Deloitte Access Economics

Forecast growth in labour costs in Victoria

Report prepared for the AER

3 December 2013

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

Pradeep Fernando
Director
Australian Energy Regulator
Level 24, 400 George Street
Brisbane, Queensland 4000

3 December 2013

Dear Pradeep,

Report on Victorian utilities sector WPI

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

Yours sincerely,

Chris Richardson
Director
Deloitte Access Economics Pty Ltd

Correction

Some tables presented incorrect data in our report to the AER of 15 June 2013. Due to a last minute change in the way the report's summary tables were presented, an error was introduced which resulted in some data being displaced by one year (such that, where a number was labelled as 'year ended March 2013', that number should in fact have been labelled 'year ended March 2014').

This in no way affected either our forecasts or the accompanying text. It was a change in the tables made after the report and the forecasts were prepared that introduced the error.

For the tables affected, Appendix D reproduces both the originally reported tables, as well as the tables with correct input data – that is, the tables that should have been reported.

Deloitte Access Economics apologises for our error.

Contents

Charts

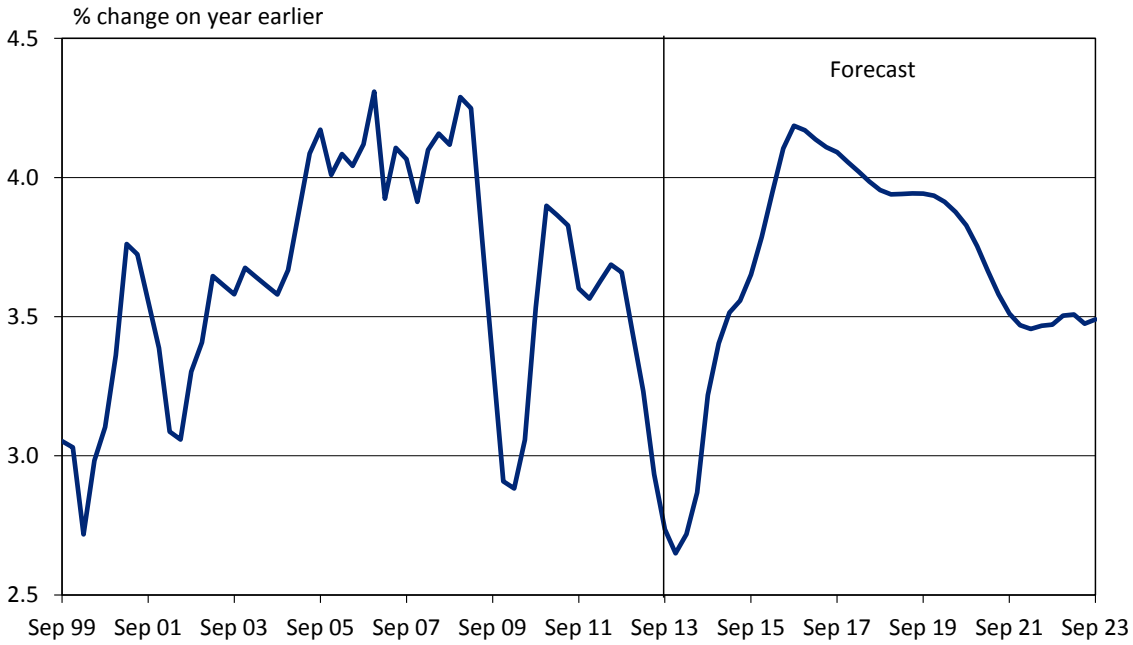
Tables

Executive Summary

Wage growth has slowed …

Wage growth has dropped to close to record lows in Australia as sluggish economic growth leads to weakening momentum in private sector wage gains, while tightening budgetary belts similarly slows wage increases in the public sector.

Chart i: Overall Wage Price Index forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

… with tightening wage growth gaps across sectors and States …

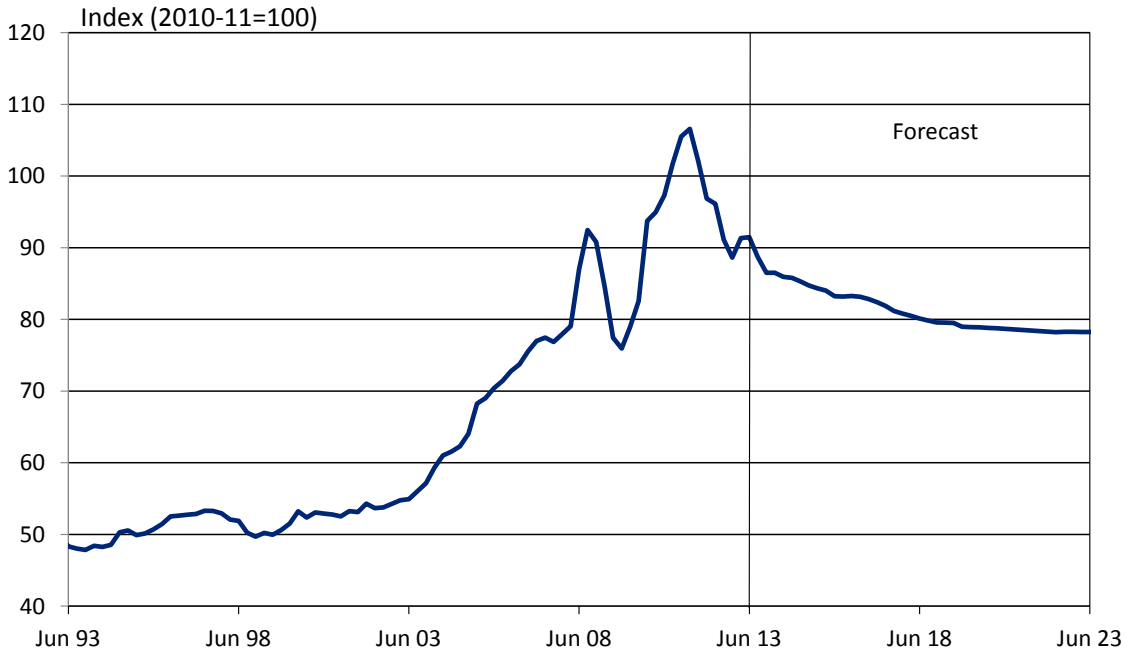
That has occurred amid tightening differentials in wage gains across sectors and States. For example, wage growth is still low in NSW (at 2.3% in the year to the September quarter 2013), but it was fastest in South Australia (at 3.4%) rather than in one of the resource sector States. Similarly, professional services wage growth has fallen to 1.9%, with the fastest wage gains in Australia now evident in the utilities (at 3.4%) rather than in mining or in construction.

… as Asia's boom changes shape

This realignment of wage growth relativities in part reflects the changing nature of Asia's boom. In late 2012 China slowed and prices for key commodities such as coal and iron ore dropped. With those prices dropping back (a development seen in Chart ii), miners became rather more reluctant to commit to further rounds of new resource-related construction.

That combination of effects is no surprise. The rise of Asia's emerging economic powerhouses drove up demand for industrial commodities such as coal and iron ore. With supply slow to follow suit, prices and profits surged.

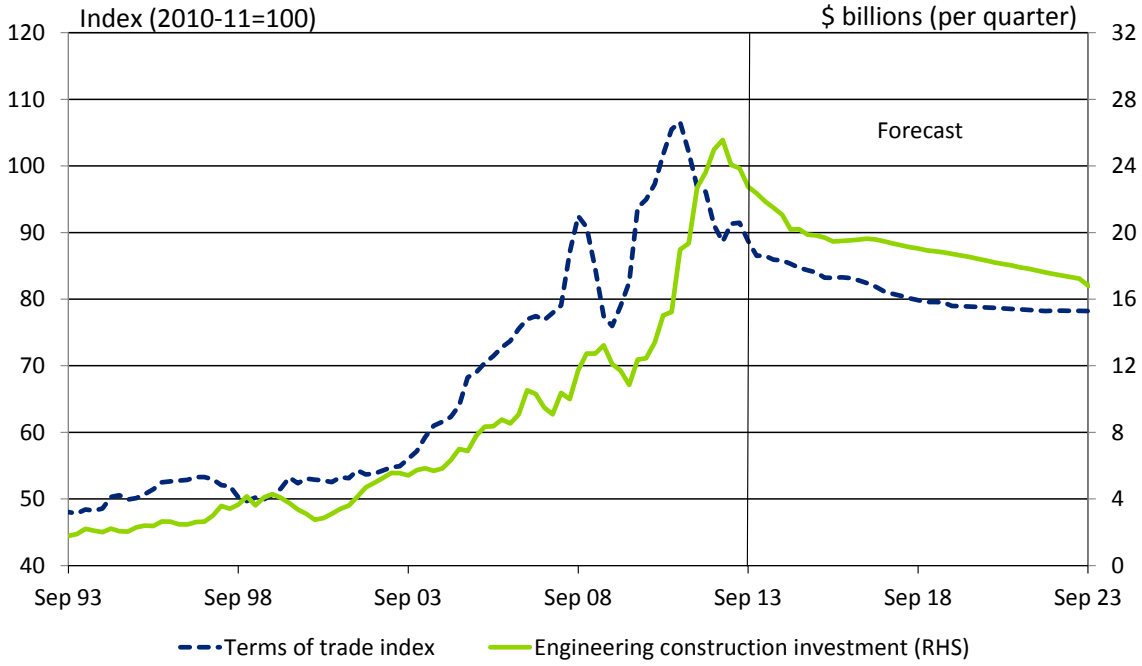
Chart ii: Australia's terms-of-trade



Source: ABS, Deloitte Access Economics' macroeconomic model

That combination of effects generated the construction surge seen in Chart iii. However, with profits and prices no longer at 2011 peaks, resource-related construction has gone from being the key driver of Australian growth through 2010 and 2011 to being a headwind for the economy at the moment.

Chart iii: Terms-of-trade and resource investment



Source: ABS, Deloitte Access Economics' macroeconomic model

The 'construction cliff' will weigh on growth, leaving it a little below trend

There are mixed implications of these effects for the Australian economic outlook. The winding back of resource-related construction means business investment spending in 2015 will be more than 2½ percentage points less as a share of the economy than it was in 2012. As the economy grows by around 3% in a typical year, that means we'll shed the better part of a year's worth of growth across a three year period. That's a large pothole to have to fill.

Yet as much as two-thirds of that pothole should be replaced by:

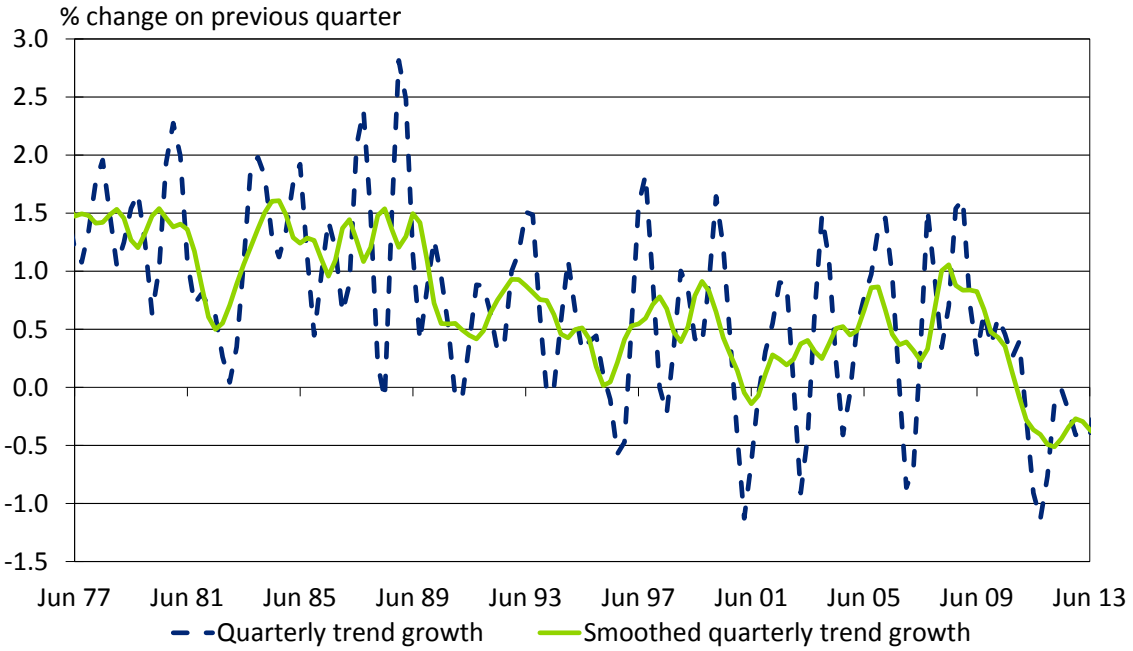
- more **exports** (as the resource investment of recent years comes onstream),
- less **imports** (as the equipment needed for big resource sector projects pumped up the latter),
- better news in **retail and housing construction** (thanks to lower interest rates).

So much of the growth pothole left by the 'construction cliff' should be filled, but not all of it, leaving overall Australian real economic growth at a below trend rate through to late 2015.

These macro moves hold implications for the utilities sector

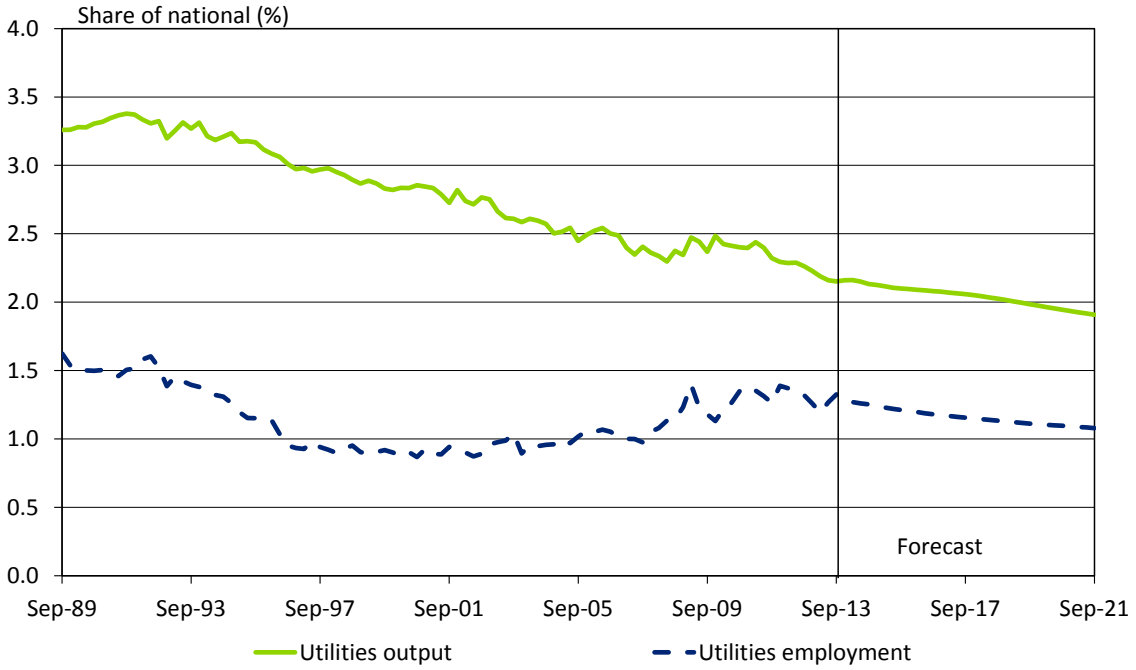
To date the sluggishness of Australia's economy has been a second order issue for the utilities. The weakness of that sector over recent years has not yet let up, with latest data showing the sector's output growth diving even deeper into the red. Indeed, the level of output of the utilities sector is at its lowest since 2008. The persistent fall in output has been due to several factors, but chief among them has been surging price levels. Consumers have been responding to these higher prices with cost cutting measures – especially so with their electricity use.

Chart iv: Electricity sector output



Source: ABS

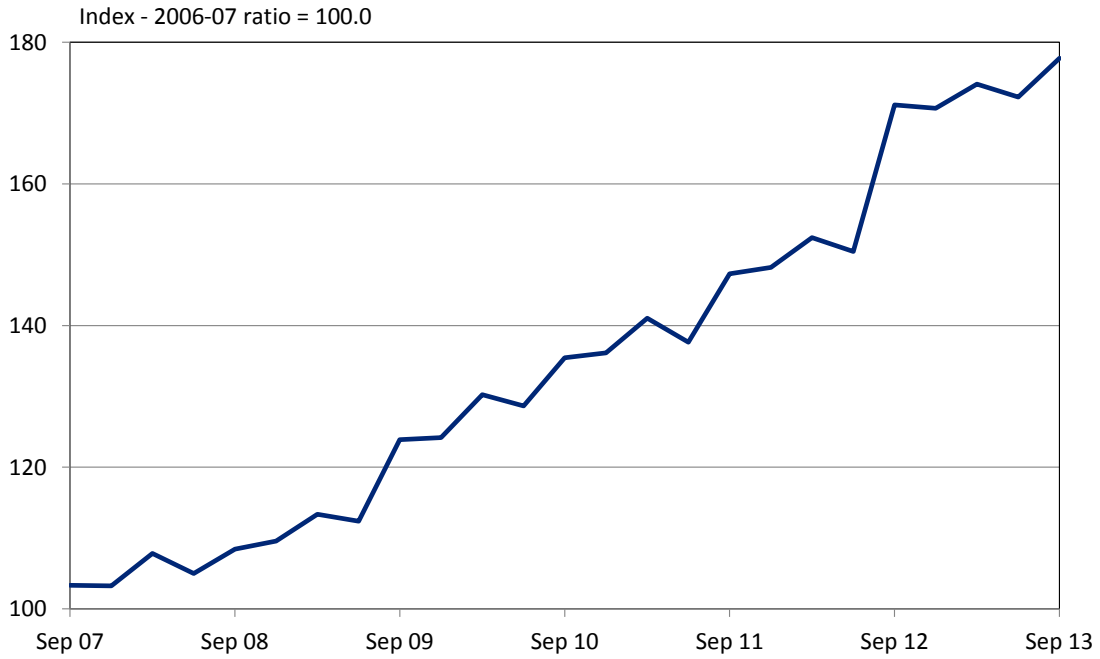
Chart v: The utilities sector as a share of Australia



Source: ABS, Deloitte Access Economics' macroeconomic model

Nor does it help that industrial customers such as the manufacturing sector have been in the doldrums, or that new housing starts (and the related demand for connections to power, water and waste services) have been on a downtrend for the better part of a decade.

Chart vi: National electricity prices relative to the total CPI



Source: ABS

However, there are several positives in the offing:

- **Relative price pressure may ease:** The new Federal Government has an announced policy of repealing the carbon tax, and has also shown some interest in considering the impact of mandatory renewable energy targets on prices as well.
- **Housing construction should recover:** Although the nascent recovery in housing starts is likely to be slower and weaker than those of times past, the news should be good in this traditional driver of utilities demand.
- **A lower $A should help manufacturing:** Although manufacturing sector growth is expected to remain modest, some of the exchange rate pressures of recent times may abate.
- **Population growth should remain solid:** Population has lifted once more, although it remains well shy of its 2008 peaks (and the ageing of the baby boomers means that there is rather less strength in working age population growth than in total population growth).

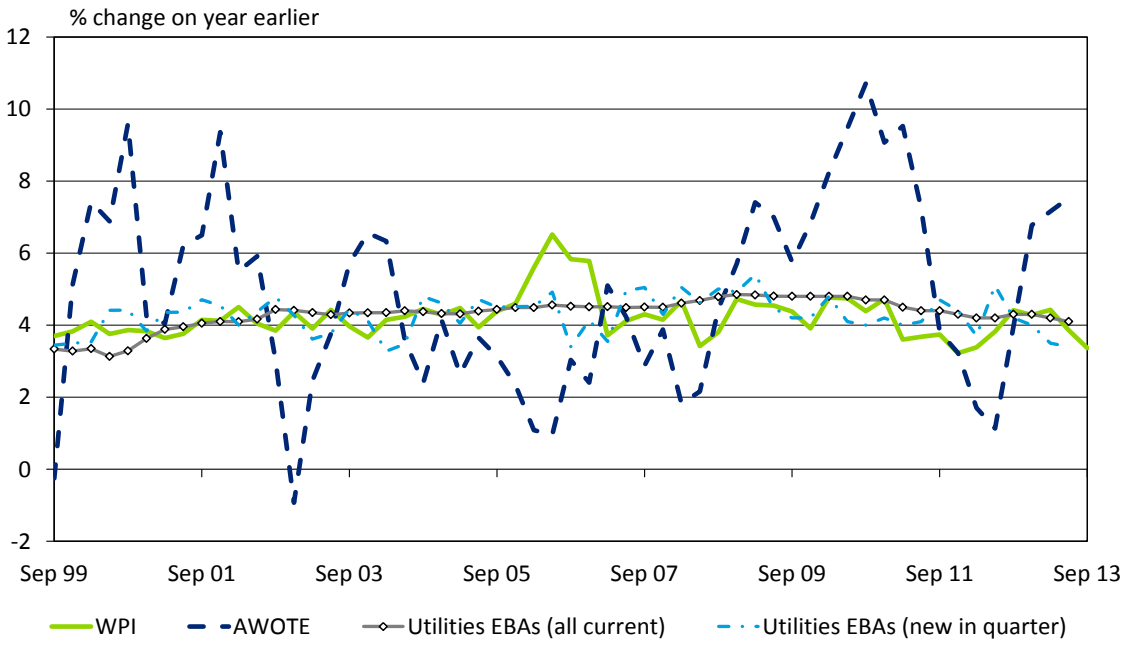
Yet the industrial base of the sector is set to remain sluggish: A lower $A (and the potential for it to drop further over time) may help industrial demand rather than reinvigorate it, while some important customers (such as aluminium refineries) remain under particular pressure.

Utilities sector wage growth has been rapid

Wage growth is now faster in the utilities than in any other sector. The utilities sector WPI grew by 3.4% in the year to September 2013 (3.7% in the private sector, 3.2% in the public sector). Those growth rates are comfortably ahead of the national average rate of 2.7%.

Those relativities suggest that wage growth in the utilities sector has responded little to the general weakness in the Australian economy, or the specific – and rather more notable – weakness in the sector itself. In part that may reflect the lagged nature of bargaining in the sector, as well as the relative lack of pricing discipline exerted by imports.

Chart vii: Measures of utilities sector wage growth



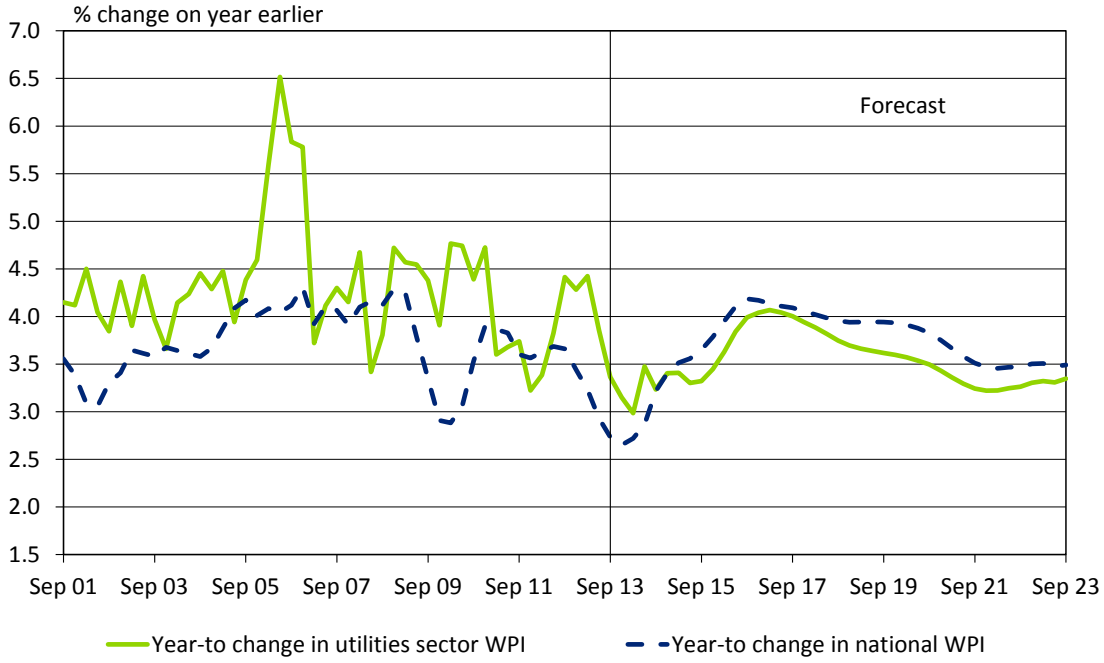
Source: ABS, Department of Education, Employment and Workplace Relations

On the other hand, although there has been no slowdown in relative terms, there has been in absolute terms, with sectoral wage growth already well off its recent peaks. In addition, and as the above chart shows, the latest utilities WPI result is now lower than the growth in 'all current' utilities EBAs, as is also true of the latest round of EBAs. That points to further slowing in sectoral wage growth in the year ahead. (As usual, the swings in AWOTE imply little.)

Utilities sector wage growth will move more in line with the (weak) national average

What next? The slowing in wage growth in the utilities sector to date has been modest compared with that evident across the Australian industrial landscape more generally. Yet, as recent EBA trends indicate, further weakness is in the offing. Accordingly, although utilities wage gains are projected to remain above average wage gains during 2013-14, they are then forecast to modestly lag broader national wage growth over the medium term (see Chart viii).

Chart viii: Utilities Wage Price Index forecasts

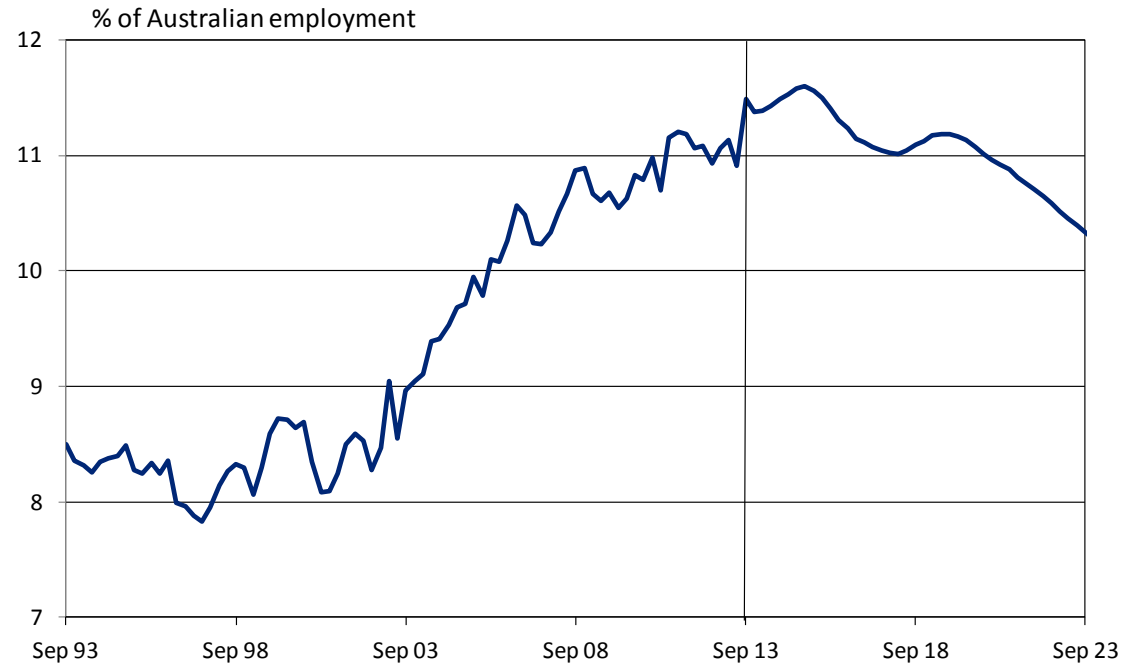


Source: ABS, Deloitte Access Economics labour cost model

That medium term story extends beyond the faltering momentum evident in current WPI and EBA data for the utilities sector. Rather, there are a series of factors in play that will help to determine relative wage gains in this sector:

- **Leading indicators point to further moderation in sectoral wage gains:** As noted, the WPI and EBA data are slowing. That starting point may not explain the projected ten year trend, but it does influence shorter term views.
- **Sectoral growth may recover from its current slump, but it is set to remain uninspiring:** As seen in Chart v earlier, the utilities sector is projected to continue to shrink as a share of Australia's economy and workforce in coming years.
- **Investment in new capacity has lagged:** The uncertain policy environments facing carbon and water pricing as well as the mandating of renewable energy targets has weighed on investment in new capacity. Other things equal, that will help cap demand for additional workers in the sector in the next few years.

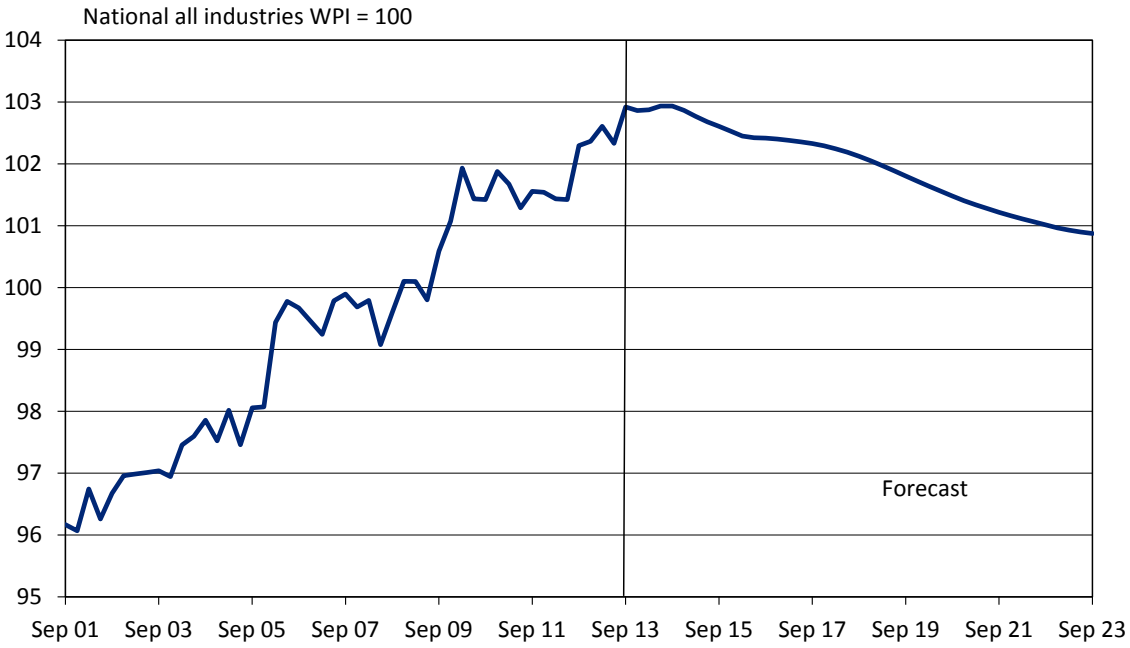
Chart ix: Construction and mining employment



Source: ABS, Deloitte Access Economics' macroeconomic model

- **Alternative employers will fade as competitive options:** Much of the strength in wage gains in the utilities in the past decade makes sense when seen in the context of the surging job gains in both construction and mining – two key alternative employers for the workforce of the utilities. Yet as Chart ix shows, the relative strength of this pair is very close to peaking. That will sap strength from wage growth in the utilities as well.

Chart x: The utilities WPI relative to the national WPI



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

Accordingly, although it will continue to hold its own through 2013-14, that series of factors suggests the strong relative wage gains seen in the utilities sector in recent years will soon plateau and then ease back. In Chart x the national WPI at any point in time is set to a value of 100 and the index for the national utilities WPI index is expressed relative to that value.

That said, the bulk of the relative wage gains of the past decade are projected to be retained – as Chart x also shows.

Victoria's economy and labour costs

While interest rates are more important for NSW's prospects, for Victoria it is the $A which is the dominant driver. Victoria has relatively higher dependence on 'dollar dependent' sectors such as manufacturing, dairy farming and the teaching of foreign students.

The good news is that the $A has moved lower in recent months, and there is the potential for it to fall further, not least as a reduced rate of 'money printing' by the US Federal Reserve will make markets more interested in holding the $US (and so relatively less interested in the $A).

Yet while a lower $A merely helps the State's outlook, it doesn't seal in a return to more rapid growth. And there are some other factors worth noting here too:

- Melbourne's well priced office space means it is still gaining market share in sectors such as business services – thereby continuing a longrunning trend.
- Lower interest rates are boosting Melbourne's housing prices, raising hopes that retail spending – currently moribund – may gather some more speed over the next two years.
- WA and Queensland are more exposed to the 'construction cliff' than is Victoria, where mining-related engineering work has been a footnote rather than a driver of growth.
- The carbon tax will either drop back notably to European pricing levels (as per current legislation) or disappear altogether (the preferred option of the new Federal Government). As Victoria has a bunch of heavy emitters, that implies less pain ahead on the latter front.
- On the other side of the ledger, homebuilding in Victoria has been such a success story for so long that this State lacks the same degree of upside seen in this sector nationally.

On balance, therefore, our forecasts point to a continuation of the current slowdown, rather than anything more dramatic than that.

Victorian wages have edged down relatively to those nationally for over a decade. In the main that has represented strength in the resource sector States – mining and mining-related construction has been good news for some regions, thereby swinging wage relativities in Australia as a whole. More recently, however, the relative downswing in Victorian wages versus their national counterpart has had more to do with the $A and its impact on Victoria. In effect, the loss of wage relativities of late has been less to do with 'good news elsewhere' and more to do with 'challenges on the home front'.

Looking ahead, Victorian wage growth may continue to underperform its national equivalent through to 2019 (albeit by a very modest margin), before maintaining pace with the nation thereafter. In part that reflects the State's industrial make up: three of the State's top four industries are likely to see slower wage growth than the national WPI over the forecast period.

Table terminology

The forecast tables in this report, both in the executive summary and in the body of the report, are presented on a standard, Year ending March change basis. So, for example, the first value in Table i below (3.7% change in National WPI) means that the average nominal WPI across the four quarters ending March 2012 (so, the average of data for the June, September and December quarters of 2011 and the March quarter 2012) was 3.7% higher than the average nominal WPI across the four quarters ending March 2011. This rate of growth is similar to "calendar year" or "financial year" growth, with the difference that the data covers the period ending in the March quarter, rather than the December quarter (calendar year) or June quarter (financial year)

An alternative measure of wages growth, often referred to in the body of this report, is the "year-to" rate of growth. In this case, growth in the year to March 2012 would represent the change between March 2012 and March 2011 (so, a point to point comparison, rather than comparing two annual averages).

Table i: State WPI forecasts

Year ending March changes in nominal Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Victoria	3.6	3.4	2.8	3.2	3.5	3.9	4.0	3.9	3.8

Year ending March changes in real Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	0.7	1.5	0.2	0.8	0.8	1.2	1.4	1.5	1.5
Victoria	0.7	1.5	0.3	1.0	0.5	1.0	1.2	1.3	1.3

Source: ABS, Deloitte Access Economics labour cost model

Wages in the Victorian utilities sector

Whereas – at least in relative terms – Victorian wage growth may modestly underperform in coming years, the opposite may be true of wages in the Victorian utilities sector.

The latter broadly underperformed gains in other States through to 2011 – initially because of rapid gains in NSW, and more recently due to faster wage increases in 'resource sector' States.

However, the tide turned in the last couple of years:

- Victorian wage growth has decelerated less than it has nationally, and
- That is particularly true of the utilities, where wage growth has seen little moderation.

Chart xi: Victoria utilities sector WPI relative to national utilities WPI

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

In the chart above the national utilities index at any point in time is set to a value of 100 and the index for Victoria is expressed relative to that value. It shows that there has been a degree of "catch-up" since 2011. Across this period the State's utilities sector has been increasing its share of Victorian employment, suggesting strengthening underlying demand for workers in the sector has contributed to the increasing rate of wage growth. In part that is a supply side story – employment in the Victorian utilities sector has risen amid project completions in key utility infrastructure projects, including the newly completed Wonthaggi desalination plant and Melbourne Water's $220 million main sewer replacement from Swallow Street (near Beacon Cove) to Wurundjeri Way at Docklands. Moreover, these projects do not mark the end of work across the State. City West Water is installing a dual water supply to West Werribee, while Melbourne Water is working on the St Albans to Werribee pipeline. It is also working on the Greenvale dam, and will shortly start work at the Western treatment plant.

Accordingly, those trends – boosting employment thanks to supply side completions, rather than demand side growth – are expected to continue through the rest of 2013 and into 2014, supported by further expansion in the utilities sector, such as the upgrade the Eastern Treatment Plant at Carrum. In the energy sector, works continue on the turbine wind farm at Bald Hills near Inverloch and on turbine wind farm near Macarthur.

However, despite the utilities sector's construction pipeline and its implications for the supply side of this sector, the demand outlook remains modest:

- The increase in retail electricity prices in Victoria has been even sharper than that evident nationally. While the unwinding of the carbon tax will help, consumers are likely to continue to react to those price prices for a time further.

- While there may be some relief as the $A drops back, the outlook for Victoria's manufacturing sector is still weak – the loss of Ford's production out of Geelong from 2016

is one such example. That suggests the manufacturing sector will both (1) free up workers with relevant skills and (2) fall away as a customer of electricity, gas, water and waste.

- Although it is a less important factor in Victoria than it is in other key States, engineering construction employment is now also heading into a period of much greater uncertainty.

- The construction sector in Victoria is cooling both because of trends in engineering construction, but also due to weakening housing demand. In addition, Victoria's housing sector will see a relatively muted recovery in the coming years due to the relatively solid growth in housing seen in the past – unlike some other States where significant recent 'underbuilding' of new homes will tend to lift demand.

These factors mean both less demand for utilities and less competition for utilities workers, leading to the conclusion that wage pressures emerging from these sectors will tend to fall back. That trend will be more evident in Victoria than in Australia in general.

Even so, and as noted, a degree of "catch up" will still be evident, and continuing strength in EBAs would suggest that there is no slowdown imminent. Accordingly, Victoria's utilities WPI is expected to make minor gains relative to its national counterpart, as seen in Chart xi above.

That said, this phase occurs across a period where growth in the utilities sector nationally will be lagging the overall rate of WPI increase. Accordingly, what the State's utility sector workers gain in relative terms on the one hand (that is, better growth than utilities workers in other States), they will tend to lose in relative terms on the other (that is, slower than WPI growth in other sectors).

Summary results

The summary tables of results follow.

Table ii: Summary results – key variables

Year ending March changes in key variables

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Output	3.1	3.2	2.5	2.6	2.8	3.2	3.1	2.9	2.9
Consumer price index	2.9	2.0	2.6	2.4	3.0	2.9	2.7	2.5	2.4
Wage Price Index	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Ave. weekly earnings	4.2	4.0	4.1	3.7	3.9	4.3	4.3	4.1	4.1
Ave. weekly ordinary time earnings	4.6	4.1	4.2	4.3	4.7	5.0	4.8	4.7	4.7

Source: ABS, Deloitte Access Economics macroeconomic model

Table iii: Summary results – economic variables

Year ending March changes in key Economic variables

Annual % change (unless noted)	2012	2013	2014	2015	2016	2017	2018	2019	2020
Consumption									
Private sector	3.3	2.8	2.1	2.3	2.7	2.9	3.1	3.2	3.3
Public sector	2.8	2.3	0.3	1.4	3.1	3.2	3.2	3.1	3.0
Private sector investment									
Non-business housing	-1.4	-1.8	4.5	9.4	8.3	7.9	3.2	0.2	0.6
Non-business real estate	-4.3	-0.1	14.0	8.0	7.0	7.1	2.9	-0.1	0.3
Non-residential building	8.5	14.3	1.4	2.0	1.0	4.8	4.7	3.3	3.6
Engineering construction	43.2	28.8	-7.5	-8.7	-4.9	-0.8	-0.8	-2.1	-1.7
Machinery and equipment	12.9	0.3	-5.3	1.9	-1.0	4.8	4.4	2.5	2.8
IP and livestock	4.9	5.1	0.2	-3.3	-4.8	4.2	2.3	1.1	1.4
Public investment									
General Government	-4.1	-4.0	-3.3	0.6	2.0	1.9	1.9	1.9	1.9
Public enterprises	-12.9	-3.8	14.9	1.6	-3.0	2.4	2.0	0.5	0.9
Domestic final demand	4.6	3.7	0.8	1.7	2.2	3.2	3.0	2.6	2.7
Private sector	5.8	4.5	0.9	1.8	2.0	3.3	3.0	2.5	2.7
Public sector	0.8	1.0	0.4	1.3	2.6	3.0	2.9	2.8	2.7
Gross national expenditure	5.1	3.4	0.7	1.6	2.1	3.3	3.0	2.6	2.7
International trade									
Exports	2.0	5.8	5.4	3.5	2.8	5.6	6.4	5.9	5.9
Imports	11.7	2.5	0.4	-0.2	-0.5	6.5	6.5	4.6	5.5
Net (% additon to growth)	-0.8	2.1	0.3	0.9	0.5	-0.1	0.3	0.4	0.2
Total output (GDP)	3.1	3.2	2.5	2.6	2.8	3.2	3.1	2.9	2.9
Non farm output	2.9	3.4	2.3	2.6	2.8	3.2	3.1	3.0	2.9
Employment	1.4	1.4	0.9	1.2	1.4	1.6	1.6	1.4	1.4
Unemployment rate (%)	5.2	5.2	5.8	6.1	6.1	6.0	5.9	5.9	5.8

Source: ABS, Deloitte Access Economics macroeconomic model

Table iv: Summary results – wages and prices

Year ending March changes in national wage and prices variables

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Consumer price index (CPI)	2.9	2.0	2.6	2.4	3.0	2.9	2.7	2.5	2.4
Wage Price Index (WPI)									
Nominal	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Real	0.7	1.5	0.2	0.8	0.8	1.2	1.4	1.5	1.5
Average weekly earnings (AWE)									
Nominal	4.2	4.0	4.1	3.7	3.9	4.3	4.3	4.1	4.1
Real	1.3	2.0	1.5	1.3	1.0	1.4	1.5	1.6	1.7
Average weekly ordinary time earnings (AWOTE)									
Nominal	4.6	4.1	4.2	4.3	4.7	5.0	4.8	4.7	4.7
Real	1.6	2.1	1.5	1.9	1.7	2.0	2.0	2.2	2.2
Unit labour costs									
Nominal	3.7	0.4	1.1	2.1	2.0	2.4	2.7	2.7	2.7
Real	0.8	-1.6	-1.5	-0.3	-1.0	-0.5	0.1	0.3	0.3

Source: ABS, Deloitte Access Economics macroeconomic model

Table v: Summary results – National sectoral wages

Year ending March changes in nominal national industry sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Utilities	3.5	4.2	3.3	3.4	3.4	4.0	4.0	3.7	3.6
Construction	4.0	3.6	3.1	2.8	3.4	4.0	4.2	4.5	4.5
Admin services	3.3	3.5	2.6	3.1	3.3	3.8	4.0	3.9	3.8

Source: ABS, Deloitte Access Economics labour cost model

Table vi: Summary results – State utilities sector

Year ending March changes in nominal utilities sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.5	4.2	3.3	3.4	3.4	4.0	4.0	3.7	3.6
Victoria	3.9	4.3	3.7	3.3	3.4	4.0	4.1	3.9	3.8

Source: ABS, Deloitte Access Economics labour cost model

Deloitte Access Economics

3 December 2013

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;
- a 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
- a discussion of 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 (notably, mining, construction and administrative 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 key sectors which compete with the utilities sector for workers (construction and administrative 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).
- **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, as well as revisions to previously published figures.

2 The Australian economic outlook

2.1 The global backdrop

The world economy is an important backdrop to Australia's prospects. Importantly, the rise of emerging Asia generated big price gains in industrial commodities such as coal and iron ore over the past decade. In turn, that underwrote a surge of resource-related investment in Australia. And both those higher commodity prices and the boost to resource-related investment have contributed notably to Australia's economic experience being rather different over the past decade than for many other developed economies.

As a group, the latter have been rather more affected by the global financial crisis (GFC), amid a surge in private sector debt in the US and Europe, followed by increased public sector debt as banks failed and economies weakened.

Putting aside the US budget woes however, the global news continues to improve. China appears to be through the worst of its slowdown, the US recovery is becoming ever more solid, Japan's economic reforms have so far proven successful, and Europe's core is growing again. Although the latter list is mostly one of fading negatives rather than rising positives, it still points to firming global growth over the next two years.

However, risks to that include just how well central banks manage the withdrawal of their 'emergency support' to global growth, as well as lingering doubts over China's medium term outlook.

These risks have seen our short term forecasts for global GDP growth (and that of Australia's major trading partners) revised down slightly since the June report. Overall, while global growth will continue to be a positive for Australia's outlook, real risks remain, and only time will tell how pressing these risks turn out to be.

As usual, the global figures belie some very important differences in our key trading partners. Deloitte Access Economics' view on several key nations follows.

The recovery in the **United States** continues to grow stronger, and there are hints that the US may begin to taper back its quantitative easing program by late 2013 or early 2014. The reason this looks like happening is because recovery in the United States continues to grow stronger, despite the political turmoil of recent times. Exports are up, unemployment is down, energy is plentiful and cheap (thanks to US gas supplies, and also ensuring that developments in the Middle East are less of a risk to the US outlook than they would otherwise be), while US corporate profits are surprisingly robust.

But perhaps most importantly, housing looks to be finally turning upwards. Prices bottomed a year and a half ago and are now rising fast (thereby encouraging consumers to spend), and there are early stirrings of a recovery in home building as well. Moreover, chances are that these trends will continue, with housing likely to underpin growth over the next few years. And given the malaise of the past few years, even just a return to 'normal' in activity will be a major boost to construction.

The biggest risks to the US outlook revolve around the withdrawal of quantitative easing. Unemployment only recently dropped below 7½%, and the Federal Reserve had earlier indicated it maintain some form of stimulus until the latter was at 6½%. But it is likely to start 'easing off' quantitative easing earlier than that, generating a risk that the stimulus could be withdrawn too early.

Japan has undergone significant economic stimulus of late, printing money at record rates and adding yet more pressure to its over-stretched government budget with the aim of finally defeating the deflation that has plagued Japan's economy for decades.

So far it seems to be working. The yen has fallen, boosting exports, and better news out of China is providing some support for exports. Sharemarkets have also risen, with the resultant boost to wealth tempting Japan's consumers to spend more than they have been. The latter also have an incentive to spend before taxes on those purchases go up in 2014 and 2015.

Yet the task is huge. The ageing workforce is retiring faster than rising female participation can offset, and neither monetary nor fiscal stimulus can remain for too long without generating other risks. (QE is riskier in Japan than the US, because Japan has a much less flexible economy.) So while the early results of Japan's reforms are promising, the longer term success is far from guaranteed, meaning the effect on global growth is likely to be fairly short lived.

Although the basics in the **Eurozone** remain a concern, the trends are improving. Unemployment remains high, but it has at least stopped rising. Sentiment may still be weak, but it is improving for both businesses and consumers. Government budgets remain heavily indebted, but they too are taking a decided turn for the better. Most notably, there has been a return to growth in the Eurozone's core, with better news out of both Germany and France lifting the Eurozone as a whole back out of the recession that has gripped it since late 2011.

To be clear, these should be viewed as improvements, not a general turnaround. Economies remain weak, credit data suggest neither businesses nor families are borrowing, and both Spain and Italy – the largest of the troubled economies – are still facing considerable problems.

It took little more than a slowdown in **China** for Australia's economy to slow of late. However, the latest news out of China suggests that momentum is improving. That is true of industrial production, of investment spending (which remains worryingly strong, boosted by renewed strength in housing construction), and of retail spending (which, after allowing for the impact of some reduced subsidies, has recovered from the slowdown seen in the second half of 2012).

The longer term challenge for China is well known: the economy needs to reduce its reliance on investment spending and boost its reliance on retail spending. The good news is that the authorities are talking more about the importance of this transition. And some of the moves taken to rein in credit growth have also had an impact on investment spending.

Yet to date there is more talk than action on this front. Investment spending growth is still faster than that of the economy as a whole, meaning that the transition task is still getting bigger rather than smaller. To be clear, China's growth will be 'good' for two decades yet, and both the world and (especially) Australia will be big beneficiaries of that. But while China's impact on Australia was enormously positive over the past decade, and it will be less so in the coming decade, with the risk of something worse if China's economic transition does not turn out to be as smooth as Deloitte Access Economic expects

The chances of a pullback in US stimulus spending presents challenges for growth in **emerging economies** with current account deficits. Put simply, these economies need "other countries' money", but the supply of the latter looks set to fall over the next two years. The tightening of capital flows therefore led to falls in some exchange rates. It is also leading economists to wonder whether growth prospects may be affected in an arc of nations stretching from **Turkey** and **South Africa** across to **Brazil**, **Indonesia** and **India** – if they can't get the financing they need, then their interest rates will go up and the pace of their growth will go down.

To be clear, these are risks rather than certainties. But for India in particular the timing of a withdrawal in quantitative easing is unfortunate, as it comes after the Indian economy had already slowed substantially.

2.2 Implications for Australia

China has strengthened of late, interest rates are likely to remain low, the dollar is off its peaks (and may ease further over time), while business and consumer confidence is lifting. And the better part of a trillion dollars spent on getting minerals and gas out of the ground is now paying off as increased export volumes. In short, there are many more reasons to be happy than most Australians have realised, with some key indicators pointing in a positive direction.

Yet there is one big negative: the spending on mega mining construction projects which generated most of the growth in Australia's economy in recent years has already peaked, and the fall from that peak is likely to affect growth prospects over the next three years. That said, there are many other positives – especially higher exports, but also lower imports and a dose of better news on retail and homebuilding – meaning overall economic growth will not be significantly below trend. However, growth is projected to remain below trend until late 2015.

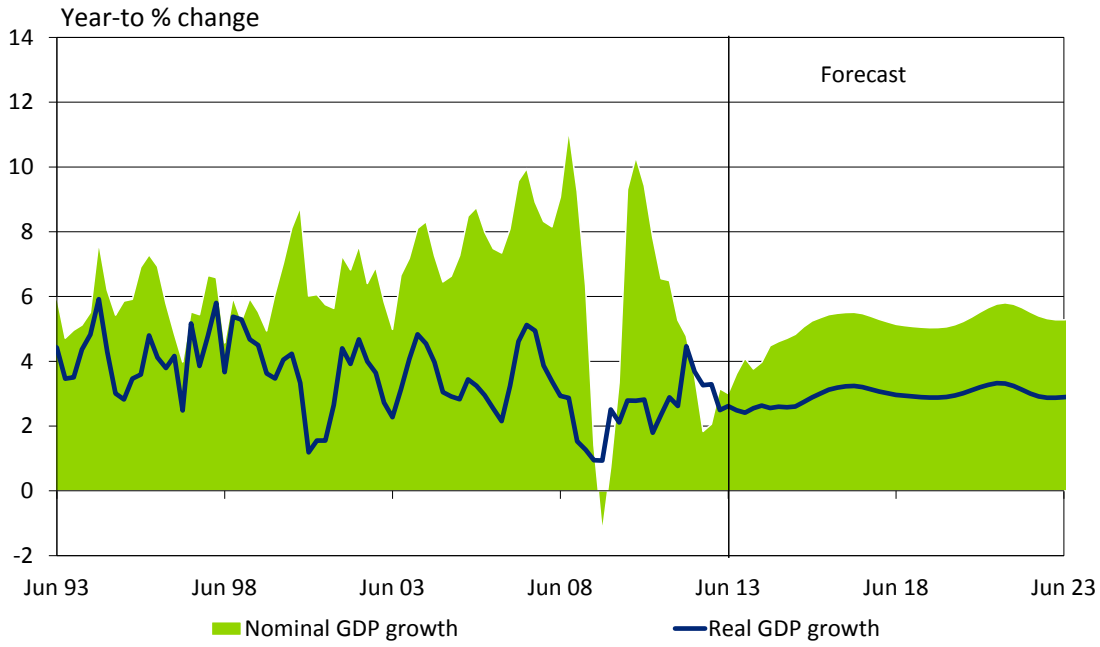
The big picture remains better than many think. The new Federal Government inherited an economy in much stronger shape than much of the developed world. Compared with the likes of the United States, the Eurozone, the United Kingdom and Japan, Australia has rather lower unemployment and a track record of stronger growth, as well as public sector debts and deficits that are a fraction of those seen in other developed economies.

At the same time, some of Australia's economic fundamentals are strengthening. For example, the shift to lower exchange and interest rates takes some of the pressure off sectors such as manufacturing, tourism, international education and retailing. Moreover, chances are that these shifts – a lower $A, and low interest rates – are here to stay for a while at least, meaning that the long standing strength in interest and exchange rates is now rather less of a problem than it has been.

Finally, Deloitte's CFO survey has consistently found business decision-makers have been worried by policy uncertainty. With much of this uncertainty now dissipated following the election of a new Federal Government, businesses more willing to spend than they have been in a while.

Yet the flipside to that good news is a range of challenges to Australia's near term performance. Although Australia has done much better than most other developed economies, the forecasts seen in Chart 2.1 indicate that real economic growth will remain below trend (of a little over 3%) through to the end of 2015.

Chart 2.1: Growth in real GDP and in nominal national income



Source: ABS, Deloitte Access Economics macroeconomic model

The key contributor to that modest outlook for GDP growth will be reduced spending on a range of mining construction projects as the peak of the current investment boom passes. Given the importance of the latter to driving growth in the economy in recent years, this 'construction cliff' will raise important challenges over the next two or three years.

In addition, during the period of economic outperformance, Australia also saw its costs rise relative to those in the rest of the world. Addressing these cost disadvantages will be a major task for the new Federal Government – though the bigger task will lie with cost control in individual businesses.

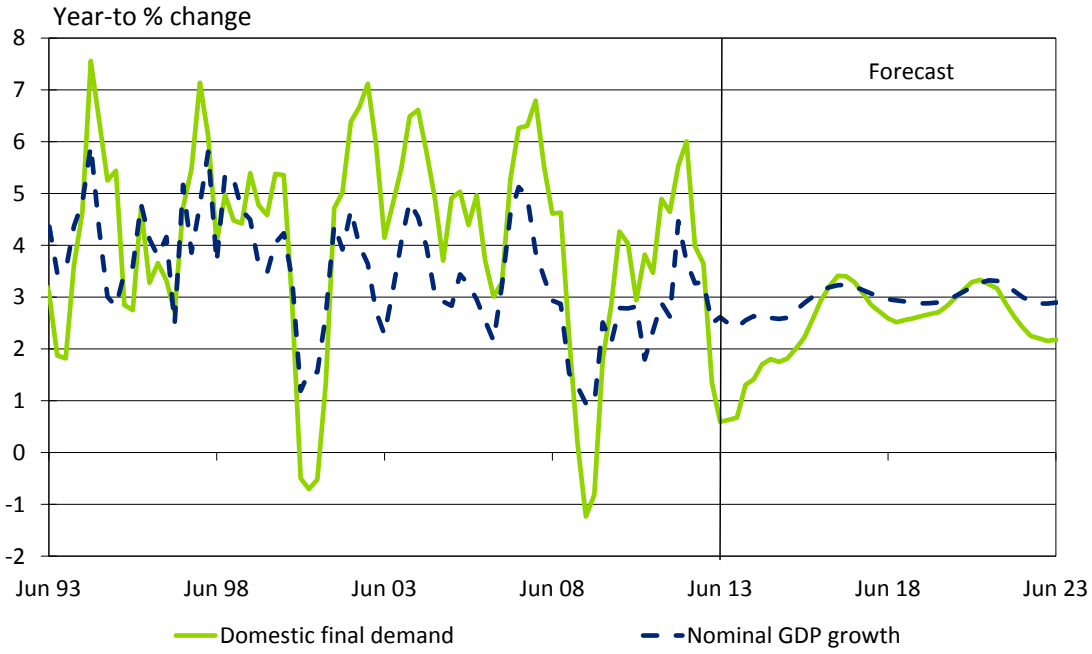
There are other negatives here as well, ranging from Federal and State Government cutbacks (not a huge negative, but relevant), the impact of digital disruption on a number of businesses (not just bricks and mortar retailers), and the lack of land release that continues to affect the recovery of housing construction.

Finally, China has slowed and commodity prices are well off their peaks. Yet although the effect of that on Australian national income growth was notable, the worst appears to be over. Consider absolute dollars. National income growth (the annual revenue gains of Australia) has averaged $75 billion a year since the GFC's onset, but that dropped to just $44 billion over the past year as lower coal and iron ore prices took a toll on national earnings. Yet although we see continuing pressure on those prices, further falls are likely to be spread over some years. That allows national income growth to edge back up again. We see it rising from last year's $44 billion up to $52 billion in 2013-14, rising again to $66 billion in 2014-15.

Some of that lift in national income will occur as a number of mining projects finish their construction phase and enter their operational phase. In turn, that shift from construction to exports drives the patterns seen in Chart 2.2 above, with domestic demand growth faltering as engineering construction falls away, but with overall economic growth remaining relatively

steady (albeit at a below trend rate) as export volumes help fill the pothole being left by construction.

Chart 2.2: Domestic demand and supply (GDP)



Source: ABS, Deloitte Access Economics macroeconomic model

That pattern has a deeper importance. It says that weak domestic growth will be propped up by increased sales to the rest of the world. But while a lift in the tonnes of iron ore being shipped out of WA helps economic growth, it does little to affect domestic spending.

The weakness in domestic demand has already begun, and it is part of why many are concerned by what they see as a lack of growth in the economy.

2.2.2 The 'construction cliff'

As Deloitte Access Economics has often noted, forecasts of the Australian economy in the next couple of years are extremely sensitive to the size and timing of 'the construction cliff'. A decade ago, the economy was slowing at the back end of a housing price boom, and needed a new growth driver. The mining boom accelerated Australia's prosperity at the perfect moment, and allowed Australia to capitalise on its existing strength as a supplier of industrial inputs to developing Asia.

The rise of emerging Asia first sent commodity prices skywards, which in turn did the same to the plans of the miners to build new capacity. Mining construction projects have since been a dominant driver of Australian economic growth. Indeed, mining investment reached the equivalent of 7.7% of Australia's GDP at the end of 2012, compared to just 1.5% of GDP a decade ago.

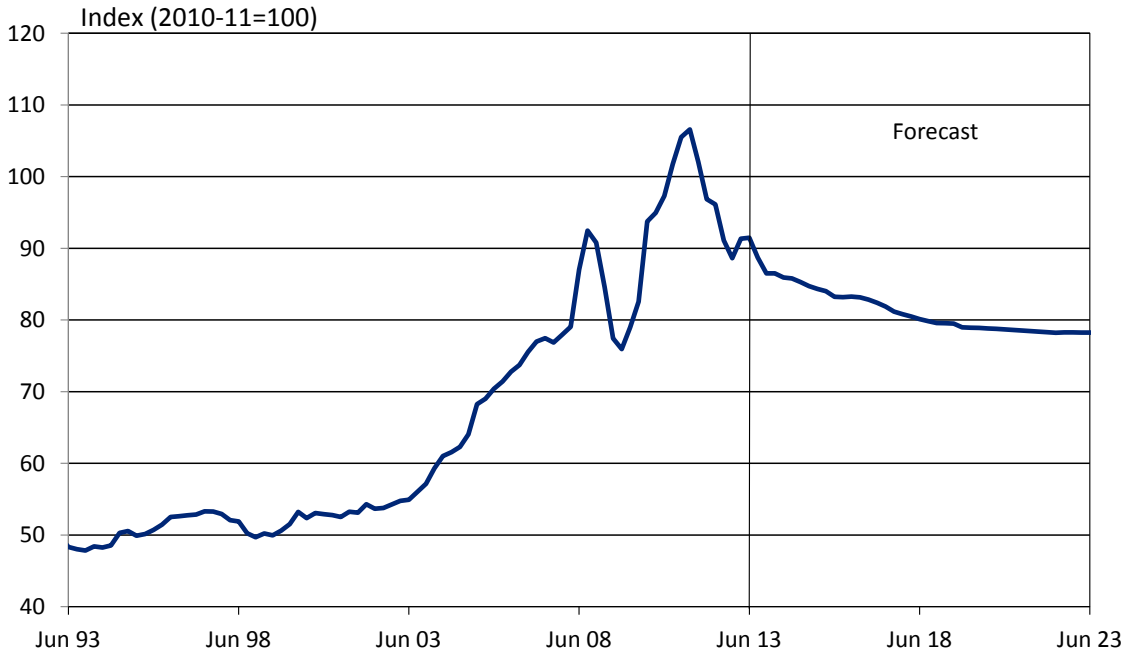
However, the surge in mining-related construction which has driven much of Australia's recent growth is already peaking. It won't go away – mining-related construction will remain much larger than it used to be – but it will no longer be the main driver of Australian growth.

In part, Australia is a victim of its own success: today's mining sector is already much larger than it used to be. In addition, the outlook for mineral demand growth has ebbed recently and is unlikely to continue at the frantic pace of the past decade (especially for coal), while rising costs and falling productivity have crippled global competitiveness.

In late 2012 China slowed and prices for key commodities such as coal and iron ore dropped. With those prices dropping back (a development seen in Chart 2.3 below), miners became rather more reluctant to commit to further rounds of new resource-related construction.

That combination of effects is no surprise. The rise of Asia's emerging economic powerhouses drove up demand for industrial commodities such as coal and iron ore. With supply slow to follow suit, prices and profits surged.

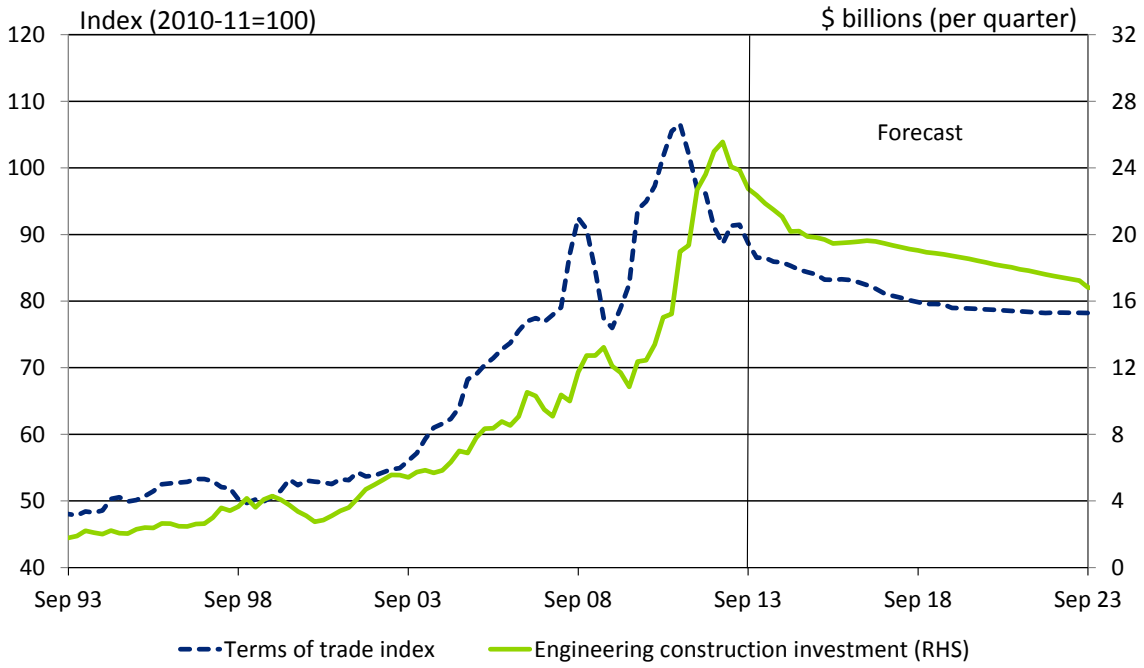
Chart 2.3: Australia's terms-of-trade



Source: ABS, Deloitte Access Economics' macroeconomic model

That combination of effects generated the construction surge seen in Chart 2.4 below. However, with profits and prices no longer at 2011 peaks, resource-related construction has gone from being the key driver of Australian growth through 2010 and 2011 to being a headwind for the economy at the moment.

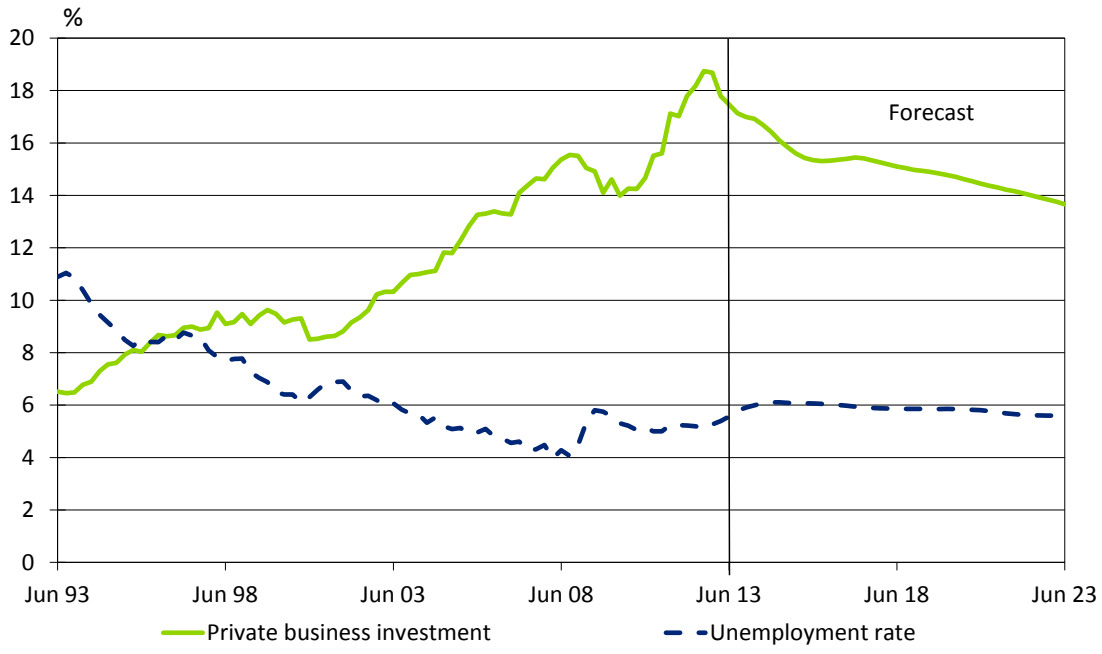
Chart 2.4: Terms-of-trade and resource investment



Source: ABS, Deloitte Access Economics' macroeconomic model

The upshot is seen in Chart 2.5 below. The latter shows overall business investment spending – a category which picks up all sectors, not just mining, and all types of investment in new capacity, including buying new machinery and equipment as well as construction.

Chart 2.5: Business investment as a share of GDP and the unemployment rate



Source: ABS, Deloitte Access Economics macroeconomic model

Its message is modest. Having been the biggest driver of Australian economic growth in recent years, business investment spending will soon be hurting the nation's growth rather than helping it.

To be clear, Chart 2.5 does not suggest the mining sector is about to shrink – by contrast, mining will continue to be a major driver of Australia's prosperity over the next two decades and beyond. With record levels of investment having been sustained over the past few years, the pay-off to that spend will become increasingly evident in the next few years as increased export volumes.

And there will be further good news at some stage. Australia holds some of the world's biggest and highest-quality mineral deposits, and is also fortunate to be relatively close to major buyers of mining outputs, especially China, India, Japan and Korea.

Further, even with the prices of some commodities now being well off their peaks, Australia is still making a very good living in many mining segments. The key is where we sit on the cost curve and the fact that, even at lower prices, many Australian mines do and will continue to make great profits.

Yet Chart 2.5 is a reminder that the key impact of the mining boom on Australia's economy of late – the growth it generated via mega-mining construction projects – is entering a new phase. And although increased export volumes will help, they won't fill the pothole, and they'll arrive later than the construction wind down arrives. Accordingly, the 'construction cliff' is the key challenge to Australia's near term economic growth, and is the reason we continue to see overall output (GDP) growth stuck in a 2½% to 3% range until late 2015.

There are mixed implications of these effects for the Australian economic outlook. The winding back of resource-related construction means business investment spending in 2015 will be more than 2½ percentage points less as a share of the economy than it was in 2012. As the economy grows by around 3% in a typical year, that means we'll shed the better part of a year's worth of growth across a three year period. That's a large pothole to have to fill.

Yet as much as two-thirds of that pothole should be replaced by:

- more **exports** (as the resource investment of recent years comes on stream),
- less **imports** (as the equipment needed for big resource sector projects pumped up the latter),
- better news in **retail and housing construction** (thanks to lower interest rates).

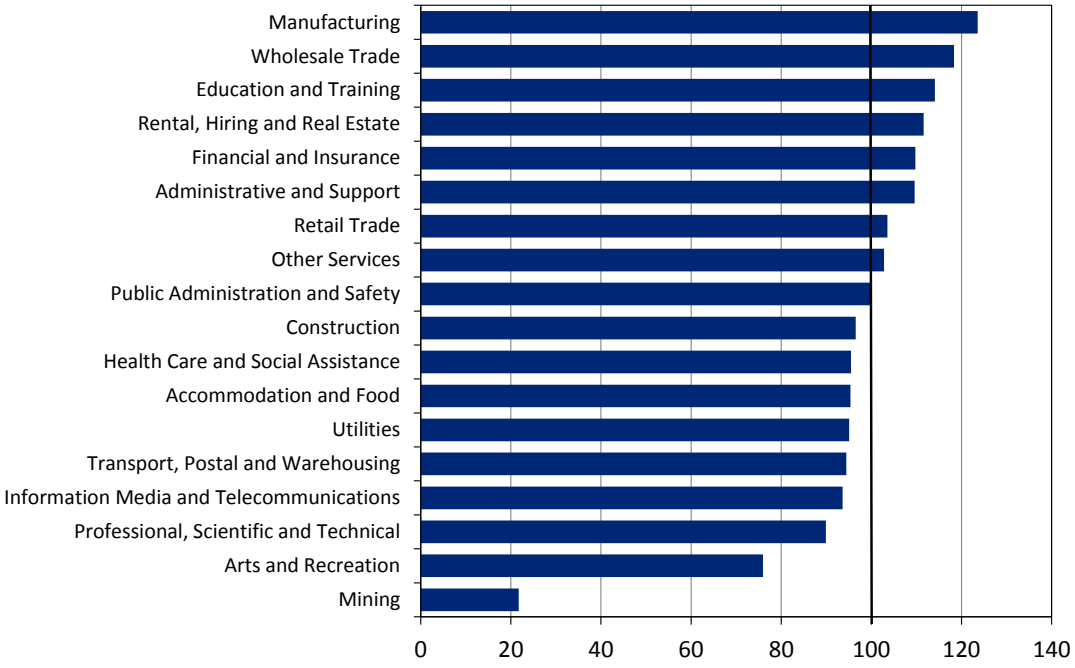
So much of the growth pothole left by the 'construction cliff' should be filled, but not all of it, leaving overall Australian real economic growth at a below trend rate through to late 2015.

3 Victorian economic outlook

3.1 The structure of Victoria's economy

Chart 3.1 ranks the relative intensity of employment in Victorian industries against that seen nationally.[1] 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 to national employment shares, 2012-13



Source: ABS, Deloitte Access Economics

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

- **Manufacturing**: while it is true that interest rate cuts and a lower exchange rate have been good news for Australian retailers, it is the nation's manufacturers who have the most to gain from these developments. That said, the damage caused by a high $A will be apparent for years, and the recent falls are by no means supportive of growth – the $A is simply down from its never before seen peak.
- **Wholesale trade**, which saw employment grow by around 7% in 2012-13 relative to the year before. However, much of its recent strength has been dollar driven, so an expectation for the latter to fall down to around 80 US cents by 2017 is better news for retailers than it is for wholesalers. That said, the continuing emergence of online retail means growth in this sector should continue to be solid in the medium term.
- **Education and training**, where employment grew by a very solid 4% in 2012-13, driven in part by a recovery in international student numbers. The medium term outlook is also

[1] These figures, like the WPI, exclude agriculture from the measure of employment.

bright, as the falling $A and growth of developing Asia supports tertiary education exports, and partial implementation of the Gonski reforms drives employment in other forms of education.

- **Financial and insurance services**, which has continued to make ground at New South Wale's (or more precisely, Sydney's) expense, but faces a challenging time in the next few years because despite low interest rates, households and businesses alike appear reticent to take on additional debt.

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

- The **mining** sector. Victoria has relatively few mining projects compared to the States in the north and west; and
- **Arts and recreational services**, which has struggled recently amid cost cutting by both businesses and families, but may be in for a reprieve as a lower currency brings more international tourists to Australia, and entices Australians to holiday domestically rather than abroad.

Victoria's industrial structure is important in determining the effect of Australia's current economic pressures – those of relatively high interest rates and a high $A – on the State's outlook. It suggests that Victoria's economy has been relatively more exposed to the 'two speed economy' pressures of recent years than has been true of the Australian economy as a whole.

As we have often noted, Victoria is relatively more dollar dependent than Australia as a whole, and so the State potentially has relatively more to gain from the falling $A. Our view has been the same for some time – that the Australian dollar would lose altitude because:

1. **commodity prices** would come down (either China would slow and / or miners would dig deeper) and because
2. **interest rates** in the rest of the world would rise relative to those here.

Step (1) in that combination started to become evident in the second half of 2012, as a slowdown in China became evident. And the sheer size of the global investment in minerals production capacity in recent years has been immense, with more of that due to come onstream in the next few years.

Similarly, step (2) is increasingly in play. It is early days yet, of course, but mere speculation as to the date of the start to tapering off QE in the US was itself enough to take some pressure off the $A of late, meaning the eventual impacts of a paring back of developed world stimulus could be quite significant.

Overall, the $A is projected to settle at US 80 cents (a bit above the US 75 cents it has averaged since the $A was first floated), reaching that level by about 2017, and the impacts of the progressive decline should be relatively more apparent in Victoria than Australia as a whole.

3.2 The State's economic outlook

For some time now we have been stressing a simple stereotype: while interest rates are more important for NSW's prospects, for Victoria it is the $A which is the dominant driver.

Deloitte Access Economics' reasoning for this rule-of-thumb was similarly simple: NSW has an outsized share of the Australian finance sector as well as large home mortgages, whereas Victoria has relatively higher dependence on 'dollar dependent' sectors such as manufacturing, dairy farming and the teaching of foreign students. For example, the latter is Victoria's largest export.

The good news is that the $A has moved lower in recent months. In addition, there is the potential for it to fall further, not least because a reduced rate of 'money printing' by the US Federal Reserve will make markets more interested in holding the $US (and so relatively less interested in the $A).

Or, in other words, it may have been slower to move, but the $A has finally begun to fall, and is unlikely to return the highs of recent times. Then again, a lower $A merely helps the State's outlook – it certainly does not guarantee a return to more rapid growth. Besides, the benefits of a falling currency will take a while to flow through, with the State's economic growth in calendar 2013 unlikely to feel any benefit at all from the depreciated currency.

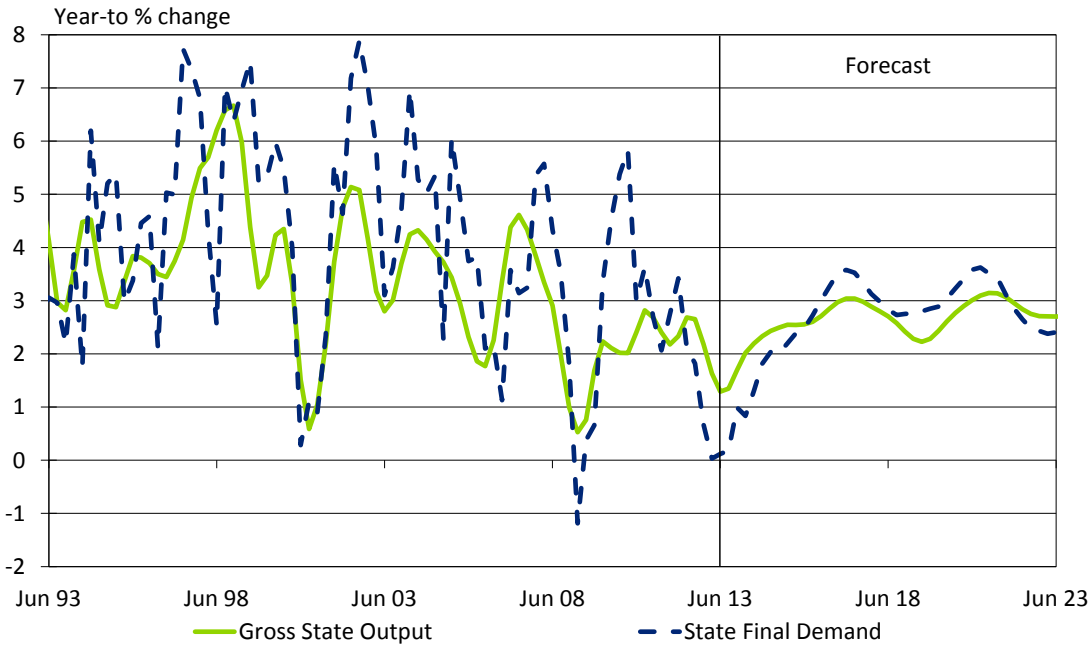
Further, the $A may be lower than it was, but it remains high by historical standards. And although we forecast further falls, they are not guaranteed. Other things equal, that points to some further problems, though a strong currency is undoubtedly less of a headwind than it has been.

There are a number of key positives worth noting:

- For example, New Zealand – a key competitor in food markets – has been suffering from drought, whereas there's been no drought in Victoria's rich dairy pasture lands. In addition, the quality of New Zealand milk attracted unwanted publicity of late with a contamination scare that may raise the profile of Victoria's dairy producers.
- Similarly, cheaper rents mean Melbourne's office market is still gaining market share in sectors such as business services – thereby continuing a longrunning trend.
- Lower interest rates are boosting Melbourne's housing prices, raising hopes that retail spending growth – currently moribund – may gather some more speed over the next two years.
- Other States (such as Western Australia and Queensland) are more exposed to the risks around the 'construction cliff' than is Victoria, where mining-related engineering work has been a footnote rather than a driver of growth.
- Finally, the carbon tax will either drop back notably to European pricing levels (as per current legislation) or disappear altogether (the preferred option of the new Federal Government). As Victoria has a large number of heavy emitters, that implies less pain ahead on the latter front.

On the downside, homebuilding in Victoria has been such a success story for so long that the State lacks the same degree of upside seen in this sector nationally. In addition, whether there is a carbon tax or not, demand for Victoria's brown coal reserves is unlikely to be very strong in the future, and the gas revolution of the moment seems to be accelerating the shift away from Victoria's other energy assets (such as Bass Strait oil, though the Strait does boast gas potential).

Chart 3.2: Victorian State output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

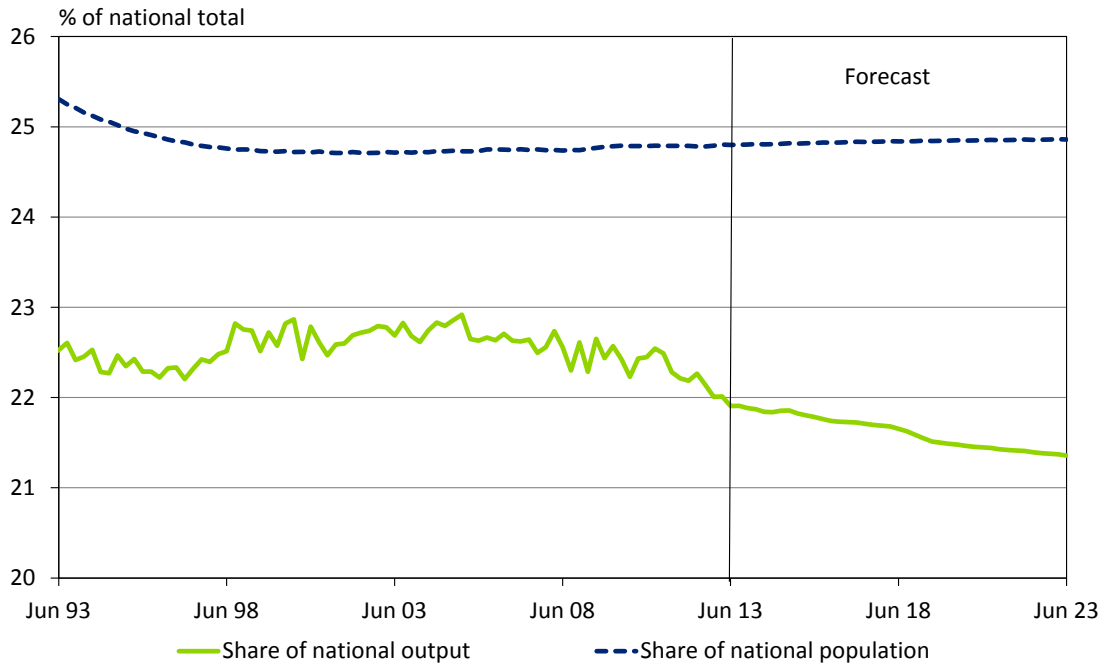
On balance, Chart 3.2 therefore simply points to a continuation of the current slowdown in Victoria, rather than anything more dramatic than that.

Construction levels in Victoria have dipped considerably since the heady days of mid-2010; a time when the State started work on more than 180 new houses every single day (and even then rental vacancy rates suggested demand was outpacing supply).

Given the falls since then in terms of confidence, actual building levels and even sectoral employment, it is worth remembering that Victoria is still Australia's number one State in terms of house building, a title it has held for nearly a decade. Even after NSW's strong recovery since 2011, Victoria still sits around 20% ahead of the latter.

In addition, the State still remains the largest source of population growth in the country, with growth trends actually moving back in the State's favour over the past eighteen months. As shown in Chart 3.3 that points to Victoria maintaining a solid share of Australia's population in the medium term, with a fall in its share of output reflective other States' shares (mostly Queensland and Western Australia) continuing to rise over the next few years.

Chart 3.3: Victoria as a share of national totals



Source: ABS, Deloitte Access Economics macroeconomic model

Chart 3.4 below sets out Deloitte Access Economics' current forecasts for Victoria's economy.

Chart 3.4: Victorian demand and output forecasts

Year ending March changes in Victoria key economic variables

Annual % change (unless noted)	2012	2013	2014	2015	2016	2017	2018	2019	2020
Consumption									
Private sector	2.7	1.2	0.5	1.8	2.4	3.3	3.2	2.8	2.9
Public sector	2.4	0.4	1.2	2.1	3.6	3.6	3.5	3.4	3.2
Private sector investment									
Dwelling investment	5.2	0.7	-5.4	-0.6	5.6	6.1	1.9	-0.7	0.1
Non-residential building	-3.1	12.0	-5.0	11.0	2.5	2.9	4.6	1.7	1.8
Engineering construction	-1.5	-7.3	-0.7	26.3	4.1	0.7	3.5	-0.5	-1.0
Machinery and equipment	6.3	-0.3	-4.1	-2.3	-5.5	3.2	5.4	3.2	3.7
IP and livestock	2.7	5.1	-2.6	-11.6	-5.5	3.6	1.7	1.9	1.9
Public investment									
General Government	1.3	-16.5	7.9	-5.1	-1.1	0.5	1.3	1.6	1.7
Public enterprises	-11.4	-88.5	664.9	0.9	-2.5	1.8	1.5	0.2	0.6
Real final demand	2.7	1.2	0.5	1.8	2.4	3.3	3.2	2.8	2.9
Private sector	3.1	3.6	-1.1	2.0	2.4	3.4	3.3	2.7	2.9
Public sector	1.2	-7.8	7.4	1.1	2.6	3.1	3.1	3.0	2.9
Gross State output	2.5	2.3	1.5	2.4	2.6	2.9	2.9	2.5	2.4
Employment	1.0	1.2	0.8	0.9	1.1	1.4	1.7	1.6	1.5
Unemployment rate (%)	-0.2	3.4	4.4	6.4	0.1	-0.9	-1.9	-0.9	-0.3

Source: ABS, Deloitte Access Economics macroeconomic model

Note: Public investment figures for 2013 and 2014 are affected by the sale of the Wonthaggi desalination plant.

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, 2006) covers economic units engaged in the provision of:

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

The Australian Energy Regulator (AER) is principally concerned with the regulation of the electricity and gas markets.

4.1 The policy backdrop for the utilities sector

Regulation of the electricity market has been a topic of considerable policy interest in recent months. The introduction of the carbon price resulted in a 5 – 13% increase in retail prices nationally (AER 2012), but a rapid shift in climate change policy is now underway following the election of a new Federal Government. At the same time, developments in the Australian gas market remain subject to intense scrutiny from policymakers.

4.1.1 Gas extraction and supply

Australia is a gas-rich nation, and until recently that meant gas was available to Australian consumers and businesses at lower prices than those faced by gas-poor nations such as those of our key trading partners in Asia.

More recently, the existence of major LNG export projects in Queensland and Western Australia has seen increases in production focused largely on export markets. Those projects provide Australian gas producers with new alternatives to supply gas into markets which have traditionally paid higher prices than those here at home.

By linking Australian gas supplies to world markets, these projects are seeing an important shift emerging in Australia's gas market – particularly on the east coast.

With large long term contracts to supply foreign markets in the Asian region becoming the norm, major domestic consumers are complaining of difficulty securing supply contracts from 2015, raising the spectre of gas shortages despite a booming export market for LNG.

Indeed, a range of gas users including major electricity generators and manufacturers have been calling for reserving policies aimed at ensuring sufficient domestic gas supplies. While such a policy is highly unlikely to prove the most efficient response, the current debate does highlight some complex issues emerging in the Australian gas market over coming years.

Importantly, even if these supply concerns prove overstated, gas prices in Australia will be linked much more closely to those in Asia in coming years. That will see a period of adjustment for the utilities, as an end to the natural advantage provided by large reserves of low cost gas means higher prices for Australian consumers, and leads in turn to reduced domestic demand for gas.

Expansion in gas production in the east coast States, particularly New South Wales and Queensland, has the potential to secure rapid growth in gas supplies and keep the cost of natural gas low for domestic users.

However, such development has been hampered to date by community opposition and political influence on the planning process. Recent moves to amend the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to grant the Federal Environment Minister powers to prevent developments on the basis of impacts on water resources (a so called 'water trigger') highlight the regulatory uncertainty facing the coal seam gas industry in the short term.

If such regulatory hurdles continue to hamper the expansion of the industry, the domestic gas market may see a more constrained growth environment in coming years.

4.1.2 The carbon price and Renewable Energy Target

Climate change policy has important implications for the electricity sector in particular, given electricity generation accounts for around 35% of Australia's carbon emissions (Garnaut 2011).

At present the carbon price (introduced in July 2012) is set at a fixed price of $23 per tonne. That was set to be replaced by an emissions trading scheme in July 2015, but the new Federal Government has committed to repealing the carbon price as soon as possible, to be replaced by the Coalition's Emissions Reduction Fund (ERF) as part of a 'direct action' policy on climate change.

At present, the carbon pricing mechanism accounts for around 5% of total retail electricity costs (AER 2012), meaning the planned policy reversal will have important implications for electricity markets.

That said, both the timing and quantum of any electricity price reductions are far from certain.

Moreover, with both the Labor party and the Australian Greens stating that they will oppose the legislation in the Senate, it is possible that the repeal of the carbon price will be rejected in the upper house. That could result in a range of outcomes, including the legislation being presented to the new Senate due to sit from 1 July 2014.

In any case, such a rejection would delay the removal of the carbon pricing mechanism, presenting the electricity sector with a degree of continuing uncertainty around carbon policy.

Since the removal of the carbon price has potential implications for electricity prices, output in the utilities sector, and the general rate of inflation, it is therefore a factor in the kinds of wage forecasts presented in this report.

Deloitte Access Economics' forecasts in this report assume that the carbon price will be removed with effect from 1 July 2014, resulting in a reduction in consumer price levels of 0.4%

in September quarter 2014, followed by an additional 0.3% in the December quarter of 2014. (That said, the uncertainty surrounding the timing and outcome of the policy change is notable, and could result in these impacts being felt as much as 12 months later.)

However, the longer term implications of this change may be less marked. With the carbon pricing mechanism designed to link to European carbon markets over time, the price of carbon for Australian emitters was likely to fall under existing policy anyway.

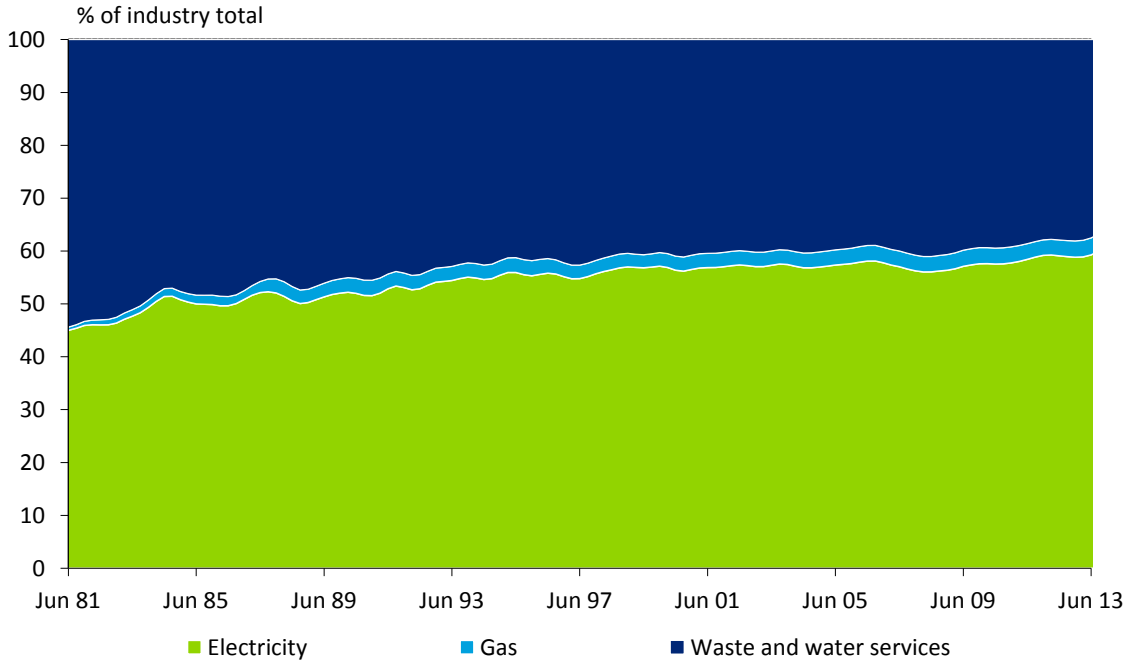
Further, the aim of the carbon price and emissions trading scheme was to shift the sources of power used by electricity generators from coal (especially brown coal) to less emission-intensive sources. Brown coal-fired generators have a carbon footprint around one and a half times that of black coal-fired power stations and more than twice that of gas-fired stations.

That aim is likely to be achieved over time despite the shift in incentives caused by the removal of carbon pricing. The combination of the Mandatory Renewable Energy Target (MRET) and the likelihood of future action on climate change remain key factors in investment decisions.

That said, there has also been some speculation of late over the future tole of the MRET. The latter requires electricity retailers to source a certain proportion of their power from renewable sources, with 20% of Australia's energy required to come from renewable sources by 2020. The scheme currently extends out to 2030. Renewables constitute 49% of total proposed generation capacity in the current investment pipeline, gas-fired generation represents a further 43% of proposed new capacity, and coal accounts for just 8% of planned capacity (BREE 2013). No brown coal generators are currently under construction.

4.2 The outlook for the utilities sector

Chart 4.1: Composition of output in the utilities sector

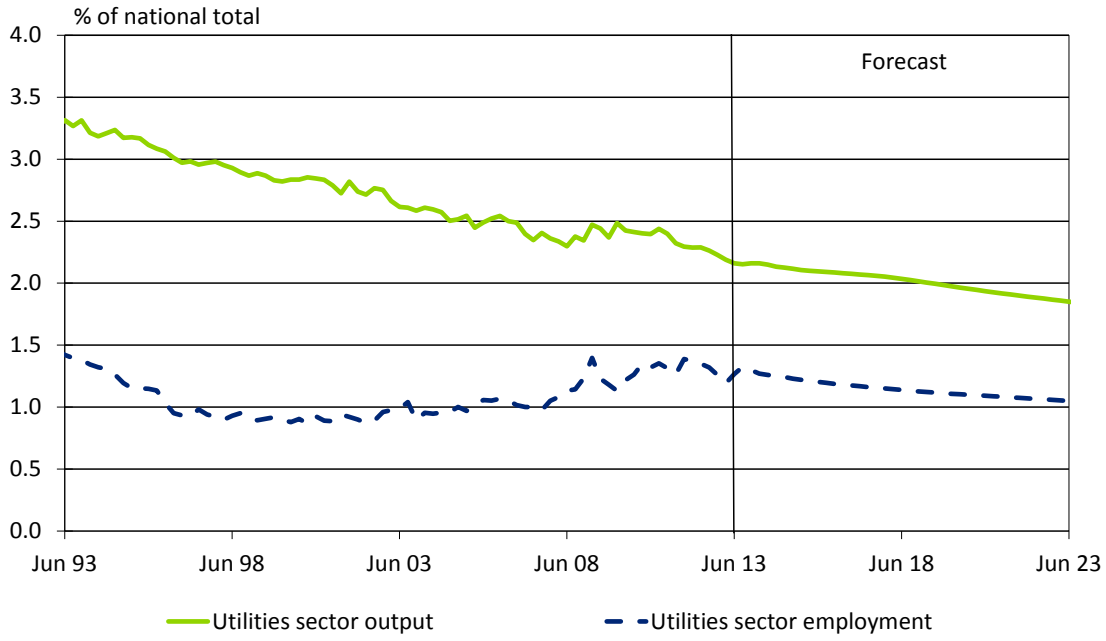


Source: ABS

As Chart 4.1 above shows, electricity has accounted for a rising share of the sector over time while water has made some notable inroads in recent years. However, since the GFC, the share of the utilities sector accounted for by electricity has been mostly falling.

While the utilities sector at the national level has generally experienced growth in recent years, that growth has lagged national output growth and hence the sector's share of overall output and employment has fallen. Indeed, Chart 4.2 indicates that utilities output has been declining as a share of national output since 1995.

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



Source: ABS, Deloitte Access Economics' macroeconomic model

Australia's utilities sector has been affected by some of the major trends affecting our economy over the past decade. In particular, competition for labour from competing sectors such as mining and related construction, which have benefitted from the rise of emerging Asia, has boosted the demand for skilled workers in sectors such as mining and construction.

An accompanying increase in Australia's currency and our interest rates relative to the rest of the world proved problematic for trade exposed sectors such as manufacturing (itself a notable user of the utilities). Similarly, relatively high interest rates kept housing construction on a short leash, limiting new connections to electricity, gas, waste and water services.

At the same time, the industry has faced a number of specific challenges, amid:

- **A changing regulatory environment**, with mandatory renewable energy targets (MRET) and the imposition of a carbon price meaning that environmental goals led to a shift towards 'less productive' methods of energy generation, while the imposition of carbon pricing affected profitability and expansion plans.
- **Rising retail prices, particularly for electricity:** Prices rose rapidly, partly due to the operation of MRET and the carbon tax, partly by way of catch up, and partly due to the need to underwrite capacity expansion. In turn, that has generated a hit to demand.

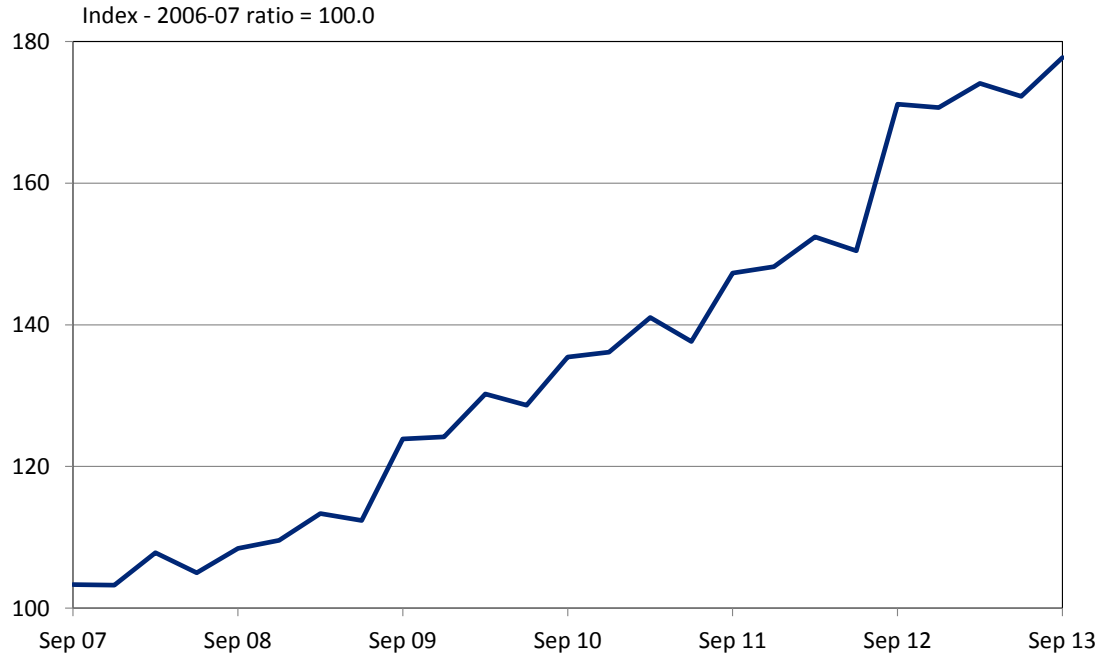
Many of these trends have been negatives for Australia's utilities sector – demand growth softened, regulation added to the need for workers, yet wage competition was strong.

On the other hand, underlying growth due to increases in population and incomes has been solid over the period, keeping overall sectoral outcomes reasonable despite this list of negatives. Indeed, utilities employment as a share of national employment actually began to rise over the past decade in contrast to the decline in the utilities sector's share in national output. These opposing trends of falling output and rising employment have combined to create a large fall in measures of productivity in the utilities sector over the last decade.

More recently, both output and employment levels in the utilities have struggled. The value of electricity output has again fallen, dropping further over the past year, while growth in output in the other utilities is equally unimpressive. Indeed, the output of the utilities sector is at the lowest level since a peak back in 2008.

The recent lack of growth is due to a wide set of factors. However, the essential theme common to those factors is that the services sold by the utilities have become relatively more expensive, and hence both families and businesses (who are firmly in cost cutting mode) have been scrimping and saving on their use of energy and other utilities.

Chart 4.3: National electricity prices relative to the total CPI



Source: ABS

In the five years to September 2013 the retail cost of electricity has risen more than six times faster than the CPI, while the retail price of gas has climbed more than four times faster than the CPI. As noted earlier, there have been many factors driving those rapid increases in relative prices:

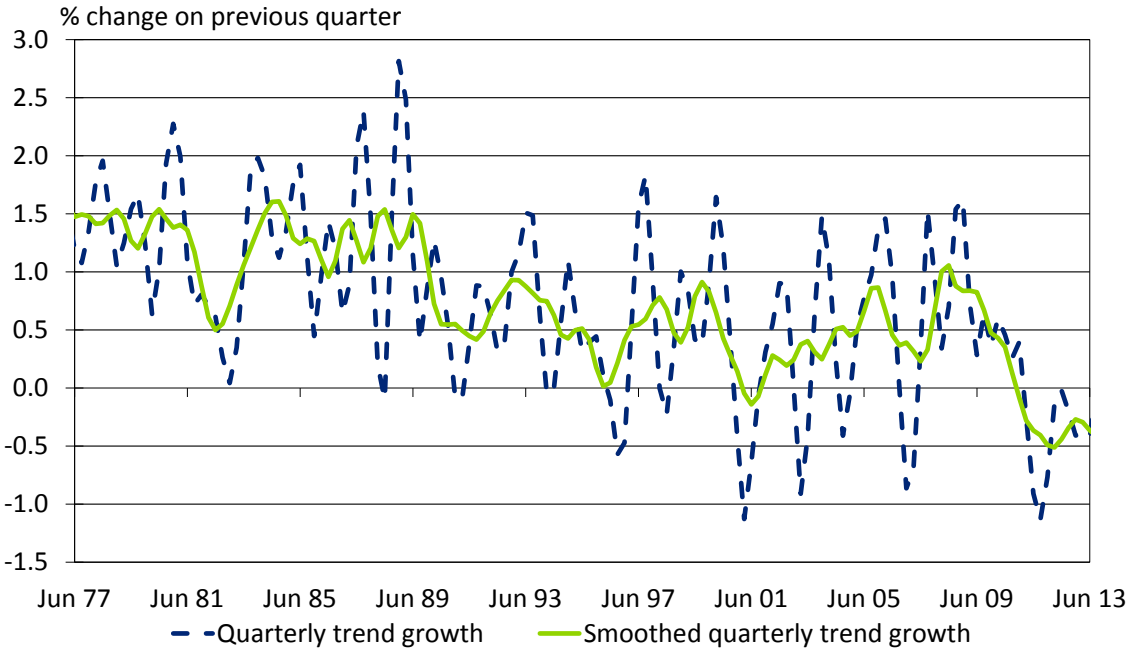
- For electricity, these include the carbon tax and mandatory renewable energy targets, neither of which is as effective as it could be in reducing emissions at minimal cost.

- Very high reliability standards imposed by State Governments are also a key driver of rises in electricity prices as it encourages over investment in infrastructure. The need for such investment is worsened by the rise of peak demand as the growing use of air conditioning and the like boost peak demand, while the absence of peak pricing in most jurisdictions does little to counter this trend. As a result, the electricity system is only rarely used at its full capacity even though that capacity was very expensive to build in the first place.
- A shift to more expensive underground cabling is also likely to be increasing cost pressures in the distribution of electricity.
- For gas, rising prices are due in part to investment in liquefaction and export capacity resulting in greater links between Australian gas reserves and world markets. This has combined with similar increases in distribution costs to result in higher prices for Australian residential customers.

The impact of these and other factors on retail prices has slowed output growth in the sector considerably (see Chart 4.5 later). Price increases of the magnitude experienced in the last five years have an impact even when demand is relatively inelastic. It is therefore no surprise that consumers have been responding to higher prices by cutting consumption of electricity and gas. That has seen the output of the sector falling, despite higher levels of spending among consumers. An examination of the latest statistics from the ABS for the year to June 2013, combining experimental estimates of consumer spending on residential electricity and gas retailing with information on prices from the CPI, reveals that:

- Electricity prices increased by 17.2%, while total spending on electricity rose by 14.6% – reflecting a 2.3% reduction in real spending on electricity over the year.
- Gas prices increased by 15.3%, while total spending on gas rose by 12.8% – representing a 2.2% reduction in real spending on gas over the year.

Chart 4.4: Growth in trend electricity output



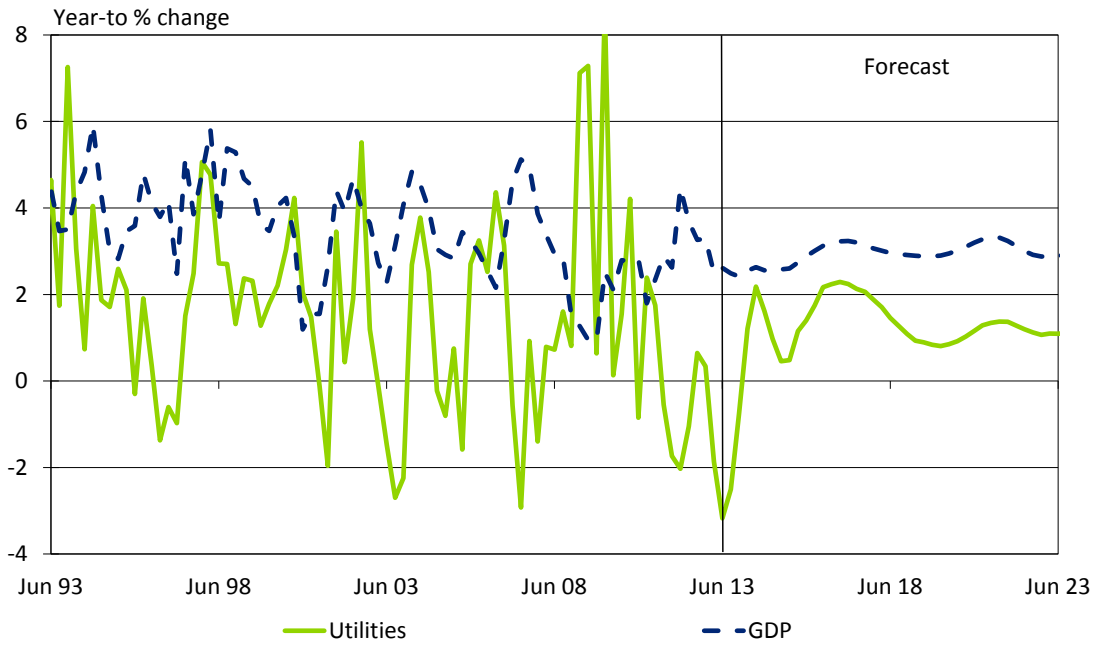
Source: ABS

Residential consumers are not the only ones reducing their energy consumption. Businesses too are cutting back on electricity use to contain costs, while many of the mining and related activities that have been driving economic growth in recent years are supported by off-grid power generation. The resulting reduction in demand can be seen in the output of specific sectors within the utilities, as shown for electricity in Chart 4.4 above.

Looking forward, the economic environment will bring both positives and negatives for the utilities sector. Perhaps the biggest positives will come from a combination of a lower $A and an extended period of low interest rates. The latter combination means better news for key industrial customers in sectors such as manufacturing, and it should also begin to support new connections for household customers as housing construction gathers pace.

At the same time recent surges in prices for electricity and gas are unlikely to be repeated, especially with some price relief emerging from the repeal of the carbon pricing mechanism. To the extent that consumers have already changed their behaviour in response to price rises, that may mean consumers see less need to reduce energy consumption going forward.

Chart 4.5: Utilities output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

That said, a number of negatives remain for the utilities.

- **Growth in incomes may be less than impressive**, as overall growth in employment is held back by a mix of softer economic growth as the mining related investment begins to cool, and as the pace of retirement increasingly weighs on overall growth in the workforce.
- At the same time, **major sections of Australia's manufacturing base remain under threat** – with those threats greater in Victoria than elsewhere. Ford has already announced its intention to cease production in the State from 2016, and there are ongoing concerns that both Holden and Toyota may soon follow (affecting the components sector more broadly in Victoria). That poses the risk that related manufacturers are hit hard, and that the sector as a whole begins to lack the 'critical mass' required to compete with global

competitors. As the manufacturing sector accounts for 31.7% of total electricity demand (IBISWorld 2012) and 32% of total gas demand (BREE 2013), continued weakness in manufacturing represents a concern for utilities demand in coming years.

- **Increased rooftop solar power generation** and greater uptake of energy efficiency measures such as solar hot water systems is also likely to remain a source of reductions in household demand for electricity over the medium term.

Together with the lingering effects of recent price rises, that combination sees the short term outlook for demand in the utilities sector improving, but remaining modest, as seen in Chart 4.5 above.

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, construction and administrative services sectors.

5.1 Mining

The fortunes of the mining sector have played a pivotal role in Australia's recent prosperity. While that role is far from over, it is changing.

As the mining boom moves from an investment phase to a production phase, the output of Australian mines will be lifting rapidly, while the impact of the mining sector on other parts of the economy – notably engineering construction and company profits – will be on the wane.

There are a few reasons for that scenario of a peak then a fall in Australia's resource-related investment spending:

- Poor profits, with commodity prices – especially for coal – dampening the desire to dig new mines or to expand the infrastructure surrounding them. That's bad for the construction outlook.
- A burst of supply is known to be coming. And if prices and profits are already an issue, then they could become an even bigger issue as new supply hits a range of markets. After all, Australia may be a major mineral province, but it is still only a small part of a big world, and most miners have been investing up a storm in new capacity in recent years – with the fruits of that capacity expansion yet to arrive on world markets. That is why, for example, BREE forecasts the iron ore price to drop to $US 91 a tonne by 2018.
- And, speaking of world markets, the latter may not generate quite the same demand momentum that miners had earlier hoped. Recent years saw some truly pumped up expectations of where Chinese and emerging economy demand for commodities would go over time. Sensibly, the optimism of those earlier estimates are now being wound back.
- Finally, Australia is a very high cost country for construction these days. The World Economic Forum's *2013-14 Global Competitiveness Report* does not make for happy reading, with Australia now having dropped out of the global top 20 nations for competitiveness. Even more humiliatingly, we're being beaten by the Kiwis. In part our malaise is because costs (such as wages, materials, contractors, regulatory burdens, taxes) grew like topsy during the glory years, when the key was to dig stuff up and get it to market – and to do so at any cost.

The latest data from the ABS' capital expenditure survey is consistent with mining investment having peaked in trend terms in the second half of 2012, with substantial declines in expenditure on plant and equipment largely offset over the year to June 2013 by increased expenditure on buildings and structures. Expected capital expenditure for 2013-14 also indicate a slight fall in mining investment over the coming year.

Other measures support the view that the peak in mining investment has already occurred:

- ABS data indicate that engineering construction work done – a category dominated by of mining investment projects in recent years – peaked as a share of GDP in the December quarter of 2012.
- Overall business investment as a share of GDP also peaked in late 2012.
- Deloitte Access Economics' own database of mining projects in the investment pipeline for our *Investment Monitor* publication likewise saw the value of investments in the sector peak in late 2012.

That said, there remains a very large mining investment pipeline at present, and the long construction periods associated with mining investment mean that many of the current projects underway will continue to be in their construction phase for some time yet.

That is, while investment spending peaked as a share of GDP in late 2012, the peak in new investment projects entering the pipeline occurred a year earlier. As a result, the mining investment pipeline is now beginning to shrink, as existing projects near completion, and new investment projects are wound back amid the joint hurdles of softer commodity prices and higher costs.

Deloitte Access Economics sees mining investment declining over coming years, though it is important to note that it will remain at historically high levels for years to come.

While the well-publicised peak in resources investment that is underway will see growth in mining investment cool, the pipeline of past and present work remains huge, especially so in LNG, and the production payoff from it will be similarly large.

Our forecasts are that the 'third phase' of the mining boom – the lift in mining output that follows on from the boom in prices and in resource-related construction – will be increasingly evident in the production and export data over the next few years.

Indeed, our forecasts anticipate annual growth in mining sector remaining above 5% until 2016, and averaging just below 5% a year over the next five years.

Similarly, the Government's official forecaster of mining and energy, the Bureau of Resource and Energy Economics (BREE) takes a slightly more optimistic view, with average output growth of around 5½% a year over the next five years:

- The news is best in **LNG**, whose five year growth rate in projected export volumes weighs in at almost 30%, boosted by a bunch of mega projects (including the stars of the moment, such as Gorgon, Ichthys, Wheatstone, Curtis, Gladstone, Australia Pacific and Prelude).
- Yet **iron ore** also sees double digits for a projected five year average growth rate, aided by BHP Billiton's Rapid Growth, Rio Tinto's Hope Downs and Fortescue's Solomon mine

- Next in line, somewhat disturbingly, comes **thermal coal**. BREE has been revising down its expectations there, as rotten market conditions take their toll. Even so, projects such as Appin and Ulan West help to push the five year annual average growth rate to a projected 8.8%.
- The news is more modest for **coking coal**, with its projected growth rate averaging 5.3%, followed by **copper** at 4.6%, and **alumina**, at 3.1%. Reflecting concerns that sweetheart electricity pricing deals won't be rolled over into matchingly generous arrangements as they come due, **aluminium** exports are projected to fall by an average of 2.9% a year.

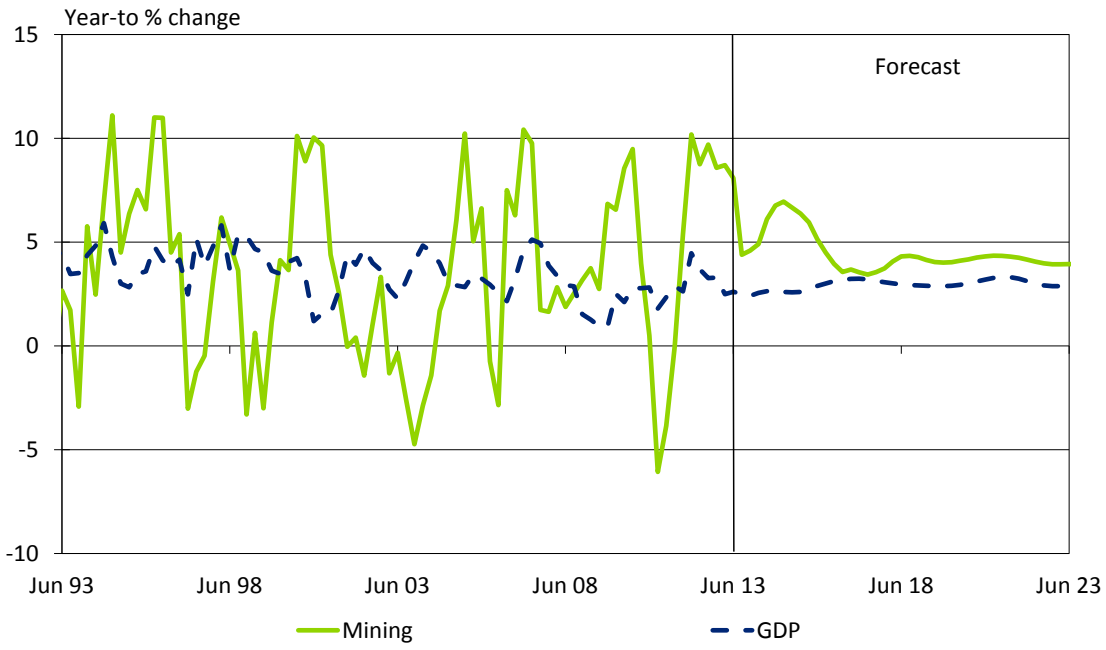
In part, the optimism around mining output is due to the considerable momentum behind recent investment in new capacity in the sector. Long lead times in the large scale investments needed to bring mining production online means coming output gains largely reflect past investment decisions.

Over the medium term, future investment will be important to the growth outlook, and it is here where the question marks lie. Even if the pace of global investment in new capacity is maintained, relative cost pressures from a high $A and increases in wages and regulatory costs may make Australia a less attractive destination for investment than it has been recently.

That said, given the massive amount of investment in new capacity over recent years, and the strong pipeline of projects underway, it is no surprise that Australia's mining output is expected to grow strongly over the next few years.

Providing an additional boost to the mining sector in the short term is some positive news on commodity demand. In the main that is because recent months saw China's growth prospects improve. Perhaps not surprisingly, it therefore also saw iron ore prices lift, while the news on the coal price front got no worse.

Chart 5.1: Mining output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Yet short term shifts in the pattern of demand do little to change the level of new supply coming online, and it is the latter which is likely to prove the driving force behind softer commodity prices over time.

As Deloitte Access Economics are optimists on the ability of miners to boost their output, we are pessimists on what that may mean for prices over the medium term. Yet we see those negatives applying in 2014 and beyond, with some of the short term positives of the moment for commodity markets likely to linger a little longer.

That shows up in Chart 5.1 above, which points to a continuation of the strong output gains of recent years, albeit at a gradually reducing pace.

That said, there is considerable momentum behind mining sector output, and Deloitte Access Economics continues to see mining as the fastest growing sector in the Australian economy over the next five years.

However, that picture of national strength is not replicated at the State level. Given that Victoria's mining sector consists almost solely of brown coal mines which face enormous pressures not only from international competition but also from policies around climate change, as well as ever expanding competition from renewable forms of energy, it is reasonable to assume a relatively poor outlook for the mining sector in Victoria.

That said, Victoria does have one major project to call its own: the Kipper-Tuna-Turrum oil and gas projects off the coast of Bass Strait that is expected to be completed in 2013, and will provide a boost the mining output of the State over many years.

5.2 Construction

If the key to the economic outlook for Australia as a whole is an expected slowdown in mining related construction investment, that almost by definition that points to a weaker outlook for the construction sector.

The latter is made up of three components – engineering construction, residential construction and commercial construction.

A number of important drivers of these components are shifting growth relativities between these components at present These include the likes of interest rates, the $A, commodity prices and the mining-related construction cycle – all of which are on the move.

Engineering construction has been a major beneficiary of the investment phase of the mining boom, and has seen stunning growth over recent years. It will also be the component of construction that is facing the greatest pressure as the focus of the resources sector moves from rapid investment to rapid growth in production.

As noted in the above discussion on the mining sector, investment in the mining sector remains close to record highs – and momentum from past investment decisions alone will be enough to maintain many of the gains it has achieved through the boom.

Table 5.1: Engineering construction projects (September 2013 level and annual change)

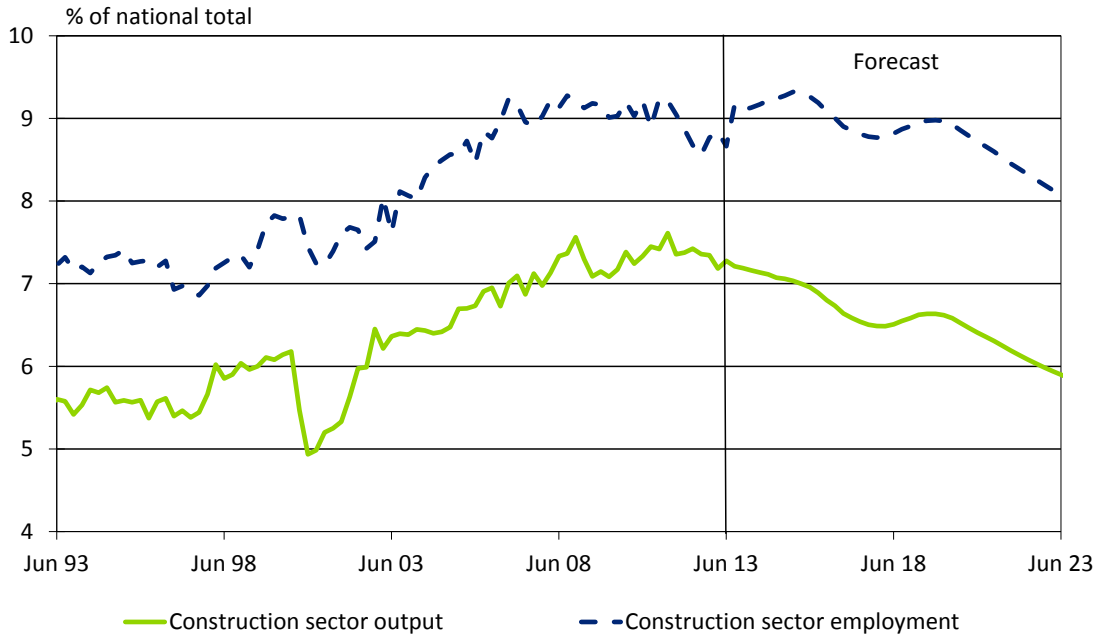
Sector	Definite $m	% change on Sep 12	In planning $m	% change on Sep 12	Total $m	% change on Sep 12
Manufacturing	1,759	+12.8	21,109	-15.6	**22,868**	-13.9
Transport	86,287	+14.1	147,606	-30.8	**233,893**	-19.0
Communication	46,306	+3.6	0	-100.0	**46,306**	+3.2
Mining	260,318	+6.8	192,673	+8.0	**452,991**	+7.3
Power and water	15,356	-26.7	25,855	-0.1	**41,211**	-12.0
Rural and forestry	520	-	700	na	**1,220**	+134.6
Total	**410,546**	**+6.0**	**387,943**	**-12.4**	**798,489**	**-3.8**

Source: Deloitte Access Economics *Investment Monitor,* September 2013

Better news on commodity prices may extend the lifespan of the current boom in engineering construction to a degree. However, the sheer scale of past gains, combined with the challenges posed by rising costs and weaker commodity prices will mean the volume of engineering work will fade over coming years.

That poor performance from engineering construction is the dominant driver of the expected decline in construction as a share of national output (and employment) seen in Chart 5.2.

Chart 5.2: Construction as a share of national totals



Source: ABS, Deloitte Access Economics' macroeconomic model

Nor will there be much assistance coming from **commercial construction**. Although the Reserve Bank remains optimistic that commercial construction remains part of the answer to fading engineering construction, we are less convinced.

Low interest rates are providing some support for commercial projects, but the underlying negatives that have held commercial construction back since the GFC – a soft environment in the retail sector and ongoing weakness in white collar job growth – remain concerns for this component of construction.

Table 5.2: Commercial construction projects (September 2013 level and annual change)

Sector	Definite $m	% change on Sep-12	In planning $m	% change on Sep-12	Total $m	% change on Sep-12
Trade	7,633	+19.8	3,533	+49.5	**11,166**	+27.8
Business parks	3,909	+31.7	975	-11.4	**4,884**	+20.0
Hotels and resorts	652	+132.9	3,974	+31.3	**4,626**	+39.9
Offices	3,179	+214.1	6,465	+463.6	**9,644**	+346.7
Education	3,506	-82.1	729	-6.8	**4,235**	-79.2
Health and community services	20,256	-2.3	1,331	-51.4	**21,587**	-8.0
Culture, recreation and other	6,589	-17.3	3,420	+9.3	**10,009**	-9.8
Business services	2,501	+290.2	2,315	-37.7	**4,816**	+10.6
Government	1,018	-34.6	130	-75.6	**1,148**	-45.0
Mixed Used	16,108	+28.5	2,495	-17.7	**18,603**	+19.5
Total	**65,351**	**-11.3**	**25,367**	**+17.6**	**90,718**	**-4.7**

Source: Deloitte Access Economics *Investment Monitor,* September 2013

It is true that applications for retail development have picked up of late, but that hasn't – to date at least – been enough to lift overall investment by much. Traditional 'bricks and mortar' retailers are also facing continued digital disruption to their business models, disruption which is likely to weigh on the construction outlook as well.

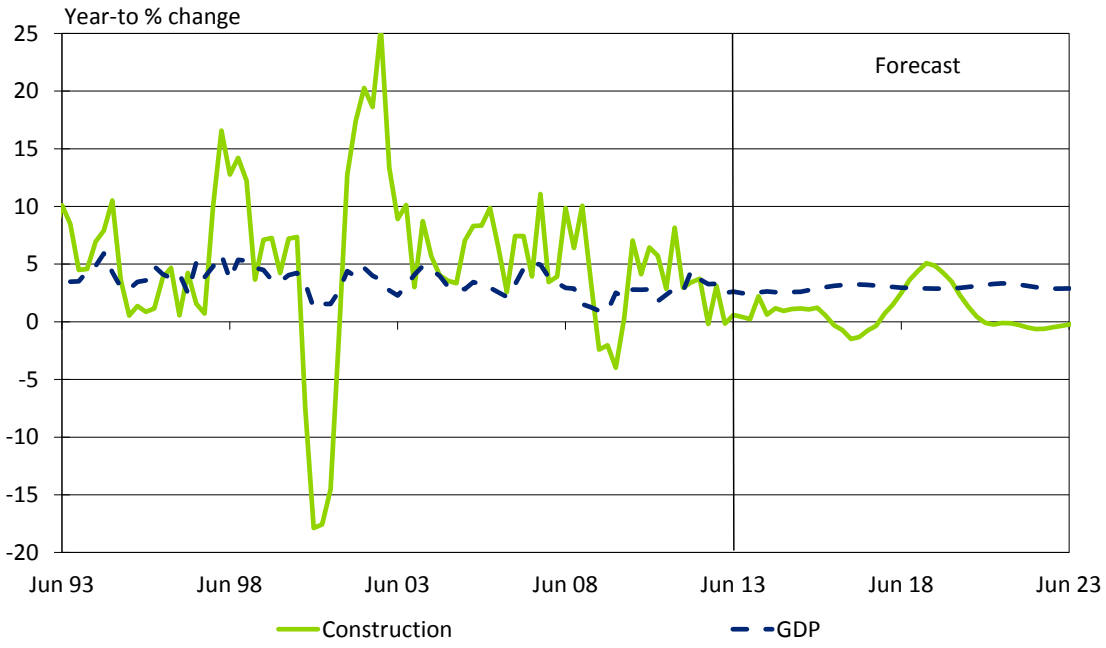
Office markets – the other major contributor to commercial construction projects – look to be suffering from double digit vacancy rates in the next little while, and that will mean less incentive for developers to invest in providing new capacity in an already overloaded market.

Accordingly, to the extent that we see good news in the construction outlook, that lies in **residential construction**. Low mortgage rates and rising housing prices will boost demand for new homes and for renovating old ones. Indeed, the record low interest rates of the moment combined with solid population growth would usually be enough to spark a substantial lift in housing construction.

However, the last decade saw many of the supply side constraints to housing proliferate – zoning issues, developer charges, land release and the like. Those constraints on supply will moderate the effect of rising demand to ensure that the better news on housing construction will take time to emerge, and that the upswing growth may be less than has been seen in the past.

On balance, the combination of shrinking engineering construction, flat activity in commercial construction and an emerging upswing in housing construction leads to the relatively modest outlook mapped out in Chart 5.3 below.

Chart 5.3: Construction output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

That is because the record growth in engineering construction over recent years means the latter now represents twice the value of the other two components of construction added together. Since the outlook for engineering construction is weak, that suggests a subdued outlook for construction as a whole as well.

5.3 Administrative services

The administrative services sector is quite small, accounting for just over 2% of national output, and 3.5% of national employment (see Chart 5.4).

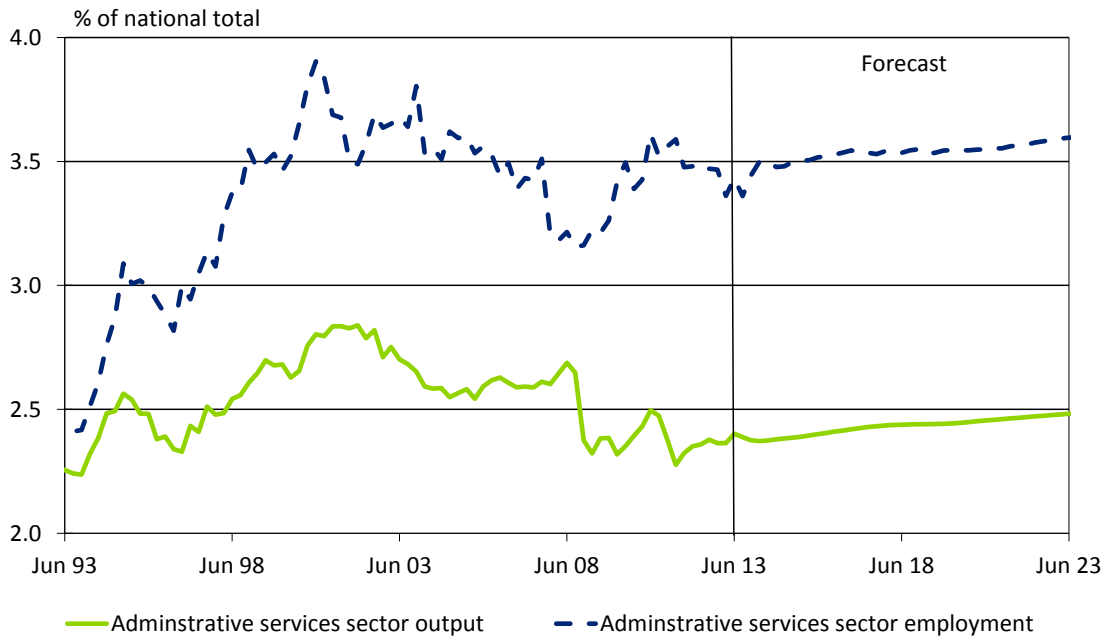
This sector can be broken into two broad areas:

- 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 administrative service sector has been losing output share since around 2007. Moreover, Chart 5.5 below shows the level of volatility in the sector has increased dramatically over the same period.

Ultimately, those trends are a result of developments that emerged during the GFC. These had a significant impact on the sector as businesses sought cost savings and productivity gains rather than new hiring, and as workers became more concerned with keeping existing jobs, rather than looking for better ones. That combination played havoc with the recruitment and human resource service sectors, which have yet to fully recover.

Chart 5.4: Administrative services share of national



Source: ABS, Deloitte Access Economics' macroeconomic model

At the same time businesses shifted increasingly into cost cutting mode, and that had a knock on impact on the demand for building maintenance services such as office cleaning.

As a result, profits in the sector continue to be squeezed as competition increases – shown above by the recent divergence between sectoral output and employment.

That said, the decline in the share of national output as shown in Chart 5.4 above can, at least in part, be attributed to faster growing levels of output in other sectors.

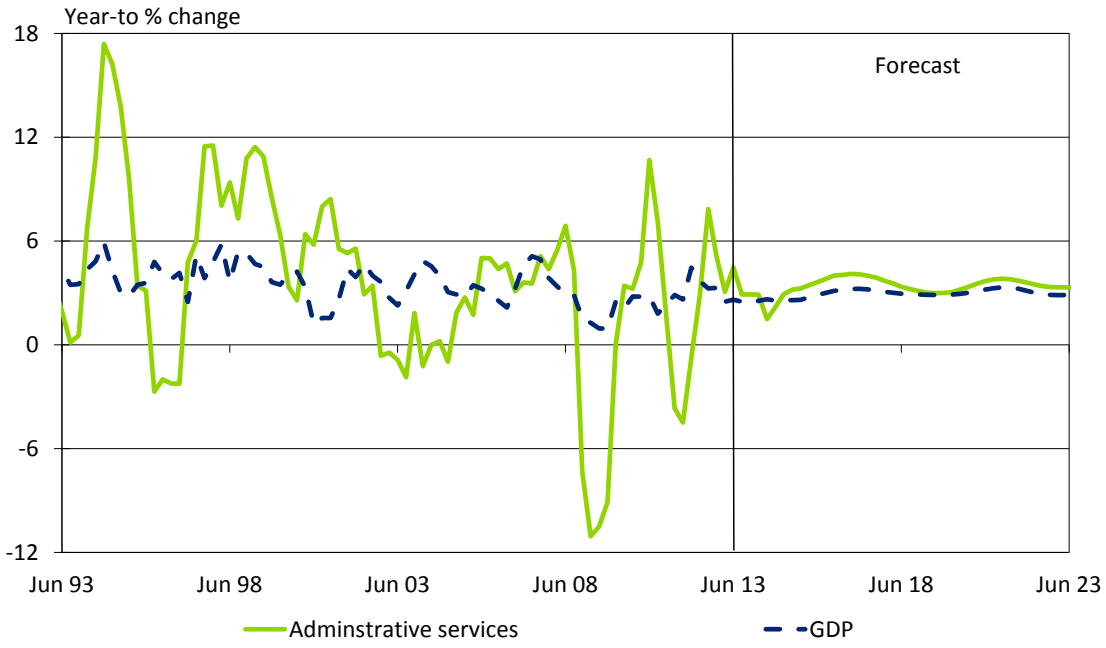
More recently, the sector has fared slightly better than the wider economy, with that stronger relative performance evident in Chart 5.5.

Recent volatility highlights the degree to which the administrative services sector is subject to the conditions of the wider economy – as the latter affect the spending decisions of businesses.

As a general rule, Australian businesses will be less cost conscious with respect to expenditure on services such as recruitment, cleaning contracts, and building maintenance for times when revenues are good and confidence is up. The flipside, however, is that cost control can weigh on the building services component of the wider administrative services sector when conditions are poor.

As the last couple of years have been tough for business revenues and business confidence, it is therefore no surprise that the output trends evident in Chart 5.4 and Chart 5.5 have remained modest.

Chart 5.5: Administrative services output growth



Source: ABS, Deloitte Access Economics' macroeconomic model

On the other hand, somewhat brighter conditions are in prospect in many non-mining sectors over the next few years. In addition, although the trend to outsourcing services has slowed, it hasn't ended. Barriers to entry are extremely low, and price competition remains keen in this labour intensive sector, meaning that there continues to be cost advantages in outsourcing rather than keeping cleaning and other administrative services in-house.

Further, while the sector will continue to be adversely affected by cost cutting measures by business as well as an expected decline in the size of the public sector workforce over the next few years, there is some scope for public sector workers that lose their jobs to utilise recruitment services in order to seek employment in the private sector. That is particularly true of non-ongoing staff such as those caught up in the current round of cost cutting by the Federal Government.

On balance, we see brighter news in the non-mining economy and a continued trend towards outsourcing of services as driving an improved relative performance by the administrative services sector in the short term, though the stronger reading in the June quarter of 2013 will result in a temporary downturn in measured growth in mid-2014, as seen in Chart 5.5.

Looking further ahead, the sector is projected to grow slightly faster than the broader economy over coming years. That reflects some key longer term trends favouring the sector, including the increasing rate of baby boomer retirements (which will increase the need for recruitment services), and solid prospects for the likes of cleaning and maintenance services as the rate of households with both parents working increases, and time poor individuals seek to outsource these tasks.

6 The national outlook for wages and prices

This chapter considers a series of related issues affecting the national wage outlook, with the wage outlook then discussed in section 6.3 below.

6.1 Shifts in wage and cost relativities are rarely permanent

By way of general backdrop to understanding wage growth over time, it is worth noting that (over a long enough time period) growth rates in the costs of materials and labour across different regions should not differ much.

That is because, if trends in prices or wages became too different over time, then there would be money to be made in shipping products or in 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:

- Workers can move between and within States ("we'll leave Hobart and try our luck in Brisbane").
- Workers can move to Australia from other nations.
- Permanent and temporary (visa 457) migration may be bureaucratically slow to move, but has the potential to ease a transition period.
- As do shifts by permanent residents.
- Shifts by New Zealanders (who face less restrictions on migration than do those from other nations).
- Shifts in wages can and will see people substitute into growing areas related to their existing skills ("I'll leave construction and try my luck in mining").
- Ditto shifts in relative wages can delay retirements or exits ("We'll have 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 in Australia

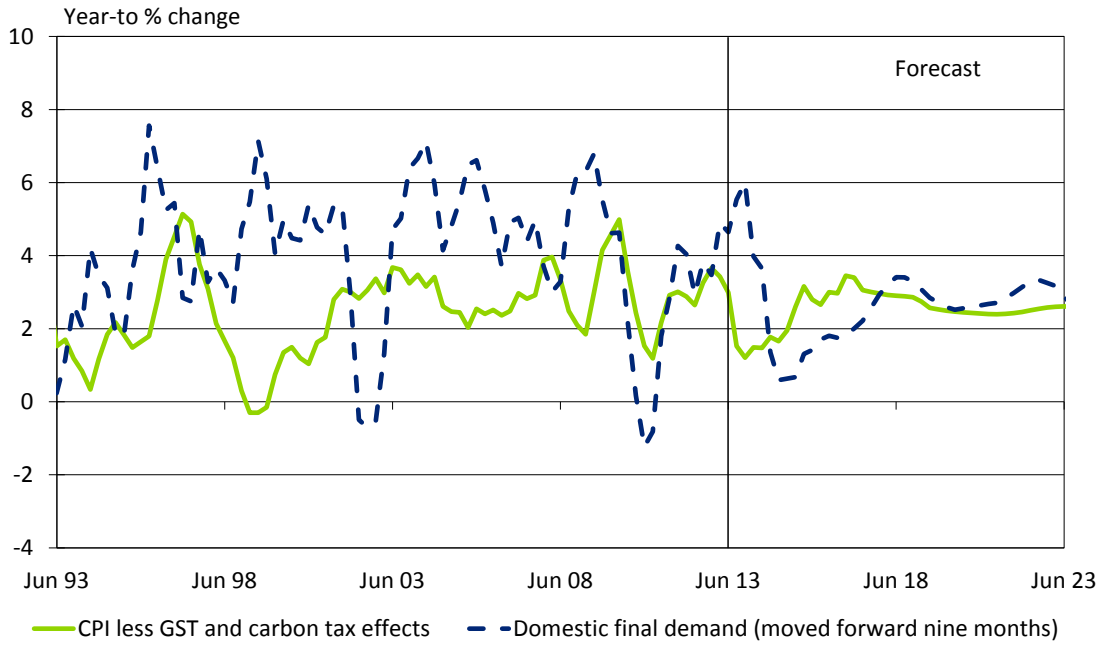
Inflationary pressures are virtually non-existent at the moment. First, wage growth is low and, despite the popular perception, productivity gains have improved. Second, business conditions are modest enough that they aren't generating pricing power for businesses. Capacity utilisation is just too low for that to happen. The possible abolition of the carbon tax stands gives further downward potential for inflation.

Although the fall in the $A has raised some prices, it hasn't been enough to change the overall inflation outlook. And while it is unlikely that wage growth will stay near its record lows of the moment, we don't project it to recover particularly fast.

We always start our examination of inflation prospects by talking about the state of the economy. The relevant equation here is pretty simple: other things equal, a lack of spending makes it hard for businesses to raise their prices. Indeed, that has broadly been true for some time, although the **domestic demand** shown in Chart 6.1 has masked the lack of inflationary pressure because it includes the big boost to overall spending in the economy from the surge in mining construction.

That has helped hide the underlying poor tone of demand affecting consumer pricing. As has the fact that it takes time for demand effects to flow through to pricing decisions – the timing in the chart assumes that today's inflation is responding to how strong sales were nine months ago.

Chart 6.1: The lagged impact of output on prices



Source: ABS, Deloitte Access Economics' macroeconomic model

Yet even the fairly wide measure of domestic demand now appears to be losing strength, underscoring the weakness evident in this most basic of all the building blocks of pricing

pressure. Put simply, Chart 6.1 suggests weakening demand growth is reducing businesses' pricing power.

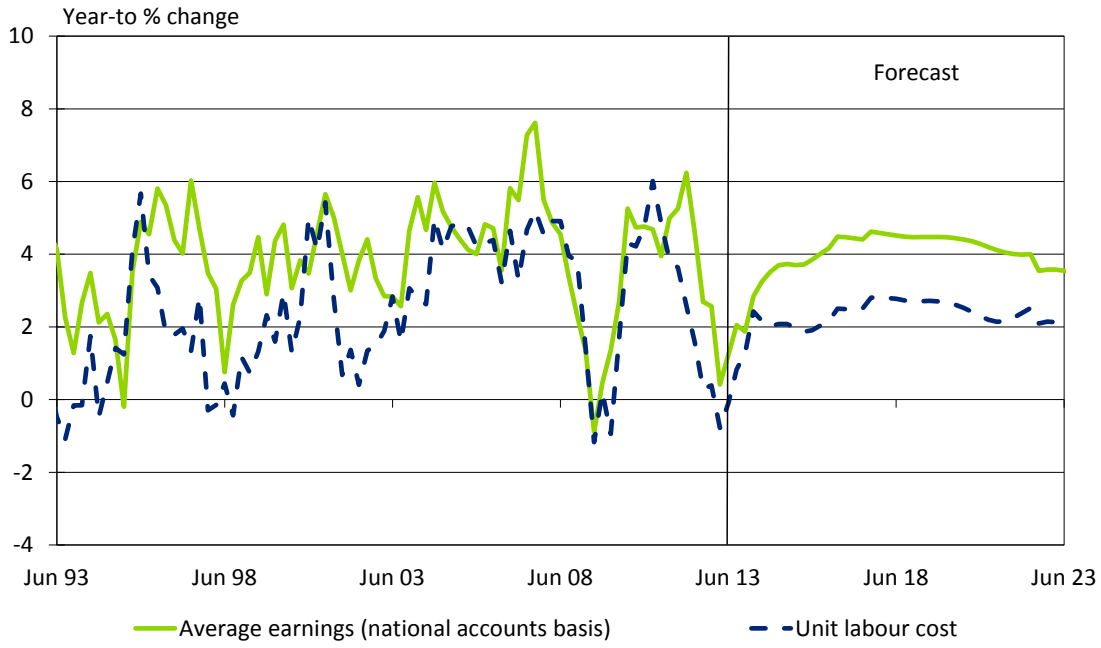
That said, the usual caveat applies. In any economy there are businesses – indeed, whole sectors – which are well protected from market pricing pressures almost no matter the state of the business cycle. In Australia, that description fits a number of service sectors. Many of the latter group (such as utilities charges) are government subsidised or notably regulated, while others (such as private school fees) are well-protected from import competition (where the sharpest challenges to domestic pricing have been evident, thereby leaving businesses with less pricing power in their own hands).

That is why, for example, prices have tended to rise faster over time for health care and the utilities, as well as for construction-related costs and tobacco prices.

Another downside to the inflationary outlook is the fact that the new Prime Minster hopes to abolish the carbon tax, meaning an even larger unwinding of price effects may be evident in the second half of 2014. We estimate the impact of this to slice some 0.7 percentage points off the headline CPI in the second half of 2014 (and a bit more than half that off underlying measures of inflation).

Labour cost growth (seen in Chart 6.2) is another key building block of the inflation outlook, and that too is virtually non-existent at the moment. There are a range of measures of wage inflation, but the common theme across all of them is one of weakness.

Chart 6.2: Wages and labour costs



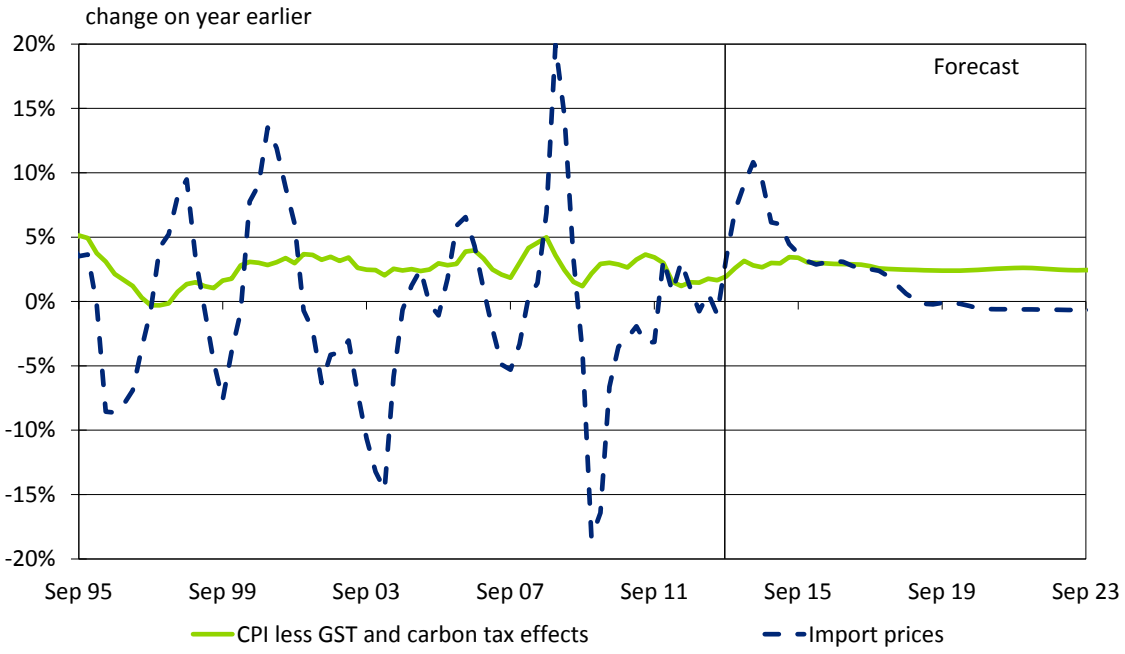
Source: ABS, Deloitte Access Economics' macroeconomic model

Moreover, although the chart shows a notable recovery is forecast, the latter occurs across the better part of two years before wage growth is back at 4%.

Or, in other words, wage costs aren't particularly threatening to the outlook for consumer price inflation.

The only upside potential to the inflationary outlook at the moment comes from **import prices**. As Chart 6.3 shows, the latter are set to climb – and relatively sharply so – over the coming year as the effects of the recent falls in the $A show up. (Apart from petrol prices and other prices set in foreign currency – as with some internet sites – it takes time for the depreciation to flow through.)

Chart 6.3: Import prices and inflation



Source: ABS, Deloitte Access Economics' macroeconomic model

On balance, then, it is hard to see many immediate dangers to the inflation outlook. It is likely that a falling $A over 2014 will add to import prices, and lower interest rates will provide impetus for retail spending growth that could restore some of the sectors pricing power. Wage gains could increase faster than expected and productivity growth may decline as the mining sector shrinks. That said, it looks like 2014 at least before inflation risks force their way back to centre stage in Australia's economic debate.

Table 6.1: Forecasts for economic growth and inflation

Annual % change	2013-14	2014-15	2015-16	2016-17
GDP				
Federal Treasury forecast	2.5	3	3	3
Deloitte Access Economics forecast	2.5	2.6	2.9	3.2

Year-to % change	Jun 14	Jun 15	Jun 16	Jun 17
CPI (headline)				
Federal Treasury forecast	2.5	2	2.5	2.5
Deloitte Access Economics forecast	2.8	2.7	3	2.9

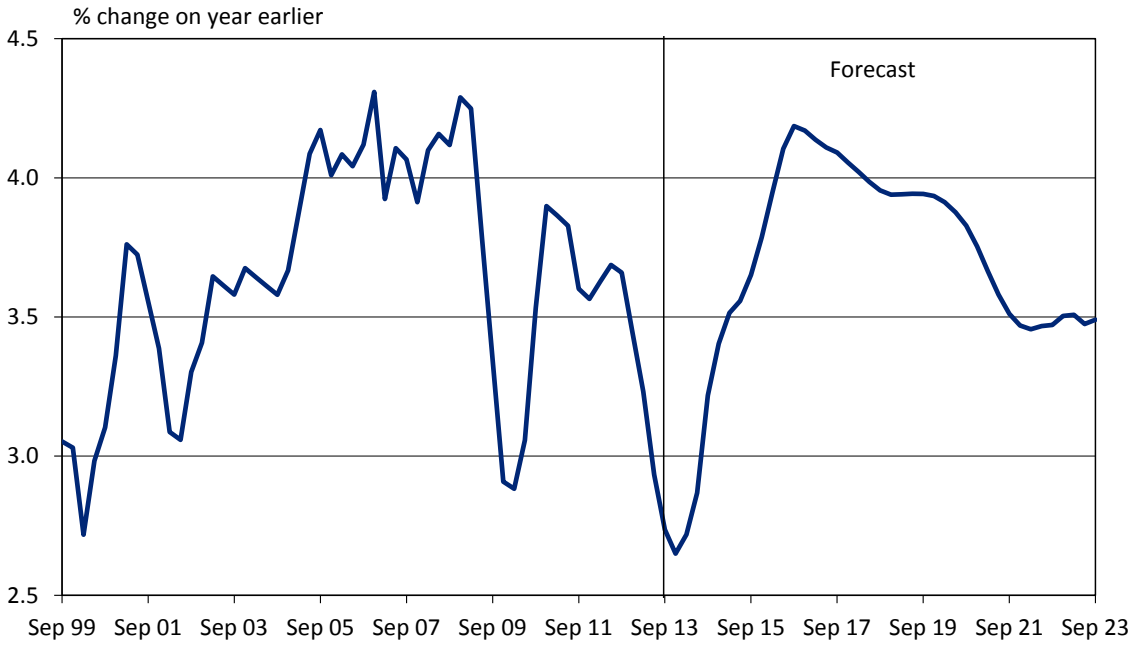
Source: Federal Treasury, *Pre-election Fiscal Outlook*, Deloitte Access Economics

6.3 The outlook for wage growth in Australia

The current pace of growth in **wages** is the lowest seen in a decade. As seen in Chart 6.4, the best general indicator of wage pressures, the Wage Price Index (WPI), grew by just 2.7% in the past year. That's a pretty modest outcome.

Wage growth has dropped to close to record lows in Australia as sluggish economic growth leads to weakening momentum in private sector wage gains, while tightening budgetary belts similarly slows wage increases in the public sector.

Chart 6.4: Overall Wage Price Index forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

That has occurred amid tightening differentials in wage gains across sectors and States. For example, wage growth is still low in NSW (at 2.3% in the year to the September quarter 2013), but it was fastest in South Australia (at 3.4%) rather than in one of the resource sector States. Similarly, professional services wage growth has fallen to 1.9%, with the fastest wage gains in Australia now evident in the utilities (at 3.4%) rather than in mining or in construction.

Yet it will be hard for wage growth to stay low for long. And nor will it require much extra strength in job gains to generate faster wage rises. After all, boomer retirement is now happening fast while, partly thanks to the latest round of roadblocks to be placed in front of temporary skilled migrants (those on 457 visas), overall migrant numbers are projected to stay well shy of their 2008 peaks. Add in the expectation that low interest rates may prompt slightly better news on the job front – especially from 2014 if the $A also eases – and wage gains may lift in 2014 and beyond.

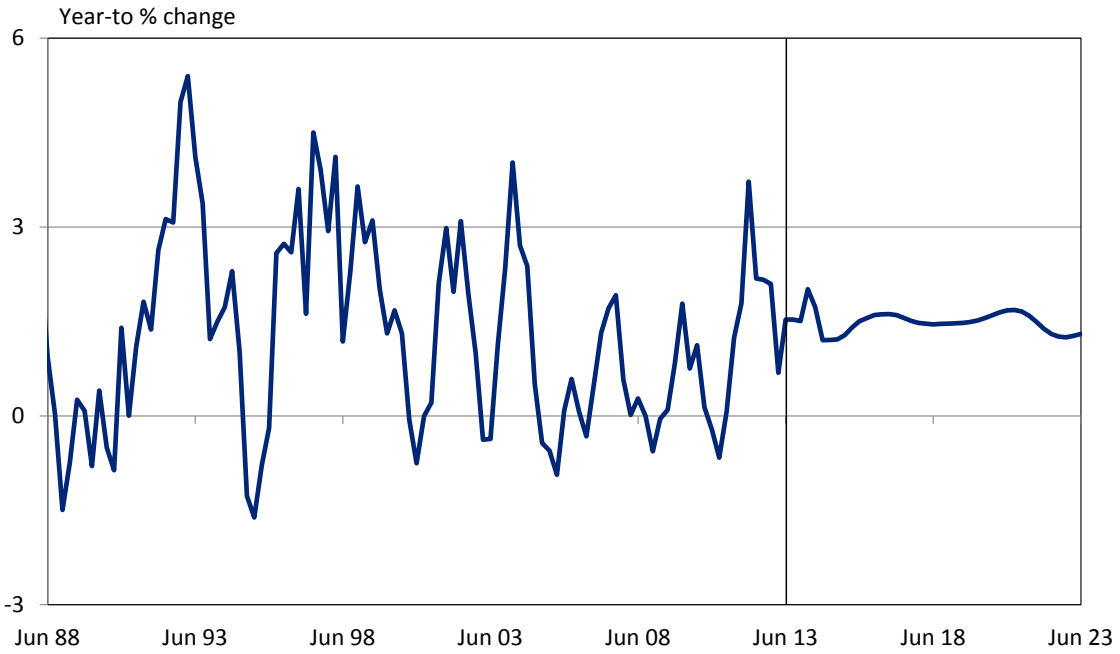
Moreover, the recent lift in labour productivity is helping to alleviate what has been the most concerning component if the inflation outlook – labour costs.

And that improvement in productivity gains is likely to have the Reserve Bank happier. It isn't that better productivity gains rule out inflation risks, but they do notably reduce them.

You can see the impact of lifting productivity on **labour costs** already. Labour costs were rising strongly in 2010 as Australia's economy was recovering from the GFC – with unemployment falling, wage gains on the rise and productivity busily going backwards. But fast forward to now, and the opposite holds true: economic conditions have lost momentum, the resultant profit pressures have fired up productivity gains, and wage growth has been edging down.

The upshot is labour costs are travelling at their slowest rate since the GFC. These forecasts do see something of a return to normality through the course of 2013 – the pace of wage growth picks up amid the boost provided by lower interest rates, while the recent surge in productivity growth also eases back. However, that merely returns labour cost growth to rates that don't notably threaten the outlook for inflation – higher than current lows, but not scarily so.

Chart 6.5: Productivity growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Table 6.2: National wage forecasts

Year ending March nominal wages forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Average weekly earnings	4.2	4.0	4.1	3.7	3.9	4.3	4.3	4.1	4.1
Ordinary time earnings	4.6	4.1	4.2	4.3	4.7	5.0	4.8	4.7	4.7
Unit labour costs	3.7	0.4	1.1	2.1	2.0	2.4	2.7	2.7	2.7

Year ending March real wages forecasts

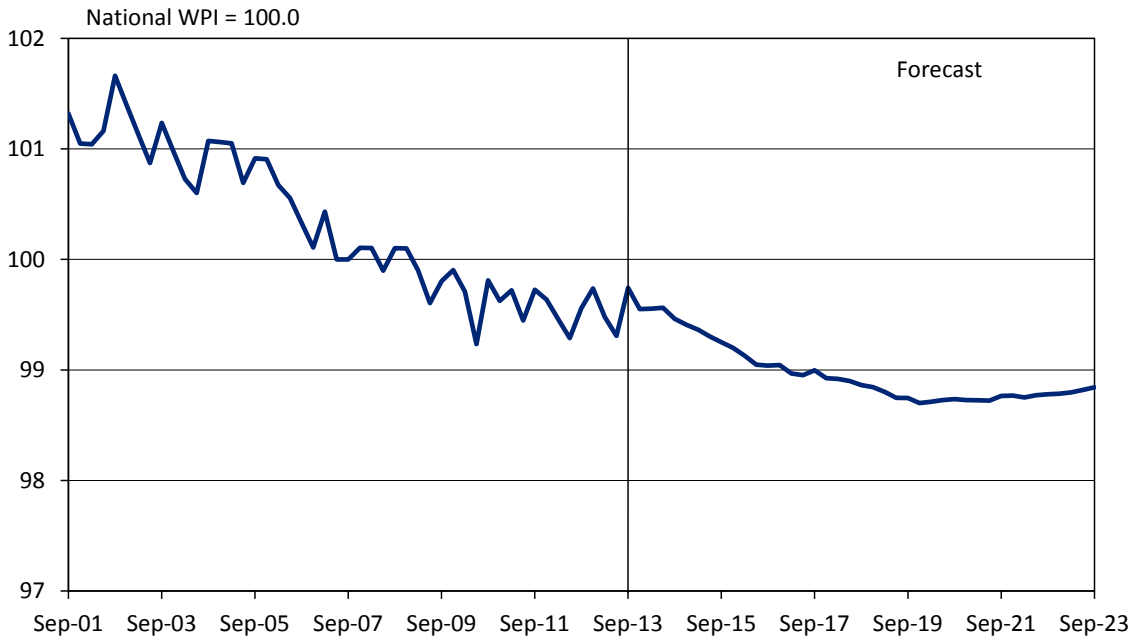
Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	0.7	1.5	0.2	0.8	0.8	1.2	1.4	1.5	1.5
Average weekly earnings	1.3	2.0	1.5	1.3	1.0	1.4	1.5	1.6	1.7
Ordinary time earnings	1.6	2.1	1.5	1.9	1.7	2.0	2.0	2.2	2.2
Unit labour costs	0.8	-1.6	-1.5	-0.3	-1.0	-0.5	0.1	0.3	0.3

Source: ABS, Deloitte Access Economics' Labour Cost model

7 General labour cost growth in Victoria

Victorian wages have edged down relative to those nationally for over a decade (see Chart 7.1). In the main that has represented strength in wage gains in the resource sector States – mining and mining-related construction has been good news for some regions, thereby swinging wage relativities in Australia as a whole.

Chart 7.1: Victorian WPI relative to national WPI



Source: ABS, Deloitte Access Economics' macroeconomic model

More recently, however, the relative downswing in Victorian wages versus their national counterpart has had more to do with the $A and its impact on Victoria. In effect, the loss of wage relativities of late has been less to do with 'good news elsewhere' and more to do with 'challenges on the home front'.

The underlying story, however, is much the same, with two negatives compounding to make Victorian projected wage growth lag behind its national counterpart for some years further yet:

- First, Victoria is not a resource State and so it did not benefit as much from the strong wage growth driven by the mining boom. And although the construction phase of the resources boom is turning down, it is not completely over, meaning that strong demand for resources workers will continue to have an impact on Victorian wage prospects into the first few years of the projection period.
- Second, and now more important, Victoria is dependent more on 'dollar driven' sectors such as manufacturing and wholesale than on 'interest rate driven' sectors such as

construction and finance. The announcement by Ford that it intends to shut its Victorian car making operations by 2016 is a case in point.

That said, there are two potential bright spots on the horizon:

- First, the Australian dollar will not stay high forever, and this will eventually provide some much needed relief for export industries and, more importantly for Victoria, import competing sectors.
- Second, there is an ongoing shift within Australian manufacturing to become more capital intensive. So while there may be fewer workers overall, the workers that remain will generally be highly skilled, which should provide some space for wage growth over the medium term.

These factors will take some time to feed through, with Victorian wage growth not expected to match the national average until around 2019.

More broadly, Deloitte Access Economics' estimates of Victorian economic growth relative to the matching national figure for Australia have seen a consistent erosion of this State's 'market share' of the nation.

A similar pattern of erosion has been evident in relative wages as well. Chart 7.1 above maps Victoria's WPI relative to that for Australia as a whole. As is true of consumer prices, wages in Victoria have risen more slowly than they have in Australia as a whole over the past decade. That trend reflects the relative concentration of economic strength in the resource States, which has added to both price and wage pressures in those jurisdictions relative to Victoria.

Although the decade long slide in Victoria's relative WPI is expected to continue through to 2019 (albeit at a moderated pace), there was a slight uptick in recent quarters. Part of this may be driven by union activity – two of the industries shown in Chart 3.1 for which Victoria's workforce is relatively over represented (administrative and rental services) have seen a strong rise in EBA-driven wage growth over the past year.

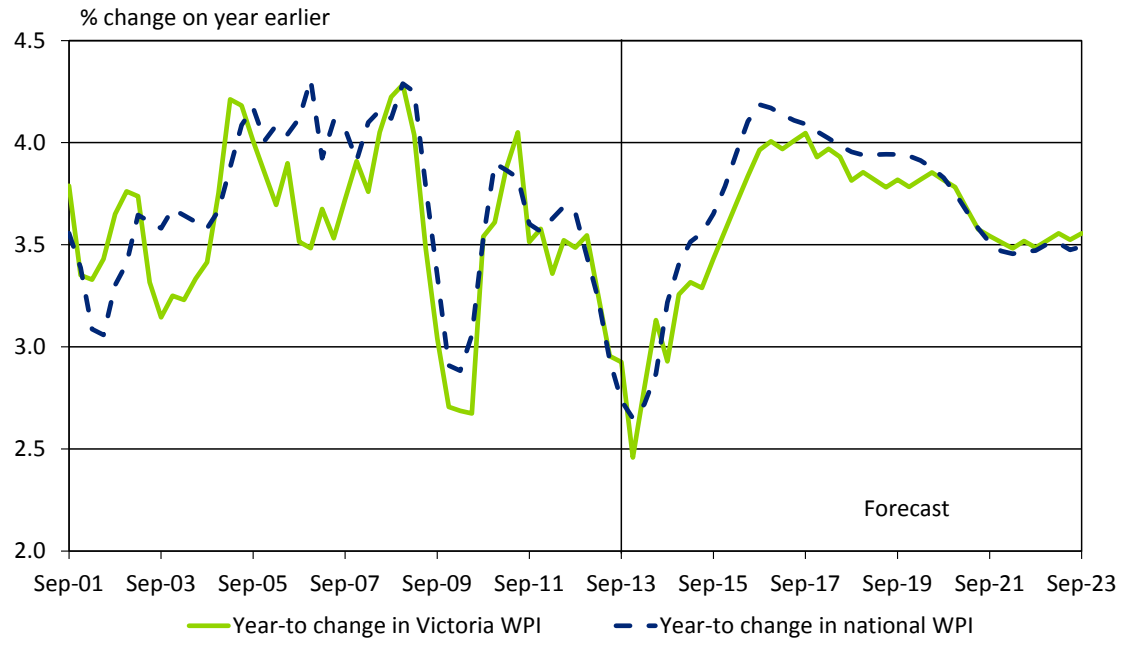
That said, a more likely explanation is simply that the downturn in wage growth nationally of late has been more severe than that seen in Victoria. Year-to growth in Victoria's WPI in September 2013 was 0.2 percentage points higher than the corresponding rate nationally (reversing the gap evident a year ago – also 0.2 percentage points, but in the other direction).

Beyond 2019 the relativity between Victorian and Australian wages is expected to settle. In general this reflects the slowing of the resources boom, which to date has seen wage growth in mining States such as Queensland and Western Australia well outpace that in non-mining States such as Victoria.

Importantly though, Victorian wage growth is expected to be below the national average for some years yet. In part that reflects the State's industrial make up: three of the State's top four industries shown in Chart 3.1 are likely to see slower wage growth than the national WPI over the projection period.

Further, while the mining boom is slowing, that sector's wages are still expected to grow faster than the national WPI over the next decade or so (just at a progressively lower rate).

Chart 7.2: Victoria general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Table 7.1 provides a summary of State WPI forecasts to through to 2020 in real and nominal terms. Additional measures showing expected wage growth after allowance for productivity growth are also given.

Table 7.1: State WPI forecasts

Year ending March changes in nominal productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	1.9	1.6	1.1	2.0	2.3	2.5	2.5	2.4	2.4
Victoria	2.3	2.4	1.9	1.5	1.9	2.3	2.6	2.8	2.8

Year ending March changes in real productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	-1.0	-0.4	-1.5	-0.4	-0.6	-0.4	-0.2	0.0	0.0
Victoria	-0.6	0.5	-0.5	-0.6	-1.0	-0.6	-0.1	0.2	0.3

Year ending March changes in nominal utilities sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.5	4.2	3.3	3.4	3.4	4.0	4.0	3.7	3.6
Victoria	3.9	4.3	3.7	3.3	3.4	4.0	4.1	3.9	3.8

Year ending March changes in real utilities sector Wage Prices

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	0.6	2.2	0.7	1.0	0.4	1.0	1.3	1.2	1.2
Victoria	1.0	2.3	1.3	1.2	0.4	1.1	1.3	1.3	1.3

Source: ABS, Deloitte Access Economics' macroeconomic model

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.

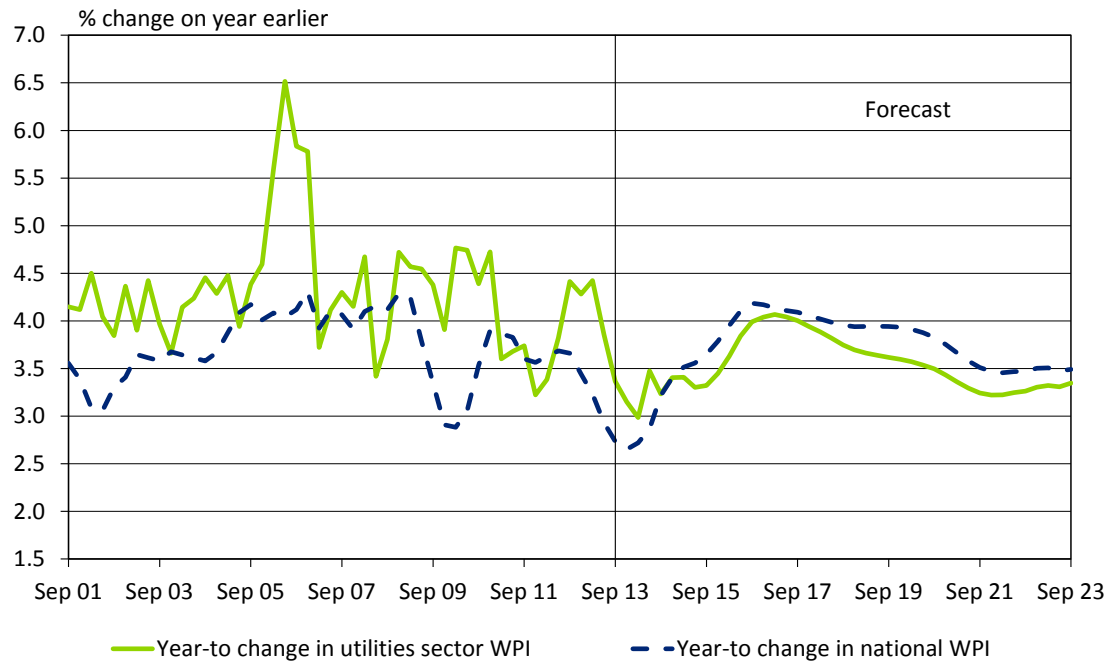
8.1 Recent and forecast growth in utilities sector wages

Wage growth is now faster in the utilities than in any other sector. The utilities sector WPI grew by 3.4% in the year to September 2013 (3.7% in the private sector, 3.2% in the public sector). Those growth rates are comfortably ahead of the national average rate of 2.7%.

Those relativities suggest that wage growth in the utilities sector has responded little to the general weakness in the Australian economy, or the specific – and rather more notable – weakness in the sector itself. In part that may reflect the lagged nature of bargaining in the sector, as well as the relative lack of pricing discipline exerted by imports.

On the other hand, although there has been no slowdown in relative terms, there has been in absolute terms, with sectoral wage growth already well off its recent peaks. In addition, the latest utilities WPI result is now lower than the growth in 'all current' utilities EBAs, as is also true of the latest round of EBAs. That points to further slowing in sectoral wage growth in the year ahead.

Chart 8.1: Utilities Wage Price Index forecasts



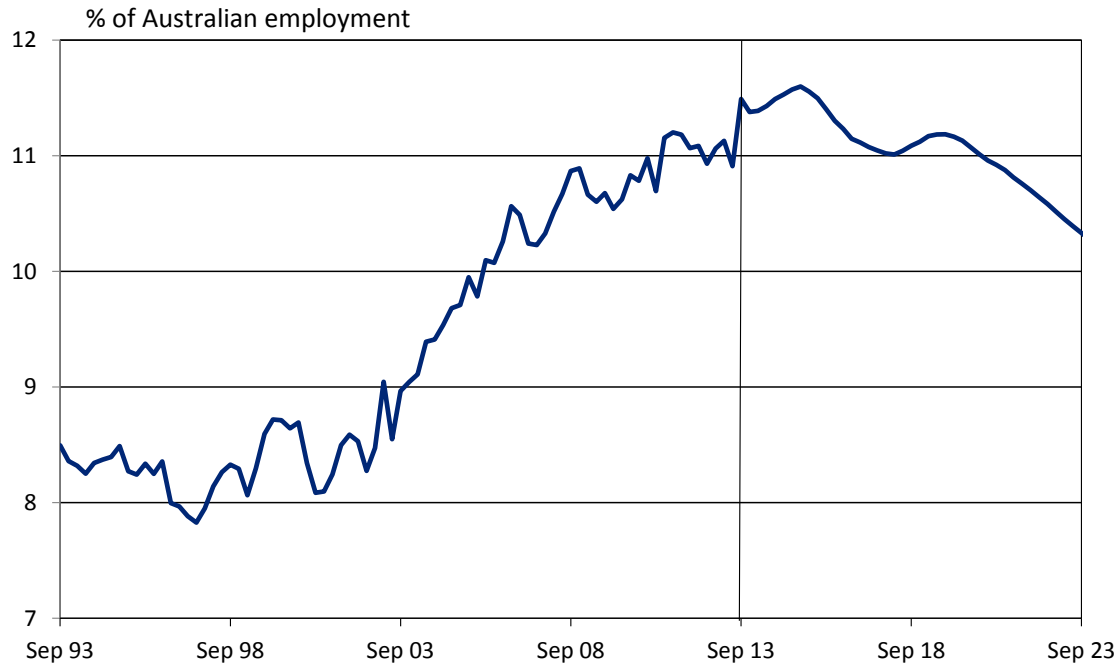
Source: ABS, Deloitte Access Economics labour cost model

What next? The slowing in wage growth in the utilities sector to date has been modest compared with that evident across the Australian industrial landscape more generally. Yet, as recent EBA trends indicate, further weakness is in the offing. Accordingly, although utilities wage gains are projected to remain above average wage gains during 2013-14, they are then forecast to modestly lag broader national wage growth over the medium term (see Chart 8.1).

That medium term story extends beyond the faltering momentum evident in current WPI and EBA data for the utilities sector. Rather, there are a series of factors in play that will help to determine relative wage gains in this sector:

- **Leading indicators point to further moderation in sectoral wage gains:** As noted, the WPI and EBA data are slowing. That starting point may not explain the projected ten year trend, but it does influence shorter term views.
- **Sectoral growth may recover from its current slump, but it is set to remain uninspiring:** The utilities sector is projected to continue to shrink as a share of Australia's economy and workforce in coming years.
- **Investment in new capacity has lagged:** The uncertain policy environments facing carbon and water pricing as well as the mandating of renewable energy targets has weighed on investment in new capacity. Other things equal, that will help cap demand for additional workers in the sector in the next few years.

Chart 8.2: Construction and mining employment



Source: ABS, Deloitte Access Economics' macroeconomic model

- **Alternative employers will fade as competitive options:** Much of the strength in wage gains in the utilities in the past decade makes sense when seen in the context of the surging job gains in both construction and mining – two key alternative employers for the workforce of the utilities. Yet as Chart 8.3 shows, the relative strength of this pair is very close to peaking. That will sap strength from wage growth in the utilities as well.

As such Deloitte Access Economics' view is for wage growth in the utilities sector to be relatively more subdued over the next couple of years as the competition for workers eases and as output growth in the sector remains modest (particularly in electricity).

Adding to the easing pressure on wage competition will be continued weakness in Australian manufacturing, which is shedding skilled workers that could ease any short term shortages evident in the utilities

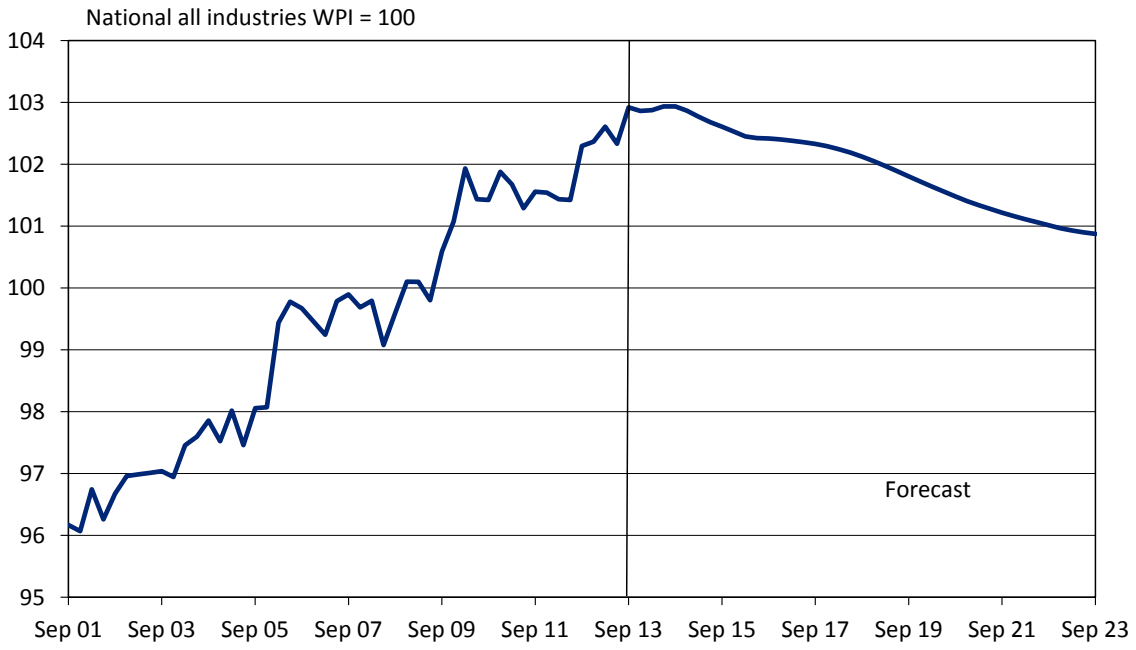
Moreover, weakness in manufacturing means not merely less competition for skilled workers, but also weaker demand from a key customer of the utilities sector itself.

Add in the ongoing demand adjustments occurring in response to the enormous lift in the price of utilities services, and it is hard to be too optimistic. After all, this sector is expected to grow more slowly than the Australian economy and its workforce as a whole. Under those circumstances, it is difficult to do anything other than expect the same to be true of utilities sector wages.

That set of factors is evident in recent wage growth determined in new EBAs for the utilities sector. That suggests a period of relative weakness in wage growth in the utilities lies ahead.

Chart 8.3 below illustrates the relative strength of utilities wages more clearly by comparing the level of the utilities WPI to the overall WPI.[2] Over the decade to 2010 the utilities WPI grew by 6 percentage points more than overall wages, with a very consistent level of relative increase over much of that period.

Chart 8.3: The utilities WPI relative to the national WPI



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

[2] 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.

Since the resources boom began Australia has seen rather healthier economic outcomes than those experienced by other developed nations. That relative prosperity owes much to the relative strength of commodity prices such as coal and iron ore across this period.

At the same time, the national economy has been running at close to full employment for a number of years, with labour shortages becoming a challenge facing many sectors closely linked to the unprecedented boom in resource-related investment. That helped wage growth over the past decade to easily outpace wage growth through the 1990s.

This story has been even more evident in the utilities sector, as the composition of the boom placed additional demand on the types of labour used in the utilities sector. Although the sector employs a mix of blue and white collar workers, it is interesting to note that a 2012 report by Suncorp found that, on average, wages for blue collar workers exceed those for white collar workers (Suncorp, 2012).[3]

Very high wage growth in the competing sectors of mining and construction pushed up wages in other sectors, including in the utilities. As a result, and as discussed in detail in Chapter 4, utilities operators found themselves competing for labour with the likes of mining and construction sectors, causing occasional skill shortages in the utilities sector.

Yet that dynamic is changing as the recent peak in resource-related construction weighs on labour demand in key competitor sectors. Indeed, recent results from new EBAs within the sector indicate a degree of weakness emerging in utilities wages alongside the recent peak in mining investment.

Accordingly, although it will continue to hold its own through 2013-14, that series of factors suggests the strong relative wage gains seen in the utilities sector in recent years will soon plateau and then ease back.

That said, the bulk of the relative wage gains of the past decade are projected to be retained – as Chart 8.3 also shows.

But why won't wages in the utilities keep rising faster than wages in other sectors – as Chart 8.3 shows has been broadly true over the past decade?

In part, that reflects our view that not only is competition for skilled workers from other sectors cooling, but the utilities sector itself is seeing modest growth prospects over coming years.

It also reflects our view that **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 as each move toward an equilibrium level. To assume skill shortages as a permanent factor – and to use them to justify further widening in wage relativities – is wrong and defies both economic theory and observed historical trends in wages movements.

Indeed, as argued below, the skill shortages which underpinned the outperformance of wage growth in the utilities in the past decade are in the process of reversing, with engineering

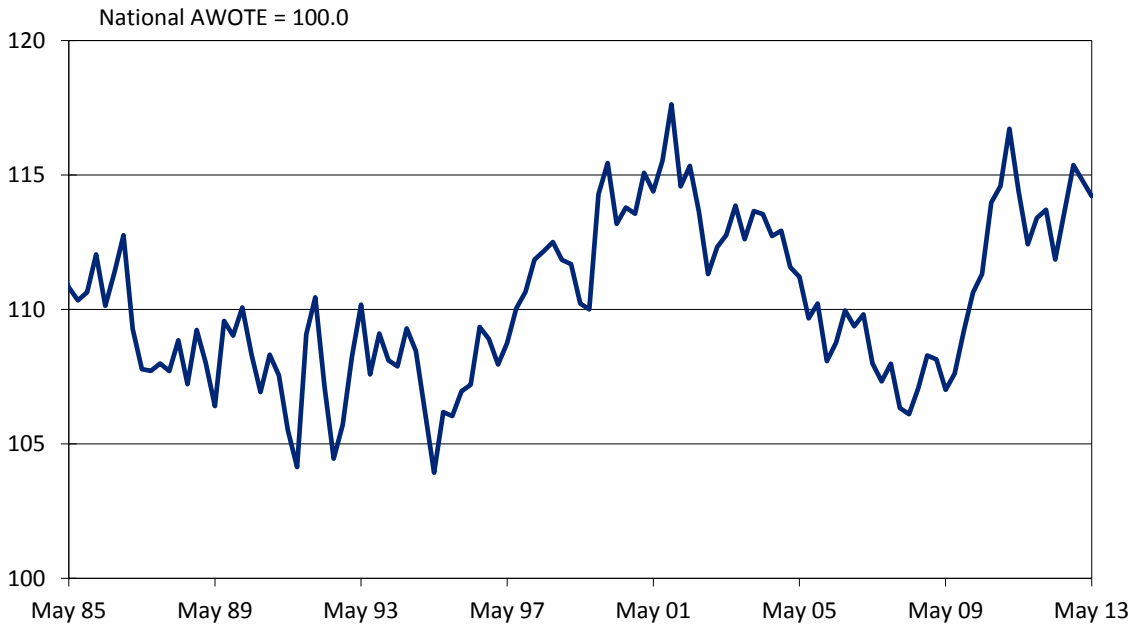
[3] Note this report does not represent the views of Deloitte Access Economics and applies a very broad, industry based definition to what is a blue or white collar worker.

construction work set to fall back notably in coming years (in contrast to its sharp climb over the past decade).

That should come as no surprise for those with a longer term view of the history of wages in the sector. Chart 8.4 is drawn from AWOTE data, and hence can draw on a longer run of history than does the WPI. (The latter has only been in existence since the late 1990s, and hence largely coincides with the period of the resources boom.)

Importantly, Chart 8.4 supports the 'business cycle' view of wage relativities in the utilities sector rather than the 'permanently increasing' view.

Chart 8.4: The utilities AWOTE relative to the national AWOTE[4]



Source: ABS, Deloitte Access Economics

8.2 Demand pressures on the utilities sector and its competitors

The Federal Department of Education, Employment and Workplace Relations (DEEWR) compiles detailed statistics on trade vacancies across Australia. Chart 8.5 shows vacancies across a number of key trades that are found in the utilities sector – engineers, metal workers and mechanics, construction workers, and electrical and telecommunications workers.

The impact of the GFC is obvious, with all sectors seeing at least a halving in vacancy levels (even more from those sectors that were particularly short of workers in 2008), but the movements beyond that slump have been more interesting. Construction vacancies – boosted by the rapid return of confidence around demand for mining output – began to lift much

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

earlier than other components, even approaching their pre-GFC levels by the second half of 2010.

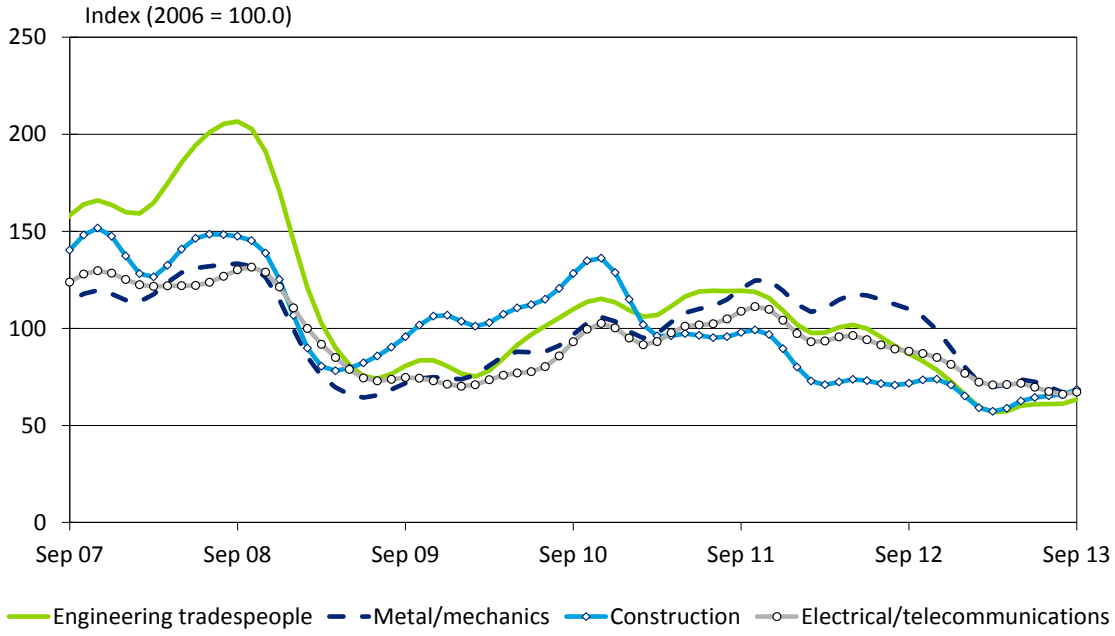
More recently the indicators of demand have all begun to ease back, leaving the major categories at or below the earlier trough in demand seen in 2009. A degree of continuing weakness in the housing construction sector has been an additional disadvantage for construction vacancies, and – despite some recent modest improvements – levels are low by recent standards.

The winding down of resource-related construction work has combined with concerns over the continued pace of demand from the NBN to see vacancies for telecommunications and electrical workers decline steadily through the year, with metal and mechanics demand limited by problems in the manufacturing sector.

Those negatives are likely to persist through 2014, even if negatives such as the high Australian dollar begin to upwind further, while the construction and engineering sectors show limited scope for further improvement in the medium term.

Those two components are, however, linked to sectors of the economy that are moving in different directions at present – with housing construction heading up but infrastructure construction easing. Given the volatility in both sectors, a change in the outlook for either could see demand lift or decline fairly rapidly.

Chart 8.5: Trades vacancies



Source: DEEWR Vacancy Report

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 more 'white collar' components of the building and engineering sectors that make up their managerial and professional vacancies (the white collar jobs) have shown similar movements

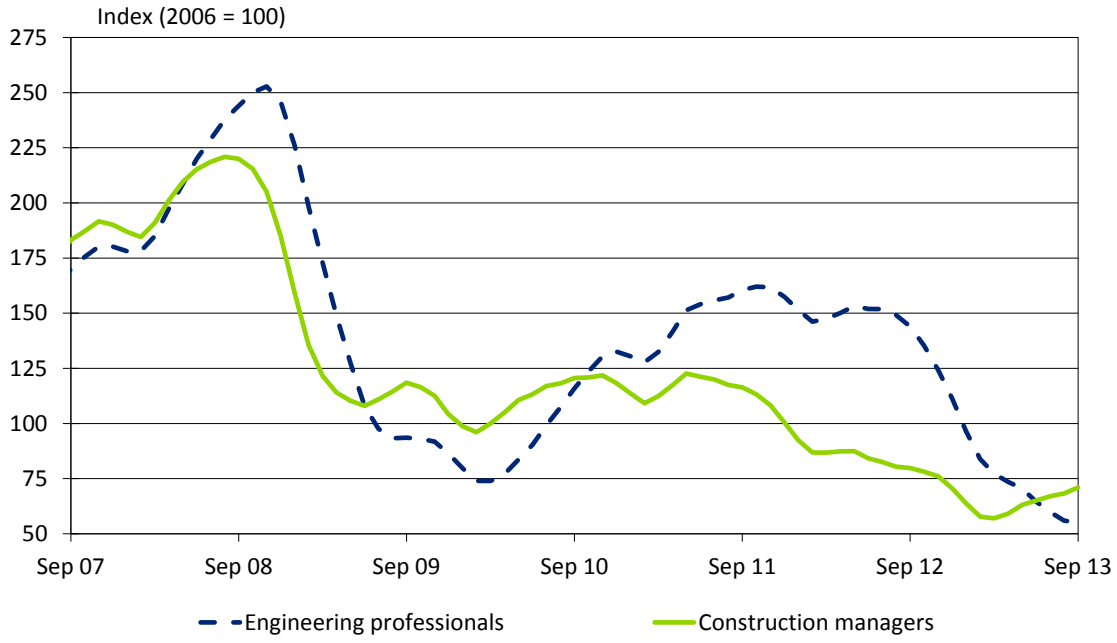
as seen above for the trades. This is not surprising and the two are essentially driven by the same factors.

It is true however that the movements are more volatile (that is reflected below in Chart 8.6 as a more pronounced upturn leading up to the GFC but also a sharper decline post GFC and a more recent slump in engineering professionals since the middle of 2012). While the smaller size of the workforce is, no doubt, a contribution to this volatility, it is also true that engineering professionals are more closely tied to the mining sector (with construction managers used across a relatively wider field).

Given the sharp swings in the drivers of the mining industry, the demand for new projects (or even the continuation of partially developed mines) can come and go relatively rapidly.

While the hoped-for improvement in housing construction – driven by solid population-driven demand and funded through low interest rates – will help construction managers the most, the decline in infrastructure investment will be a larger negative for engineering. That latter factor is likely to prove more significant given the sheer size of the current infrastructure demand peak, which should mean a slight easing in labour demand in trade intensive industries, and manifest as lower job vacancies in fields of potential relevance to the utilities sector for at least the next 12 months.

Chart 8.6: Managerial and technical vacancies in building and engineering



Source: DEEWR Vacancy Report

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.

8.3 Comparison with results from enterprise bargaining agreements

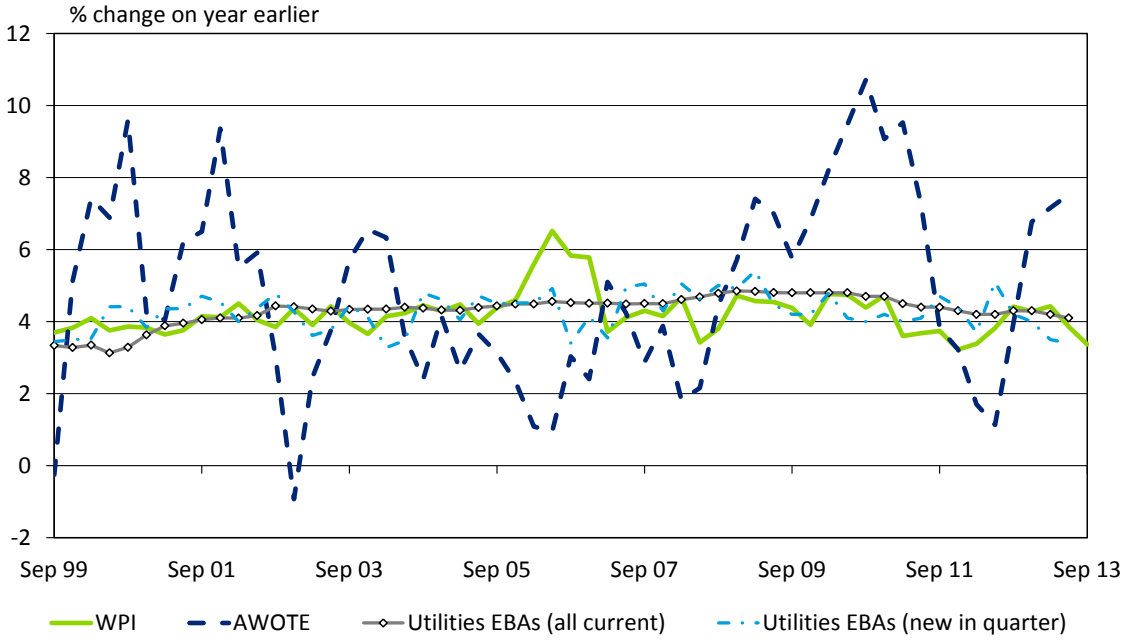
Chart 8.7 compares growth in the utilities sector WPI with a number of other wage growth measurements that are produced on a regular basis.

A measure of average weekly ordinary time earnings (AWOTE) for the national utilities sector is included as a comparator to the WPI. As Chart 8.7 shows, the AWOTE series is particularly volatile and is limited in its use in forecasting.

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 (EBAs):

- The first of these series (the 'all current' series) shows growth in wages under all enterprise bargaining agreements current during the quarter. Hence, movements in this series are expected to broadly flow through to the WPI series.
- The final series shows annual growth that will occur under any agreements commencing in the quarter shown. This series gives a better indication of the 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. These changes should therefore be a precursor to movements in the latter series and the path of future utilities WPI.

Chart 8.7: Measures of utilities sector wage growth



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

A key conclusion to take from the above is that EBAs in the utilities sector are a good predictor of the trend growth in the WPI measure, while the movement in the AWOTE have been generally unrelated to movements in the EBA series over time. Indeed, the recent rapid

increase in wage growth in the AWOTE measure comes at a time when wage growth under both current and new EBAs is slowing.

This slowdown in wage growth under EBAs is evident in Chart 8.7, and suggests some weakness in the utilities WPI in the immediate future.

9 The national outlook for wages in related industries

This chapter discusses the outlook for wage growth in the construction and administrative services sectors. These sectors have the potential to compete with the utilities sector to attract and retain workers.

9.1 Construction

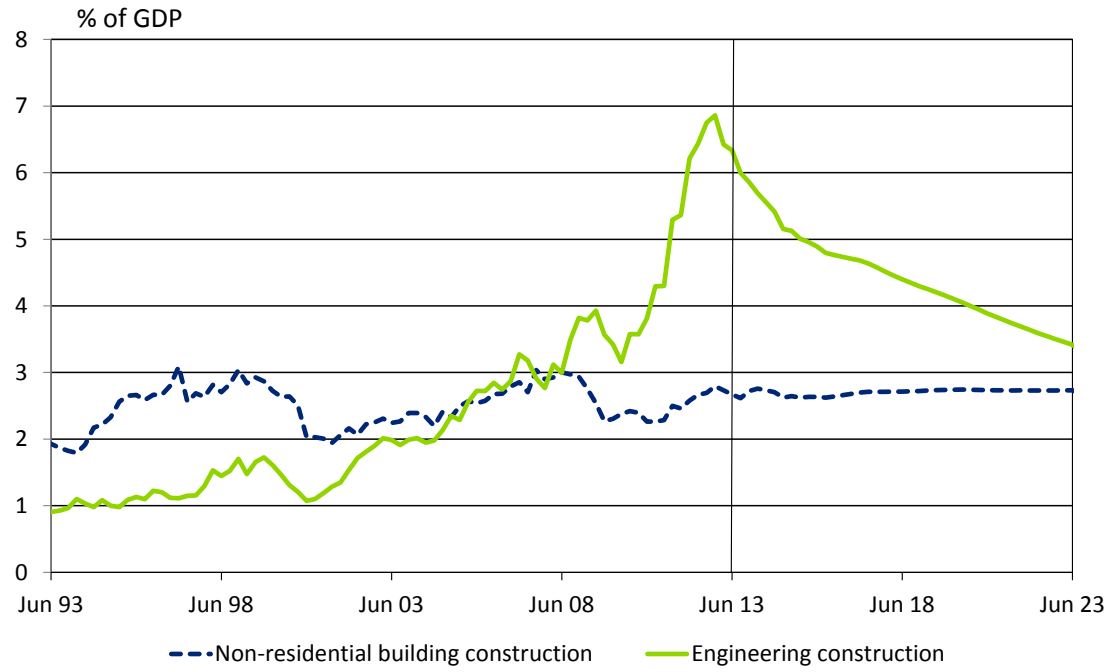
As noted earlier (see section 5.2), the key driver of Australia's outlook is the expected slowdown in mining-related construction expenditure, hence the outlook for the construction sector in general is one of general weakening.

The discussion below divides construction prospects across three main areas of work:

- Engineering construction
- Commercial construction
- Housing (residential) construction.

As Chart 9.1 illustrates, the **engineering construction** part of the wider construction sector has already begun to decline, with results across the first half of 2013 showing the first decline in this component relative to output levels since the GFC. This is expected to be just the start of an extended period where construction levels underperform the broader economy.

Chart 9.1: Components of construction – engineering and commercial work



Source: ABS, Deloitte Access Economics

The key investment negatives for the broader economy weigh relatively heavily on the engineering construction sector, namely:

- **Profits and prices** among industrial commodities such as coal and iron ore are down – and hence investment incentives have lessened;
- **Global demand projections** for future mineral and energy demand have been wound back – and are now much more in line with overall world growth expectations;
- Even with those demand expectations having fallen, there is a lot of **new supply** still to hit minerals and energy markets;
- **Costs in Australia** have increased, our competitiveness has lessened as a nation, and hence we are falling further back along the global investment pipeline; and
- **Non-resource investment** (a hoped-for saviour for this sector) hasn't taken off yet, and its short term prospects remain modest.

Those 'other investment' sectors – collectively, **commercial construction** – haven't shown signs of a turnaround yet, even with the boost that might be expected from current low interest rates – although it is unlikely that the full effect of the latter is being felt as yet. The ability of the construction sector to swing to these other areas will be a key determinant of their medium term performance given the lessened demand pressures from mining and the construction capacity that may release.

However, the outlook for this sector is moderate at best, with construction sector output growth of 1.8% of 2013-14 and just 0.4% in 2014-15, and with some sectors (notably offices) unwilling to boost capacity until vacancy rates decline.

On the other hand low interest rates will help the final component of construction – **residential building**. The Reserve Bank's moves are certainly aimed (at least partially) at sparking some genuine life into a sector that has declined sharply as a share of the national economy over recent years. While some of the decline in Chart 9.2 below is related to strength in engineering construction, the importance of the housing construction sector to the overall economy currently sits at a level similar to the post-GST shakeout.

That position is slightly odd given the growth in the fundamental driver of housing demand – the rate of population growth. Even though Australia's population is almost half as big again as it was in the early 1980s, the level of dwelling approvals currently sits at a similar level to that seen at the time.

Yet there are increasing signs of life in the housing construction sector:

- Leading indicators may not be jumping for joy, but there is evidence of higher housing loan approvals;

- Prices are rising, especially in Sydney, while auction clearance rates have shown strength. Prices often lift ahead of activity, because those higher prices convince people that it is better to build than to buy.

- The sections of national accounts that picks up the health of the real estate industry is suddenly surging, and growing very much faster than the pace of housing construction itself;

- Crucially, Australia's population growth is lifting once more. And although we can't claim to think there is a big nationwide shortfall in the stock of housing relative to the demand for it, it is true that population growth has been fast enough to mean the average number of people in a home is rising (rather than falling, as it has done pretty consistently for a century).

Chart 9.2: Components of construction – housing work

Source: ABS, Deloitte Access Economics

However, and as Deloitte Access Economics has noted for a long time, although demand fundamentals give good grounds for optimism, that's simply not true of the supply side. Land release remains modest, while planning approvals remain mired in red and green tape, and that combination is set to weigh even more heavily on the housing construction sector in the next few years.

9.1.2 Current WPI projections

Chart 9.3 shows that while the middle part of the past decade saw periods of very strong growth in the construction sector WPI, movements in the construction sector WPI have generally mirrored broader cycles in economy-wide measures.

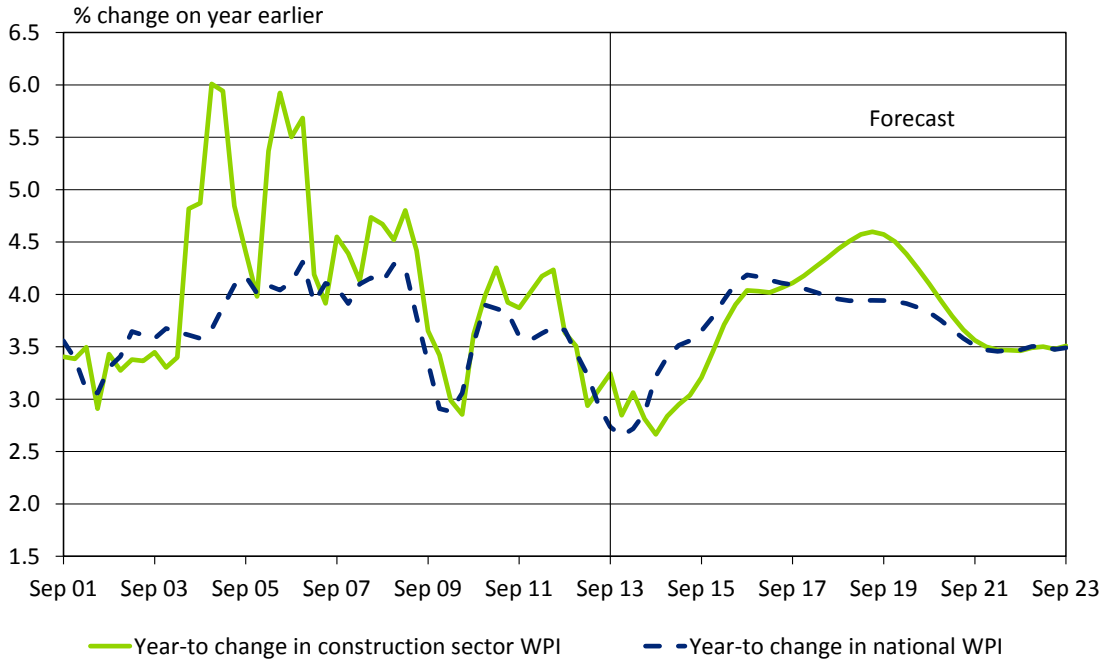
They have, however, tended to outpace the overall pace of WPI growth since the early 1990s.

This relative strength has been driven by three related causes:

- Demand for construction workers has risen sharply – that has seen wage rates bid up (the occasional surges in construction sector WPI reflect those times where a number of large projects has been starting concurrently); but
- Productivity growth in the sector has outpaced the national average – allowing the increase in wages to reflect the level of work done by each worker; and

- Wages growth in the mining sector, a key competitor for the workers in this industry, has also been strong – placing upward pressure on wages to help keep employees in the industry.

Chart 9.3: Construction WPI growth forecast



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

While the trends have been in line with what would be expected given economic developments, the length of time that the strength has been sustained is somewhat unusual.

For virtually the entire past decade, construction sector wages have grown at or above the national average (and sometimes very much above). That outperformance continued even through the downturn in 2008-09, a period where some of the excess gains of the years may have been expected to have been wound back.

Overall, the decade saw wages rise around 5 percentage points more than the average.

However, while growth remains ahead of the average, growth rates have declined sharply since early 2012. The latest data (for the September quarter of 2013) saw year-to growth in sectoral WPI at 3.2%, marginally higher than the 3.1% recorded in the year to June. National WPI grew by 2.7% over the same period.

The key to the outlook for construction from here will be the productivity performance of the sector. Access Economics' forecasts for the sector suggest the next three years will see the sectoral productivity performance ebb somewhat, which in the short term will be a drag on relative sectoral wages.

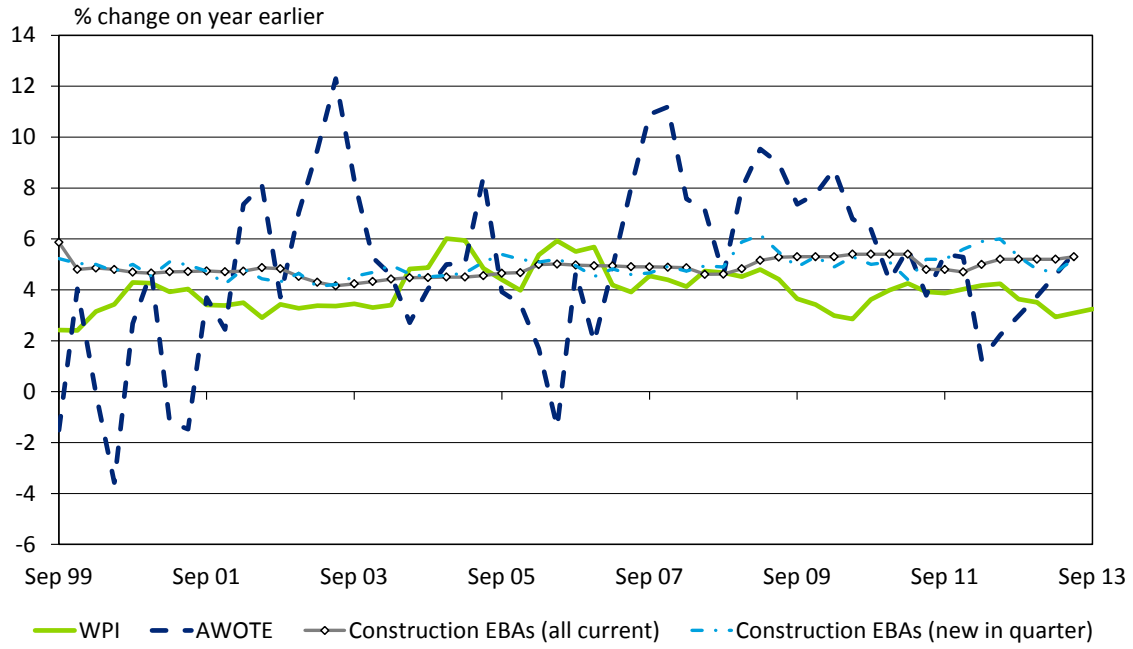
Eventually pressures from other sectors (both mining and utilities) will tend to force a wage response, lifting the construction sector's WPI in the longer term.

Construction sector wages are forecast to recover as overall wage rates do – but to lag behind across the next few years. The most recent results (for September quarter 2013) already mark part of the current decline, with year-to growth of 3.2% recorded. Chart 9.3 shows growth bottoming out at around 2¾% late next year, which would be the lowest year-to growth rate since 2000. Table 9.1 shows annual average growth rates, and shows that after the 3.6% growth in the year ending March 2013, the slower growth of recent quarters should see growth ease to 3.1% across both the year ending March 2014 and even further to just 2.8% over the following year. Growth should then pick up quite rapidly, both as underlying rates accelerate, and to keep pace with competitor industries – rising by 3.4% across the year ending March 2016 and 4.0% in the year after that.

9.1.3 Comparison with EBA results

Chart 9.4 shows the outcomes for wage growth in the construction sector as measured by EBAs, WPI and AWOTE. The construction sector is currently seeing wages under EBAs rising faster than any other industry in the country – with a 5.3% increase in the year to June 2013 representing a slight acceleration in growth, even as the overall rate of increase in EBAs across all sectors nationally edged down from 3.8% to 3.7%.

Chart 9.4: Measures of construction sector wage growth



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

This latest result continues a trend that has been developing since mid-2012 of an increasing gap between construction sector EBA increases (which have been accelerating slightly) and the general rate of increase in the economy (which have been decreasing modestly).

Not surprisingly, the rate of increase in wage rises under new EBAs has also been well above the national EBA average in recent years. While the data can be volatile, wage increases included in new EBAs in the construction sector have consistently run at around one-and-a-half times the increases included in typical EBAs across all industries, a gap that may have increased across 2013 to date.

On the other hand, while growth is still high, the increases in new construction sector EBAs have been slightly less than those embodied across all construction sector EBAs across 2013.

That development – with recent agreements seeing lower growth than the outstanding stock – points to the potential for some moderation in wage gains in the near term.

As Chart 9.4 illustrates, there is a very strong relationship between WPI increases in the construction sector and the matching increases in new EBAs. Indeed, the uptick in new EBA increases in mid-2013 has been matched by a slight increase in the pace of WPI growth in the latest results.

That said, it should be remembered that fewer than 15% of construction sector employees are covered by the EBAs included here. That figure has risen over the last two years (after falling sharply to just 11% in late-2011), but remains below the national average, and it is the lowest proportion of the key sectors considered in the report.

9.2 Administrative services

9.2.1 Current WPI projections

While construction and mining wages have tended to outperform the average during the good times and ease back in line with national trends in downturns, relative wages in the administrative services sector have tended to struggle relatively more in downturns (such as 2001 and 2009) and move more in line with other trends during stronger periods.

The recent period of relative slowdown in wage gains nationally has been less detrimental to this sector however, and recent results in administrative services have mirrored broader trends, with any underperformance in wage gains in the sector very minor. Indeed, relative to overall WPI levels, wages in this sector have fallen by only around 0.5 percentage points since 2006 once the seasonal patterns in the data have been accounted for.

As with many other sectors of the economy, most of that decline can be linked to either:

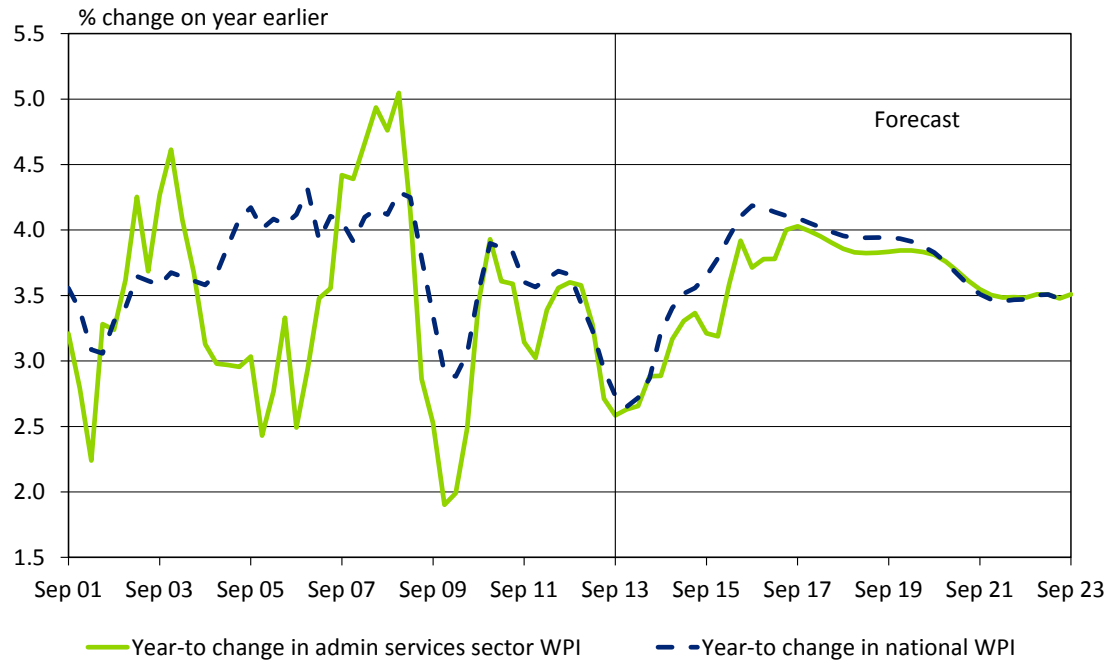
- movements in relative industry productivity; or
- the strength in construction and mining.

That said, an additional factor here is that this sector has been a relative beneficiary of the award modernisation process.

The strength in other sectors (which shows up both in terms of higher wages growth, but also through the declining share of economic importance of sectors such as administration services) has probably been more of an influence during upswings in the economy, whereas weakness in this sector has been more significant during economic downturns. As this sector has a relatively lower level of skills in the occupations found within it (for example, it has by far the largest concentration of the lowest skills occupational group of labourers and related workers of any industry – around four times as many as a share of its workforce than is the national average), many of the benefits of increasing skill levels throughout the economy do not flow to this sector. That limits both the ability of the sector to demand greater wages and maintain employment during downturns as some lower skilled occupations are affected.

That latter trend has largely stabilised since the worst of the GFC passed, with employment levels and wage growth in the admin services sector closer to (albeit still less than) the national average. That may reflect the ability of some parts of the administrative services sector to provide low cost alternatives to existing business arrangements that may previously have been undertaken by workers in other business services sectors.

Chart 9.5: Administrative services WPI growth forecast



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

That said, the past six months have seen wage growth in this sector ebb further of late, pushing sectoral wage growth below the trough seen in 2011 (but not yet to the rates seen in 2009). Growth in the year to the September quarter 2013 was 2.6%, down from a peak of 3.6% in the year to September 2012 and below the national average gain of 2.7% over the same period.

As Chart 9.5 above shows, growth in the WPI in this sector has eased steadily in line with overall trends across the past year. Remaining at or below the national average rate, WPI growth for administration services is expected to pick up from here. If that were to occur, the current trough in year-to WPI growth of 2.6% would be relatively minor compared to similar downturns in 2002 and 2009. Measured on an annual average basis (as in Table 9.1), wage gains for the admin services sector were equal to the national average across the year ending March 2013, but may fall marginally below the national average across the following twelve months (growing by 2.6% in the twelve months ending March 2014, against a national figure of 2.8%). As noted, annual wage growth will gradually accelerated, but remain 0.1 to 0.4 percentage points behind the national average during the upswing through 2015 and 2016.

In addition, the projection for wages across the medium term also reflects Deloitte Access Economics' view that the pace of growth in the administrative services sector's wages will be held back in relative terms by the sector lying on the wrong side of the longer term trend towards increased skill differentials in wages and salaries.

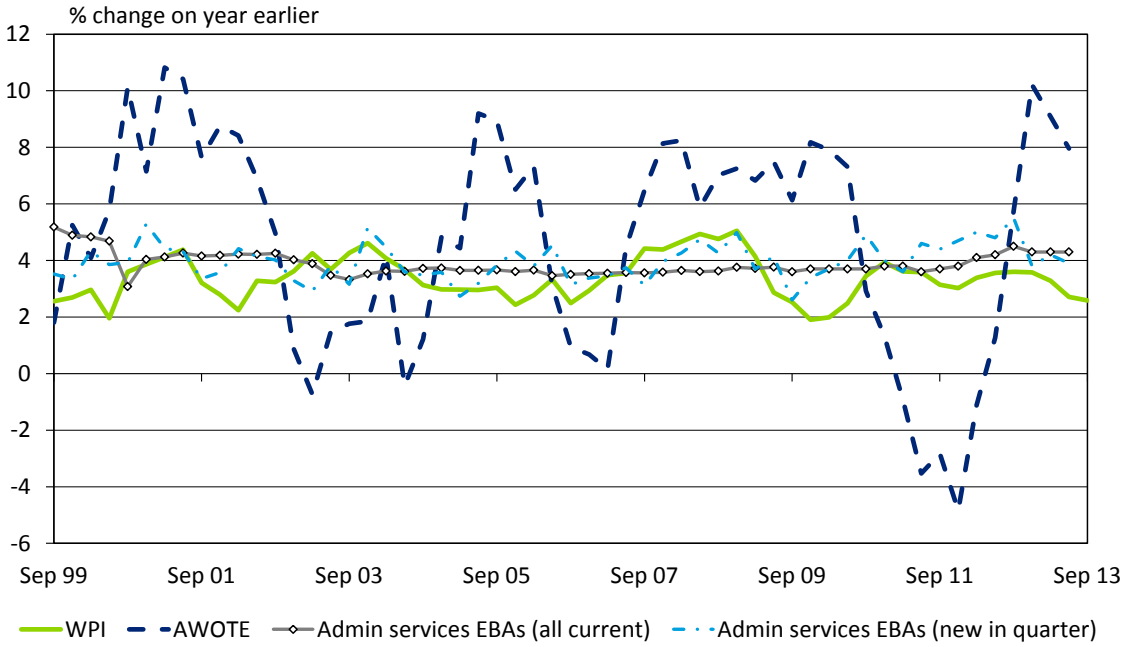
That will be more apparent if growth in the sector swings even further towards lower skill components of the sector – such as building cleaning and pest control – which would drive a further wedge in wage gains between this sector and the national average.

That said, the latter phase will not last forever, and wage growth in the administrative 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

As with the construction sector, data comparing wages growth from DEEWR's enterprise bargaining agreements database shows a strong correlation between WPI growth in this sector and growth in new EBAs. As Chart 9.6 shows, both measures accelerated across 2011 and 2012 before declining across 2013. The more recent WPI figure shows a further decline in growth rates.

Chart 9.6: Measures of administrative services sector wage growth



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

A fairly consistent share of this sector has been covered by EBAs over recent years. After surging in mid-2009, the proportion of sector employees under EBAs has hovered at around 18% of the employment base of this sector. That proportion is close to the overall national average of around 21%, but somewhat below the 30% share seen in the utilities sector. It also explains why the measures here – both current EBAs plus new EBAs lodged in the quarter – are a fairly solid indicator of WPI trends (as opposed to the extremely volatile AWOTE measure).

Wage gains in new EBAs in the administrative services sector were consistently strong from late 2011 to September 2012 – averaging close to 5%, before slipping back sharply to average close to 4% for agreements lodged in each of the last three quarters. The December 2012 result – the weakest since early 2011 – was the most significant for the sector as a whole because the agreements included at that time covered a relatively large number of workers as well as a relatively extended period of time.

The wage increases contained in all EBAs in operation in this sector steadily rose from around 3½% in 2009 to 4.5% in September 2012. However, they have since slipped back, largely due to the effects of the late 2012 agreements. Rates have remained ahead of the all industry average however, and have been stable through 2013 even as the overall average has declined.

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 sectoral wage forecasts

Year ending March changes in nominal national industry sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	3.7	3.5	2.8	3.3	3.7	4.1	4.1	4.0	3.9
Utilities	3.5	4.2	3.3	3.4	3.4	4.0	4.0	3.7	3.6
Construction	4.0	3.6	3.1	2.8	3.4	4.0	4.2	4.5	4.5
Admin services	3.3	3.5	2.6	3.1	3.3	3.8	4.0	3.9	3.8

Year ending March changes in real national industry sector Wage Prices

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	0.7	1.5	0.2	0.8	0.8	1.2	1.4	1.5	1.5
Utilities	0.6	2.2	0.7	1.0	0.4	1.0	1.3	1.2	1.2
Construction	1.1	1.6	0.4	0.4	0.4	1.0	1.4	2.0	2.1
Admin services	0.4	1.5	0.0	0.7	0.4	0.9	1.3	1.4	1.4

Year ending March changes in nominal productivity adjusted Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	1.9	1.6	1.1	2.0	2.3	2.5	2.5	2.4	2.4
Utilities	1.9	2.4	1.8	1.9	1.9	2.3	2.4	2.2	2.1
Construction	2.1	1.4	2.0	1.9	2.1	2.4	2.7	3.0	3.0
Admin services	2.2	1.3	0.9	1.9	1.9	2.1	2.4	2.3	2.3

Year ending March changes in real productivity adjusted Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	-1.0	-0.4	-1.5	-0.4	-0.6	-0.4	-0.2	0.0	0.0
Utilities	-0.9	0.4	-0.8	-0.4	-1.0	-0.6	-0.3	-0.2	-0.3
Construction	-0.7	-0.5	-0.6	-0.5	-0.8	-0.5	0.0	0.5	0.5
Admin services	-0.7	-0.6	-1.7	-0.5	-1.1	-0.8	-0.3	-0.1	-0.1

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

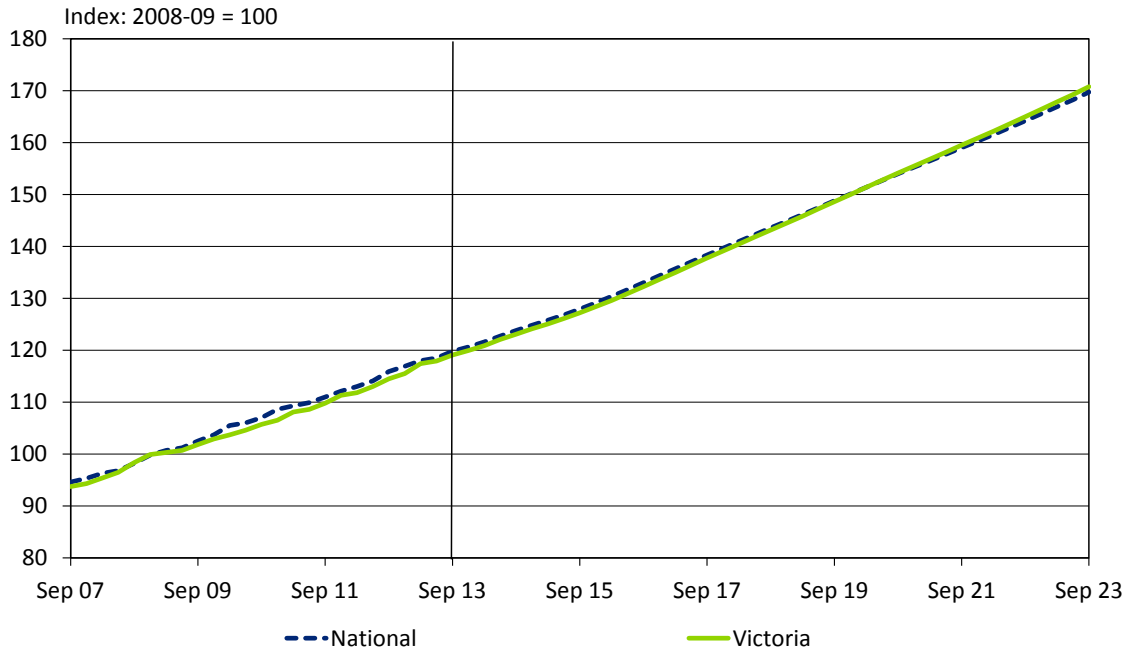
10 The Victorian outlook for wage growth in the utilities and in competitor sectors

This chapter sets out the projections for labour costs in the utilities sector in Victoria, and provides additional State level projections for the two additional industry sectors of construction and administrative services.

10.1 State trends

National trends by industry will tend to dominate at the State and Territory level over time – 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 – national and Victoria



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 – these lines look very similar in both history and forecast.

There can be deviations from State to State, with these differences driven by a combination of:

- **General trends in State wage growth.** Slower growing States will likely see slower WPI growth; and

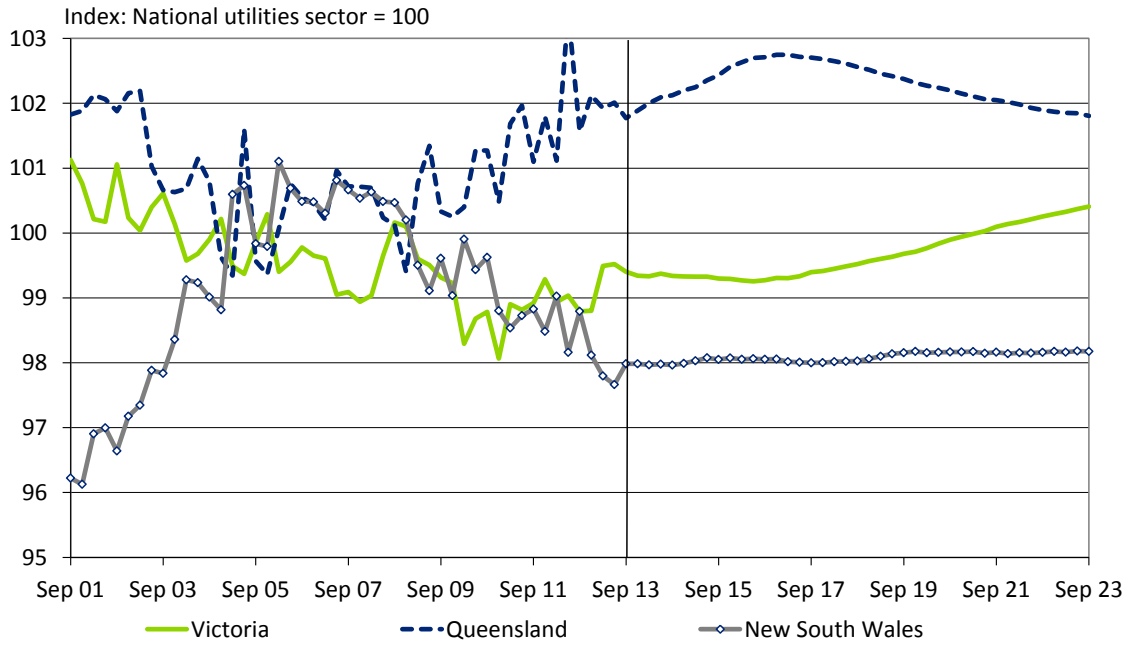
- **One-off factors that affect a particular industry** – such as movements in a specific award level or a single EBA, or a sharp swing in demand or supply for workers in that sector *and* in that State.

However, as we have stressed elsewhere in this report, there are limits to how far wage rates can deviate over the longer term – large and lingering relative swings in either direction will tend to be limited by competition between State and industries and the ability of workers to move towards better paying jobs.

10.2 Wage relativities across States in the utilities sector

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.

Chart 10.2: Relative utilities WPI forecast by State



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

In this chart the national utilities index at any point in time is set to a value of 100 and the index for 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.

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 specific strength in New South Wales. Wage gains in Victoria were more moderate than those in NSW through to 2005, and the State failed to keep pace with the mining States across the first (pre-GFC) mining boom.

[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.

In more recent times the flow-on effects from the Queensland and Western Australia mining sectors have been a more important driver of WPI growth. Utilities wages in those strong mining States has been growing particularly rapidly, helping to push down New South Wales' relative utilities sector WPI since mid-2009.

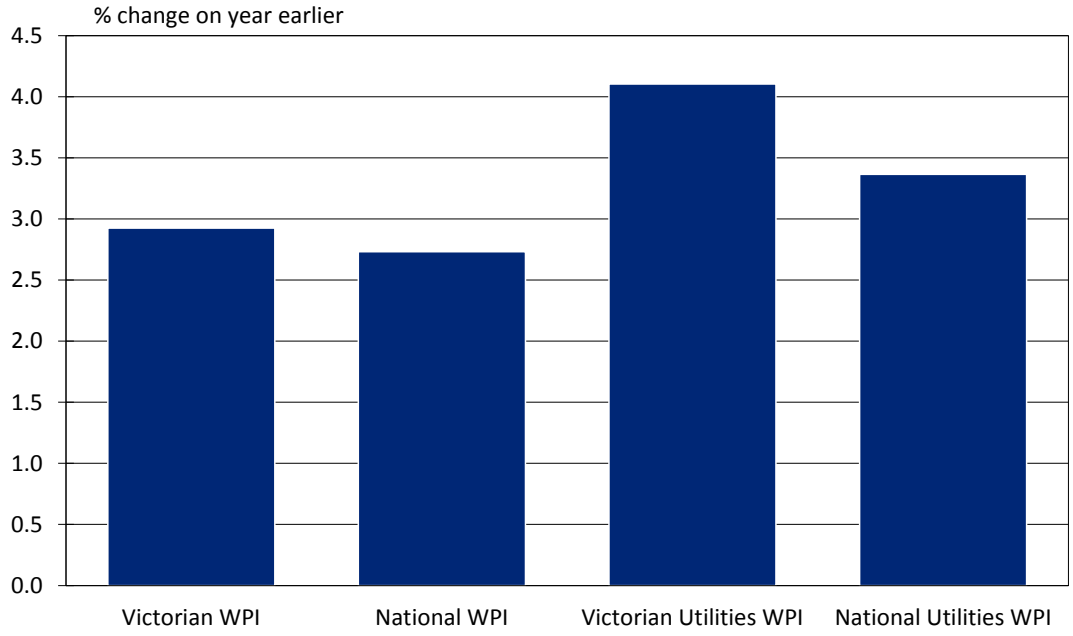
10.3 The utilities sector

Chapter 7 noted that, with the downturn in wage growth nationally of late more severe than that seen in Victoria, year-to growth in Victoria's WPI in September 2013 was 0.2 percentage points higher than the corresponding rate nationally. That reversed the gap evident a year ago – which was also 0.2 percentage points, but with Victorian WPI growth lower than national at that time.

Turning to the utilities sector equivalent of that comparison, year-to growth in Victoria's utilities WPI in September 2013 was 4.0%. That was 0.6 percentage points higher than the corresponding rate nationally.

In contrast, the matching figures a year ago saw year-to growth in Victoria's utilities WPI in September 2012 at 4.3%, which was 0.1 percentage points lower than the corresponding rate nationally.

Chart 10.3: Comparative WPI growth rates in 12 months to September 2013



Source: ABS

Or, in other words:

- Victorian wage growth has decelerated less than it has nationally, and
- That is particularly true of the utilities sector, where wage growth has seen little by way of moderation.

As a result, Victoria's relative standing versus other States in utilities sector wages has been relatively more stable than some others across the past decade, arresting the slight decline that strong NSW wage growth helped drive through the early 2000s. In addition, the arrival of the GFC meant a significant decline in pressure from wage growth in local competitor industries – notably the stumbling automotive manufacturing sector – cut into competitor wage demand for a time in Victoria.

However, several of the trends that drove the wedge between the growth rates seen in the mining States and those seen in Victoria have been unwinding (or at least stabilising) for a couple of years. For example, the construction- and mining-driven strength in wages in the resource sector States of recent years may be less obvious in the next few years as the construction phase of the resources boom loses some strength. That is why Chart 10.2 earlier shows a moderation in Queensland's gains over coming years.

Chart 10.4: Relative utilities WPI forecast for Victoria

Source: ABS, Deloitte Access Economics labour cost model

The forecast profile in Chart 10.4 shows Victoria's relative utilities WPI measure largely consolidating its recent gains (relative to the overall utilities sector WPI level) over the next few years. There is a slight decline in the ratio driven both by the general trend seen for the State's total WPI rate, but also an expectation that the recent upswing has been slightly faster than expected (and hence there may be a slight 'reversion to underlying trend' in the next year or so).

In part that is because the March quarter 2013 data showed a sharp spike in relative sectoral wages that has eased slightly in the two subsequent quarters, and we believe this easing trend has a bit further to run. As a result the short term shows a modest easing in relative wages in Victorian utilities versus the national utilities sector.

However, in the longer term we expect Victorian utilities sector wages to outpace the national average for the sector. Indeed, by the early 2020s the Victorian measure is back at a level

which implies that, by that time, all the "relative ground" that the local utilities sector WPI has lost in the past decade will have been caught up again.

Deloitte Access Economics would still note, however, that this "local growth" occurs across a period where growth in the utilities sector nationally will be lagging the overall rate of WPI increase. Accordingly, what the State's utility sector workers gain in relative terms on the one hand (that is, better growth than utilities workers in other States), they will tend to lose in relative terms on the other (that is, slower than WPI growth in other sectors).

As always, it should also be noted that 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. For example the jump in relative Victorian utilities sector WPI seen in March 2013, while reflective of the general trend we expect, has already unwound slightly and it is expected to do so further across the next couple of years. This may imply movements in recorded data that move against what might be expected from the underlying economic drivers.

That means that forecasting growth rates based on a point-to-point comparison of results can be volatile. **For that reason Deloitte Access Economics recommends that it is better to concentrate of the longer running underlying trends indicated in Chart 10.2 and Chart 10.4.**

Following a post-GFC slump, official ABS data saw a gradual acceleration in Victoria's utility sector wage growth from around 3% in the year to September 2009 to 5% in the year to March 2013. As Chart 10.7 shows, this saw sectoral wages accelerate away from the overall rate of State wage increases, and saw them catch-up to, and eventually, move ahead of, the national average for utilities.

In part, this final trend has occurred as the Victorian utilities sector has begun to catch up some of the ground lost to other States during the mining boom years.

But the growth is not all "catch-up". Across this period the State's utilities sector has been increasing its share of Victorian employment, suggesting that strengthening underlying demand for workers in the sector has contributed to the relative strength of wage growth.

In part that is a supply side story – employment in the Victorian utilities sector has risen amid project completions in key utility infrastructure projects, including the newly completed Wonthaggi desalination plant and Melbourne Water's $220 million main sewer replacement from Swallow Street (near Beacon Cove) to Wurundjeri Way at Docklands.

Moreover, these projects do not mark the end of work across the State. City West Water is installing a dual water supply to West Werribee, while Melbourne Water is working on the St Albans to Werribee pipeline. It is also working on the Greenvale dam, and will shortly start work at the Western treatment plant.

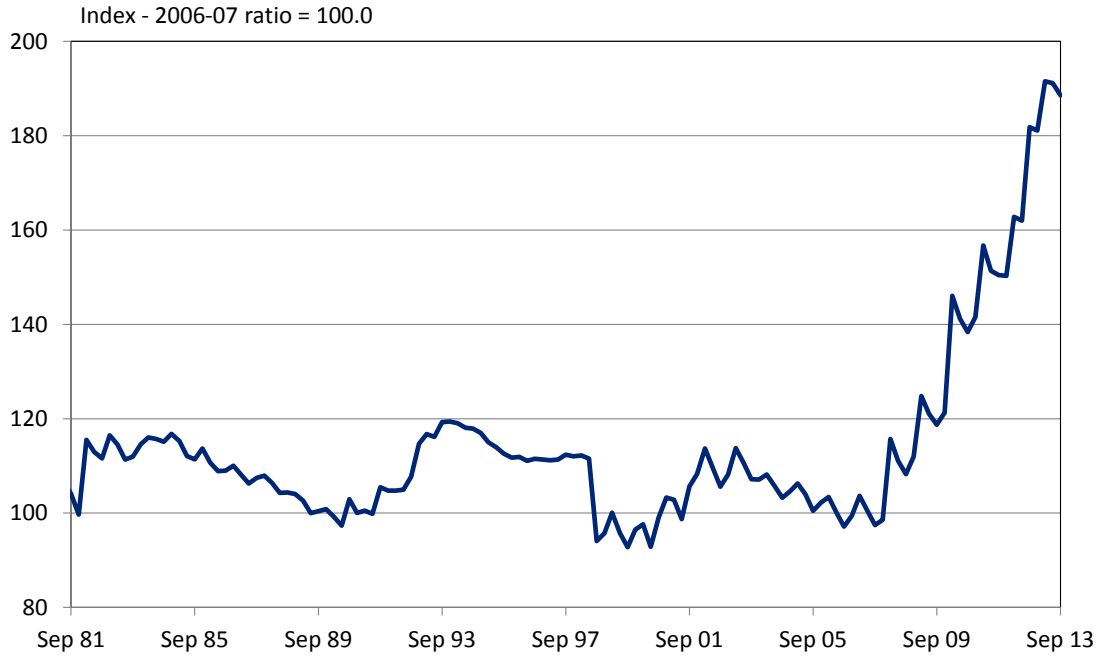
Accordingly, those trends – boosting employment thanks to supply side completions, rather than demand side growth – are expected to continue through the rest of 2013 and into 2014, supported by further expansion in the utilities sector, such as the upgrade the Eastern Treatment Plant at Carrum. In the energy sector, works continue on the $450 million, 52 turbine wind farm at Bald Hills near Inverloch and on the $1 billion, 140 turbine wind farm near Macarthur.

However, despite the utilities sector's construction pipeline and its implications for the supply side of this sector, the demand outlook remains modest. As noted above in Chapter 4, weak prospects for output in the utilities will continue to hamper employment prospects in the sector, particularly if recent trends toward reduced electricity demand are maintained.

As noted earlier, electricity price increases have massively outpaced the general rate of inflation in Australia over the past six years. In the case of Victoria the gap is even larger, because since 2006-07 electricity prices have almost doubled in real terms.

This effect is even more starkly seen when compared with the longer term comparison stretching back to the 1980s shown in Chart 10.5. That chart indicates that, from the start of available records in 1980 up until 2007, movements in electricity prices broadly tracked with overall inflation.

Chart 10.5: Melbourne electricity prices relative to total Melbourne CPI

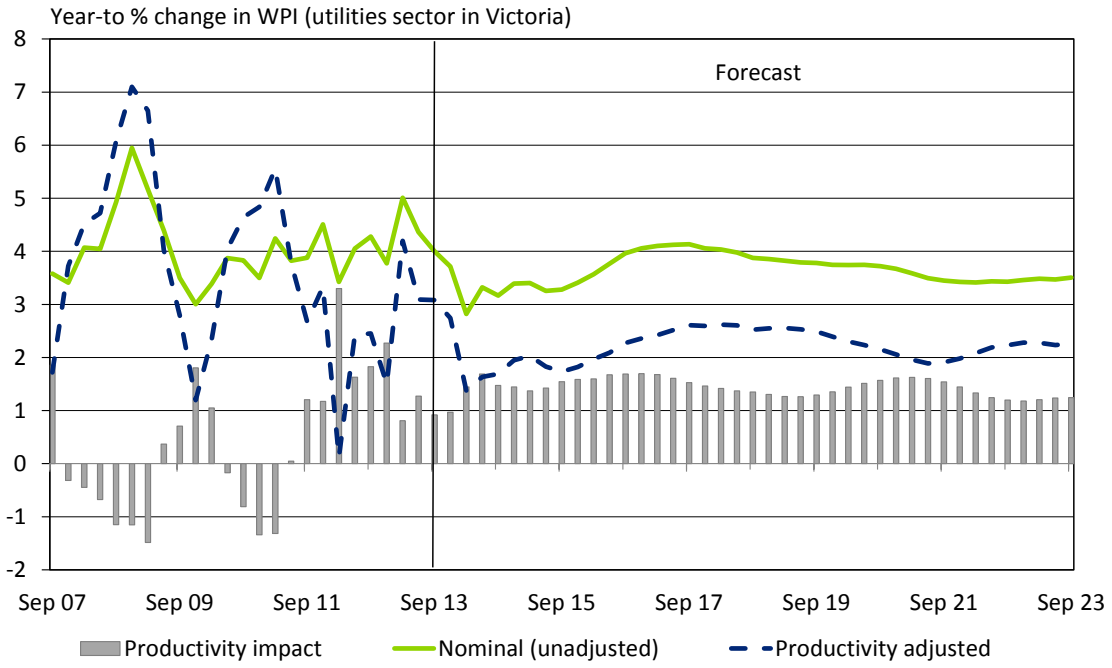


Source: ABS

However, they have leapt in the past six years, rising by 91% more than general price levels over than time (well above even the 74% gap seen nationally).

While we do expect a reversal – at least for a time – assuming the removal of the carbon tax from mid-2014, not all the increase over recent years can be linked to that one policy. While some factors (such as mandatory targets for renewable energy) may also fade as a generator of upward pressures on prices, other factors (such as targets for reliability for supply) may remain an issue. Overall, the price pressures on demand levels are likely to remain significant, although they should be less significant (and less likely to be rising as rapidly) that in recent years.

Chart 10.6: Victorian utilities WPI forecasts



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

Other factors in the outlook remain unchanged:

- While there may be some relief as the Australian dollar drops back, the outlook for Victoria's manufacturing sector is still weak – the loss of Ford's production out of Geelong from 2016 is one such example. Not only will the increased availability of skilled manufacturing workers cut into wage pressures across several sectors, the fall in customer demand as a result of the auto sector's decline will drive will lower output from the State's utilities sector.

- Although it is a less important factor in Victoria than it is in other key States, engineering construction employment is now also heading into a period of much greater uncertainty.

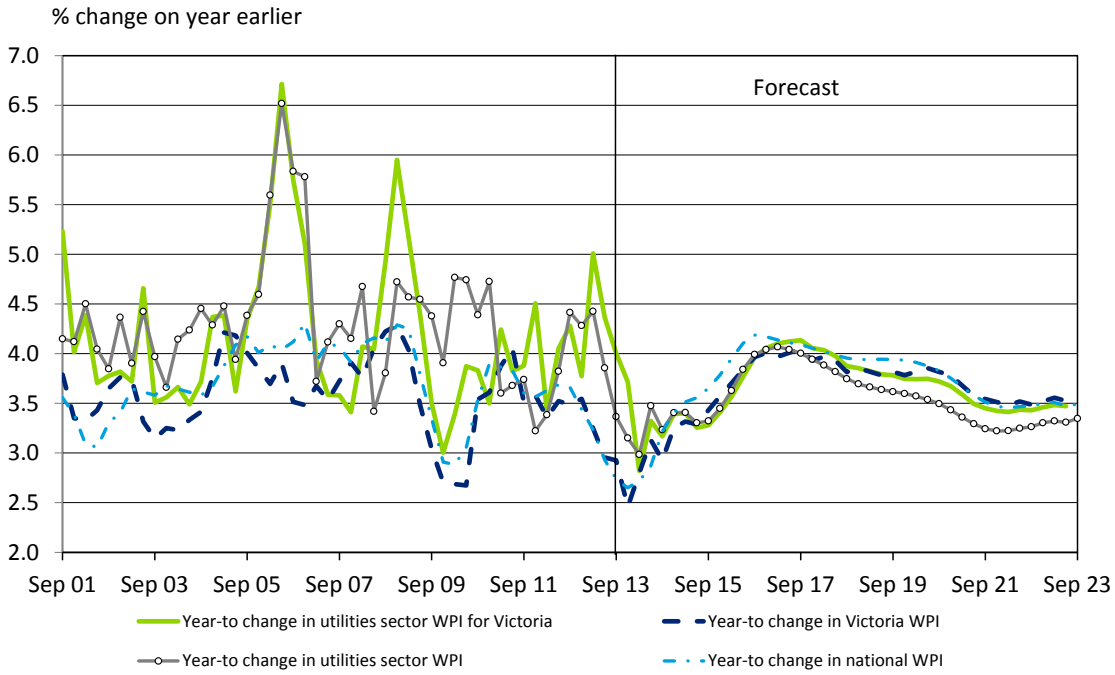
- The construction sector in Victoria is cooling both because of trends in engineering construction, but also due to weakening housing demand. In addition, Victoria's housing sector will see a relatively muted recovery in the coming years due to the relatively solid growth in housing seen in the past – unlike some other States where significant recent 'underbuilding' of new homes will tend to lift demand.

All three of these factors mean both less demand for utilities and less competition for utilities workers – both leading to the conclusion that wage pressures emerging from these sectors will tend to fall back. That trend will be more evident in Victoria than in Australia in general, particularly with the State's manufacturers exposed to an Australian dollar that is projected to fall, yet still to remain uncomfortably high for some time.

Overall, that means further easing in the State's utilities sector WPI as shown in Chart 10.6. All wage measures are easing in parallel at the moment (utilities from a higher position following strength at the end of 2012) with the Victorian economy under pressure. Overall WPI growth in the State and nationally has easing below 3% from the 3½% seen in in 2012 and are both

tipped to fall to 2½% in year-to terms by year's end. Utilities too should fall further – although the 'trough' in year-to Victorian utilities WPI growth at below 3% partially reflects the recent spike and the 'smoothed' trough is closer to 3¼%.

Chart 10.7: Victorian utilities forecast comparison



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

Comparing the State's utility sector to the other relevant wage growth rates shown in Chart 10.7, WPI growth should return to the catch up for past underperformance that we have seen since 2011 from around 2016 onwards.

As noted above, that will coincide with a period where the recent strong outperformers (mainly Queensland and Western Australia) are projected to fall back towards the national average in terms of wage growth. As a result, the State's utilities sector WPI will be rising far more closely in line with the overall State WPI growth rate than the utilities sector nationally.

Chart 10.8 compares the growth in Victoria's utilities sector WPI with partial results from Enterprise Bargaining Agreements. The general trends across the three measures showed a gradual easing from around 4½% across 2011 to closer to 4% by the end of 2012, although the WPI results (which are unadjusted ABS estimates) have been more volatile than the rates implied by all current EBAs.

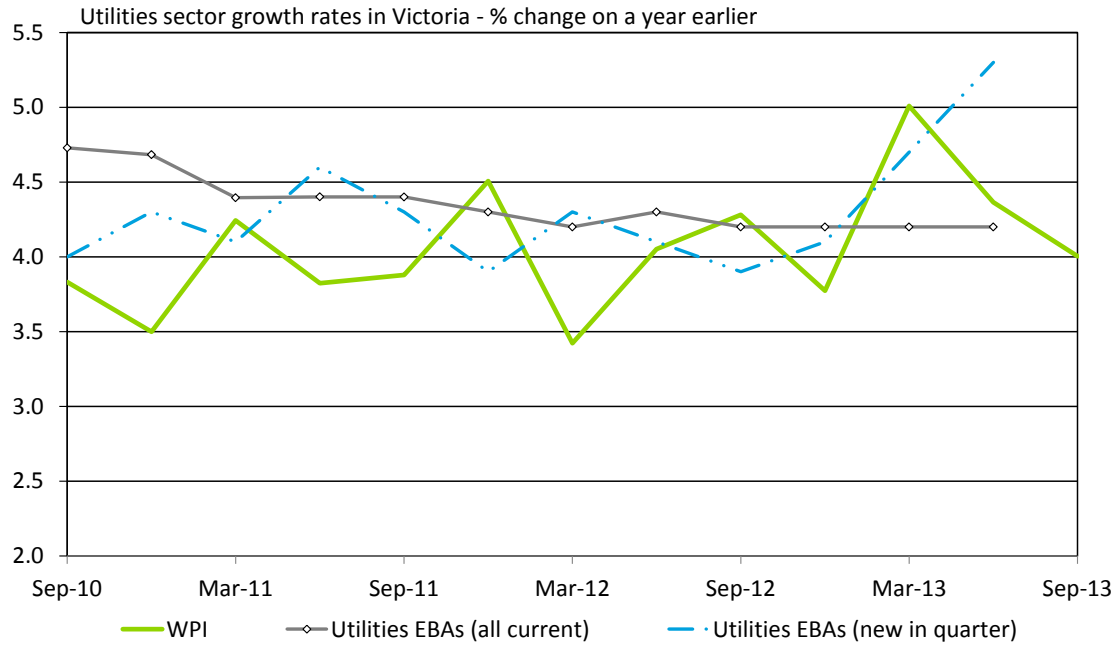
Trends across 2013 have been less consistent, both in comparing different measures, and also across each quarter. As Chart 10.8 shows, wage rises included in new EBAs have accelerated sharply across the year – with the June quarter 2013 data showing a 5.3% rise in wages. That moved against the sharp decline in the measured WPI for the same period.

In this case, the small number of agreements and number of workers covered by these agreements is a key point – the June quarter agreements covered just 200 workers, a fairly small proportion of the sectoral workforce (8,800 Victorian utilities workers are covered by

EBAs in total, and typically more than 1,000 workers are covered by new EBAs each quarter, rather more than the 200 in this sample).

So, while the new EBA results would appear to be at odds with the WPI result, the underlying data for all agreements – which has remained stable – is likely to be a better indicator of wage pressures at the moment. As we have stressed previously, the relative strength in local utilities wages is not unexpected, but the absolute size of the leap is, and underlying growth is probably less than this single result for the Victorian utilities sector WPI otherwise implies.

Chart 10.8: Comparative measures of wage growth in Victorian utilities



Source: ABS, DEEWR

10.4 The construction sector

For a State with relatively fewer natural resources, Victoria's economy has mostly been a consistent success story across the past decade. That has both been driven by, and fed into, the State's solid construction sector performance, with most components of construction activity carving out an increasing share of the national pie, or at least holding their own.

At the fundamental level, the combined strength of the State's population and employment growth drove a long surge in both housing construction, thanks more to developments on the population side, as well as in infrastructure investment. Much of the latter was related to population (and indeed, to help service the rapidly expanding housing sector), but other components, such as office development, driven by growth in employment.

That surge was able to continue for a relatively long term for three reasons:

- It followed a period of significant State underperformance;
- New South Wales entered a period of significant economic underperformance itself, but was unable to deal with the relatively high mortgage costs faced by its residents. As a

result, a long running exodus of people from that State to Victoria helped sustain the local housing boom; and

- Even as demand lifted, Victoria managed to keep its office space, industrial land and housing relatively more affordable than in other markets.

So, not only was Victoria able to steal a march on its northern neighbour, it also managed to it keep pace with the States that were undergoing resource-driven booms but suffered increasing shortages in supply and a sharp surge in prices (a trend seen fairly early in Queensland, and somewhat later in Western Australia).

Adding to those general developments were a series of one-off boosts to demand; such as new subdivisions on the outskirts of Melbourne and reconstruction efforts following the Black Saturday bushfires and flooding in regional Victoria. Those helped keep construction activity in the State running well ahead of national trends.

As a result it easily outpaced activity in New South Wales and Queensland, and even approached the performance of those two States combined.

Yet this 'virtuous circle' of strength driving further impressive growth is now beginning to come under increasing pressure. The big question for Victoria's housing sector is whether 2012-13 represented a 'new normal' or whether it was just a way station between the strong construction levels of recent years and a return to the weak results of the first half of the last decade.

As a result, any discussion of falls in the State's housing sector needs to stress the difference between "weaker" (which is a good description of the housing construction sector in Victoria) and "bad" (which is not).

On the negative side, housing construction levels in Victoria have dipped considerably since the heady days of mid-2010; a time when the State started work on more than 180 new houses every single day (and even then rental vacancy rates suggested demand was outpacing supply). Leading indicators and actual construction levels stabilised somewhat over the past year, but they are still edging down, and rental vacancy rates have surged to an eight-year high. At 3.4% it is sitting at double the rate seen in early 2011.

Given the falls since then in terms of confidence, actual building levels and even sectoral employment, it is worth remembering that Victoria is still Australia's number one State in terms of house building, a title it has held for nearly a decade. Even after NSW's strong recovery since 2011, Victoria still sits around 20% ahead of the latter.

In addition, the positive side of the ledger still includes the fact that Victoria remains the largest source of population growth in the country, with growth trends actually moving back in the State's favour over the past eighteen months. Victoria's population growth has rarely been better for a generation, housing affordability is almost back to levels seen when interest rates were slashed at the height of the GFC and still far better than that is New South Wales, and construction employment has lifted significantly in recent months, pushing back towards a two-year high.

Overall, that suggests that Victoria may well maintain a solid level of construction over the medium term, and that any falls in relative importance are more likely to reflect other States actually catching up, rather than the pace of home building in Victoria falling back.

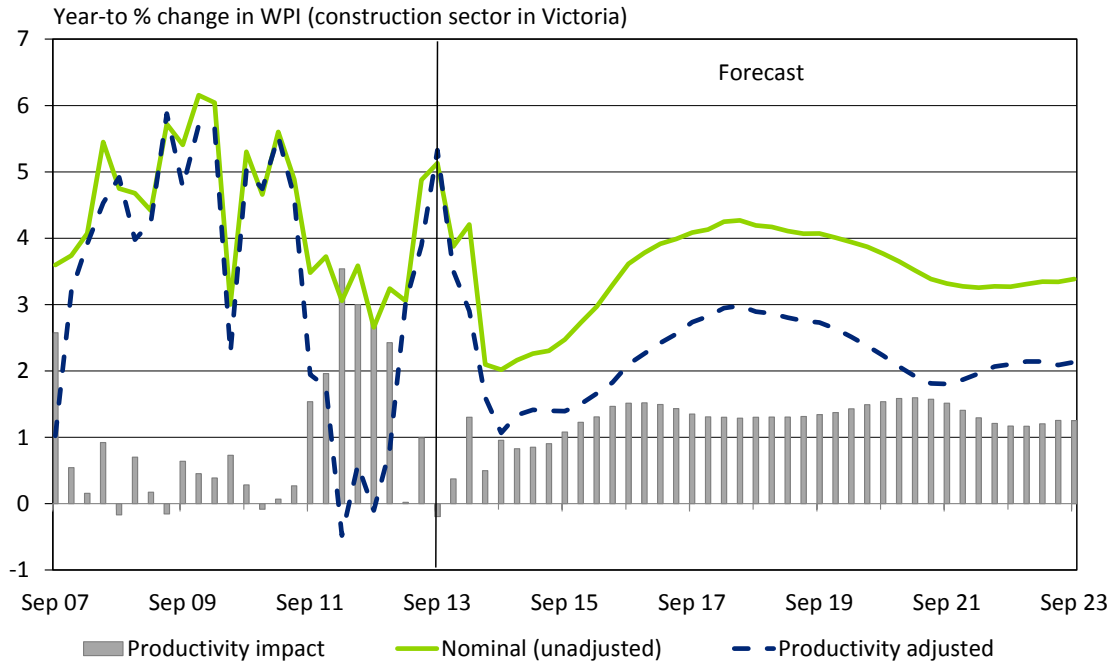
It should be remembered that the major negative for Victoria's housing construction outlook in the short term is the State's recent successes in this area – which means it hasn't got anything like the pent-up demand evident in some other key States.

That leaves the overall housing construction outlook in this State projected to be solid enough, and indeed the State will continue to lead the way in terms of housing starts, just somewhat less impressive than it is for other parts of the country.

Yet those caveats are for the future. All that good news has had a fairly predictable impact on wages however; they have surged upwards once more – ending two years where rates moved lower in line with broader economic trends. As Chart 10.9 shows, growth in the year to September 2013 was just more than 5.0% – with the key reason for that a very sharp 2.7% increase in the June quarter 2013 alone.

That strength is, however, influenced by more than just an improving economic performance. As is noted below, and shown in Chart 10.11, construction sector EBAs, which have traditionally seen relatively fast rises in wages, have seen a recent rebound in growth. Given the relatively strong union influence on the State's construction sector (evidenced by high share of workers on EBAs), this may represent a push to embed a final round of wage increases into the sector before the new Federal Government begins attempts to revive the ABCC – with an announced target date of three months after the first parliamentary sitting (that is, mid-February 2014).

Chart 10.9: Victorian construction WPI forecasts



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

Until recently the sector had been doing surprisingly well – particularly considering the fact that mining investment had been the key national driver of demand (and that the State has not really been known for its mining prospects since the 1850s).

However, a distinct lack of private funds in engineering projects in the State remains a key concern for Victoria's engineering construction sector, though public funds are doing a pretty good job of driving projects forward for now. Indeed, publicly funded projects in Victoria account for close to two thirds of the value of major engineering projects, whereas public sector funding accounts for less than a quarter of the value of engineering construction projects nationally.

Current resource-related activity in the State remains the realm of the $4.4 billion Kipper-Tuna-Turrum oil and gas project, with no other major mining project either underway or in the pipeline. However, what the State lacks in major resource-related projects it makes up in major rail and road projects. Projects underway there are led by the $5.3 billion Regional Rail Link from West Werribee to Melbourne's Southern Cross Station, while road projects are led by the $980 million Western Ring Road expansion. Funds have also been committed to the $8 billion first stage of the EastWest link development, to connect the Eastern Freeway and Western Ring Road in Melbourne.

In what could be a major windfall for Victoria, progress has been made on a proposal for a second container port at the Port of Hastings, with an expected cost of around $12 billion. Work has also begun on the $1 billion development of inland ports at Lyndhurst and Altona.

Commercial construction in the State continues to be led by the Village Docklands project at Collins Square, with the cost of the project recently revised up to $1.7 billion, while the $1.2 billion Emporium Melbourne project is set to open in early 2014.

Meanwhile, a project to build two office towers at Bourke Street Junction secured an anchor tenant for the second tower, with Medibank slated to take 30,000 square metres of office space, and with major work scheduled for completion by mid-2014. Outside the office market, a major project for a new wholesale fruit market in Melbourne is underway and expected to cost $670 million when completed.

Projects in the health sector are led by the $1.3 billion Comprehensive Cancer Centre that is being built under a joint venture between the private and public sector, while work on the $630 million redevelopment of the Bendigo hospital is set to provide work out to 2016. Elsewhere, a proposal for a redevelopment of the Moonee Valley racecourse precinct to include 2,000 additional residential apartments and a realignment of the track at a total cost of $1.4 billion is pending approval.

Overall, the outlook – like in housing construction – is "solid but unspectacular". However, the reason for this is the opposite from that driving the housing story. In housing construction, the State has been very strong, so won't be boosted by the national housing recovery, but in engineering construction the State hasn't seen the same surge in demand that other States have, and so don't run the same degree of risk from the expected slowdown.

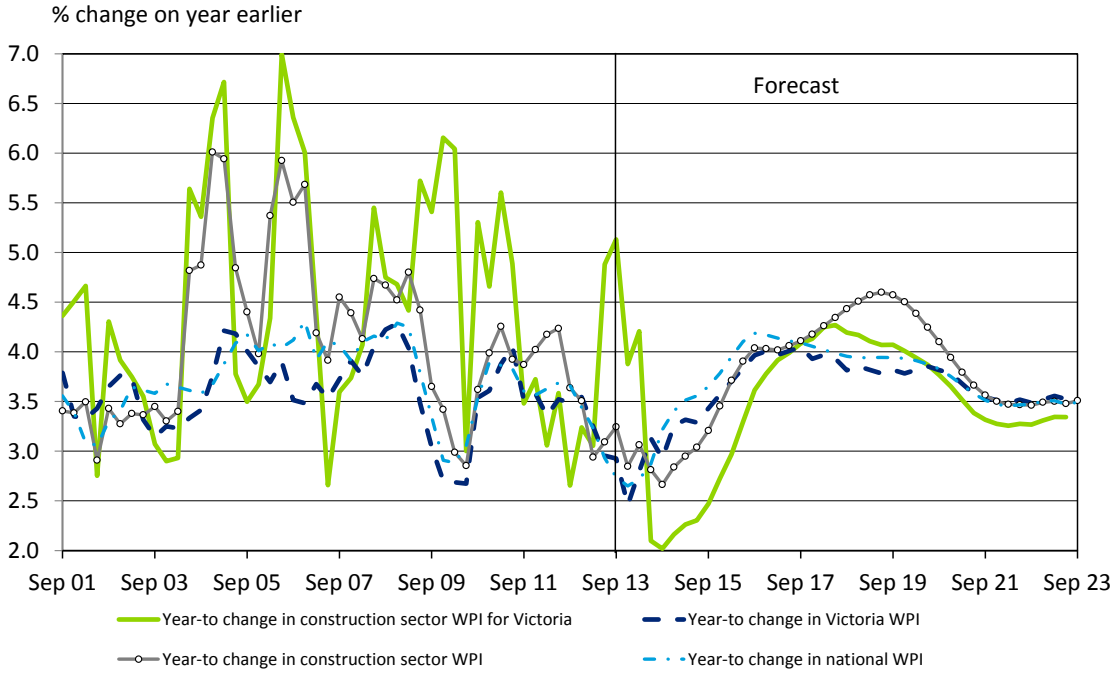
The full comparison of wage increases shown in Chart 10.10 makes clear the fact that construction sector wages in Victoria have moved sharply higher without being driven by either a surge in general Victoria wages, or by broader rises in construction. In fact, the leap

largely reflects the 2.7% rise reported for the June quarter 2013. Given the general trends we expect, as well as the fact that the June results is likely to be a one-off, the expectation is for local construction wages to weaken in the medium term. That will mean year-to growth will slip sharply in the June quarter 2014 results (as the sharply 2013 rise will no longer be affecting the rate of growth). Growth will then recover, but will lag the comparative rates of growth as:

- Victoria's general rates of growth lag behind the national average in most sectors as the State weakens somewhat; and
- The State's construction sector lags the national average as some of the recent strength is unwound and the State struggles with the "new normal" of relatively slower housing construction and absolutely slower infrastructure investment.

Overall, the June 2013 surge will lift growth across the year ending March 2014 to 4.5% – well above the 3.1% across the previous year. After falling back to 2.1% across the year ending March 2015 growth will gradually pickup in line with general trends to 2.6%, 3.7% and then to above 4% across the following years.

Chart 10.10: Victoria construction forecast comparison

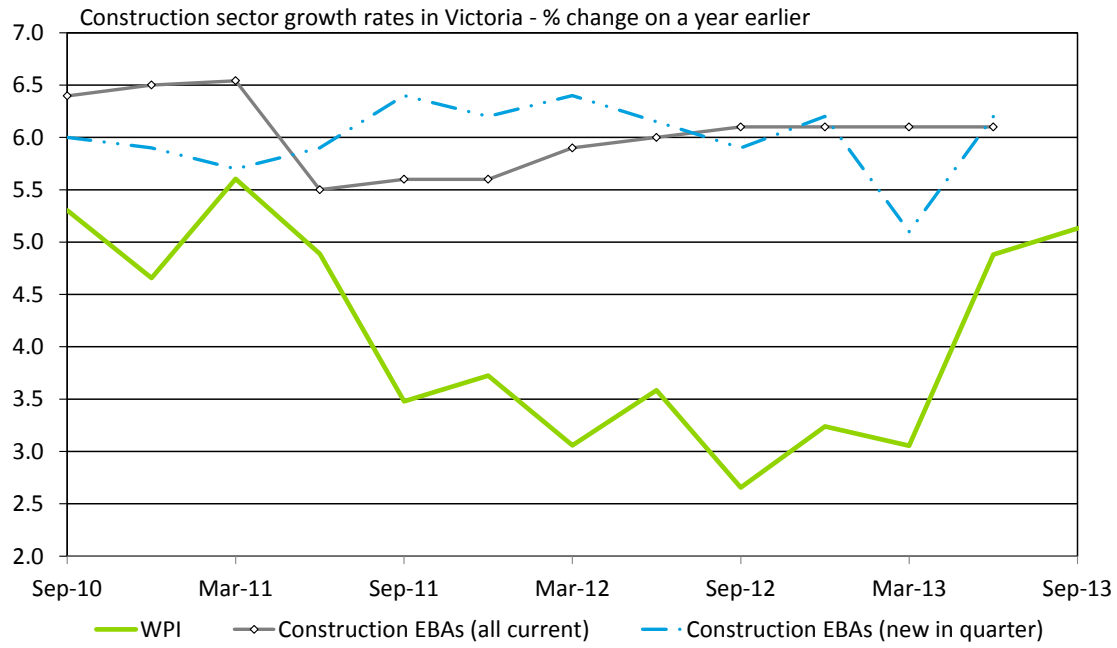


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

That means that Victoria is likely to see a sustained period of relative easing in the rate of growth in its construction wages.

The reversal of the downward trend in the construction sector WPI in the June quarter was matched by a rebound in measured wage increases in new EBAs, though the latter was smaller in size. As Chart 10.11 shows, growth in wages under EBAs has been far faster than the general increase for Victoria, with the gap (around 3 percentage points per year) significantly larger than the typical gap seen at the national level of construction (closer to 2 percentage points per year). That reflects the relatively strong union position in the State's construction sector, which is itself reflected in the proportion of State workers covered by EBAs.

Chart 10.11: Comparative measures of wage growth in Victorian construction



Source: ABS, DEEWR

While nationally around 14.3% of construction workers are covered by EBAs – below the national average and the lowest proportion of the key sectors considered in this report – the comparative figure for Victoria is 17.4%. That is the highest outside of Western Australia, and significantly above the 7.1% share seen in New South Wales. It should be remembered also that construction sector EBAs tend to be focused on a relatively small number of large projects, many of which are the subject of considerable industrial bargaining tension.

10.5 The administrative services sector

As Chart 10.12 shows, WPI growth in the State's administrative services sector has been relatively volatile across the past few years; 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.

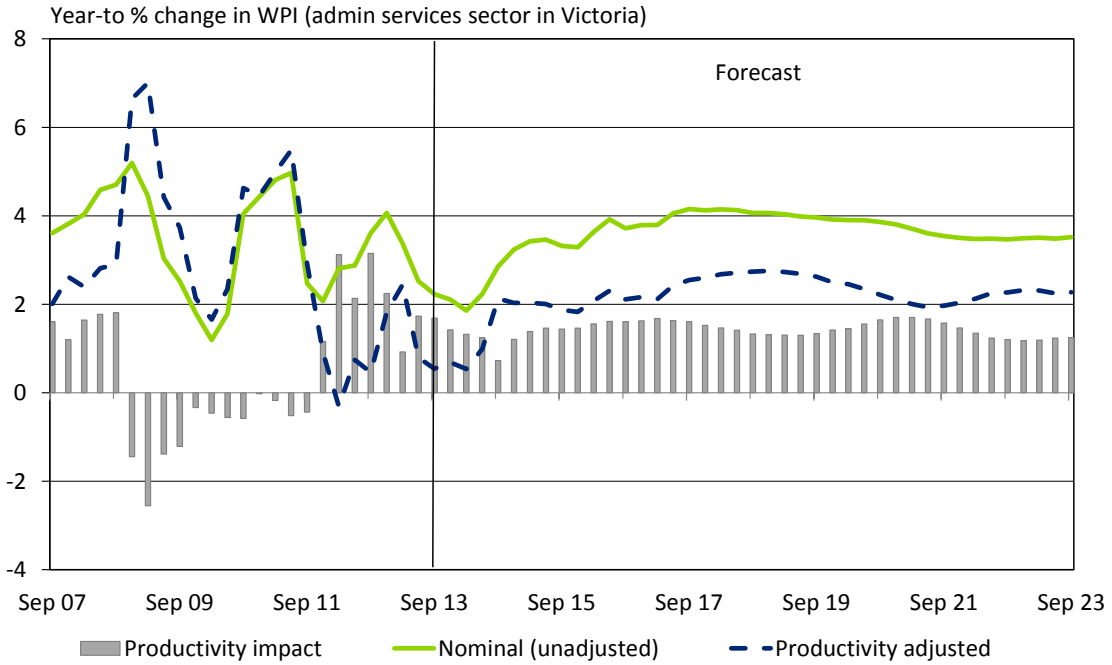
That one-off event affects the growth rate in Chart 10.12 across 2010-11, somewhat obscuring the underlying upward trend in sectoral WPI increases from 2009 to 2012.

Results for 2013 saw that period of wage acceleration come to an end. Growth in wage in the admin sector in Victoria slipped back from 4.1% in the year to December 2012 to just 3.4% in the year to March 2013 and to just 2.2% across the year to September 2013. That is the weakest period of growth since the year ending December 2011.

The key to this declining rate of wage growth has been the struggle of Melbourne's broader office employment sectors, covering not just the administrative services (employment services and cleaners) but also property and business services (such as lawyers and accountants).

The latter had been an area of consistently solid performance since the GFC.

Chart 10.12: Victorian administrative services WPI forecasts



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

It had been hoped that Melbourne's CBD office sector was through the worst – it saw a relatively early move to cut finance sector headcount, and seemed to be getting some better news on lawyers and accountants. Yet the latest data came as a cold shower, with the finance sector again shedding numbers, and showing no signs of snapping out of it, and with trend data on business services looking rather less perky.

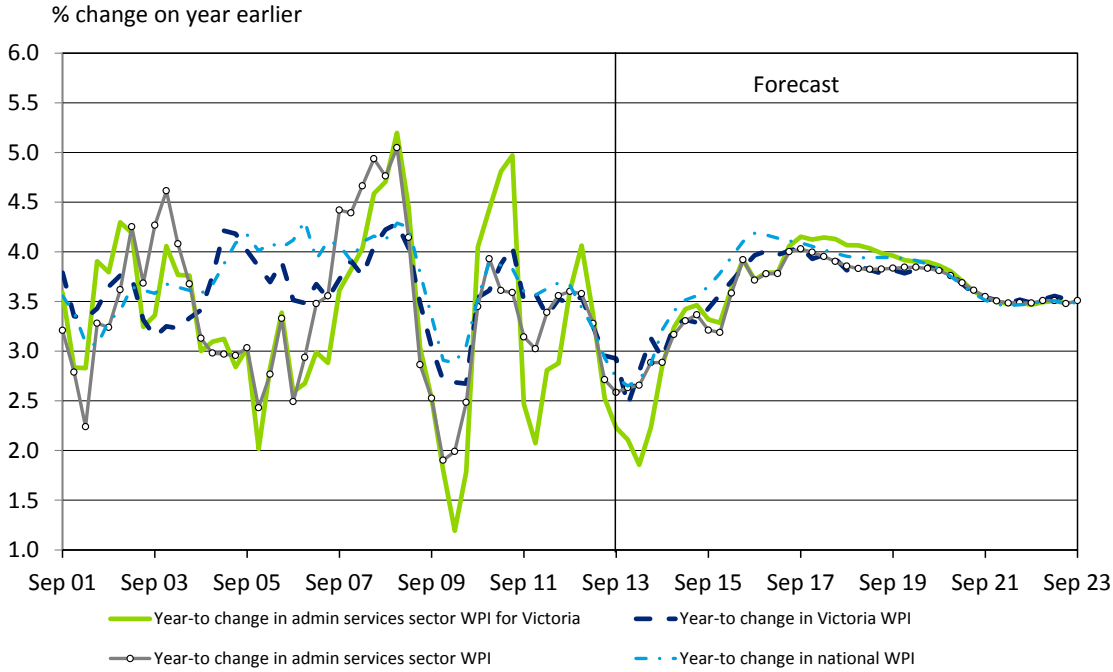
In turn, that weakness in office-related employment has weighed on wage growth in administrative services in Victoria of late.

However, the same reasons for optimism still exist. In particular, Melbourne has a stronger portfolio of business service jobs, whereas Sydney's relative strength is in finance. As current conditions will heat up the former earlier than the latter (interest rates would usually boost the finance sector more, but not at a time when families aren't keen on more debt), Deloitte Access Economics still regards Melbourne's CBD as a good prospect in the next few years.

Other things equal, that will be a positive for wage growth in administrative services in Victoria.

Official data for public administration employment, another industry that competes for these workers to some degree, looks solid at first glance, but recent analysis of Departmental reports suggest that just over 4,000 jobs have been lost from the State Government since 2011. However, as is true of the finance sector, those pressures are less than in other States (such as Queensland).

Chart 10.13: Victorian administrative services forecast comparison

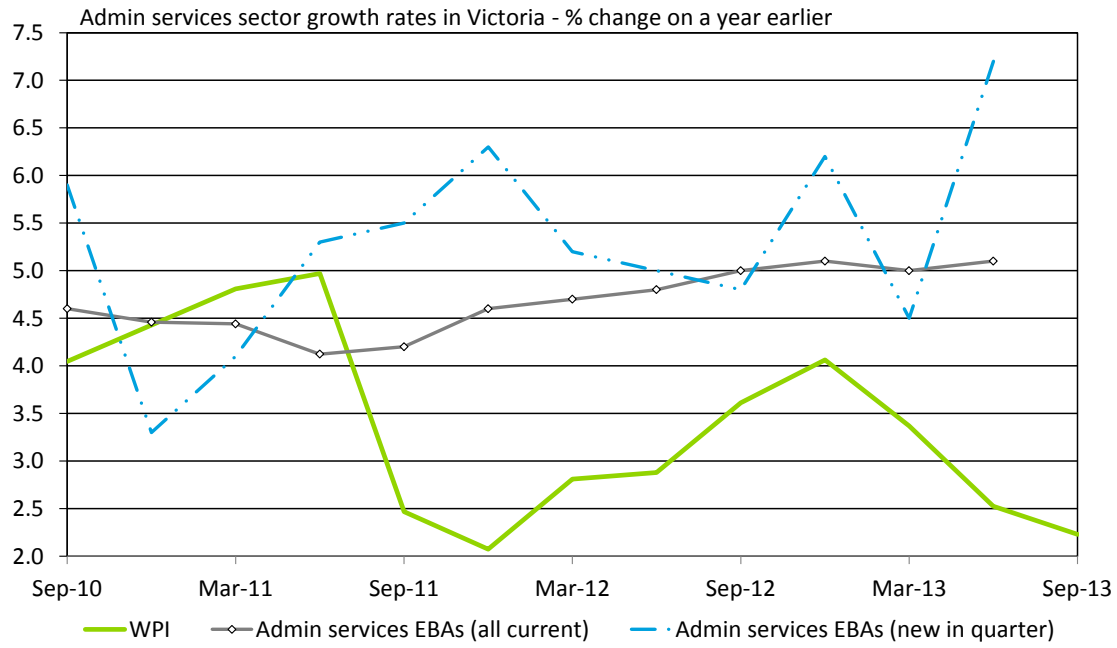


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

The outlook for the Victorian administrative services sector is fairly modest at present, although probably not as weak as a first glance at Chart 10.13 might suggest. It should be remembered however, that this is a relatively small sector and hence our estimates of WPI growth for it are prone to some level of volatility. While the national administrative services sector has seen a similar pattern of growth to Victoria, local growth has seen both sharper rises and periods of greater weakness than its national counterpart. To some degree, that does reflects the influence of the awards changes noted above, but similar divergences will probably happen in the future as well.

As with the construction sector and administrative services wages in general, Victorian EBAs have recorded considerably faster increases than the WPI. Chart 10.14 shows data for growth in wages included in Enterprise Bargaining Agreements rising from around 4% annualised growth in early 2011 to over 5% by mid-2013.

Chart 10.14: Comparative measures of wage growth in Victorian administration services



Source: ABS, DEEWR

Recent rises have been even more aggressive – with a 7.2% increase in agreements lodged in the June quarter 2013 – a movement sharply against the measured movement in the WPI.

While the EBA results included results from nine separate agreements, they covered just 200 employees (out of the 12,600 covered across the sector State-wide, and of the close to 100,000 workers employed in the sector in Victoria), so they are unlikely to have a particularly strong impact on wages.

10.6 Summary results

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

Table 10.1: Victorian wage forecasts

Year ending March changes in Victoria nominal Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	3.6	3.4	2.8	3.2	3.5	3.9	4.0	3.9	3.8
Utilities	3.9	4.3	3.7	3.3	3.4	4.0	4.1	3.9	3.8
Construction	3.8	3.1	4.5	2.1	2.6	3.7	4.1	4.2	4.0
Admin services	3.1	3.5	2.2	2.9	3.4	3.8	4.1	4.1	3.9

Year ending March changes in Victoria real Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	0.7	1.5	0.3	1.0	0.5	1.0	1.2	1.3	1.3
Utilities	1.0	2.3	1.3	1.2	0.4	1.1	1.3	1.3	1.3
Construction	0.8	1.2	2.0	0.0	-0.3	0.7	1.4	1.6	1.5
Admin services	0.1	1.5	-0.2	0.8	0.5	0.9	1.4	1.5	1.4

Year ending March changes in Victoria nominal productivity adjusted Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	2.3	2.4	1.9	1.5	1.9	2.3	2.6	2.8	2.8
Utilities	2.5	2.6	2.6	1.8	1.8	2.3	2.6	2.6	2.4
Construction	1.9	1.1	3.9	1.4	1.5	2.2	2.8	2.9	2.7
Admin services	2.2	1.4	0.6	1.8	1.9	2.2	2.6	2.7	2.6

Year ending March changes in Victoria real productivity adjusted Wage Price aggregates

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	-0.6	0.5	-0.5	-0.6	-1.0	-0.6	-0.1	0.2	0.3
Utilities	-0.4	0.7	0.1	-0.3	-1.1	-0.6	-0.1	0.0	-0.1
Construction	-1.0	-0.8	1.4	-0.7	-1.4	-0.7	0.0	0.3	0.2
Admin services	-0.7	-0.5	-1.8	-0.3	-1.0	-0.7	-0.2	0.2	0.1

Source: ABS, Deloitte Access Economics labour cost model

References

Australian Bureau of Statistics / Statistics New Zealand, Correspondence Tables – ANZSCO First Edition to ASCO Second Edition, 2006, Unit Group (4 Digit), Cat. No. 1220.0

Australian Energy Regulator 2012, 'State of the Energy Market'.

Australian Government, 1999, *Environment Protection and Biodiversity Conservation Act 1999. Accessed at: http://www.environment.gov.au/epbc/; on May 30, 2013.*

Bureau of Resources and Energy Economics 2012, 'Energy in Australia 2012'.

Bureau of Resources and Energy Economics 2013, 'Energy in Australia 2013'.

Bureau of Resources and Energy Economics 2013, 'Resource and Energy Major Projects – April 2013'.

Climate Change Authority 2012, '*Renewable Energy Target Review*'.

Deloitte Access Economics 2013, *'Business Outlook, March 2013'.*

Deloitte Access Economics 2013(a), *'Investment Monitor, March 2013'.*

Finch, C. 2012, '*Electricity Generation in Australia*', IBISWorld Industry Report D3611.

Garnaut, R. 2012, *The Garnaut Review 2011: Australia in the global response to climate change'.*

Reserve Bank of Australia 2013, '*Statement on Monetary Policy – November 2013'.*

Suncorp Bank 2012, '*Wages Report – May 2012: The emergence of the fluoro collar worker'.*

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: 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.

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 **labour price index**.

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

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

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

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

A positive output gap also has a direct and indirect effect on real interest rates via the monetary policy reaction function, with the typical reaction to a widening output gap and higher price inflation being higher nominal interest rates. Higher interest rates dampen

domestic demand which narrows the output gap and relieves upward pressure on price and wage inflation. Over time this mechanism forces the output gap back to zero, interest rates to a neutral position and inflation to return to the RBA target level.

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

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

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

Wage forecasting

The wage forecasting methodology adopted in this report involves estimation of the deviations between industry – and State-specific wage measures and the broadest measures of wages in the Australian economy. In other words, the AEM model has provided an overall picture for how the 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 Labour Price Indices

Modelling of specific labour 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

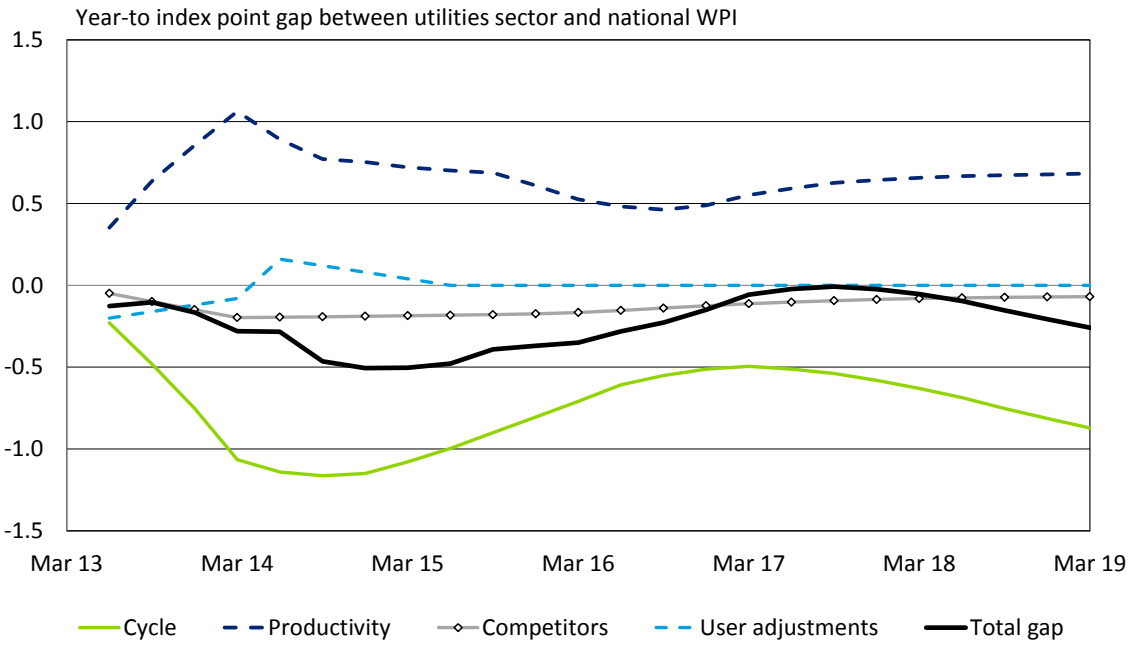
and vice versa. In this model, the key factor is how fast the industry (or State) is growing relative both to the national average, as well as to historical averages. So, while manufacturing growth in the future may be below the national average, if the gap is relatively less that has been seen in recent 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 workers in an industry to take a pay cut but the overall WPI measure in the industry to rise if all the low-paid workers left the industry all together – shifting the average wage towards the higher level.

Chart B.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:

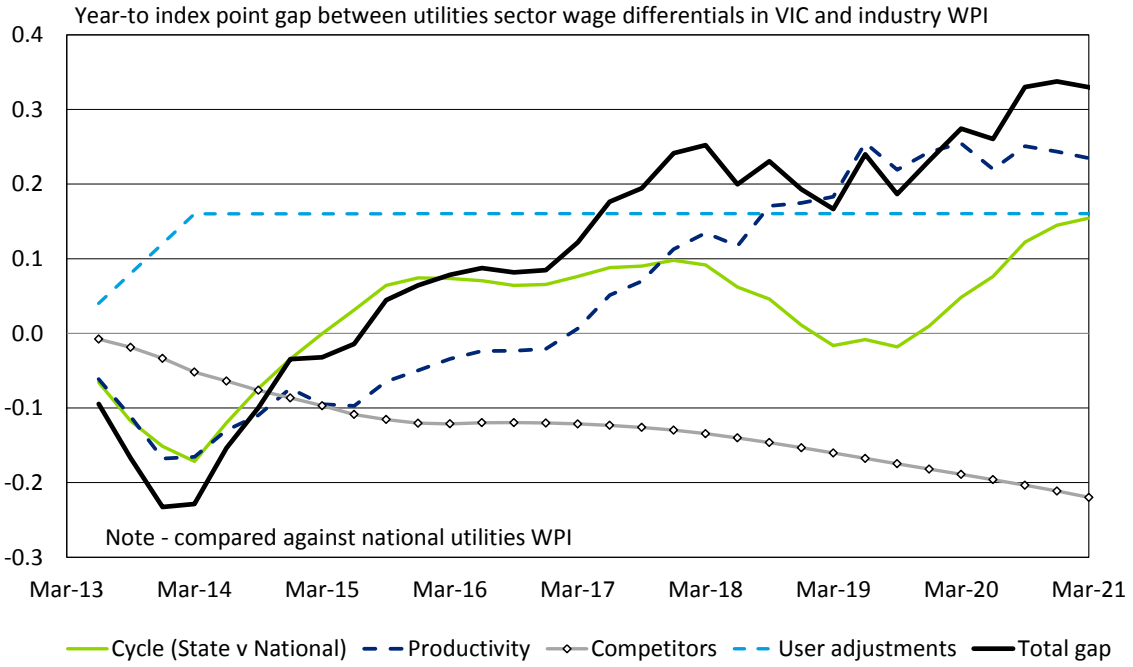
- The recent strength in the construction sector will keep upward pressure on the wages in the sector (represented here by the **Cycle** line). By the end of 2012 growth rates will begin to move in line with the overall economy and the cyclical pressure will diminish (and reverse further out); but
- 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 the State's construction sector WPI will:

- Grow relative fast as the State'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 State'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 B.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.

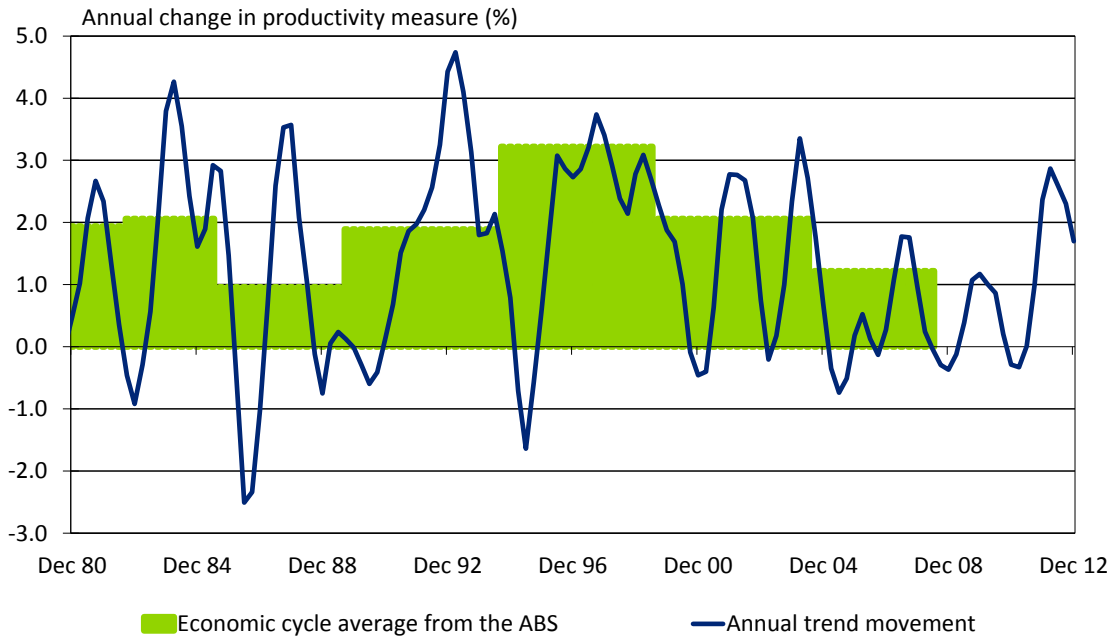
However, labour costs will rise at a different rate due to the effects of labour productivity growth. Effectively, labour productivity measure the number of units of output an individual employee can produce in a given time period. The more units of output each worker can produce, the fewer workers are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

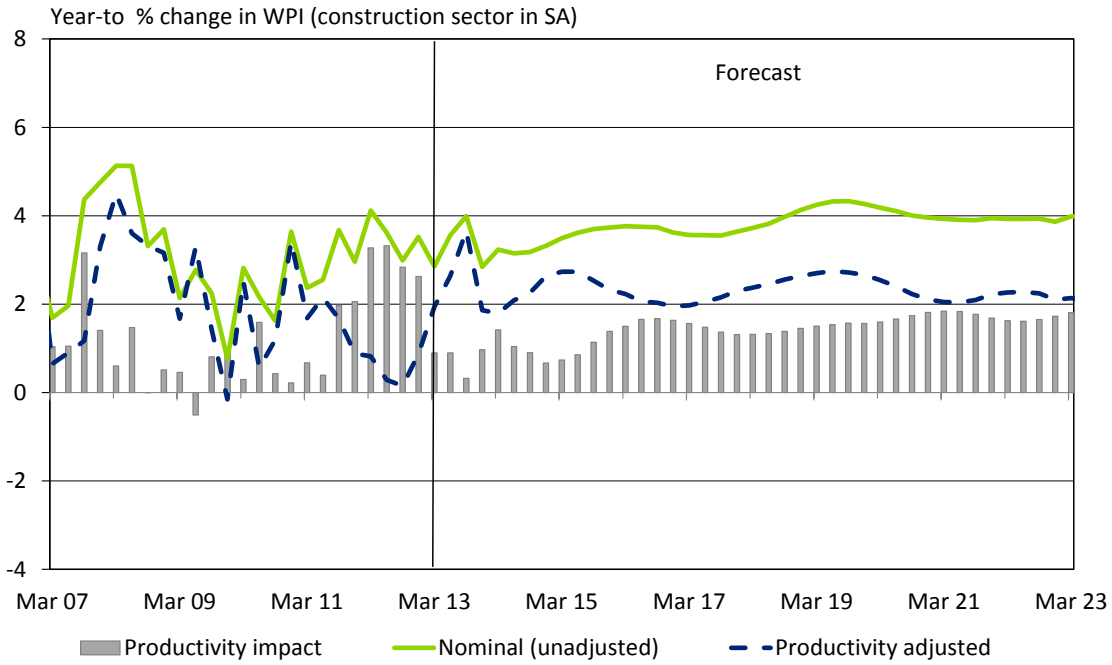
Chart B.3: Growth in productivity – annual methodology vs economic cycle methodology



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 B.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 clearer. 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 C: 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.[6] 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

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

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 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 (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.

Wage Price Index

The Wage Price Index (WPI) was first compiled for the September quarter 1997 and is the main ABS measure of changes in wages. 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 WPI does not include the superannuation guarantee levee.

In the WPI, index numbers are compiled using information collected from a representative sample of employee jobs within a sample of employing organisations. Price-determining characteristics of the jobs are fixed to ensure that changes in these characteristics do not contribute toward index movements. The following are examples of changes in price-determining characteristics which are not reflected in index movements:

- changes in the nature of work performed (e.g. different tasks or responsibilities)
- changes in the quantity of work performed (e.g. the number of hours worked)
- changes in the characteristics of the job occupant (e.g. age, apprenticeship year, successful completion of training or a qualification, grade or level, experience, length of service, etc.)
- changes in the location where the work is performed.

Changes in the price of wages and salaries resulting from changes in the composition of the labour market are also excluded from index movements. To achieve this, a longitudinal survey methodology is used to measure a similar sample of jobs over time.

Summary of the surveys and their key series

Table C.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 B 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.

Further issues

The ABS has reviewed its production of AWE and AWOTE measures at the industry by State level (e.g. 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.

Table C.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)

Appendix D: Revised tables from June report

This appendix re-produces the tables from the June report that were affected by the formatting errors noted earlier. These errors did not affect the forecasts themselves – only the summary tables. For each affected table, both the originally reported table and the revised one are presented.

We also note that some confusion appears to have arisen as a result of the previous tables being labelled 'year-to'. To be clear, the data in the tables refer to year average results – that is, the average index for the year ended 31 March 2013 relative to the average index for the year ended 31 March 2012. To avoid ambiguity the revised tables are instead labelled 'year ended.'

Table v: Summary results – national sectoral wages

Original

Year to March changes in nominal national industry sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6	3.7
Utilities	4.2	3.5	3.3	3.5	3.5	3.6	3.5	3.4	3.4
Construction	3.6	3.2	3.3	3.6	3.6	3.7	4.1	4.2	3.9
Administration services	3.5	3.4	3.4	3.7	3.7	3.7	3.6	3.6	3.7

Revised

Year ended March changes in nominal national industry sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
All industries	3.6	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6
Utilities	3.5	4.2	3.5	3.3	3.5	3.5	3.6	3.5	3.4
Construction	4.0	3.6	3.2	3.3	3.6	3.6	3.7	4.1	4.2
Administration services	3.3	3.5	3.4	3.4	3.7	3.7	3.7	3.6	3.6

Table vi: Summary results – State utilities sector

Original

Year to March changes in nominal utilities sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	4.2	3.5	3.3	3.5	3.5	3.6	3.5	3.4	3.4
Victoria	4.3	3.9	3.3	3.5	3.7	3.8	3.6	3.6	3.6

Revised

Year ended March changes in nominal utilities sector WPI

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.5	4.2	3.5	3.3	3.5	3.5	3.6	3.5	3.4
Victoria	3.9	4.3	3.9	3.3	3.5	3.7	3.8	3.6	3.6

Table vi: Victorian demand and output forecasts

Original

Year to March changes in Victoria key economic variables

Annual % change (unless noted)	2012	2013	2014	2015	2016	2017	2018	2019	2020
Consumption									
Private sector	2.7	0.6	1.8	2.8	2.9	3.0	2.6	2.1	2.4
Public sector	2.4	-0.2	-0.7	4.1	4.1	3.0	2.1	1.7	1.7
Private sector investment									
Dwelling investment	5.2	-0.9	2.3	4.2	4.1	4.2	0.0	-2.9	-0.5
Non-residential building	-3.0	11.2	2.8	0.9	2.6	2.7	2.9	0.6	0.5
Engineering construction	-1.4	-4.2	20.0	10.7	3.4	0.9	2.5	-0.9	-1.4
Machinery and equipment	6.3	1.5	3.1	1.8	0.4	3.6	3.8	1.9	2.4
IP and livestock	1.9	7.9	4.8	-1.7	-2.3	2.9	1.0	0.8	0.7
Public investment									
General Government	0.6	-28.7	-0.7	3.5	2.1	2.4	2.1	1.9	1.9
Public enterprises	-11.2	-19.1	9.2	10.1	2.4	2.4	0.7	-0.5	-0.2
Real final demand	2.7	0.6	1.8	2.8	2.9	3.0	2.6	2.1	2.4
Private sector	3.9	1.1	1.5	2.6	2.8	3.2	2.9	2.3	2.7
Public sector	-1.2	-1.3	2.7	3.4	3.1	2.5	1.8	1.4	1.4
Gross State output	2.6	1.9	2.4	2.8	3.2	3.2	2.8	2.5	3.0
Employment	1.0	1.1	0.9	1.1	1.2	1.5	1.7	1.5	1.3
Unemployment rate (%)	5.3	5.5	5.9	5.7	5.7	5.6	5.5	5.4	5.5

Revised

Year ending March changes in Victoria key economic variables

Annual % change (unless noted)	2012	2013	2014	2015	2016	2017	2018	2019	2020
Consumption									
Private sector	2.7	0.6	1.8	2.8	2.9	3.0	2.6	2.1	2.4
Public sector	2.4	-0.2	-0.7	4.1	4.1	3.0	2.1	1.7	1.7
Private sector investment									
Dwelling investment	5.2	-0.9	2.3	4.2	4.1	4.2	0.0	-2.9	-0.5
Non-residential building	-3.0	11.2	2.8	0.9	2.6	2.7	2.9	0.6	0.5
Engineering construction	-1.4	-4.2	20.0	10.7	3.4	0.9	2.5	-0.9	-1.4
Machinery and equipment	6.3	1.5	3.1	1.8	0.4	3.6	3.8	1.9	2.4
IP and livestock	1.9	7.9	4.8	-1.7	-2.3	2.9	1.0	0.8	0.7
Public investment									
General Government	0.6	-28.7	-0.7	3.5	2.1	2.4	2.1	1.9	1.9
Public enterprises	-11.2	-19.1	9.2	10.1	2.4	2.4	0.7	-0.5	-0.2
Real final demand	2.7	0.6	1.8	2.8	2.9	3.0	2.6	2.1	2.4
Private sector	3.1	2.3	2.3	2.4	2.6	3.1	2.8	2.3	2.6
Public sector	1.2	-5.6	-0.1	4.4	3.8	2.9	2.0	1.6	1.6
Gross State output	2.6	1.9	2.4	2.8	3.2	3.2	2.8	2.5	3.0
Employment	1.0	1.1	0.9	1.1	1.2	1.5	1.7	1.5	1.3
Unemployment rate (%)	5.3	5.5	5.9	5.7	5.7	5.6	5.5	5.4	5.5

Table 6.2: National wage forecasts

Original

Year to March nominal wages forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6	3.7
Average weekly earnings	4.2	4.2	4.7	3.7	3.8	3.7	3.6	3.6	3.6
Ordinary time earnings	4.6	4.1	4.5	4.2	4.3	4.2	4.1	4.2	4.2
Unit labour costs	3.7	0.9	1.9	2.6	2.7	2.4	2.6	2.5	2.4

Year to March real wages forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	1.4	0.7	0.9	1.0	1.0	1.1	1.2	1.2	1.0
Average weekly earnings	1.2	2.2	2.3	0.9	1.0	1.0	1.0	1.1	1.2
Ordinary time earnings	1.6	2.0	2.1	1.3	1.5	1.5	1.5	1.7	1.8
Unit labour costs	0.7	-1.0	-0.5	-0.2	-0.1	-0.3	0.0	0.1	0.0

Revised

Year ending March nominal wages forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	3.6	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6
Average weekly earnings	4.2	4.2	4.7	3.7	3.8	3.7	3.6	3.6	3.6
Ordinary time earnings	4.6	4.1	4.5	4.2	4.3	4.2	4.1	4.2	4.2
Unit labour costs	3.7	0.9	1.9	2.6	2.7	2.4	2.6	2.5	2.4

Year ending March real wages forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wage Price Index	0.7	1.5	1.1	0.9	1.0	1.0	1.0	1.2	1.2
Average weekly earnings	1.2	2.2	2.3	0.9	1.0	1.0	1.0	1.1	1.2
Ordinary time earnings	1.6	2.0	2.1	1.3	1.5	1.5	1.5	1.7	1.8
Unit labour costs	0.7	-1.0	-0.5	-0.2	-0.1	-0.3	0.0	0.1	0.0

Table 7.1: State WPI forecasts

Original

Year to March changes in nominal Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6	3.7
Victoria	3.4	3.2	3.6	3.6	3.7	3.7	3.5	3.6	3.7

Year to March changes in real Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	1.4	0.7	0.9	1.0	1.0	1.1	1.2	1.2	1.0
Victoria	1.5	0.4	0.7	1.1	1.1	1.0	1.0	1.1	0.9

Year to March changes in nominal productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	1.5	1.6	2.5	2.3	2.0	2.1	2.0	1.9	1.7
Victoria	2.2	2.0	2.1	1.9	1.8	2.1	2.3	2.1	1.7

Year to March changes in real productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	-0.6	-1.1	-0.2	-0.4	-0.7	-0.5	-0.4	-0.4	-0.9
Victoria	0.2	-0.8	-0.7	-0.6	-0.8	-0.5	-0.2	-0.3	-1.0

Revised

Year ending March changes in nominal Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	3.6	3.5	3.4	3.7	3.8	3.7	3.6	3.6	3.6
Victoria	3.6	3.4	3.2	3.6	3.6	3.7	3.7	3.5	3.6

Year ending March changes in real Wage Price Index forecasts

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	0.7	1.5	1.1	0.9	1.0	1.0	1.0	1.2	1.2
Victoria	0.7	1.5	0.8	1.0	0.9	1.1	1.0	1.0	1.1

Year ending March changes in nominal productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	1.8	1.5	1.6	2.5	2.3	2.0	2.1	2.0	1.9
Victoria	2.3	2.2	2.0	2.1	1.9	1.8	2.1	2.3	2.1

Year ending March changes in real productivity adjusted Wage Price Index

Annual % change	2012	2013	2014	2015	2016	2017	2018	2019	2020
National	-1.0	-0.6	-0.6	-0.3	-0.4	-0.7	-0.5	-0.4	-0.4
Victoria	-0.6	0.3	-0.4	-0.5	-0.8	-0.7	-0.5	-0.2	-0.3

Limitation of our work

General use restriction

This report is prepared solely for the AER. This report is not intended to and should not be used or relied upon by anyone else, or quoted without permission except for the AER, and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of considering labour cost projections in the utilities sector. You should not refer to or use our name or the advice for any other purpose.

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.deloitte.com/au/economics

Deloitte Access Economics is Australia's pre-eminent economics advisory practice and a member of Deloitte's global economics group. The Directors and staff of Deloitte Access Economics joined Deloitte in 2011.

About Deloitte

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and deep local expertise to help clients succeed wherever they operate. Deloitte's approximately 170,000 professionals are committed to becoming the standard of excellence.

About Deloitte Australia

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms. Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 5,400 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at www.deloitte.com.au.