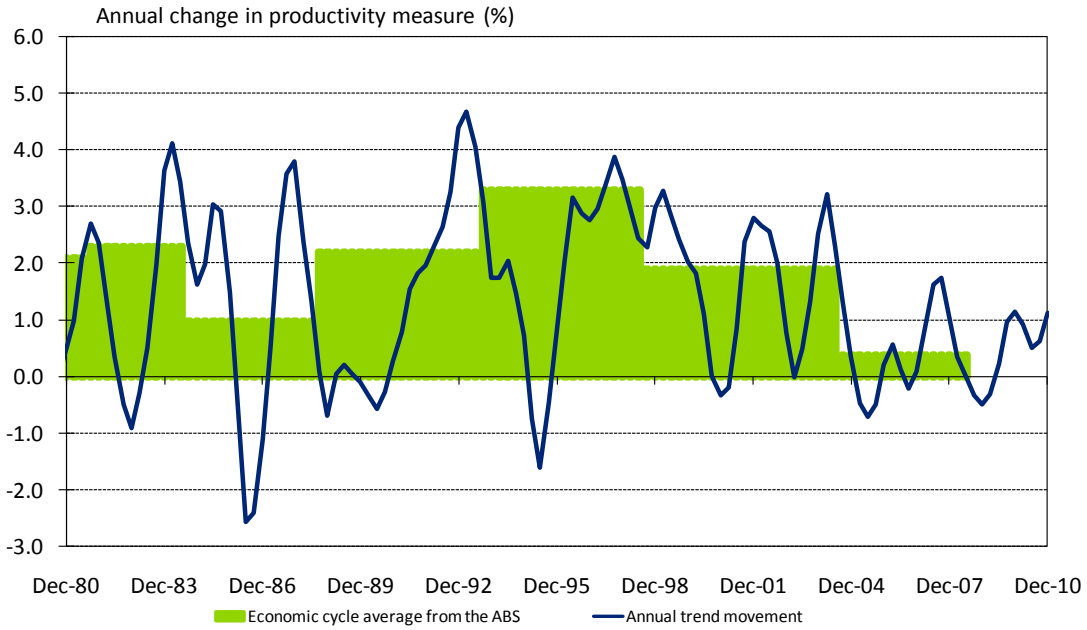
However, labour costs will rise at a different rate due to the effects of labour productivity growth. Effectively, labour productivity measure the number of units of output an individual employee can produce in a given time period. The more units of output each worker can produce, the fewer workers are 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 close to the basic measure (output per employee) over the cycle than the simpler output per hour work measure over this period.

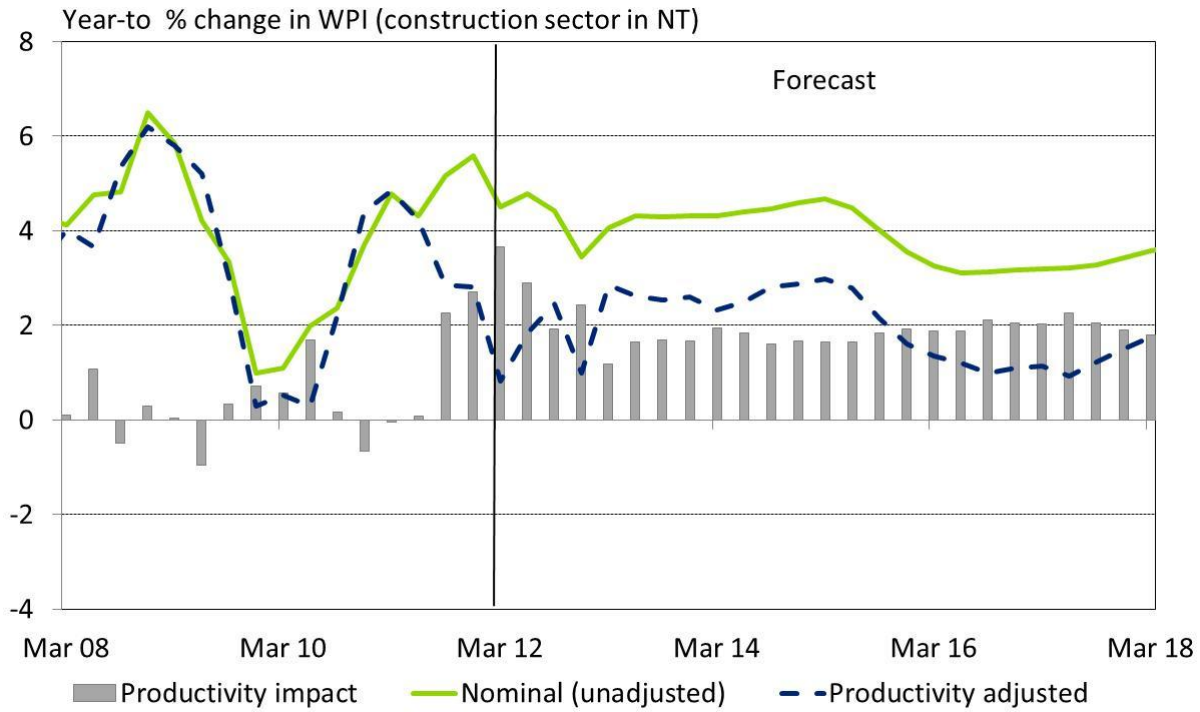
Chart C.3: Growth in productivity – annual methodology vs economic cycle methodology



Source: ABS

However, in the methodology used here the volatility in the underlying productivity data is minimised by creating a composite productivity measure based on national, industry and State-specific productivity movements – where the relative impact of movements in the smaller and more volatile States and industries is lessened.

Chart C.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) WPI 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 D: Different measures of wage growth

The Australian Bureau of Statistics published an article in the October 2005 issue of Australian Labour Market Statistics (catalogue 6105.0) which discussed the comparative features and relative merits of the measures they produce.[7] The following reproduces part of that article, and then adds some observations.

Introduction

Statistics on employee remuneration are in demand from a wide range of users, including economic analysts, social researchers, policy makers, and employer and employee associations. The ABS publishes a number of measures relating to the remuneration of employees, to meet the different needs of users. These measures include average weekly earnings, changes in the price of labour, and compensation of employees.

The variety of measures available can sometimes lead to misunderstanding and misapplication. The choice of measure will depend on what type of analysis is being undertaken. This section explores the differences between the various measures of employee remuneration.

Measures of employee remuneration

Three distinct measures of employee remuneration are discussed below: earnings; changes in the price of labour; and compensation of employees.

Earnings

Estimates of the level of earnings are produced from a number of surveys: the Survey of Average Weekly Earnings (AWE); the Survey of Employee Earnings and Hours (EEH); and the Survey of Employee Earnings, Benefits and Trade Union Membership (EEBTUM).

The AWE survey is one of the major sources of data on earnings, and is designed to provide a quarterly measure of the level of earnings. Three earnings series are produced from AWE:

- average weekly ordinary time earnings for full-time adults;
- average weekly total earnings for full-time adults; and
- average weekly total earnings for all employees.

While the AWE survey provides a frequent time series, data are only available for full-time adult employees and all employees, and can only be cross-classified by a small number of variables, such as sex, state, sector, and industry. The EEH and EEBTUM surveys provide additional detail, although on a less frequent basis. The EEH survey is run every two years and provides a large number of variables important in the analysis of weekly earnings, including: managerial/non-managerial status; state; sector; level of government; industry; occupation; employer size; sex; full-time/part-time status; adult/junior status; and type of employee (e.g. permanent/fixed-term contract or casual). The EEH survey therefore

[7] See http://www.abs.gov.au/AUSSTATS/abs@.nsf/90a12181d877a6a6ca2568b5007b861c/9b6a7239b96304ddca2570930000e4bf!OpenDocument

supplements AWE survey data by providing detailed information on the composition and distribution of employee earnings and hours.

The annual EEBTUM survey is a household survey, in contrast to the AWE and EEH surveys which are business surveys. The EEBTUM survey, which is conducted as a supplement to the monthly Labour Force Survey, collects weekly earnings data cross-classified by a range of socio-demographic information, including: sex; age; marital status; relationship in household; geographic region; school attendance; birthplace and year of arrival in Australia. The EEBTUM survey also collects details about the type of employment, including: occupation; industry; hours worked; full-time or part-time status; sector; size of workplace and leave entitlements.

While the EEH and EEBTUM surveys are run less frequently than the AWE survey, they are a valuable source of information as they enable detailed analysis of earnings levels.

Changes in the price of labour

Information on changes in the price of labour is available from the quarterly Labour Price Index publication (LPI). The LPI is compiled from information collected from businesses on changes in wage and non-wage costs. Information collected on wages is used to produce a Wage Price Index (WPI).

The WPI was first compiled for the September quarter 1997 and is the main ABS measure of wage growth. The WPI measures quarterly changes over time in the cost to an employer of employing labour, and is unaffected by changes in the quality or quantity of work performed.

The ABS publishes four wage price indexes each quarter. The headline WPI series is the index of total hourly rates of pay excluding bonuses. This series excludes bonus payments (which generally relate to the individual performance of the employee or to the organisation's performance), and so represents a pure price measure for combined ordinary time and overtime hourly rates of pay.

Compensation of employees

Compensation of employees (CoE) is a quarterly measure of the total remuneration paid to employees in return for work done and is published as part of the national accounts. Compensation of employees is a broader measure than earnings as it includes irregular payments (e.g. annual bonuses) and social contributions paid by the employer (e.g. severance, termination and redundancy payments; employer superannuation contributions; and workers compensation premiums). These payments are excluded from measures of earnings, which have a narrower focus.

A quarterly measure of the average CoE per employee, known as Average Earnings National Accounts (AENA), is produced by dividing the total compensation of employees for the quarter by the total number of employees. The total number of employees is estimated using Labour Force Survey data, calculated as an average of the three months in each quarter. Some adjustments are made to this estimate of employment. Two measures of AENA are produced: average non-farm compensation per employee; and average compensation per employee. The average non-farm compensation per employee estimate is the key series, as it is a more stable estimate. This is because employee earnings in the agricultural sector can fluctuate due to seasonal effects.

Summary of the surveys and their key series

Table D.1 (found at the end of this chapter) provides a comparison of each of the surveys discussed. It outlines the key series produced, what each survey is designed to measure, the frequency and type of data source, the benefits and limitations of each survey, and the related publication.

Drawbacks to using the WPI measure

While Deloitte Access Economics would view the WPI as the best measure for use in the context of this report, 'best measure' is not the same as 'perfect measure', and there are also drawbacks to using the WPI:

- First, the WPI is published by State and by sector separately, but not by State and by sector. That is, the WPI for NSW is published, and the mining sector WPI is also published, however the NSW mining sector WPI is not. The latter data is only available by special request and, in the case of small sample sizes, the ABS does not release their estimates. In contrast, more series at the 'by State and by sector' are available for AWOTE from the ABS 6302.0 release. However, it is possible to 'back out' reasonable estimates of WPI at the 'by State and by sector' level. Appendix C discusses how Deloitte Access Economics does that. The resultant series are rather less volatile than the matching ABS AWOTE series. (Note that, not surprisingly, the ABS is reducing over time the range of sectoral level AWE data which it is willing to release. This phase will eliminate one of the remaining arguments in favour of using AWOTE or AWE over the WPI measures.)
- Second, it is sometimes relevant that the composition of the workforce is changing. That is particularly true in analysing the implications of wage developments for the Australian economy as a whole. For example, promotions are easier to get during a sustained expansion, reflecting the strength of cyclical demand rather than pure productivity. Other things equal, that adds to total incomes in the economy, but doesn't show up in the WPI (which does not 'recognise' that people at a certain seniority today are, on average, different to those who were at that level some years past).

EBAs and contract rates

Deloitte Access Economics' forecasts are developed using a more formal modelling approach rather than a more 'institution-based' approach.

The latter focuses on:

- increases in the **Federal Minimum Wage / Fair Pay Commission decisions**,
- increases in **collective agreements** under enterprise bargaining,
- increases in **individual agreements**.

That said, close attention to such institutional factors can assist in short term forecasting (as opposed to longer term forecasts), given that most such decisions have lingering effects on wage outcomes.

Accordingly, Deloitte Access Economics notes developments in DEEWR's Trends in Federal Enterprise Bargaining reports at www.workplace.gov.au/TrendsInFederalEnterpriseBargaining, and takes account of these in its short term forecasting if they appear likely to have a material impact.

Table D.1: National wage surveys

	AWE Survey	EEH Survey	EEBTUM Survey	LPI	CoE
Key series produced	Average weekly total earnings (AWTE) for full-time adult employees and all employees. Average weekly ordinary time earnings (AWOTE) for full-time adult employees	Average weekly earnings for all employees. Average weekly earnings for full-time adult non-managerial employees	Median and mean weekly earnings of full-time, part-time and all employees	Labour Price Indexes. Wage Price Index (WPI) of total hourly rates of pay excluding bonuses.	Non-farm Average Earnings National Accounts (AENA)
Designed to measure	Level estimates of weekly earnings and the distribution of earnings	Level estimates of weekly and hourly earnings and the distribution of earnings	Level estimates of earnings and the distribution of earnings	Changes in the price of labour	Level estimates of average compensation of employees
Frequency and basis of survey	Quarterly survey of businesses	Biennial survey of businesses	Annual survey of households	Quarterly survey of businesses	Quarterly national accounts series based on quarterly survey of businesses
Benefits of the methodology	Quarterly time series (original, seasonally adjusted and trend estimates available)	Provides detailed job information allowing analysis by industry, occupation, hourly rates etc. Source of distributional data (e.g. quartiles)	Provides detailed demographic and job information. Source of distributional data (e.g. medians)	Provides estimates of wage and non-wage inflation	Broad measure of remuneration
Limitations of the methodology	Few cross-classificatory items	Survey run infrequently (two-yearly)	Only provides average weekly total earnings (no series on ordinary time earnings). Includes payments not related to the period of work performed (e.g. backpay and pay in advance)	No level estimates or in-depth cross-classificatory items	Few cross-classificatory items
Publication description and ABS catalogue number	Average Weekly Earnings, Australia (cat. no. 6302.0)	Employee Earnings and Hours, Australia (cat. no. 6306.0)	Employee Earnings, Benefits and Trade Union Membership, Australia (cat. no. 6310.0)	Labour Price Index, Australia (cat. no. 6345.0)	Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

Further issues

The ABS has reviewed its production of AWE and AWOTE measures at the industry by State level (that is, the AWOTE for the utilities sector in Victoria). This information will now no longer be produced.

A key reason was the high standard errors for these series. In the case of the AWE/AWOTE publication, sample selection is stratified across States and across industries, but not both. That means that as the businesses in the sample change from quarter to quarter (and about 8% of the 5,000 do each time) there is no guarantee that the State by industry samples can be readily compared.

This problem led to questionable comparability of detailed AWE/AWOTE results from quarter to quarter as the changes may be driven by changes in the sample, rather than changes in wages.

The WPI, by contrast, suffers as little as possible from this problem because its sample follows specific "jobs" over an extended period (at least five years). This limits the rotation problems that the AWE/AWOTE series suffered from.

Limitation of our work

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Contact us

Deloitte Access Economics
ACN: 49 633 116

Level 1
9 Sydney Avenue
Barton ACT 2600
PO Box 6334
Kingston ACT 2604 Australia

Tel: +61 2 6175 2000
Fax: +61 2 6175 2001

www.deloitteaccesseconomics.com.au

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