Deloitte Access Economics

Forecast growth in labour costs in NSW, Tasmania and the ACT

Report prepared for the AER

24 July 2014

Deloitte.

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Director
Australian Energy Regulator
Level 37, 360 Elizabeth Street
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24 July 2014

Dear Arek,

Report on State utilities sector WPI

Our report on the Wage Price Index (WPI) for New South Wales, Tasmania and the ACT is attached.

Yours sincerely,

Chris Richardson
Director
Deloitte Access Economics Pty Ltd

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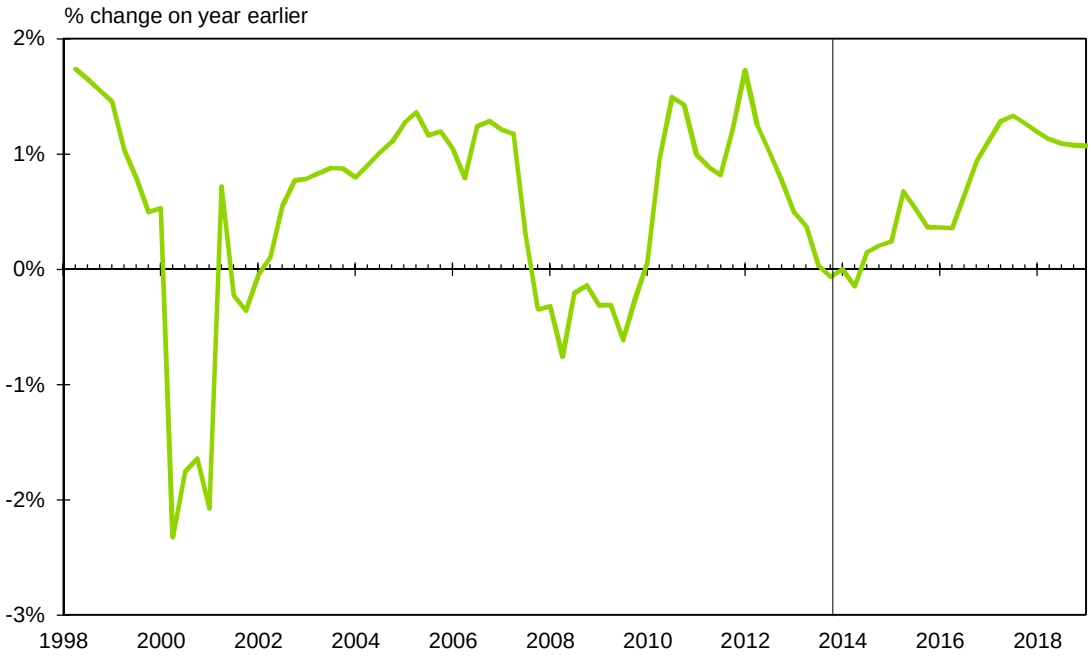
Executive Summary

Wage growth remains at record lows

The Wage Price Index (WPI) grew a bare 2.6% in the year to the March quarter 2014, meaning that it remains at record lows. This fall in wage gains is even more marked given underlying inflation kicked up through the course of 2013, leaving real wage growth stalled (see Chart i).

Chart i: Real wage growth



Source: ABS, Deloitte Access Economics macroeconomic model

Moreover, wage gains (with and without inflation adjustment) may be slow to recover. In part that is because real wage gains outstripped productivity growth through to early 2011. They could do so thanks to a surge in the terms of trade – in essence, the world threw money Australia's way, making unaffordable wages gains temporarily appear affordable.

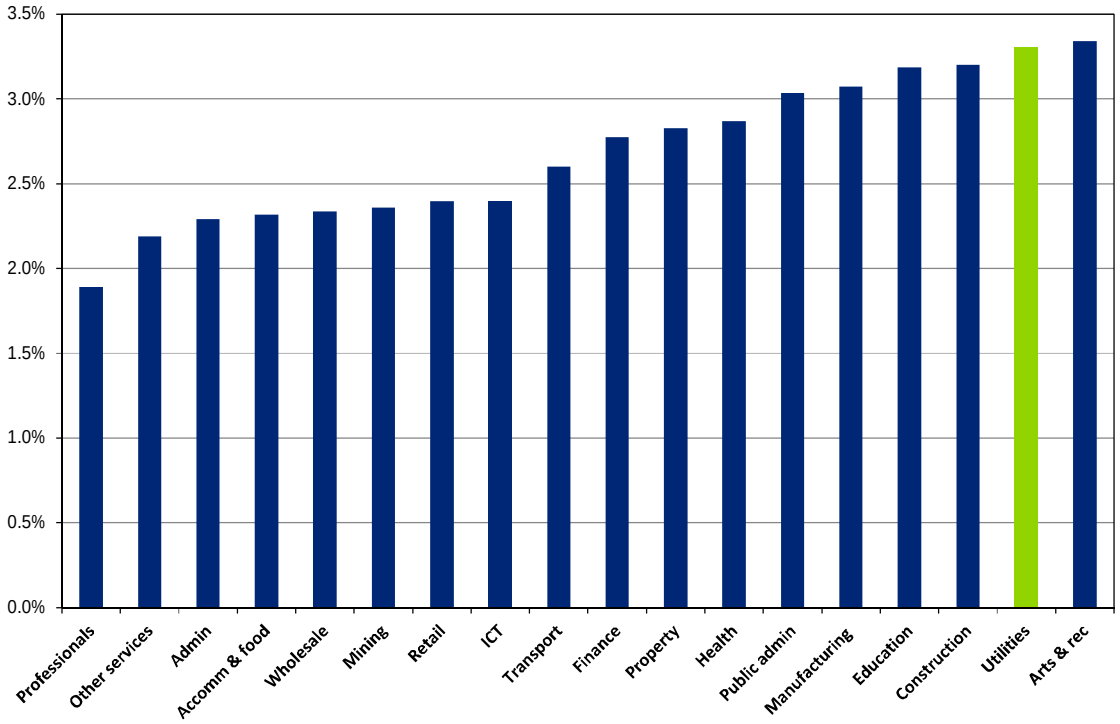
But the tide has since gone out and, as a nation, our lack of cost competitiveness is hurting us. Other things equal, that weakness in the terms of trade will keep national wage gains modest.

Inflation will remain low, which will help to keep nominal wage gains weak. And, as noted, the need to repair Australian cost competitiveness will be another key constraint. That said, although job growth won't be great, baby boomer retirement means labour supply won't be too healthy either, while better news in housing construction will also boost wage gains. So although the projected recovery in wage gains is modest and slow, it will occur.

Wage gains are currently fastest in the utilities, but that ranking may fade

Although wage growth in the utilities has slowed, it has not slowed to nearly the same extent as in other industries, leaving wage growth over the past year faster in the utilities than it is in any sector other than Arts and Recreation.

Chart ii: Wage growth over the past year



Source: ABS

Chart iii below shows wage outcomes relative to national wage movements since calendar 2007 (a pre-GFC benchmark). Weaker States and sectors (such as NSW and manufacturing) have lagged the national benchmark. Among all the sectors that the ABS measures wages, relative wage gains in the utilities since 2007 have lagged only those in mining – and that gap closed notably over the past year.

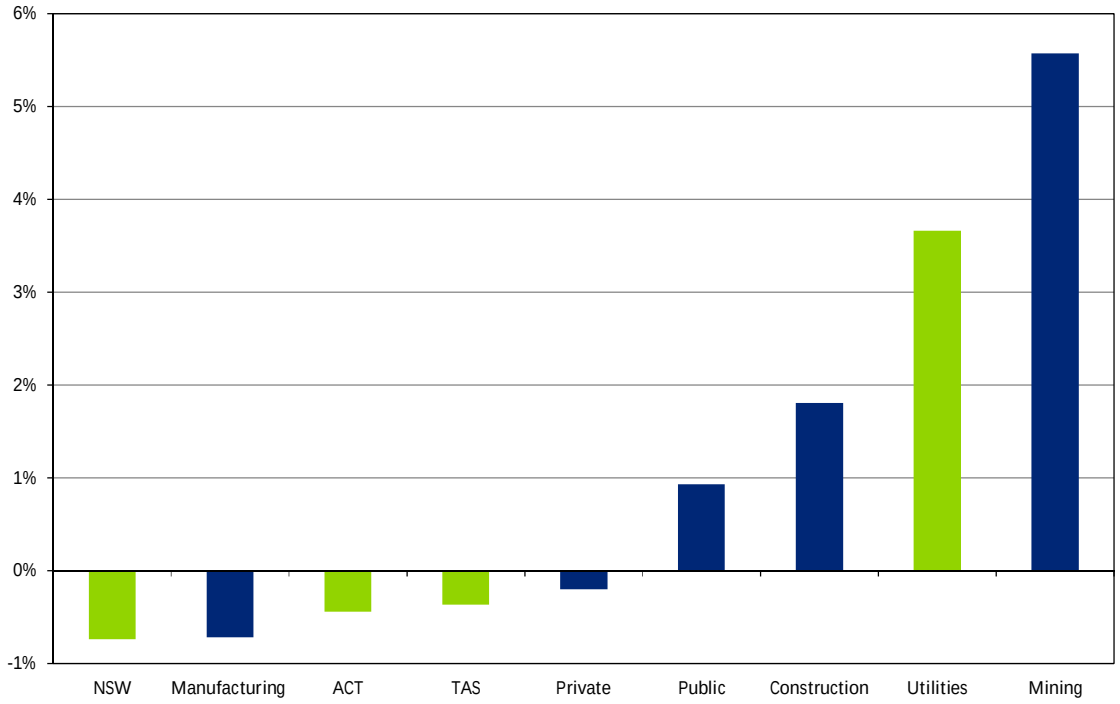
That outperformance on relative wages sits oddly, given that this sector's output has been shrinking for three years (in large part a response to higher prices), and that its productivity performance has been poor (also partly due to that lift in prices, and also due to a mandated switch to energy sources which, as yet, aren't as efficient as more traditional sources).

Yet its more institutionalised wage setting processes and distance from global competition mean wages in the utilities are slower to adjust and less cyclical than wages more generally.

However, 'slower to adjust' means that timing is delayed rather than denied, and although wages in the utilities may be less cyclical than most, this sector is undergoing a notable cycle.

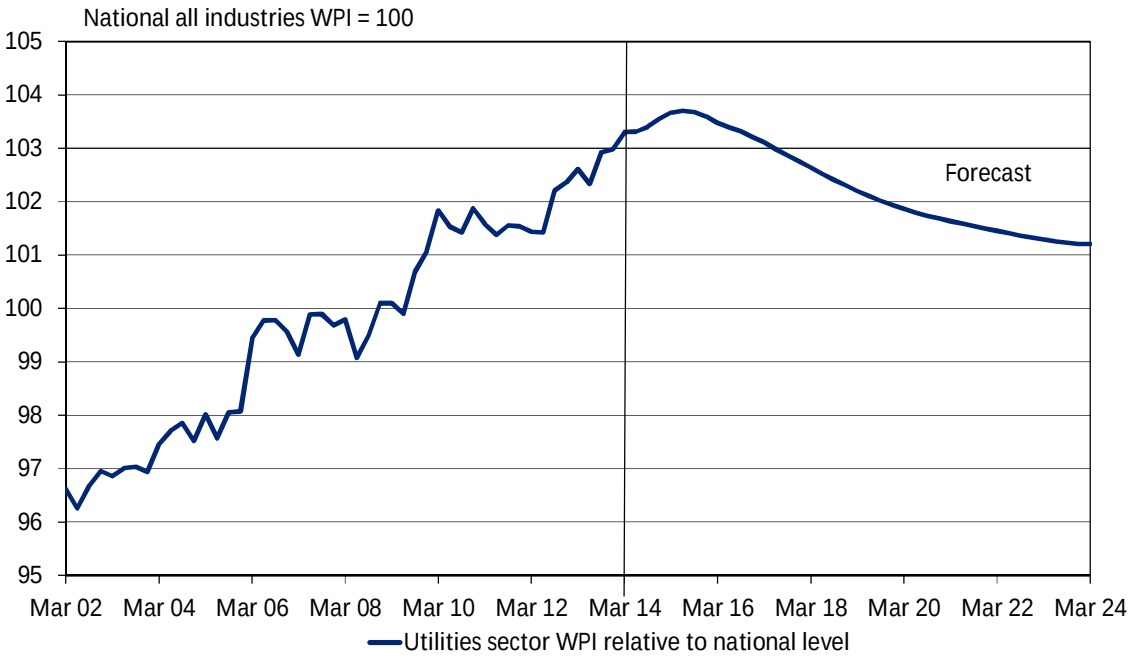
Other things equal, that suggests wage growth in the utilities may fade at a time when it is recovering nationally.

Chart iii: Shifts in relative wages since 2007 – key recent trends



Source: ABS

Chart iv: The utilities WPI relative to the national WPI

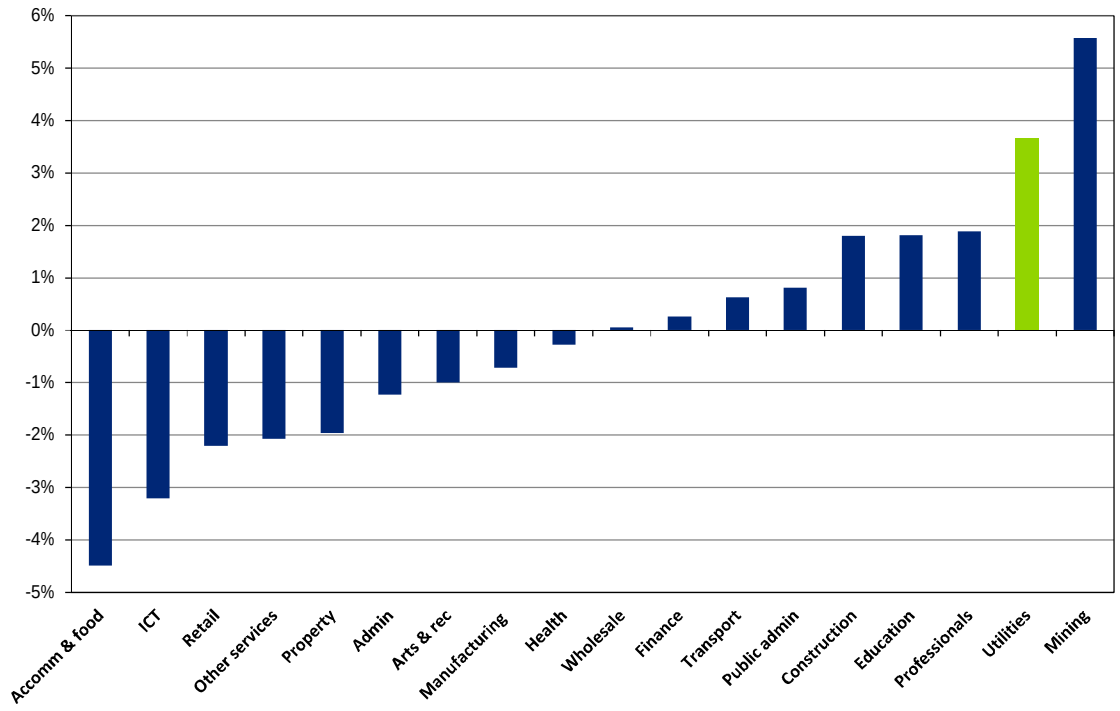


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Wage gains in construction and mining …

Construction sector wages received a big cyclical boost as an engineering construction boom passed through the Australian economy. However, that boom has now peaked and, in cyclical terms, so has the outperformance of construction wages. The latter is now expected to peak relative to wages in other sectors at close to current levels, and – despite a nascent recovery in housing construction – may decline in relative terms from here.

Chart v: Shifts in relative wages since 2007 – sectors



Source: ABS

Among other industries, there has been a recent relative decline in mining, whose wages peaked relative to other sectors in early 2013. The current pace of wage growth in mining is now below the national average.

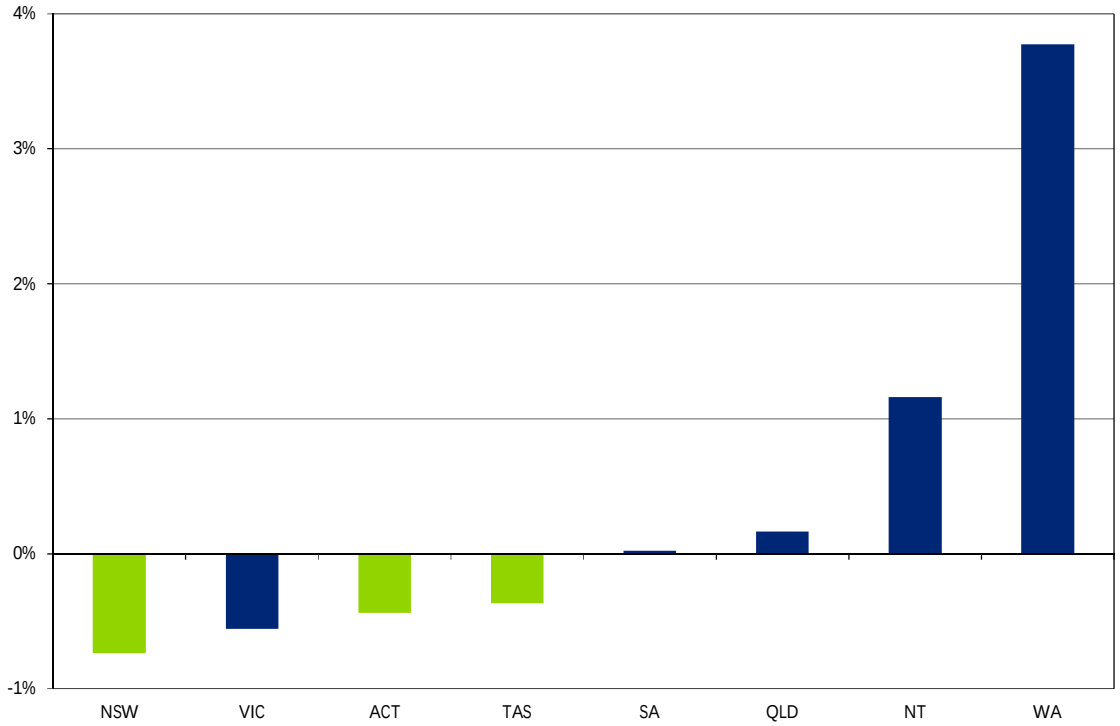
… are set to fade

Both construction and mining are on the wrong side of macro developments, meaning that their relative wage strength of recent years may dissipate. In brief, falling engineering construction following the peak of the engineering construction boom will work against wage trends in construction, and cost consciousness among miners is already notably apparent.

Wage gains in NSW, Tasmania and the ACT have been weak …

This report focuses on wage developments in NSW, Tasmania and the ACT. Each of these three jurisdictions has seen their relative wages fall – albeit modestly so – relative to wages in the economy as a whole since calendar 2007. Not surprisingly, relative wage gains have been highest in those sectors with the strongest construction and mining booms – Western Australia and the Northern Territory.

Chart vi: Shifts in relative wages since 2007 – States and Territories



Source: ABS

Looking ahead, the tide is turning but longer term wage gains in NSW and Tasmania may remain relatively weak…

Yet although NSW and Tasmania have both seen relative wage falls in recent tides, the tide is slowly turning – at least in part due to tougher times in States and Territories more dependent on outcomes in the resources and related sectors. Even so, underlying trends for both of these States suggest a slight underperformance on overall wages is likely over the longer term. For the ACT, overall wages may underperform in the near term amid public sector cutbacks, with some better outcomes likely to be seen over the medium to longer term.

Table i: State WPI forecasts

Financial year changes in nominal Wage Price Index forecasts

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5
New South Wales	3.1	2.6	2.9	2.9	3.5	3.7	3.5	3.4
Australian Capital Territory	3.7	2.5	2.4	2.8	3.7	4.2	4.1	3.8
Tasmania	3.2	2.4	2.6	2.8	3.4	3.7	3.6	3.4

Financial year changes in real Wage Price Index forecasts

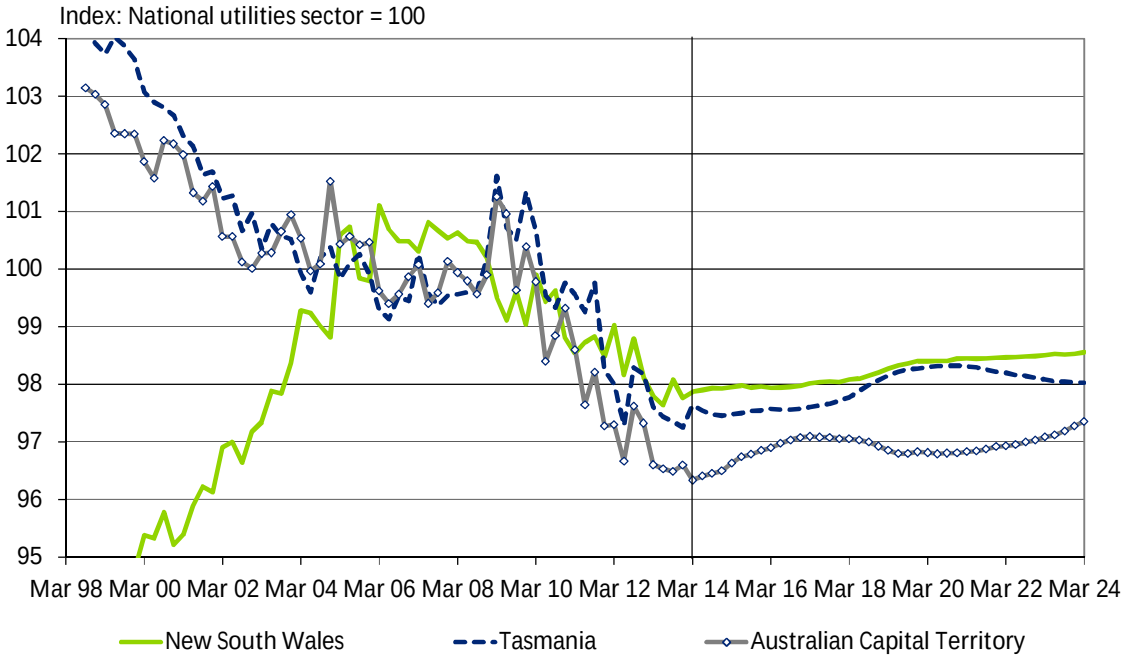
Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.1	-0.1	0.2	0.4	0.7	1.3	1.1	1.1
New South Wales	0.5	-0.1	0.2	0.4	0.7	1.2	1.1	1.1
Australian Capital Territory	1.8	0.1	-0.4	0.2	0.8	1.6	1.7	1.4
Tasmania	2.0	-0.2	0.1	0.3	0.6	1.2	1.2	1.1

Source: ABS, Deloitte Access Economics labour cost model

However, wages in the NSW, ACT, and Tasmanian utilities sectors may outperform

Whereas (at least in relative terms) overall wage gains may modestly underperform in coming years in NSW and Tasmania, the opposite may be true of wages in the utilities sector in NSW and Tasmania, as well as the ACT. As Chart vii shows, the latter broadly underperformed gains in other States in recent years – in part due to faster wage increases in 'resource sector' States.

Chart vii: Relative utilities WPI forecasts for NSW, the ACT and Tasmania



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

The forecast profile in Chart vii shows the relative utilities WPI measure for NSW and Tasmania edging slowly higher (relative to the overall utilities sector WPI level) over the next few years:

- Both the NSW and Tasmanian economies are already doing relatively better than they have for a while.
- The 'sun belt' strength in wages across all sectors (but including the utilities sector) in Western Australia and Queensland will become less obvious.
- In particular, the relative underperformance of utilities sector wages in these two States in recent years has run its course, as also seen in the latest data (and hence there may be a 'reversion to underlying trend' over time).

A similar story is expected for the ACT, with the ACT's relative utilities WPI measure forecast to gradually increase over the next decade. Although the ACT's economy may be weak in the near term due to public sector cutbacks, the relative strength in utilities is a reflection of the waning strength of the resource States, as well as some reversion to underlying long term trend for the ACT which, like NSW and Tasmania, has underperformed for a number of years.

Note this "local growth" occurs across a period where growth in the utilities nationally will be lagging the overall rate of WPI increase. Accordingly, what these utility 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).

Note also that these wage forecasts do not assume any impact on wage-setting in the NSW utilities sector related to the potential for privatisations in some elements of the industry.

Summary results

The summary tables of results follow.

Table ii: Summary results – key variables

Financial year changes in key variables

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Output	2.7	2.9	2.8	2.9	3.4	3.2	2.9	2.9
Consumer price index	2.3	2.7	2.5	2.5	2.9	2.5	2.4	2.4
Wage Price index	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5
Ave. weekly earnings	4.4	2.8	2.8	3.2	3.9	4.1	3.8	3.7
Ave. weekly ordinary time earnings	4.6	3.0	3.2	4.1	4.5	4.6	4.3	4.2

Source: ABS, Deloitte Access Economics macroeconomic model

Table iii: Summary results – economic variables

Financial year changes in key economic variables - annual % change (unless noted)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption								
Private sector	2.1	2.5	2.5	2.9	3.2	3.3	3.3	3.3
Public sector	0.8	2.0	0.9	1.6	3.0	3.3	3.1	2.9
Private sector investment								
Non-business housing	-0.2	5.2	11.6	8.8	7.2	2.4	-0.3	2.3
Non-business real estate	3.7	13.2	4.0	4.2	5.8	1.7	-0.6	1.6
Non-residential building	9.1	3.5	8.7	1.3	1.7	1.1	3.1	4.2
Engineering construction	17.7	-5.4	-13.6	-9.0	-5.7	-2.9	-1.0	0.2
Machinery and equipment	-4.3	-11.3	-2.7	1.0	4.0	2.1	3.3	4.4
IP and livestock	5.9	2.1	1.4	-1.2	-2.4	-0.9	1.8	2.8
Public investment								
General Government	-11.7	1.3	2.7	5.8	2.4	2.0	2.0	-1.9
Public enterprises	-6.3	-8.4	6.6	7.3	3.1	-0.5	1.2	2.3
Domestic final demand	2.0	1.2	1.6	2.2	2.8	2.6	2.7	2.9
Private sector	3.0	1.1	1.6	2.2	2.8	2.6	2.7	3.1
Public sector	-1.5	1.4	1.4	2.5	2.9	2.9	2.9	2.2
Gross national expenditure	1.7	0.7	2.0	2.3	2.8	2.6	2.7	2.9
International trade								
Exports	6.0	7.0	5.3	5.3	7.4	6.2	3.9	4.1
Imports	1.0	-3.3	2.5	2.6	5.4	4.0	3.0	4.2
Net (% additon to growth)	1.4	2.2	0.5	0.7	0.7	0.6	0.2	0.1
Total output (GDP)	2.7	2.9	2.8	2.9	3.4	3.2	2.9	2.9
Non farm output	2.8	2.8	2.6	2.9	3.4	3.2	2.9	3.0
Employment	1.3	0.8	1.4	1.6	1.7	1.8	1.8	1.7
Unemployment rate (%)	5.3	5.9	5.8	5.8	5.7	5.7	5.6	5.5

Source: ABS, Deloitte Access Economics macroeconomic model

Table iv: Summary results – wages and prices

Financial year changes in national wage and prices variables

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumer price index (CPI)	2.3	2.7	2.5	2.5	2.9	2.5	2.4	2.4
Wage price index (WPI)								
Nominal	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5
Real	1.1	-0.1	0.2	0.4	0.7	1.3	1.1	1.1
Average weekly earnings (AWE)								
Nominal	4.4	2.8	2.8	3.2	3.9	4.1	3.8	3.7
Real	2.1	0.2	0.2	0.6	0.9	1.5	1.3	1.3
Average weekly ordinary time earnings (AWOTE)								
Nominal	4.6	3.0	3.2	4.1	4.5	4.6	4.3	4.2
Real	2.3	0.3	0.6	1.5	1.6	2.0	1.8	1.8
Unit labour costs								
Nominal	0.2	0.4	1.2	1.8	2.3	3.2	3.1	2.9
Real	-2.0	-2.2	-1.3	-0.7	-0.6	0.6	0.7	0.5

Source: ABS, Deloitte Access Economics macroeconomic model

Table v: Summary results – National sectoral wages

Financial year changes in nominal national industry sector WPI

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5
Utilities	4.2	3.4	3.2	2.9	3.3	3.4	3.1	3.1
Construction	3.3	3.1	2.7	2.8	3.8	3.9	3.4	3.3
Admin services	3.3	2.4	2.8	2.7	3.3	3.8	3.5	3.4

Source: ABS, Deloitte Access Economics labour cost model

Table vi: Summary results – State utilities sector nominal wages

Financial year changes in nominal utilities sector WPI

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	4.2	3.4	3.2	2.9	3.3	3.4	3.1	3.1
New South Wales	3.7	3.2	3.3	2.9	3.4	3.5	3.3	3.3
Australian Capital Territory	3.9	2.8	3.4	3.2	3.5	3.4	2.9	3.1
Tasmania	3.8	2.9	3.3	3.0	3.4	3.6	3.5	3.3

Source: ABS, Deloitte Access Economics labour cost model

Table vii: Summary results – State utilities sector real wages

Financial year changes in real utilities sector Wage Prices

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.9	0.7	0.7	0.4	0.4	0.9	0.7	0.7
New South Wales	1.1	0.6	0.6	0.4	0.5	1.0	0.9	1.0
Australian Capital Territory	1.9	0.4	0.6	0.6	0.6	0.8	0.5	0.7
Tasmania	2.6	0.3	0.8	0.5	0.5	1.1	1.1	1.0

Source: ABS, Deloitte Access Economics labour cost model

Deloitte Access Economics

24 July 2014

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 2019-20 for New South Wales, Tasmania and the Australian Capital Territory, as well as for Australia as a whole.

Specifically, AER requested:

- an analysis of forecast labour costs for the utilities industry in the above mentioned States;
- a comparative analysis of forecast labour costs for the construction industry;
- an analysis of forecast general labour cost growth in each of NSW, Tasmania and the ACT; and
- a discussion of how market conditions are expected to affect the labour forecasts.

AER has also requested a condensed version of the reports previously provided by Deloitte Access Economic to the AER. This report is organised as follows:

- Discussion of the economic outlook, including national and State commentary, as well as a broad look at the utilities and construction sectors.
- Discussion of the outlook for wages, including a brief discussion at the national and State level, followed by analysis at the industry level.
- The report then discusses detailed forecasts at the State level of wage growth in the utilities and competitor industries.
- 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.

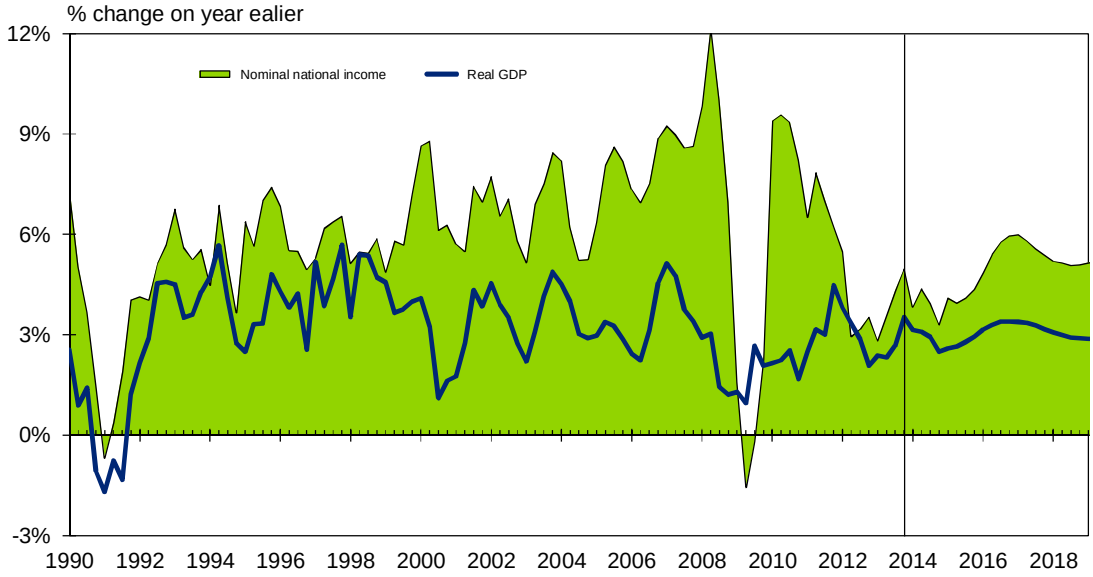
2 The economic outlook

2.1 Australia

Australia's growth transition depends on the slack left by sagging mining-related construction work being picked up by (1) rising export volumes and (2) by the boost to retail and housing construction from low interest rates.

Falls in mining-related construction are growing in size and speed, but that weakness in the so-called second phase of the resources boom is being comfortably cushioned by rising resource export volumes as more and more mining investment comes online. And low interest rates have had an impact: retail has picked up and the recovery in home building has kicked in.

Chart 2.1: Australian GDP growth



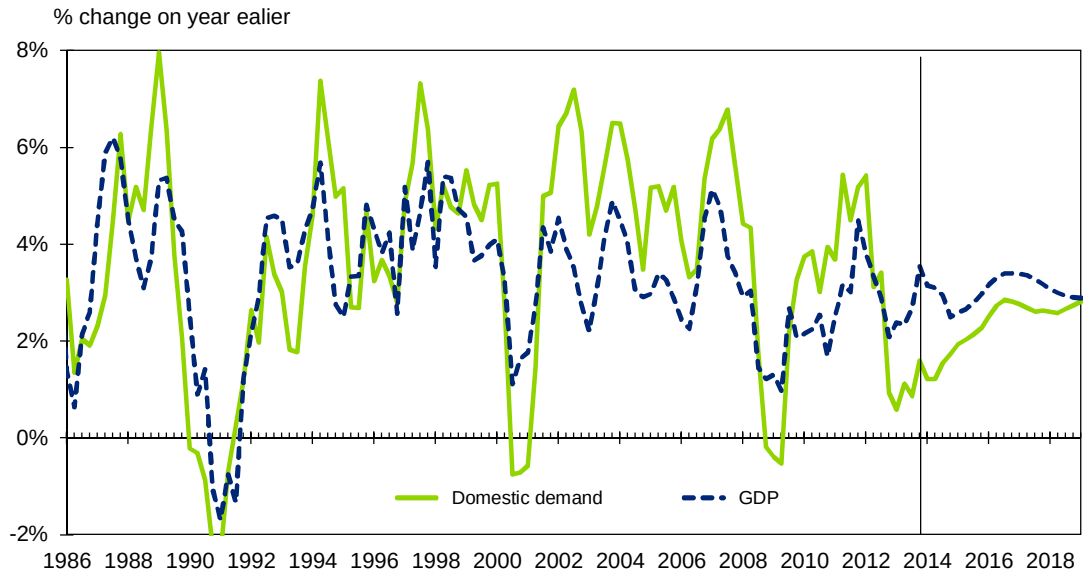
Source: ABS, Deloitte Access Economics macroeconomic model

Yet there are growth challenges ahead. First, some of our recent growth was artificially good. Although mining export volumes genuinely are sprinting, the usual disruptions from cyclones and floods didn't happen in early 2014, and that has flattered the numbers.

Second, the construction cliff remains a key negative. The key drivers of the downturn in engineering construction work remain relevant – prices and profits in the resources sector have already fallen notably, supply continues to surge, future demand growth won't match that of the past decade, and Australia ran up a cost burden when times were good. That's why we continue to see the construction cliff as a growth negative in the next couple of years.

Third, an extra negative is the size of the falls in iron ore prices through 2014 to date. They will directly affect national income, and will also add to the woes of construction: the worse commodity prices get, the bigger the construction cliff will become.

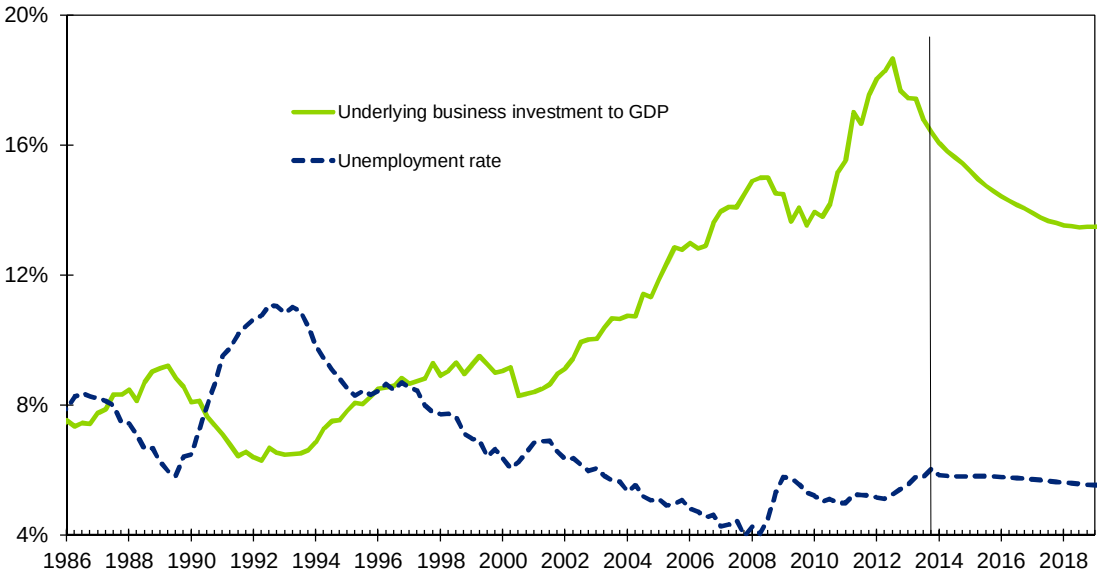
Chart 2.2: Domestic demand and GDP



Source: ABS, Deloitte Access Economics macroeconomic model

Strong export growth will continue to lift overall gains in output. Yet that still leaves a growing gap in Chart 2.2 (output growth solid, domestic demand rather weaker). Further, and as Chart 2.3 below indicates, our views on the construction cliff remains pretty much in place. It is true that the ABS capex survey has been looking better of late. The same could be said for Deloitte Access Economics' Investment Monitor, where recent news has been somewhat better as well.

Chart 2.3: Business investment/GDP and the unemployment rate



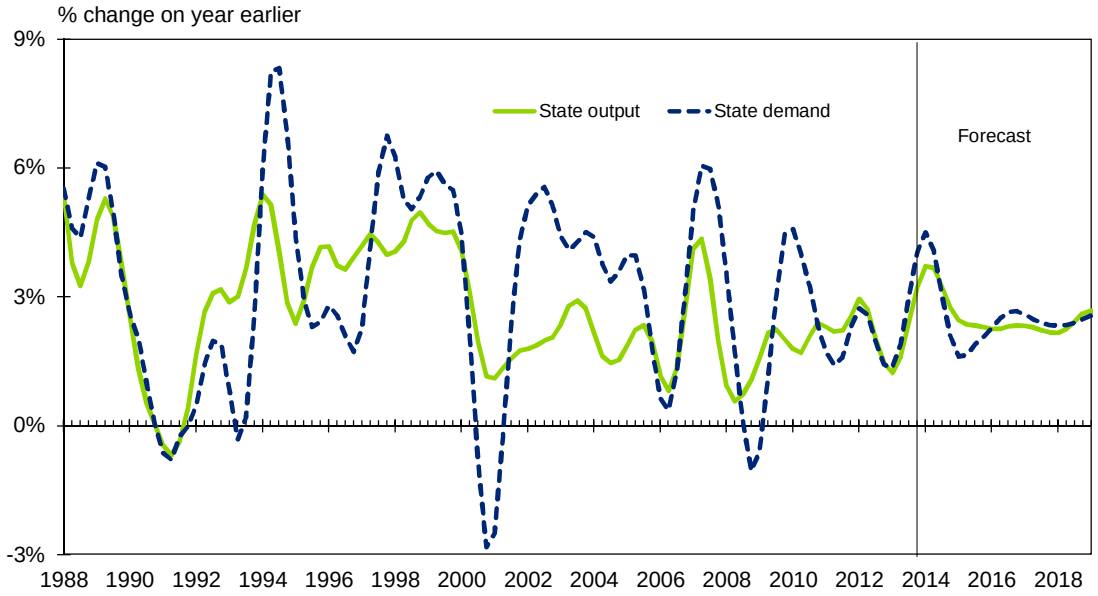
Source: ABS, Deloitte Access Economics macroeconomic model

The upshot is that although Chart 2.1 showed latest data moved economic growth back above trend rates – a relatively rare occurrence since the global financial crisis rolled through town – our big picture view of growth being a little below trend well into 2015 remains the same.

2.2 NSW and the ACT

New South Wales underperformed the national economy across much of the past decade. In part, that reflected the lack of exposure to the mining boom which helped to drive a strong performance in the resource rich states of Western Australia and Queensland. It also reflected State specific factors, including underperforming housing construction. However, with mining-related construction now peaking and interest rates now set at a low level, an improvement in relative economic performance for the New South Wales economy is now being seen.

Chart 2.4: NSW State output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

There are a number of key positives worth noting:

- Housing construction is lifting not only due to low mortgage rates, but also in response to pent up demand and higher housing prices. This will help to lift the State's output growth.
- Retail sales have strengthened as a result of Sydney's housing price surge and the additional wealth effects from sharemarket gains.
- Low interest rates are good for the finance sector. The growth in the finance sector around the nation just reached its highest since ahead of the global financial crisis.
- Transaction activity has seen a renewed boost due to the combination of low interest rates, a lower $A, high investor demand for Australian infrastructure assets and the plans of cash-strapped State administrations. This is flowing through to accountants, lawyers and others in business services – a strongly represented sector in NSW.

There are also some challenges facing NSW:

- There is no major threat from 'the construction cliff', but business investment spending has been worse than expected.
- The worsening of housing affordability is expected to be detrimental to population growth, although this is expected to take some time to show.
- The State's job gains have eased off lately, despite good trends in unemployment.

On balance, the outlook for New South Wales is improving. NSW has been outperforming the rest of the nation, where growth has been under pressure. NSW's unemployment rate has dropped notably at a time when Australia's has steadied. The key fundamental that has been helping NSW is low interest rates. However, NSW will struggle to avoid growing more slowly than the nation as a whole over the longer term. At best, NSW is experiencing a cyclical lift relative to other states, slowing the decline as a share of national output.

Table 2.1 below sets out Deloitte Access Economics' current forecasts for NSW's economy.

Table 2.1: NSW demand and output forecasts

Financial year changes in New South Wales key economic variables

Annual % change (unless noted)	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption								
Private sector	1.7	3.4	2.6	2.0	2.6	2.4	2.4	2.7
Public sector	1.0	2.4	1.1	1.2	2.5	2.8	2.6	2.4
Private sector investment								
Dwelling investment	7.1	6.7	19.5	11.0	7.9	2.8	0.0	2.3
Non-residential building	24.6	-4.0	13.2	-0.1	0.3	1.0	2.2	3.7
Engineering construction	13.7	-11.7	2.8	-4.5	-3.5	-0.1	0.2	1.6
Machinery and equipment	-10.7	-3.3	0.4	2.9	6.5	2.5	3.6	4.4
IP and livestock	5.8	5.3	1.9	0.8	-1.8	-0.2	2.3	3.0
Public investment								
General Government	-13.7	12.6	1.4	1.6	0.1	-0.4	1.2	-2.6
Public enterprises	14.3	17.9	-22.7	-6.4	-2.7	-2.9	-0.3	1.0
Real final demand	1.7	3.4	2.6	2.0	2.6	2.4	2.4	2.7
Private sector	2.2	2.9	3.7	2.4	2.8	2.5	2.5	2.9
Public sector	0.0	5.1	-1.3	0.6	1.8	1.9	2.2	1.7
Gross State output	1.8	2.8	3.0	2.3	2.3	2.2	2.5	2.3
Employment	1.5	0.5	1.1	1.1	1.0	1.3	1.4	1.5
Unemployment rate (%)	-0.8	12.8	0.8	2.0	-0.2	-1.4	-1.5	-1.5

Source: ABS, Deloitte Access Economics macroeconomic model

Australian Capital Territory

The ACT has performed relatively well compared with the nation, broadly maintaining its share of national output and population over the past decade. That performance came despite the ACT's lack of resource riches. Yet the ACT benefited from increased Federal Government spending which was supported to a significant extent by increased tax revenue from rising mining company profits. With commodity prices now sliding and the Federal Budget under pressure, the Federal Government is aiming to rein in the growth in its spending.

A tough couple of years lie ahead. Some 6,000 or 7,000 jobs will come out of the Federal public service in Canberra over the next two years (of total job cuts of 16,500), as Canberra accounts for about two out of every five Federal public servants. This will cause some flow on negatives as head count and spending are reined in. The ACT Government is moving to offset the Federal Government cuts. Another key factor will be Federal public servants accepting redundancies and transitioning into small business or consultancies.

Meanwhile, the outlook for private sector activity is also subdued. Indeed, while housing construction saw a boom in recent years, outperforming much of the country, the outlook

sees a decline over the coming years. Commercial construction also remains weak, with completion dates nearing on a few large projects. The engineering outlook is modest. Most of the current projects will finish up by 2016, leaving a pretty bare cupboard going forward.

Low interest rates continue to be a source of good news for the ACT, providing some much needed support for the ACT's retail and housing construction sectors.

While the next few years are expected to be tough ones for the ACT, the ACT is expected to perform around the national average over the longer term. Leaving aside near term weakness, the Territory's share of national output is set to remain fairly steady over the years to come, declining very slowly. Likewise, population growth is similar to the national average, with no major changes expected for the ACT share of national population.

Table 2.2 below sets out Deloitte Access Economics' current forecasts for the ACT's economy.

Table 2.2: ACT demand and output forecasts

Financial year changes in Australian Capital Territory key economic variables

Annual % change (unless noted)	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption								
Private sector	0.3	-0.2	0.5	1.7	2.4	2.6	2.7	2.4
Public sector	0.9	2.1	0.1	1.4	2.8	3.0	2.9	2.7
Private sector investment								
Dwelling investment	-0.6	-7.3	-1.3	-3.1	0.1	-2.7	-3.7	0.0
Non-residential building	-17.9	-16.1	16.1	0.8	6.3	4.0	7.6	4.5
Engineering construction	16.6	11.0	-34.8	-31.0	-4.7	5.5	15.8	3.6
Machinery and equipment	12.4	-27.9	-5.6	-11.6	6.6	4.6	2.2	9.1
IP and livestock	7.0	4.7	-5.5	-0.2	-3.4	0.2	3.0	3.5
Public investment								
General Government	-9.3	-11.3	2.7	12.6	3.5	2.7	2.1	-1.9
Public enterprises	-17.1	-23.4	-4.5	3.7	1.3	-0.9	0.5	1.3
Real final demand	0.3	-0.2	0.5	1.7	2.4	2.6	2.7	2.4
Private sector	1.6	-1.4	0.7	0.5	1.7	1.9	2.4	2.6
Public sector	-0.5	0.5	0.3	2.4	2.8	3.0	2.8	2.2
Gross State output	2.7	2.2	1.4	1.2	2.0	3.0	3.5	2.5
Employment	1.9	0.5	0.2	0.5	0.9	1.3	1.3	1.0
Unemployment rate (%)	11.1	-7.3	5.2	14.8	4.4	1.0	0.7	1.2

Source: ABS, Deloitte Access Economics macroeconomic model

2.3 Tasmania

Tasmania's economy has underperformed the rest of the nation over the last decade. In recent years, the State has experienced recession-like conditions, with weakness being seen across most economic indicators and unemployment in the State rising significantly. More recently, however, the State's economy is finally showing signs of emerging from that weakness, with noticeable improvement in a number of economic indicators.

Some key positives worth noting for Tasmania include:

- Construction (excluding homebuilding) is up, while it is falling elsewhere across the nation.
- Retail sales are seeing stellar performance, outperforming the rest of the nation.

- Nationally, jobs gains have been relatively good. Tasmania is again above the national average for job gains, and the unemployment rate is falling, while it is stagnant nationally.
- Population growth is at a two year high, despite being slower than national gains.

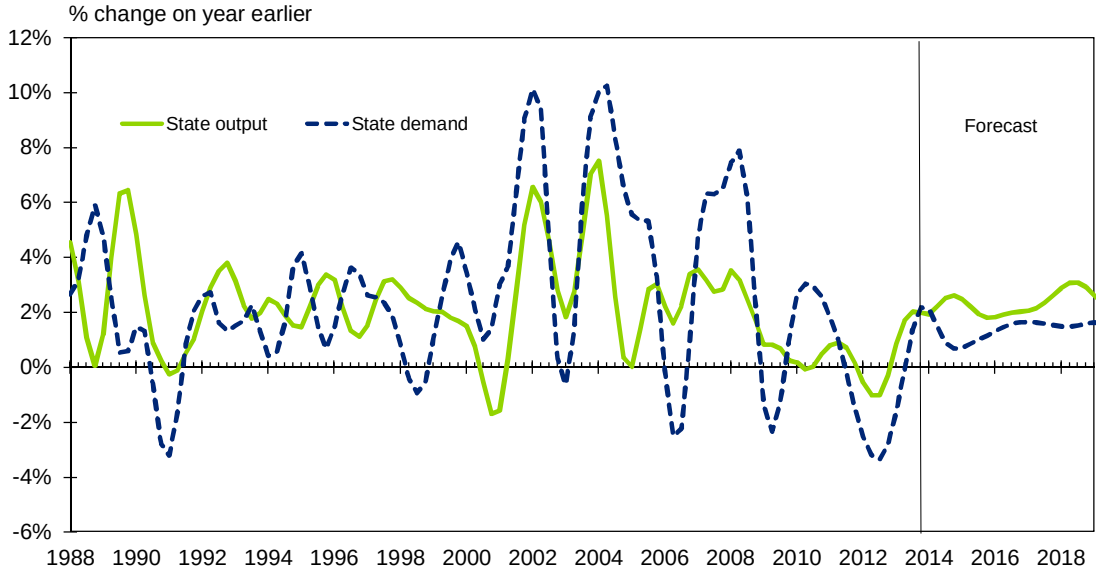
Lower interest rates have been good news for retail and for housing construction. The fall in the $A has combined with better news in key export markets (such as the US and Europe) to help some other sectors as well. So, the big drivers of difference in State performance are now less of a problem for Tasmania.

For housing construction, lower interest rates have contributed to an improvement in building approvals and housing finance, which indicates a slightly more positive future for Tasmania's housing construction sector. Although, population growth that is considerably below the national average keeps optimism for the future in check.

The engineering construction sector is looking hopeful, with a few large projects such as King Island wind farm and Midland Highway upgrade in the pipelines. The outlook for the commercial construction sector is unchanged, being led by a series of hospital upgrades.

Despite the recent improvements seen in Tasmania's economic indicators, this is just a catch up after a bad run of performances. Business investment spending has increased, but it remains a smaller share of the economy than in any other State. The story for population growth is similar, being the weakest of any State.

Chart 2.5: Tasmanian State output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

The recent pick up in performance helps it close a performance gap with the rest of the nation, rather than overcome that gap. As such, it is still expected that Tasmania's share of both national output and national population will continue to decline over the coming years.

Overall, Chart 2.5 shows the potential for better times ahead, but there is no major change in some fundamental trends.

Table 2.3 below sets out Deloitte Access Economics' current forecasts for Tasmania's economy.

Table 2.3: Tasmania demand and output forecasts

Financial year changes in Tasmania key economic variables

Annual % change (unless noted)	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption								
Private sector	-2.9	1.5	0.9	1.1	1.6	1.6	1.5	1.6
Public sector	1.6	-0.3	-0.8	0.3	1.7	2.1	2.0	1.8
Private sector investment								
Dwelling investment	-7.6	-1.5	-0.1	7.1	6.7	2.0	-0.8	1.7
Non-residential building	-20.0	21.1	17.8	1.0	-3.0	-1.2	2.7	2.4
Engineering construction	-8.7	2.4	5.4	4.0	-8.6	-3.9	0.9	-0.2
Machinery and equipment	-31.1	-5.4	-5.4	-8.5	0.6	0.9	2.1	5.0
IP and livestock	4.3	0.0	-10.1	-8.3	-7.8	-3.9	0.8	2.4
Public investment								
General Government	-18.0	-1.1	26.7	15.1	5.3	3.1	1.9	-2.3
Public enterprises	-19.4	-12.2	-3.1	11.1	4.4	0.0	0.8	1.3
Real final demand	-2.9	1.5	0.9	1.1	1.6	1.6	1.5	1.6
Private sector	-3.0	2.6	0.4	0.4	1.3	1.3	1.4	1.8
Public sector	-2.6	-1.2	2.0	2.9	2.4	2.1	1.9	1.1
Gross State output	-0.6	2.0	2.5	1.9	2.0	2.5	2.9	2.2
Employment	-0.8	-1.1	0.3	0.2	0.1	0.3	0.3	0.2
Unemployment rate (%)	10.3	10.7	-3.5	-1.1	-2.1	-2.6	-2.5	-1.9

Source: ABS, Deloitte Access Economics macroeconomic model

2.4 The utilities sector

The utilities sector (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. Electricity accounts for just over half the sector. Water and waste services accounts for much of the remainder, with gas accounting for a very minor share of the sector.

As Chart 2.7 below shows, the growth of the utilities has lagged national output growth. Indeed, utilities output has been falling as a share of national output since 1995. That has reflected a downward trend in the growth of electricity demand in Australia since the 1970s and 1980s, a trend also seen in the US and the UK.[1] The loss of manufacturing to lower cost countries in Asia has been a key structural force driving the lower growth in industrial demand.

Over the past decade, Australia's mining boom took a toll on the growth of the utilities. The mining boom drove an increase in the Australian dollar and interest rates relative to the rest of the world which proved problematic for trade exposed sectors such as manufacturing 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:

[1] https://melbourneinstitute.com/Outlook_2014/updates.html 'Changing climate on climate change', Matthew Warren, Energy Supply Association of Australia.

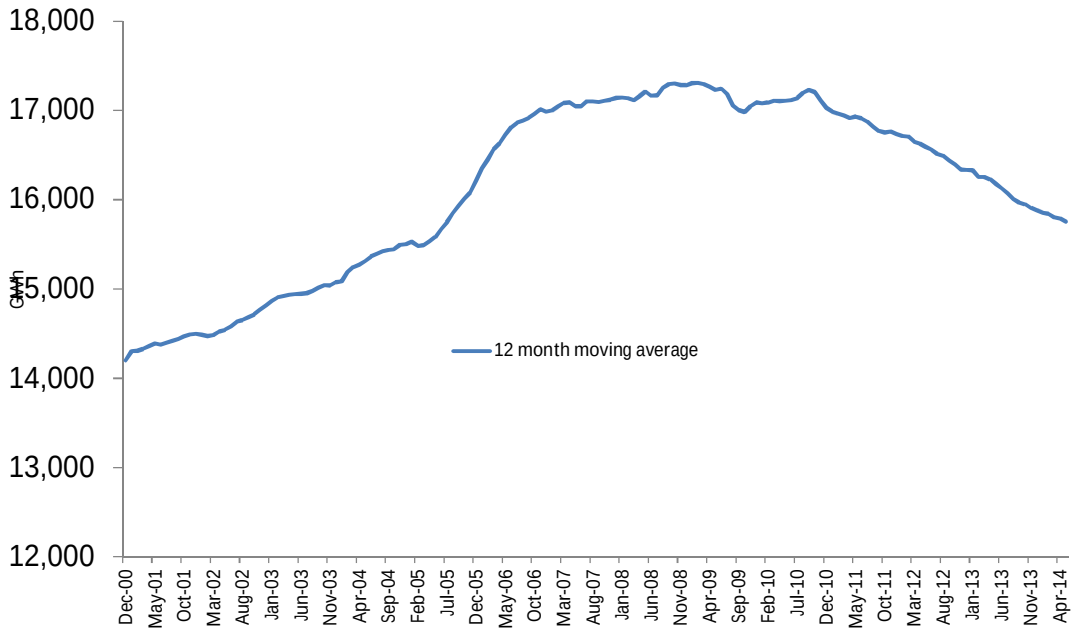
- A changing regulatory environment, with mandatory renewable energy targets (MRET) and the imposition of a carbon price meaning that environmental goals led to a shift towards 'less productive' methods of energy generation, while the imposition of carbon pricing affected profitability and expansion 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, while wage competition resulting from the demand for workers by the mining and construction was also strong.

On the other hand, underlying growth due to increases in population and incomes has been solid, keeping overall sectoral outcomes reasonable despite this list of negatives.

The latest data show a large fall in the output of the utilities sector over the past year (Chart 2.7). A key factor has been higher prices for the services sold by the utilities. CPI data show the retail price of electricity rose more than 5 times faster than all consumer prices in the past five years. Price increases of that magnitude have an impact even when demand is relatively inelastic. Hence, both families and businesses have looked to reduce their use of energy and other utilities. In addition, some households have also been enthusiastic and early adopters of a range of energy saving devices and innovations, further reducing electricity consumption.

Chart 2.6: NEM consumption 2000-14 (moving average)



Source: https://melbourneinstitute.com/Outlook_2014/updates.html 'Changing climate on climate change', Matthew Warren, Energy Supply Association of Australia

Chart 2.6 illustrates the recent fall in electricity consumption. National Electricity Market (NEM) consumption plateaued from around 2007 to 2009, before consumption started to fall. NEM consumption has continued to decline since mid-2010, with no sign of easing in the latest data. Looking forward, the environment will bring both positives and negatives. Big positives include:

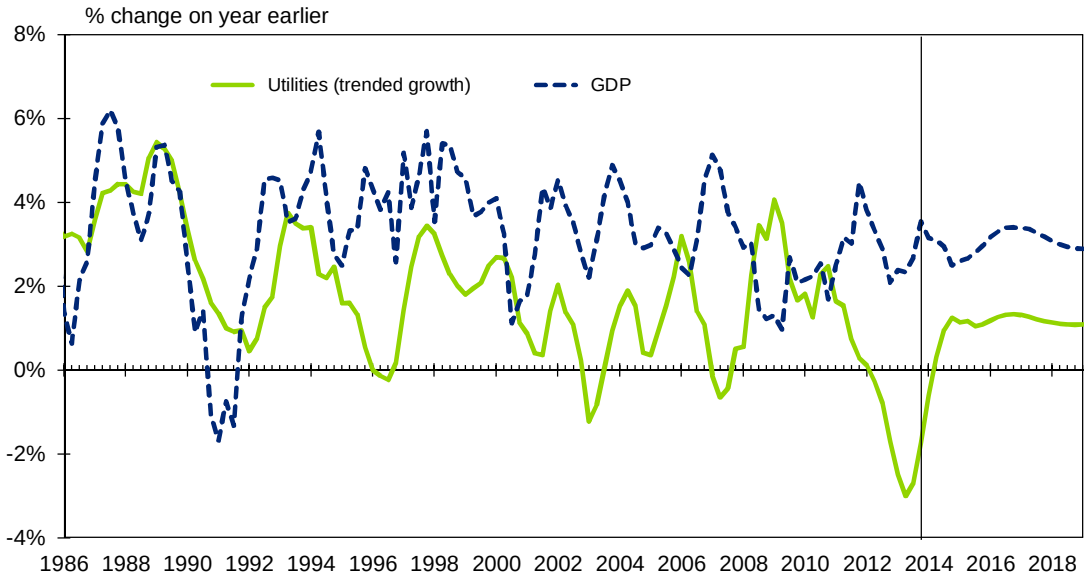
- Favourable movements in cyclical drivers. A mix of a lower $A and low interest rates means better industrial demand from sectors such as manufacturing, while demand for new connections for households should also rise as housing construction gathers pace.
- The surge in prices for electricity is unlikely 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.
- Underlying growth will be supported over time by growth in population and incomes. In the near term, income growth will be hit by weakness in employment and wages.

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

- Australia's manufacturing base remain under threat. The loss of Holden, Ford and Toyota from car manufacturing again highlights the structural challenges facing manufacturing. As manufacturing accounts for 31.7% of total electricity demand (IBISWorld 2012), continued weakness in manufacturing is likely to weigh on utilities demand in coming years.
- Gas producers are linking to world markets, but that means domestic gas prices will lift.
- 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 mix sees the short term outlook for demand in the utilities sector improving, but remaining modest, as seen in Chart 2.7 below.

Chart 2.7: Utilities output and GDP



Source: ABS, Deloitte Access Economics' macroeconomic model

2.5 Construction

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, commercial, and housing construction. Engineering construction activity will slide sharply in the next few years following the late 2012 peak of mining investment in Australia. Some mammoth gas projects are providing some strength in the tail – and will keep doing so for a while – but the trend is not engineering construction's friend. As we've noted in the past, the fundamentals simply aren't there for engineering construction going forward.

Numerous commodities face supply-side price pressures as major investments across the globe move into a production phase. Further, demand faces a less than positive situation with China slowing down and facing its own debt issues – a by-product of loose lending practices.

Finally, Australia saw large cost hikes over the past decade that have pushed us back in the global resource development queue. As prices of key commodities fall, major resource companies are tightening their belts, but it may be a case of too little too late. Yet despite these challenges, the engineering construction spend remains enormous. Yet falls in the pipeline of future work have already begun from recent highs, and they are projected to continue for some time (see Table 2.4 below). Other things equal, that says the engineering-driven gains in the wider construction sector across the last decade are now just a memory.

Table 2.4: Engineering construction projects (March 2014 level and annual change)

	Definite	% change on Mar 2013	In planning	% change on Mar 2013	Total $m	% change on Mar 2013
Manufacturing	1,774	5%	18,051	-18%	19,825	-17%
Transport	78,545	19%	161,045	-23%	239,590	-13%
Communication	46,392	4%	0	-100%	46,392	3%
Mining	234,333	-9%	196,594	2%	430,927	-4%
Power & water	15,217	-15%	19,122	-30%	34,339	-24%
Rural and forestry	0	-100%	700	0%	700	-43%
Total ($m)	376,261	-3.4%	395,512	-12.6%	771,773	-8.3%

Source: Deloitte Access Economics Investment Monitor, March 2014

The upturn in commercial construction has been elusive, but key drivers are looking more positive. Solid retail sales and a growing office construction pipeline help, as do low interest rates. Investment in office space is showing signs of improvement, although vacancy rates remain elevated and job growth is meek, which doesn't encourage investors. Retail is a similar story, with its bounce after some pretty lean times. Improvements in retail turnover may help to stimulate investment in the future, and the pipeline already looks a bit better.

Yet despite these two heavy hitters of this sector (offices and retail) providing only modest support, commercial construction is likely to grow roughly in line with the Australian economy. Although the 'construction cliff' is bad for engineering, its impact on the economy's overall growth is more modest. Although we'll build less, we'll also import fewer components to build mining projects. And the newly built resource assets are boosting exports, while low interest rates are stimulating retail and the housing sector. With the rest of the economy doing solidly, commercial construction will too – there will be enough demand to keep this sector moving.

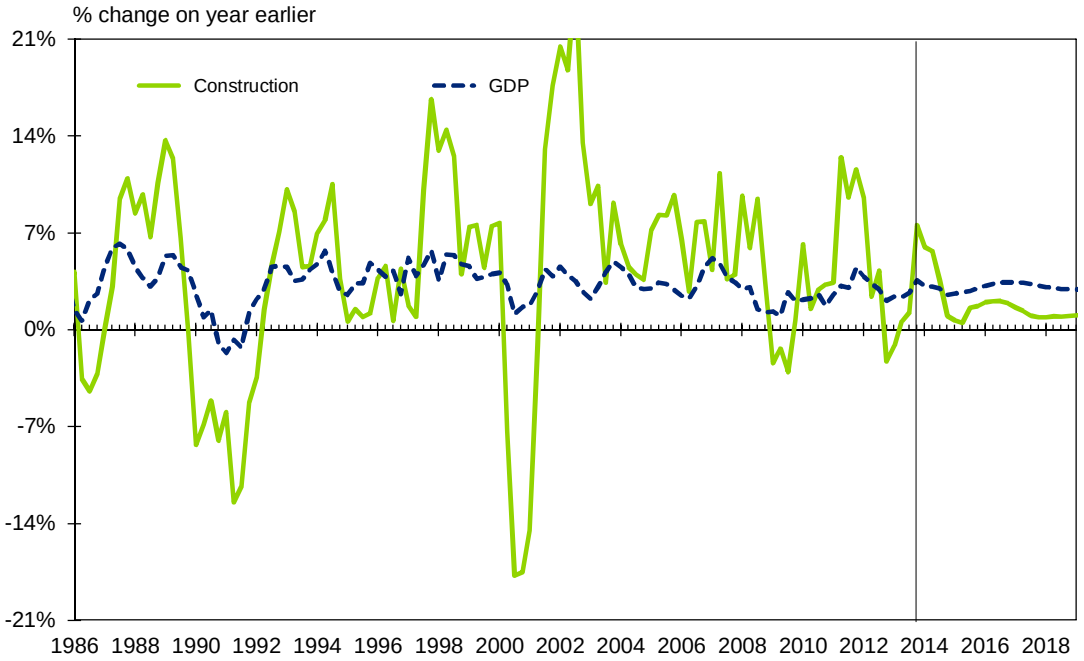
Table 2.5: Commercial construction projects (March 2014 level and annual change)

	Definite	% change on Mar 2013	In planning	% change on Mar 2013	Total $m	% change on Mar 2013
Trade	7,929	11%	5,645	91%	13,574	34%
Business parks	3,489	24%	2,030	3%	5,519	15%
Hotels and Resorts	1,227	232%	15,620	290%	16,847	285%
Offices	4,088	158%	5,432	42%	9,520	76%
Education	3,452	-1%	682	-14%	4,134	-3%
Health and community services	19,171	-5%	2,644	75%	21,815	1%
Culture, recreation & other	8,097	-18%	3,825	-29%	11,922	-22%
Business services	2,501	166%	2,268	-39%	4,769	2%
Government	1,104	-33%	530	308%	1,634	-8%
Mixed use	16,610	6%	2,290	230%	18,900	15%
Total in $m	67,668	6.1%	40,966	63.9%	108,634	22.4%

Source: Deloitte Access Economics Investment Monitor, March 2014

A buoyant property market saw home building approvals surge in 2013, a development which bodes well for housing construction. In fact we anticipate housing construction spending will be accelerating in both 2014-15 and 2015-16.

Chart 2.8: Construction output and GDP



Source: ABS, Deloitte Access Economics macroeconomic model

Put those elements together, and Chart 2.8 shows the net position of construction in the economy. From here, the growth will moderate to below the rate of growth in the broader Australian economy due to the drag from engineering construction spending winding down. Yet neither is the situation a disaster, with the transition from engineering to housing construction ensuring that overall construction growth remains essentially – if modestly – in the black.

3 The outlook for wages

This chapter considers a series of related issues affecting the wage outlook, including the national wage outlook, the wage outlook for the States and Territories, and the wage outlook for the utilities and construction sectors.

3.1 Overview

National wage growth is very low. That is also being reflected in subdued unit labour cost growth thanks to better productivity growth. Reflecting the national picture, there has been an easing of wage gains across the States and Territories, although wage growth in the utilities has to date remained relatively high. Table 3.1 provides a summary of the wage forecasts.

Table 3.1: National and State WPI forecasts

Financial year changes in State nominal productivity adjusted Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.8	0.6	1.4	1.6	2.0	2.6	2.5	2.2
New South Wales	2.8	0.4	0.8	1.6	2.0	2.8	2.3	2.6
Australian Capital Territory	3.8	0.5	1.0	1.9	2.4	2.4	1.8	2.1
Tasmania	2.8	-0.5	0.3	0.9	1.3	1.5	0.9	1.3

Financial year changes in State real productivity adjusted Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	-0.5	-2.0	-1.1	-0.9	-0.9	0.0	0.0	-0.2
New South Wales	0.2	-2.2	-1.8	-0.9	-0.8	0.3	-0.1	0.2
Australian Capital Territory	1.8	-1.8	-1.8	-0.7	-0.5	-0.2	-0.6	-0.2
Tasmania	1.6	-3.0	-2.1	-1.5	-1.5	-1.0	-1.5	-1.1

Financial year changes in nominal utilities sector WPI

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	4.2	3.4	3.2	2.9	3.3	3.4	3.1	3.1
New South Wales	3.7	3.2	3.3	2.9	3.4	3.5	3.3	3.3
Australian Capital Territory	3.9	2.8	3.4	3.2	3.5	3.4	2.9	3.1
Tasmania	3.8	2.9	3.3	3.0	3.4	3.6	3.5	3.3

Financial year changes in real utilities sector Wage Prices

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.9	0.7	0.7	0.4	0.4	0.9	0.7	0.7
New South Wales	1.1	0.6	0.6	0.4	0.5	1.0	0.9	1.0
Australian Capital Territory	1.9	0.4	0.6	0.6	0.6	0.8	0.5	0.7
Tasmania	2.6	0.3	0.8	0.5	0.5	1.1	1.1	1.0

Source: ABS, Deloitte Access Economics' macroeconomic model

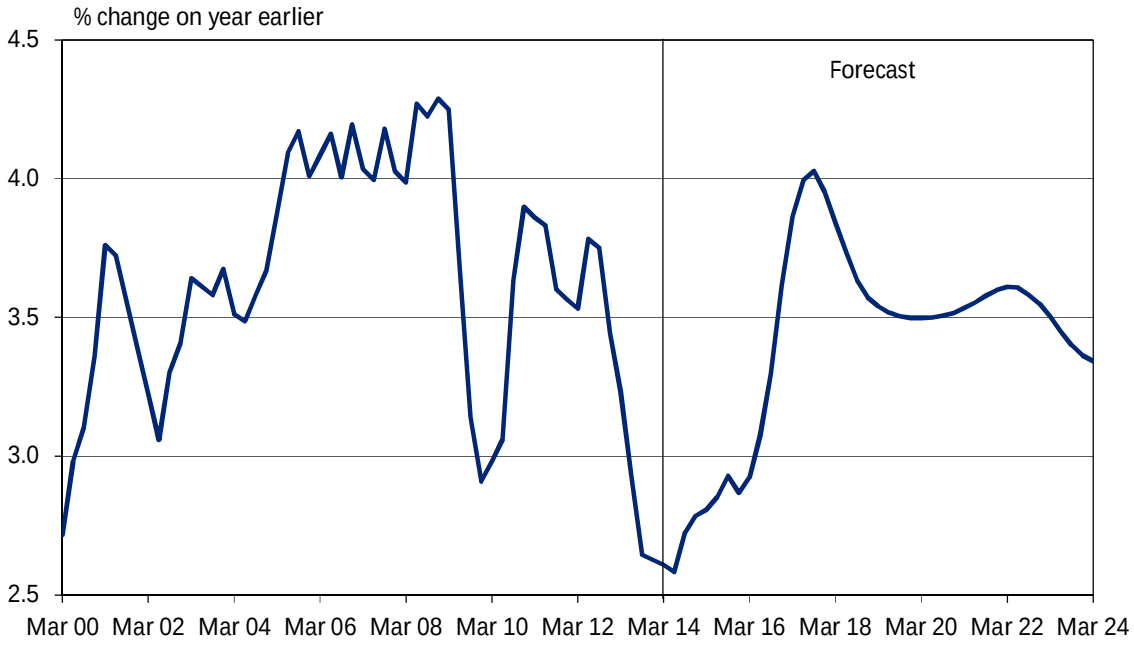
3.2 Australia

National wage growth is now in the slow lane. As seen in Chart 3.1, the best general indicator of wage pressures, the Wage Price Index (WPI), grew a bare 2.6% in the past year, meaning that it remains at record lows (and it would have moved even lower still if not for faster wage gains in the public sector than in the private sector). This slowing in wage gains is not a

surprise. Real wage gains in Australia outstripped productivity growth for a decade. They could do so thanks to a surge in the terms of trade – in essence, the world raised Australia's national income, making unaffordable wages gains temporarily affordable. But the terms of trade are now declining, and Australia's lack of cost competitiveness is now becoming an issue.

Accordingly, and even though unemployment has not risen much, wage gains are slow as what we earn slowly starts to move back more in line with what markets think we are worth.

Chart 3.1: Overall Wage Price Index forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

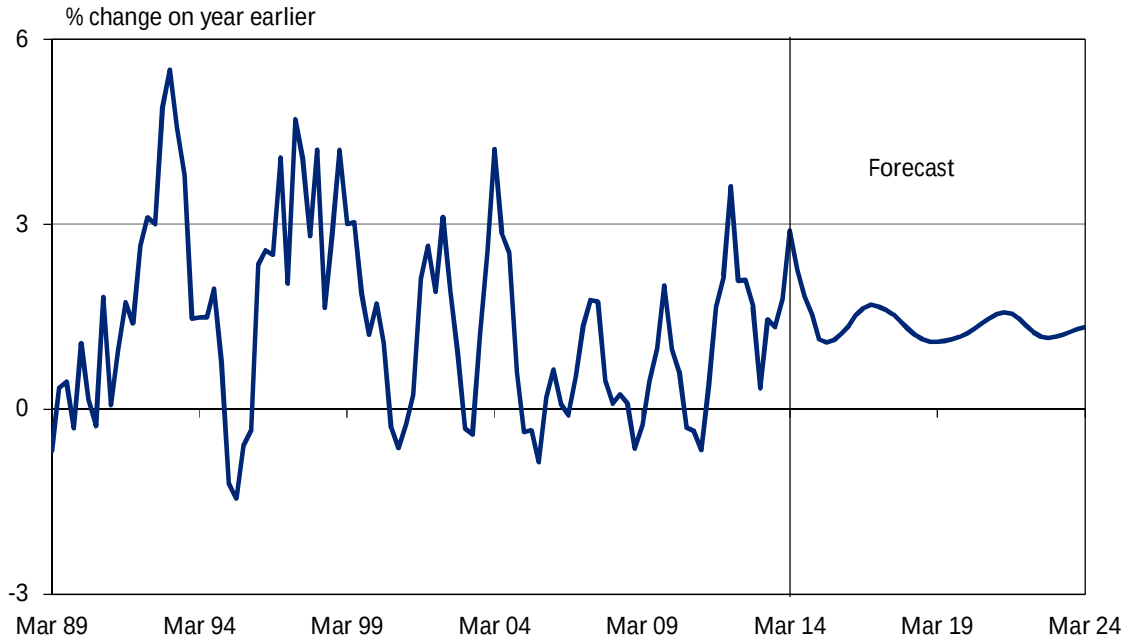
That not merely means an extended period of modest wage growth. It also means some of the outperformers on the wage front are being brought back to earth. For example, wage gains in Western Australia in the past year are back to national levels, having spent almost all of the past decade above Australia-wide rates of increase. The same is true of mining wages, with the exception that – at 2.4% – they are now growing at slower rates than are wages nationally.

Looking ahead, expectations of the recovery have been pared back. It is slower than before, and it does not return wage growth to its past glories. That is not due to an expectation that unemployment will rise from here. Rather, inflation will remain low, which will keep wage gains weak. And the need to repair cost competitiveness will be another key constraint. That said, although job growth is not expected to be great, baby boomer retirement means labour supply will not be too healthy either, while better news in home building will also boost wage gains. So although the recovery in wage gains in Chart 3.1 is modest and slow, it will occur.

Record low rates of wage growth means that there are no labour cost pressures to speak of. And productivity growth (see Chart 3.2) has been strong enough to offset what there has been by way of wage gains. That has left nominal unit labour costs standing still since mid-2012. That said, wage growth, which recently dropped a bit below price growth, won't stay as low as it is today. Business surveys are hinting at a turnaround, and the lift in the minimum wage was faster (at 3.0%) than is the current growth in the wage price index (the WPI, at 2.6%).

These forecasts do see something of a return to normality over time in labour costs – the pace of wage growth slowly picks up, while the recent surge in productivity growth eases back a little. However, that merely moves labour cost growth higher than current lows, with growth in nominal unit labour costs expected to be relatively muted for some time.

Chart 3.2: Productivity growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Table 3.2: National wage forecasts

Financial year nominal wages forecasts

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Wage price index	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5	3.5	3.6
Average weekly earnings	4.4	2.8	2.8	3.2	3.9	4.1	3.8	3.7	3.7	3.8
Ordinary time earnings	4.6	3.0	3.2	4.1	4.5	4.6	4.3	4.2	4.3	4.3
Unit labour costs	0.2	0.4	1.2	1.8	2.3	3.2	3.1	2.9	2.5	2.7

Financial year real wages forecasts

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Wage price index	1.1	-0.1	0.2	0.4	0.7	1.3	1.1	1.1	1.0	1.0
Average weekly earnings	2.1	0.2	0.2	0.6	0.9	1.5	1.3	1.3	1.2	1.2
Ordinary time earnings	2.3	0.3	0.6	1.5	1.6	2.0	1.8	1.8	1.7	1.7
Unit labour costs	-2.0	-2.2	-1.3	-0.7	-0.6	0.6	0.7	0.5	0.0	0.2

Source: ABS, Deloitte Access Economics' Labour Cost model

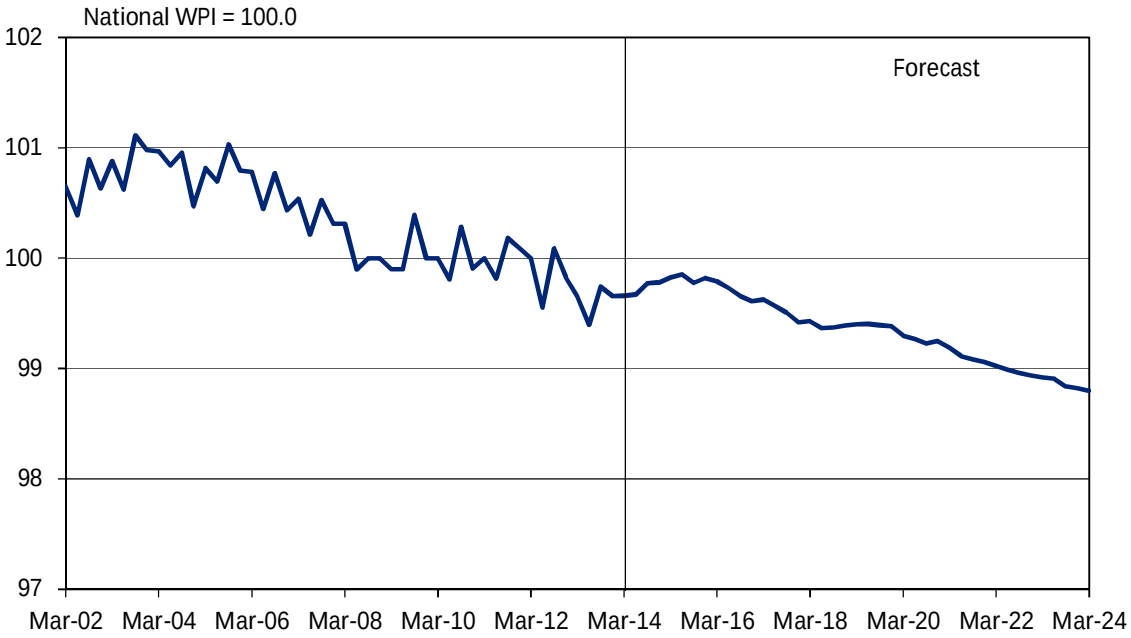
3.3 New South Wales and the ACT

As detailed in Chapter 2, New South Wales has underperformed in terms of relative economic performance over the past decade. Related to that, Chart 3.3 shows that WPI growth in the State has also been mostly lagging the national average since 2004.

The industrial composition of the New South Wales economy has influenced that relative performance. The downward trend in relative wage levels for New South Wales 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 New South Wales.

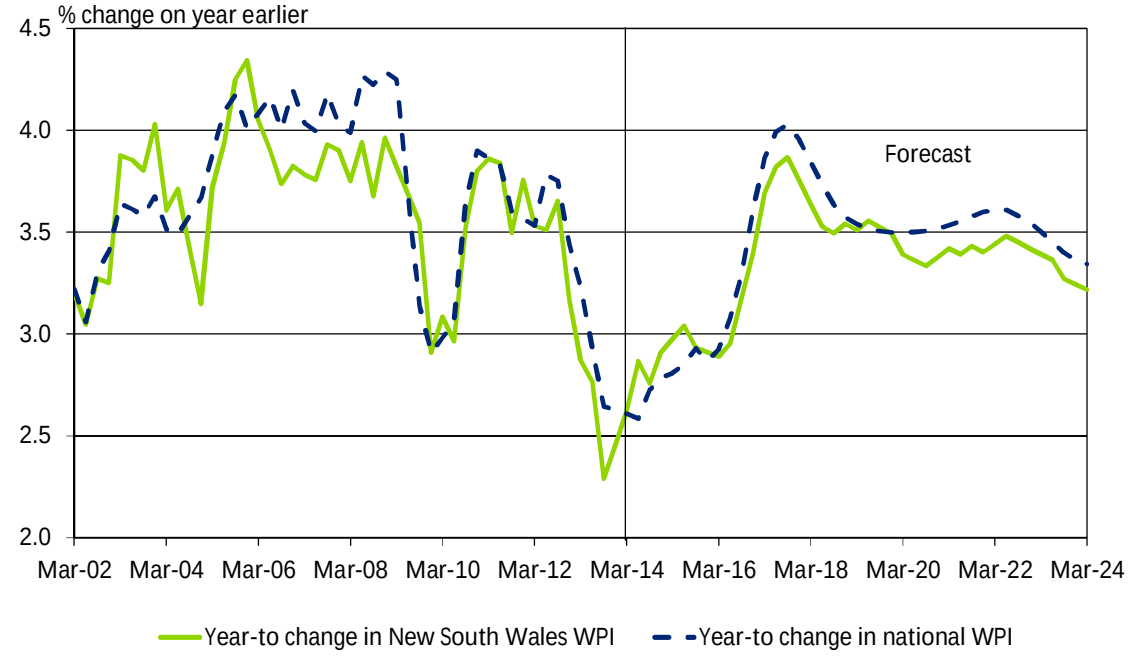
Chart 3.3: NSW WPI relative to national WPI



Source: ABS, Deloitte Access Economics' macroeconomic model

However, a peaking of the resource construction boom and the tonic of lower interest rates has helped to see a relatively strong performance for the State's economy of late.

Chart 3.4: NSW general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

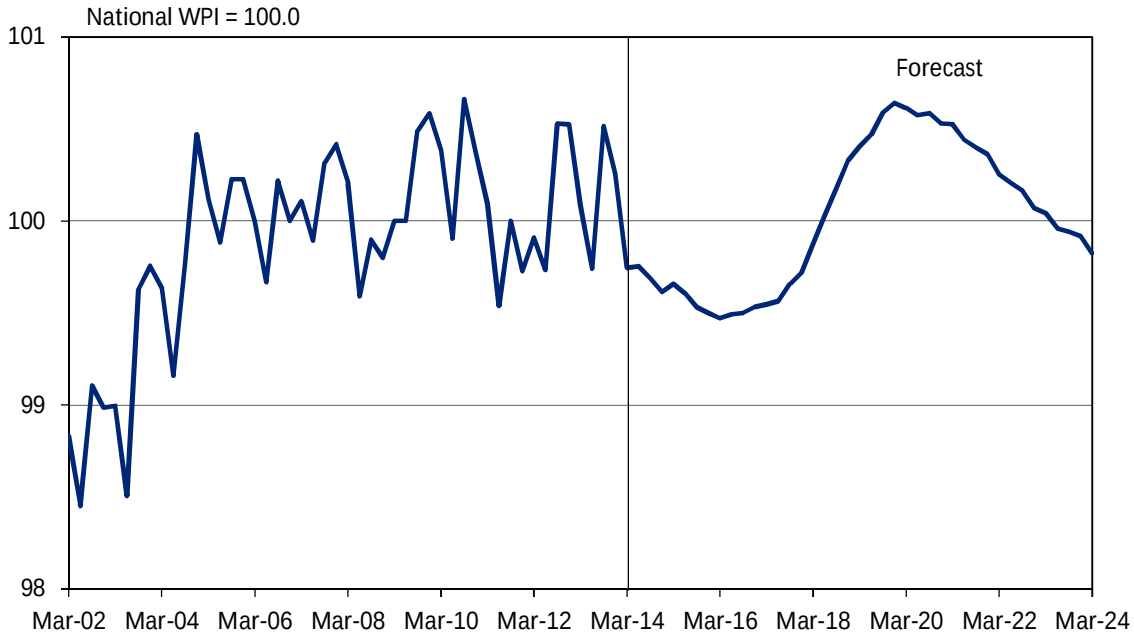
Looking ahead we see a solid lift in housing construction, and labour cost growth in the State is expected to outpace the national average over the next two years. Indeed, the latest WPI data show a pick-up in the pace of wage growth in New South Wales in recent months, catching up to the national wage pace of wage growth over the past year (see Chart 3.4 above).

That said, and looking further ahead, the decade long slide in New South Wales' relative WPI is expected to reassert itself over the longer term through to 2019-20, with State wage growth projected to be slightly below the national average. In part that reflects the State's industrial make up, with industries such as financial and insurance services (to which New South Wales has a relatively large exposure) expected 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 at around the same pace as the national WPI over the next decade or so (although that does represent a slowing relative to its outperformance over the past decade).

The ACT's economy benefited from strong growth in Federal Government spending over the past decade, reflecting the fact that a large proportion of the ACT's workforce are employed in the Federal public service. The ACT's economy has also been supported in recent years by a notable increase in both office and residential construction. Those factors helped to ensure that the ACT's wages roughly maintained their level relative to national wages, despite the lack of direct exposure of the ACT's economy to the mining construction boom (see Chart 3.5).

As detailed in Chapter 2, the ACT is under pressure in the near term due to both a slowdown in the earlier strength in construction activity as well as cutbacks in Federal Government spending. The latter is being reflected in a desire to keep Federal labour costs under control.

Chart 3.5: ACT WPI relative to national WPI

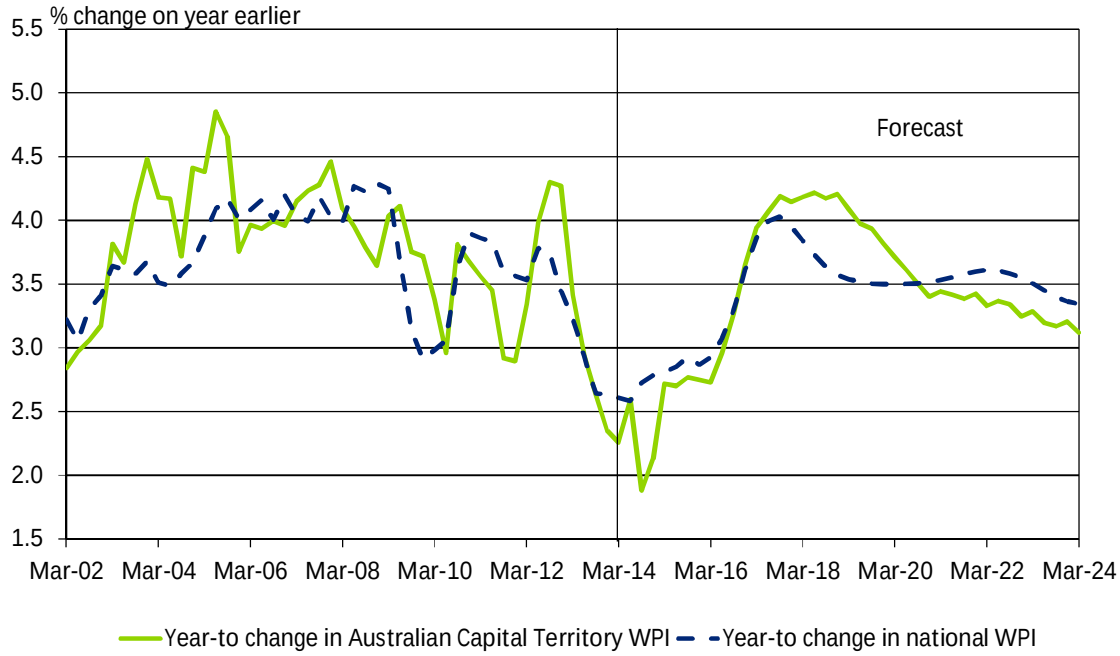


Source: ABS, Deloitte Access Economics' macroeconomic model

Chart 3.5 and Chart 3.6 show general labour cost growth is expected to fall below the national average in the short term. Indeed, labour cost growth may briefly fall below 2% during 2014-15. Longer term budgetary constraints may well limit growth for some time, although

wages should begin to grow in line with that seen in the broader Australian economy in the longer term (with some catch-up wage gains expected over the medium term following the current period of restraint).

Chart 3.6: ACT general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

3.4 Tasmania

Recent years saw Tasmania underperform relative to the national economy. Although the State's wages have not fallen by much relative to national wages over the past decade, a falling trend has been evident since late 2009 (see Chart 3.7). During the period since late 2009, Tasmania's economy has been a poor performer, with that poor economic performance also reflected in weakness in the Tasmanian labour market, and subsequently in its wage outcomes.

It is notable that this period of relative underperformance on wage gains in Tasmania has been driven largely by underperformance on wage gains in the private sector, while wage gains in the public sector in Tasmania have been broadly the same as the national equivalent. Indeed, that is also broadly true over the past decade as a whole, with private sector wage gains in Tasmania underperforming the national average (in part, reflecting the impact of the mining boom on private sector wage gains in the mining states), while public sector wage gains in Tasmania exceeded public sector wage gains seen nationally.

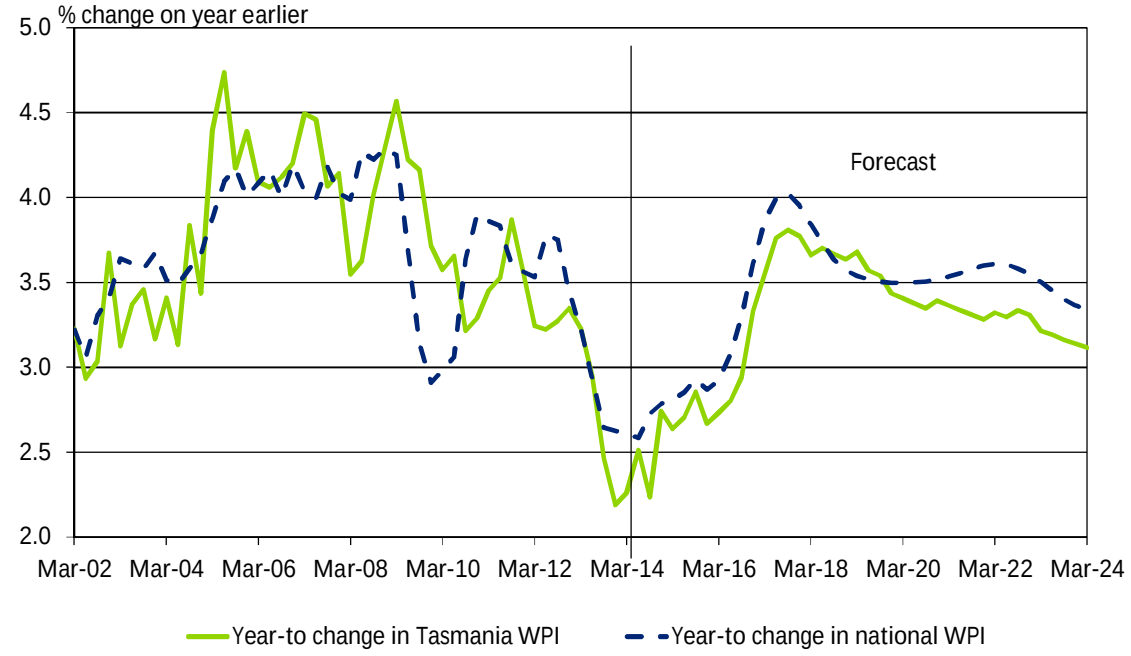
Looking ahead, the expectation is for a relatively slow acceleration in WPI growth from its current period of weakness. Over the longer term, the slightly slower pace of growth in the Tasmanian economy will tend to see the local WPI grow slightly behind the national average. That is a reflection of the modestly weaker private sector wage gains expected to be seen in Tasmania compared with nationally, as well as an expectation that public sector wage gains in Tasmania will be kept on a tighter leash and therefore not outpacing those seen nationally over the next decade.

Chart 3.7: Tasmania WPI relative to national WPI

Source: ABS, Deloitte Access Economics' macroeconomic model

Chart 3.8 shows that, looking ahead, and beyond the current period of weakness, we still expect wage growth in Tasmania to fluctuate in the 3% to 4% range over time.

Chart 3.8: Tasmania general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

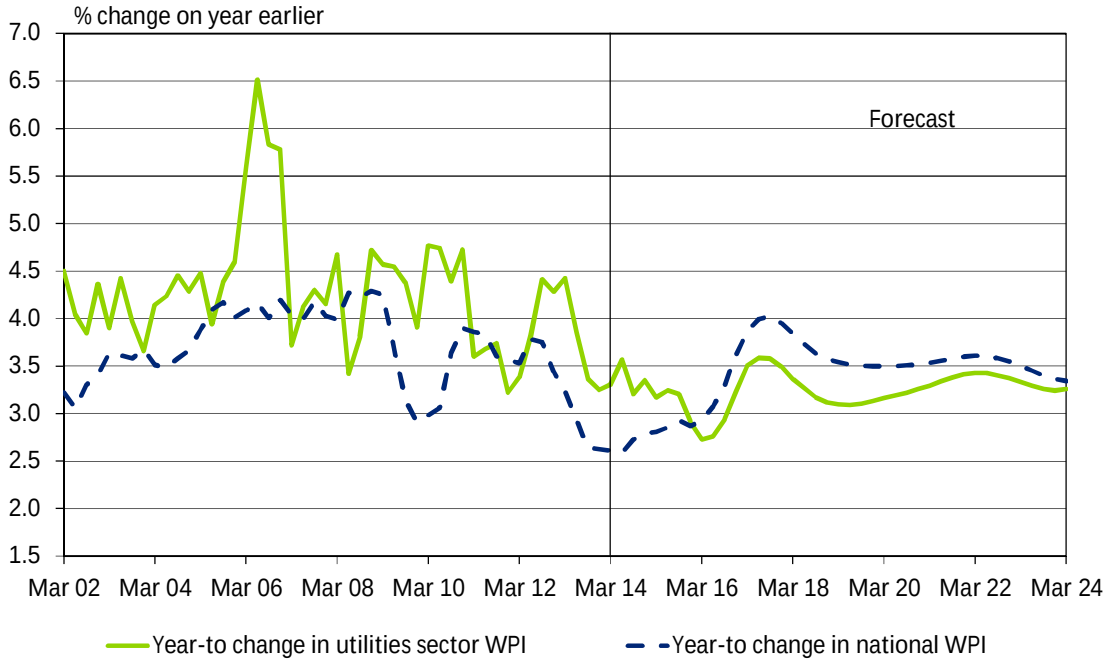
3.5 The utilities sector

Wage growth in the utilities is now faster than in any other sector except arts and recreation. The utilities WPI grew by 3.3% in the year to March 2014 (3.0% in the private sector, 3.6% in the public sector). That growth is comfortably ahead of the national average rate of 2.6%.

Those relativities suggest wage growth in the utilities has still 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 a slowdown in absolute terms, with sectoral wage growth already well off its recent peaks.

Chart 3.9: 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. Recent EBA outcomes have also been somewhat elevated, although that may reflect the lagged nature of bargaining in the sector, as well as the relatively small numbers of employees covered by the latest round of agreements. Accordingly, although utilities wage gains are projected to remain above average wage gains during 2014-15, they are then forecast to modestly lag broader national wage growth over the medium term (see Chart 3.9).

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

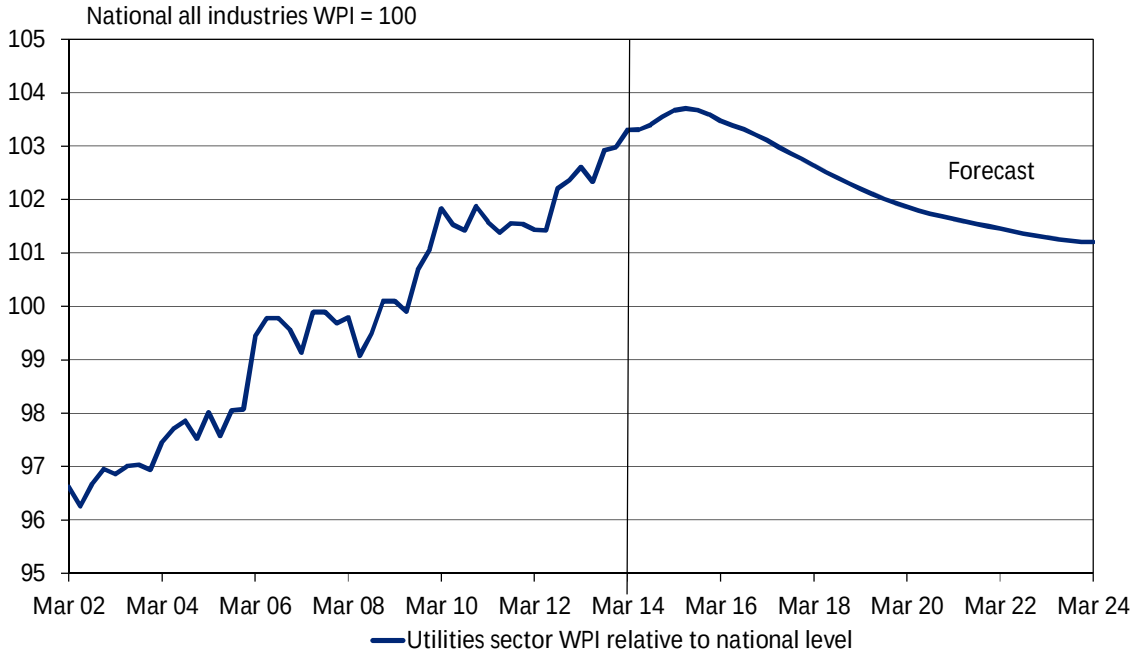
- Sectoral wage gains have already eased: As noted, the WPI for the utilities, the best general indicator of wage growth in the sector, has already slowed significantly. That is particularly true of private sector wage growth, which is more exposed and responsive to

market forces, whereas public sector wage growth and EBA outcomes have picked up slightly in the latest data. The latter will have an influence on the overall short term wage outlook, but the former may be more suggestive of the medium term trend.

- 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. That reflects the ongoing demand adjustments occurring in response to the enormous lift in the price of utilities services, while the continued weakness in manufacturing will continue to weigh on a key source of electricity demand.
- Investment in new capacity has lagged: The uncertain policy environments facing carbon, gas 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.
- Alternative employers will fade as competitive options: The relative strength of demand for workers in mining and construction is very close to peaking. That will sap strength from utilities wage gains too. Moreover, manufacturing is shedding skilled workers and that may also help ease short term shortages, further easing wage competition pressure.

Chart 3.10 illustrates the relative strength of utilities wages, comparing the utilities WPI to the overall WPI.[2] Over the decade to 2014 the utilities WPI grew by 9 percentage points more than overall wages, with a very consistent level of relative increase over much of that period.

Chart 3.10: The utilities WPI relative to the national WPI



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

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.

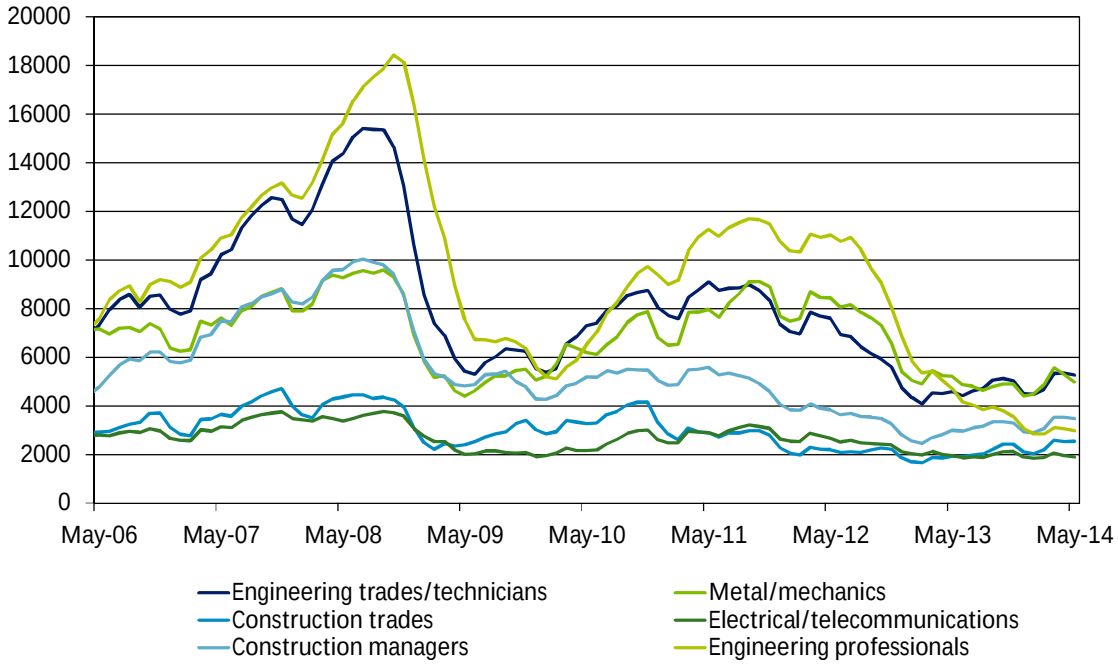
[2] Note this is a comparison of two indexes both set to equal 100 in 2008-09 – it does not mean wage levels are much the same in the utilities as the national average.

For the utilities sector, the composition of the resources boom placed additional demand on the types of labour used in the sector. For example, 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, 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. Accordingly, while relative wage gains in the utilities sector may remain elevated in the near term, they are expected to soon plateau and then ease back. That said, the bulk of the relative wage gains of the past decade are projected to be retained over the next decade – as Chart 3.11 also shows.

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

Chart 3.11: Vacancies for selected professional and trade occupations



Source: Department of Employment Vacancy Report

Note: Data are shown as a three month moving average as reported by the Department of Employment

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

[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.

justify further widening in wage relativities – is wrong and defies both economic theory and observed historical trends in wages movements.

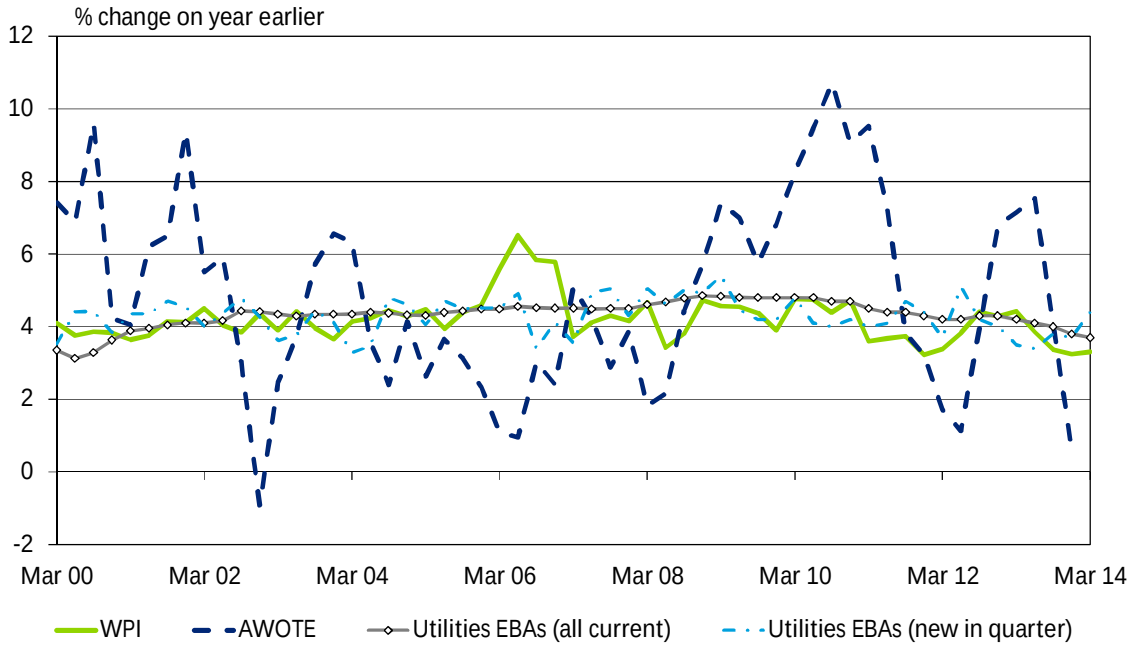
Latest data already show that the skill shortages which underpinned the outperformance of wage growth in the utilities in the past decade have largely subsided. Chart 3.11 shows that job vacancies for a number of key trade and professional occupations that are found within the utilities sector are well down on their peaks. Job vacancies for these occupations peaked in 2008, and although they rose again during 2011 and 2012, they are currently well down on both of those peaks, with job vacancies little changed over the past year for most occupations.

Wage developments in the broader construction sector, which is a key competitor sector for the utilities sector, are considered in more detail in the next section.

3.5.2 Comparison with results from enterprise bargaining agreements

Chart 3.12 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 3.12 shows, the AWOTE series is particularly volatile and is limited in its use in forecasting.

Chart 3.12: Measures of utilities sector wage growth



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

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

A key conclusion to take from the above is that EBAs in the utilities sector can be 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.

The broader trend for new EBA agreements has generally been an easing one since 2009, which has been reflected in an easing in wage growth for all current EBAs over time. However, the latest EBA data showed wage outcomes picking up to 4.4% for new agreements lodged in the March quarter of 2014.

Does that represent the start of a new trend? The wage outcome for the March quarter was surprising given the easing trend seen in wage growth for all current EBAs in the utilities sector over recent quarters as well as the recent easing in broader WPI growth for the utilities sector and wage growth generally. All else equal, it could suggest some upward pressure on WPI growth for the utilities sector.

That said, agreements lodged in the March quarter covered only 3,000 employees, or around 6% of total employees under all current EBA agreements (with the latter also covering only a portion of total employment in the utilities sector). As such, the impact on total wage growth of the latest quarter's new agreements can be expected to be limited taken on its own.

Given the broader factors pointing towards a further easing in wage growth for the utilities sector, as discussed earlier in the chapter, it is Deloitte Access Economics' opinion that the latest quarter's EBA outcome is more likely to represent the lagged impact of wage bargaining in the sector, rather than the start of a new upward trend in wage outcomes for the sector.

The outlook for utilities sector wage growth is therefore for wage gains to remain above average during 2014-15, before easing and modestly lagging behind broader national wage growth over the medium term.

3.6 The construction sector

As detailed in Chapter 2, the expected slowdown in mining-related construction expenditure is the key driver of Australia's outlook, hence the outlook for the construction sector in general is one of general weakening.

3.6.1 Current WPI projections

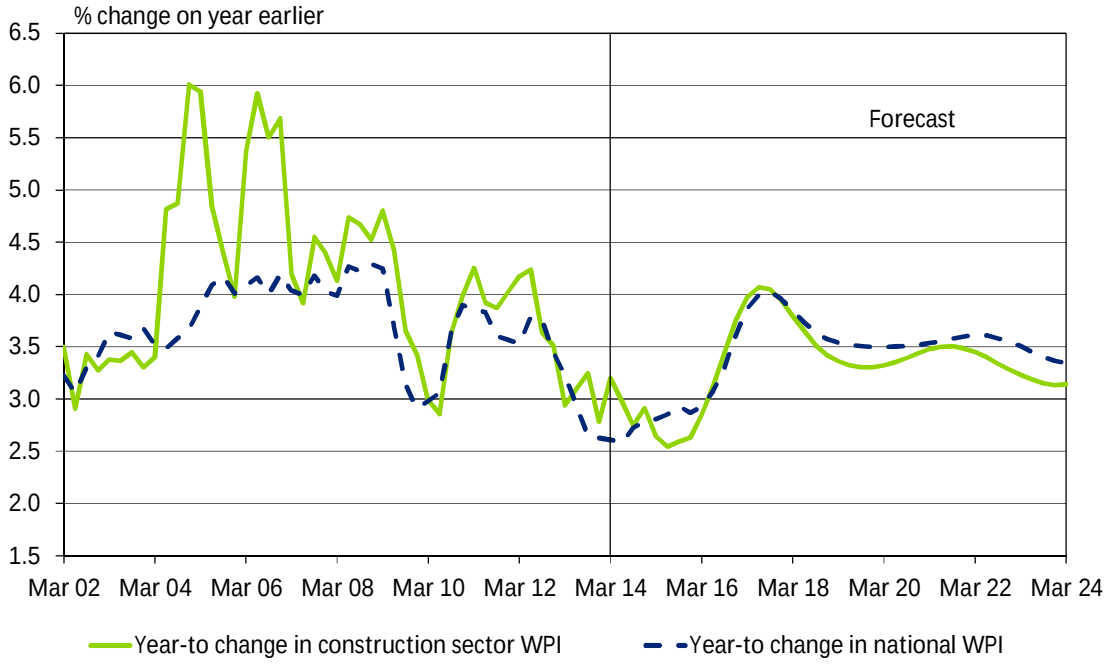
The construction sector WPI has outpaced the overall pace of WPI growth for many years. This relative strength has been driven by three related causes:

- Demand for construction workers rose sharply – that saw 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 growth in wages to reflect the relatively rising efficiency of work done by each worker; and
- Wages growth in mining, a key competitor for the workers in this industry, was also strong – placing upward pressure on wages to help keep employees in the industry.

Chart 3.13 shows growth in the construction sector WPI has recently eased significantly. That reflects the recent downturn in construction, but the easing in construction sector WPI growth since early 2012 has also generally mirrored the movement of the WPI for all sectors. As Chart 3.13 also shows, that's been the case for much of the past decade, aside from a period during the middle part of the past decade which saw very strong growth in the construction WPI.

Chart 3.13: Construction WPI growth forecast



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

The outperformance of construction wages over the past decade continued for an extended period. While that reflected the influence of developments such as Australia's historic mining construction boom, the relative outperformance has continued even during the downturn of 2008-09. In turn, that meant construction wages rose by around 8 percentage points more than the average over the past decade.

With Australia's mining-related construction spend now falling, construction sector wages may no longer outperform the national average. However, while growth in the construction sector WPI has eased, the latest data (for the March quarter of 2014) saw year-to growth in sectoral WPI at 3.2%, while national WPI grew by 2.6% over the same period.

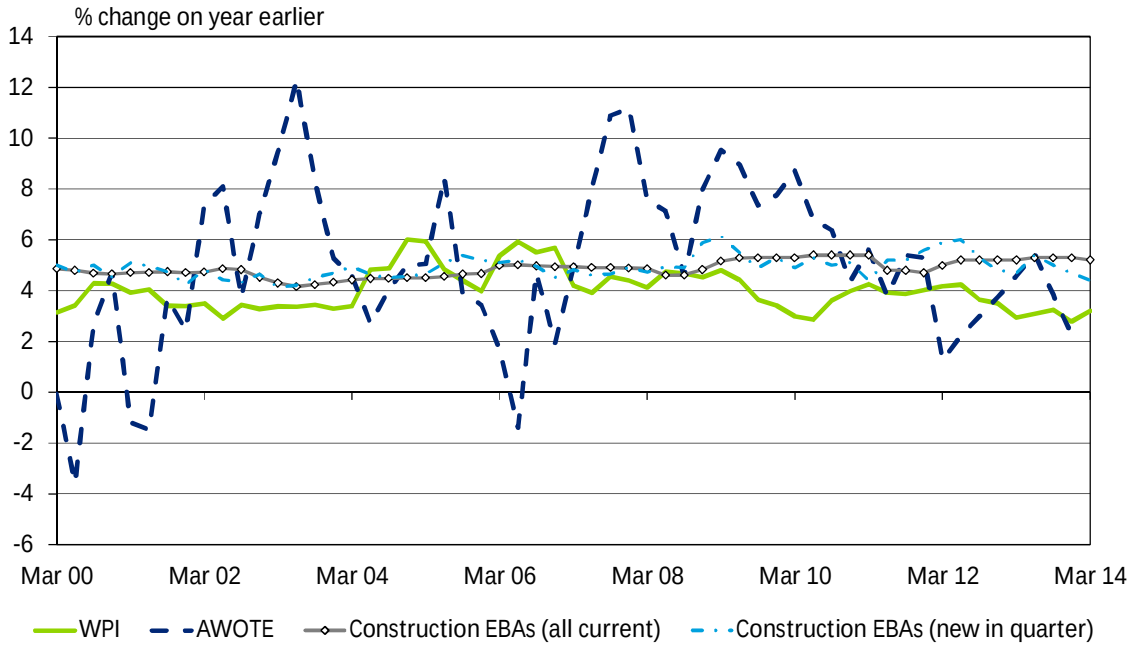
The key to the outlook will be the sector's productivity performance. Given the slowdown underway, sectoral productivity performance is expected to ebb somewhat, with sectoral productivity growth forecast to be lower than the relatively high level seen over much of the past decade, which will be a drag on relative sectoral wages.

Construction sector wages are therefore forecast to ease further in the near term . As Chart 3.13 shows, growth is forecast to bottom out at around 2½% in the middle of next year, which would represent an underperformance relative to the national average. Construction sector wages are then expected to recover and rise more closely in line with the national WPI cycle.

3.6.2 Comparison with EBA results

Chart 3.14 shows the outcomes for wage growth in the construction sector as measured by EBAs, WPI and AWOTE. The construction sector continues to see elevated wages outcomes for all current EBA agreements, which showed a very healthy 5.2% increase in March quarter of 2014 compared to 3.6% for all sectors nationally, and 3.7% for the utilities sector.

Chart 3.14: Measures of construction sector wage growth



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

However, wage outcomes for new construction sector EBAs have been on a downward trend , with an increase of 4.4% for new agreements lodged in the March quarter of 2014. That is well down on average increases of around 5% over the prior four quarters and the 6.0% rise seen in June 2012 (see Chart 3.14).

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 3.14 illustrates, there is a very strong relationship between WPI increases in the construction sector and the matching increases in new EBAs.

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

In that light it is probably also worth noting that there is a growing gap between the WPI and the EBA measures, suggesting that the former are more tightly tied to the weakness in some parts of this sector.

3.7 Summary results

The forecasts for national and sectoral wage growth are shown in Table 3.3. Forecast components include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 3.3: National sectoral wage forecasts

Financial year changes in nominal national industry sector WPI

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.3	2.6	2.8	3.0	3.7	3.9	3.6	3.5
Utilities	4.2	3.4	3.2	2.9	3.3	3.4	3.1	3.1
Construction	3.3	3.1	2.7	2.8	3.8	3.9	3.4	3.3
Admin services	3.3	2.4	2.8	2.7	3.3	3.8	3.5	3.4

Financial year changes in real national industry sector Wage Prices

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.1	-0.1	0.2	0.4	0.7	1.3	1.1	1.1
Utilities	1.9	0.7	0.7	0.4	0.4	0.9	0.7	0.7
Construction	1.0	0.4	0.2	0.3	0.9	1.3	0.9	0.9
Admin services	1.0	-0.2	0.2	0.1	0.4	1.2	1.0	1.0

Financial year changes in nominal productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.8	0.6	1.4	1.6	2.0	2.6	2.5	2.2
Utilities	2.7	1.6	1.8	1.5	1.6	2.0	1.9	1.9
Construction	1.8	1.2	1.6	1.6	2.3	2.6	2.4	2.2
Admin services	1.4	0.1	1.5	1.4	1.7	2.4	2.4	2.2

Financial year changes in real productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	-0.5	-2.0	-1.1	-0.9	-0.9	0.0	0.0	-0.2
Utilities	0.5	-1.0	-0.7	-1.0	-1.3	-0.5	-0.5	-0.5
Construction	-0.5	-1.4	-0.9	-0.9	-0.6	0.0	-0.1	-0.2
Admin services	-0.8	-2.5	-1.0	-1.1	-1.2	-0.1	-0.1	-0.2

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

4 NSW and ACT wage growth forecasts

This chapter sets out the projections for labour costs in the utilities sector in New South Wales and the Australian Capital Territory, and provides additional State level projections for the construction sector.

4.1 Technical notes on WPI data and forecasts

While the ABS releases official WPI measures for the NSW utilities sector and the NSW construction sector, it should be borne in mind that the ABS does not release an official WPI measure for either the ACT utilities sector or the ACT construction sector, so Deloitte Access Economics estimates an imputed value for each series.

For the ACT utilities sector this imputed value is based on a combination of:

- WPI for utilities as a whole, and the relevant States, as well as relative movements in those industries with the States that do have an official estimated WPI. [4]
- When and where previously published, AWOTE for the sector in question. Note that all sectoral by State AWOTE estimates were discontinued at the end of 2011.
- Data on enterprise bargaining agreements.

The same method is used to estimate an imputed value for the ACT construction sector.

In brief, there is now less information published than previously on State level wages by industry. For two of the industries under consideration in this chapter – the utilities in ACT, and the construction sector in ACT – Deloitte Access Economics has estimated wage (WPI) growth using a range of related data, including overall ACT WPI wage growth, overall utilities sector (and construction sector) wage movements, data for enterprise bargaining agreements, as well as the data published for other States.

While a greater discussion can be found in Appendix D, the key points to bear in mind are:

- Not all industries have WPI published for all States (see Table D.1 for a detailed list of the components of this report that are based on published ABS data and those which have been imputed by Deloitte Access Economics). Some industries for which WPI data is not published at the State level previously had official estimates of average weekly ordinary time earnings provided. The latter were useful in indicating relative wage movements. However, this additional source of data was discontinued at the end of 2011, meaning the ABS no longer produces any compensation measures at the State by industry level for these sectors. In addition, the differential movements in overall AWOTE (compared with overall WPI) need to be accounted for if the AWOTE measure is used to inform an estimate of the detailed WPI measure.

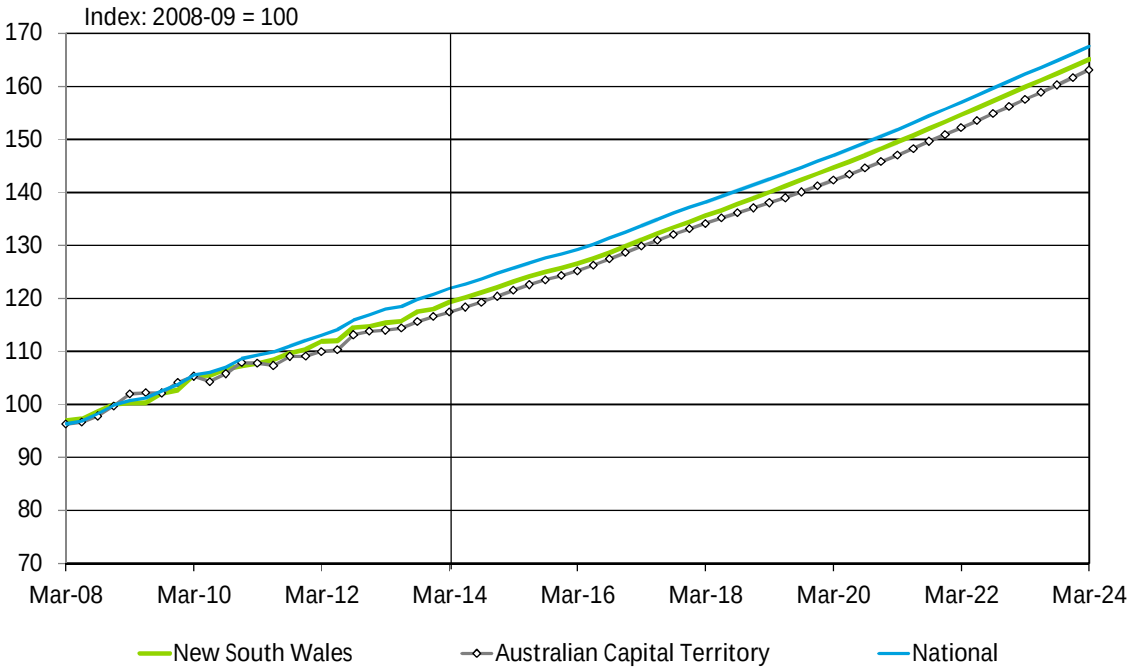
[4] ACT sectoral WPI indices are currently published only for the public administration sector.

- In those cases (since the start of 2012) where no State-specific industry WPI figure is available, a combination of the overall national WPI growth rate for that sector, the overall State WPI growth rate and (where available) movements in detailed wages covered by EBAs is used. Among the key sectors shown here, this affects the utilities and construction sectors in the ACT.[5]
- Note this means there is no longer any officially released time series estimate for utilities wages in the ACT (in terms of WPI, AWOTE or other equivalent measures). Therefore extreme care needs to be taken in analysing these series over time. The modelling here implicitly assumes that overall ACT WPI wage growth, overall utilities sector wage movements, data for enterprise bargaining agreements, as well as the data published for other States, can be used to create a reasonable estimate of the specific WPI series in history. However, there is no guarantee that the data used matches what the ABS data would show were it to be released.[6]

4.2 State trends

As Chart 4.1 below shows, over the longer term the underlying trends in wages in the sector at the national level tend to dominate the movements by State – these lines look very similar in both history and forecast, although volatility ('noise' in the data) can lead to significant movements in smaller jurisdictions.

Chart 4.1: Utilities sector WPI forecasts – national, NSW and ACT



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

[5] The ACT utilities sector employs around 1,200 people compared to total State employment of around 212,000, while the ACT construction sector is a larger employer and employs around 13,200 persons.

[6] The ABS does estimate these values, but does not release them externally due to the small number of businesses that are included in the sample, and the possibility that individual results could be estimated from the data if it were to be released.

That said, there can be deviations by State, with these differences driven by a combination of:

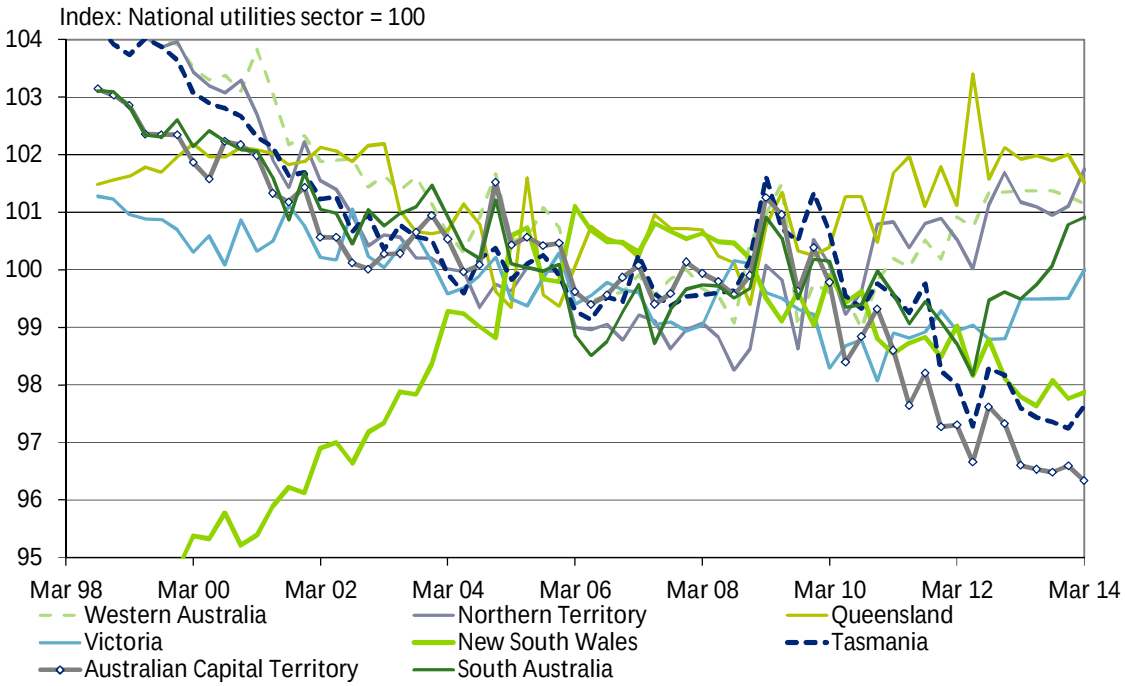
- General trends in State wage growth. Slower growing States will likely see slower WPI growth; and
- One-off factors that affect a particular industry – such as movements in a specific award level or a single EBA, or a sharp swing in demand or supply for workers in that sector and in that State.

However, 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.

4.3 Wage relativities across States in the utilities

The differences in index levels for utilities wages by State are expressed in relative terms in Chart 4.2 below.

Chart 4.2: Relative utilities WPI 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.[7] 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 NSW.
- Wage gains in the ACT were more moderate than those in NSW through to 2005.

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

- The years up to GFC mining boom saw both NSW and the ACT experience wage gains at around the same pace as the national average.
- 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 the relative utilities sector WPI for both NSW and the ACT since mid-2009.

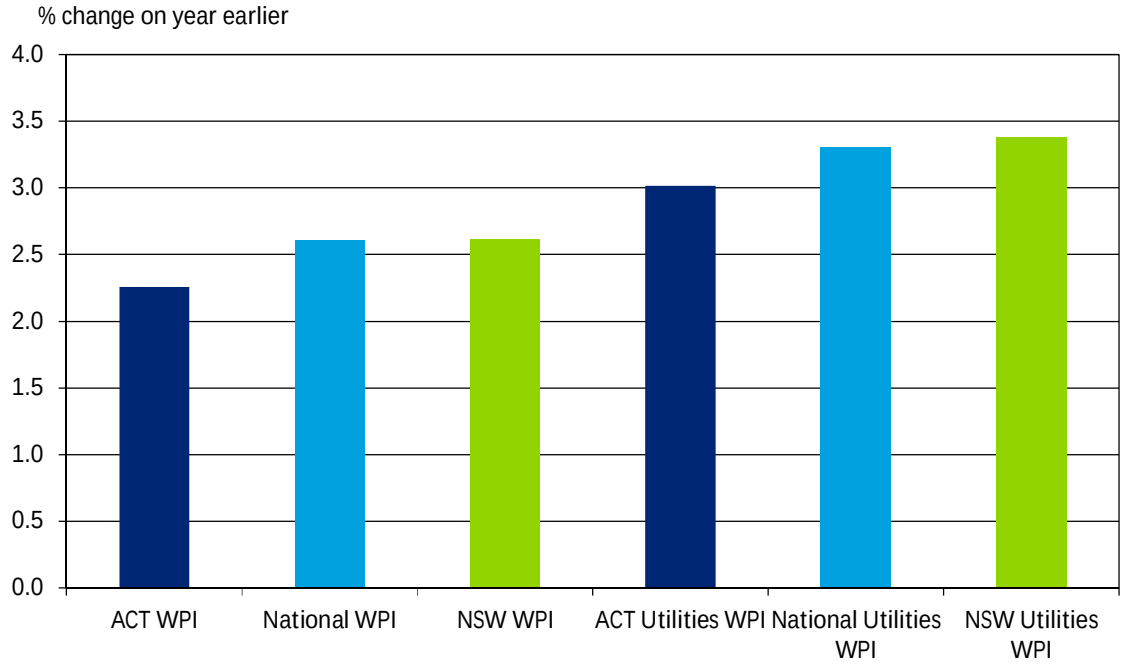
4.4 The utilities sector

Chapter 3 noted that broader wage growth had eased in both NSW and the ACT in recent months, as it has done nationally. The magnitude of easing in NSW wage growth has been slightly less than the national picture in the last twelve months, whereas ACT wage growth has seen a more pronounced easing.

Chart 4.3 shows a broadly similar picture for the latest year-to growth data for the utilities WPI. Year-to growth in the national utilities WPI was 3.3% in March 2014, while year-to growth in NSW's utilities WPI was marginally higher at 3.4%, and the ACT's utilities WPI has been estimated by Deloitte Access Economics to be lower, at 3.0%.

Importantly, there has been an easing in year-to growth in the utilities WPI across all three of these jurisdictions over the past twelve months.

Chart 4.3: Comparative WPI growth rates in 12 months to March 2014



Source: Deloitte Access Economics for the ACT utilities estimate, ABS for the other figures

The easing in growth has been less marked for the NSW utilities WPI than the national utilities WPI of late. That is reflected in Chart 4.4, which shows the NSW utilities WPI relative to the national levelling off and slightly increasing in recent months. In contrast, the ACT relative utilities WPI is estimated to have edged down slightly in recently months.

Several of the trends that drove the wedge between the wage growth rates seen in the mining States and those seen in NSW and the ACT 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 strength.

Chart 4.4: Relative utilities WPI forecast for NSW and the ACT

Source: ABS, Deloitte Access Economics labour cost model

The forecast profile in Chart 4.5 shows NSW's relative utilities WPI measure edging slowly higher (relative to the overall utilities sector WPI level) over the next few years:

- NSW's economy is already doing relatively better than it has for a while.
- The 'sun belt' strength in wages across all sectors (but including the utilities sector) in Western Australia and Queensland will become less obvious.
- In particular, the relative underperformance of NSW utilities sector wages in recent years has run its course, as also seen in the latest data (and hence there may be a 'reversion to underlying trend' over time).

That said, the outperformance of NSW is quite gradual over the forecast period, with only some of the "relative ground" that the local utilities sector WPI lost in the past decade forecast to be caught up again over the next decade.

Note 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).

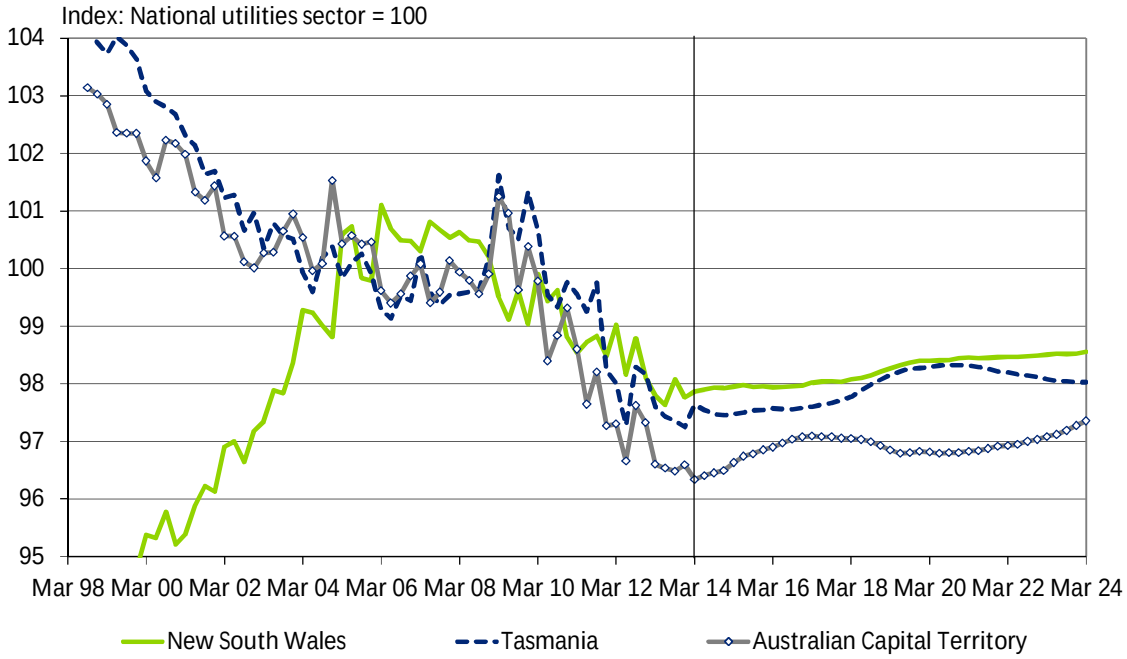
Note also that these wage forecasts do not assume any impact on wage-setting in the NSW utilities sector related to the potential for privatisations in some elements of the industry.

A similar story is expected for the ACT, with the ACT's relative utilities WPI measure forecast to gradually increase over the next decade. However, as for NSW, the forecast outperformance of the ACT's utilities sector wages is modest compared to the underperformance seen over the past decade.

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. Movements in recorded data may therefore 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 on the longer running underlying trends indicated in Chart 4.2, Chart 4.4 and Chart 4.5 (the latter two charts include forecasts).

Chart 4.5: Relative utilities WPI forecasts for NSW, the ACT and Tasmania



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

Recent developments in employment in the NSW utilities sector are also consistent with the relative strength seen in wage growth in NSW utilities of late. In particular, ABS data suggest strong employment growth in the NSW utilities sector in recent quarters . While the data can be volatile, an upward trend in employment in the utilities sector does appear to be evident for NSW, with that trend recently stronger in NSW than nationally (as well as being stronger in the NSW utilities sector than for total NSW employment). In contrast, employment in the ACT utilities sector may have softened recently, although the ACT data is particularly volatile and needs to be interpreted with caution.

As reported in Deloitte Access Economics' Investment Monitor for March 2014, a number of major projects are currently underway in the utility sector across NSW:

- Delta Electricity is constructing two power generators (750MW each) at the Mount Piper power station near Lithgow with a completion date in 2015 at a cost of $2 billion.

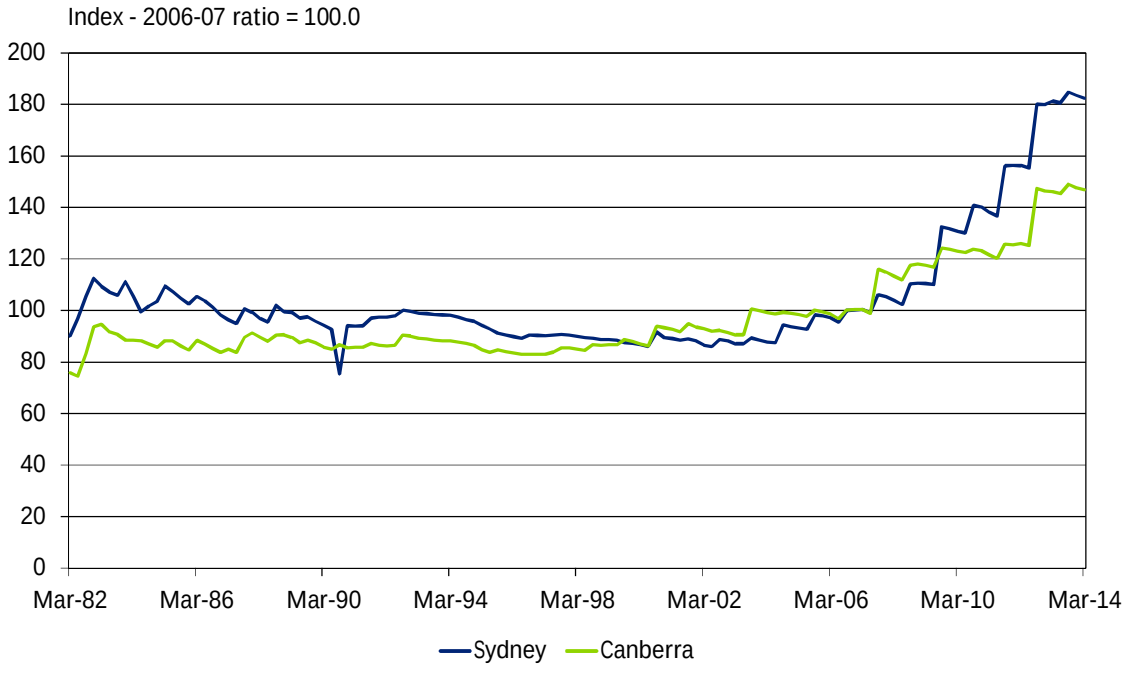
- In addition, four wind farms and one solar farm are currently under construction at a combined total cost of $1.7 billion with all due to be completed in 2014 and 2015.
- A number of dam upgrades and a sewerage treatment plant upgrade are also underway.

In other words, employment in the NSW utilities sector will be supported by supply side completions in the near term, rather than demand side growth . Indeed, the demand outlook remains modest. As noted earlier in Chapter 2, 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.

In the ACT, only one major project is currently underway, the $141 million Royalla solar farm at Tuggeranong which is due to be completed this year. With an empty project pipeline, indications are that less support to employment will be provided by project completions in the ACT in the near term.

As noted earlier, electricity price increases have massively outpaced the general rate of inflation in Australia over recent years. As Chart 4.6 shows, that has also been the case in NSW and, to a lesser extent, the ACT. In particular, electricity prices in Sydney have leapt by 81% more than general price levels since 2006-07 (similar to the increase of 77% seen nationally), while electricity prices in Canberra have increased by a more modest, but still substantial 47% above general price levels over that period.

Chart 4.6: Sydney and Canberra electricity prices relative to total CPI



Source: ABS

Note: Sydney electricity prices are shown relative to total Sydney CPI, and Canberra electricity prices are shown relative to total Canberra CPI

Some reversal is expected (assuming the removal of the carbon tax from 1 October 2014), although only a part of 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

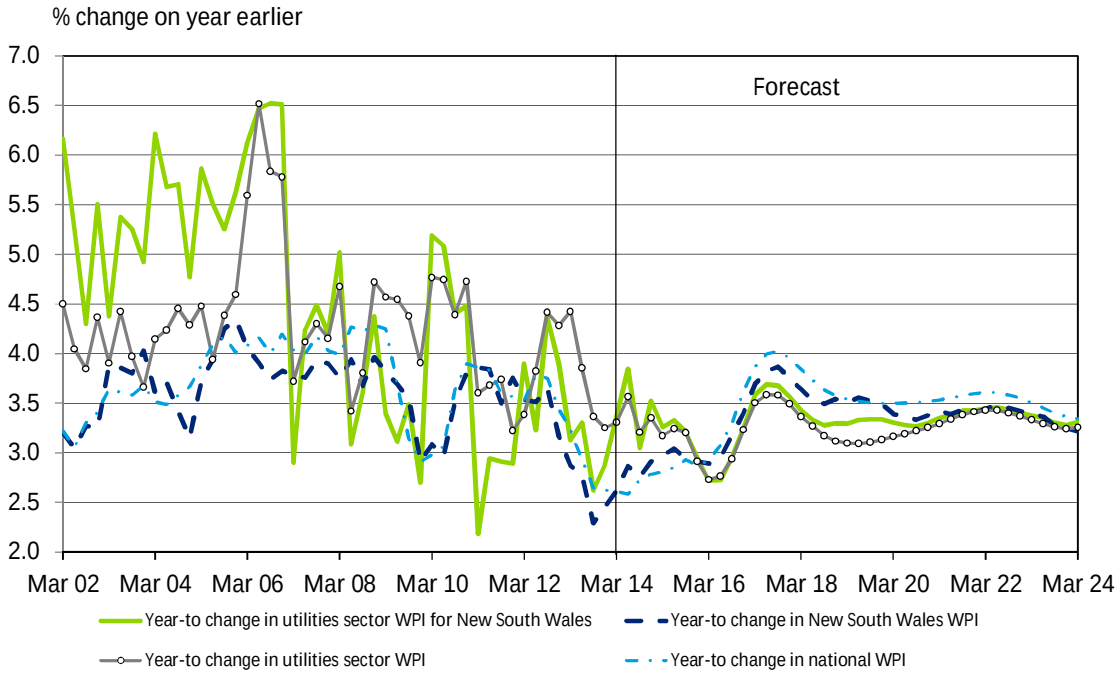
of upward pressures on prices, other factors (such as targets for reliability for supply) may remain an issue. Overall, the price pressures on electricity consumption levels are likely to remain significant, although they should be less significant (and less likely to be rising as rapidly) than in recent years.

It should be noted that the AER's price determination following this report may also significantly impact future retail prices.

Other key factors influencing the NSW outlook include:

- While there may be some relief as the $A drops back, the NSW manufacturing sector outlook is still quite weak. A continuing relative decline for the manufacturing sector will mean slower growth in customer demand and in output from this State's utilities sector.
- Although it is a less important factor in NSW than it is in other key States, resource-related engineering construction employment is now heading into a period of much greater uncertainty. However, NSW has a relatively strong pipeline of public sector major engineering construction projects such as road infrastructure projects.
- The residential construction sector is strengthening. NSW's housing sector will see a relatively strong recovery in the coming years due to the significant 'under-building' of new homes in recent years, which will tend to lift demand for new connections over time.

Chart 4.7: NSW utilities forecast comparison



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

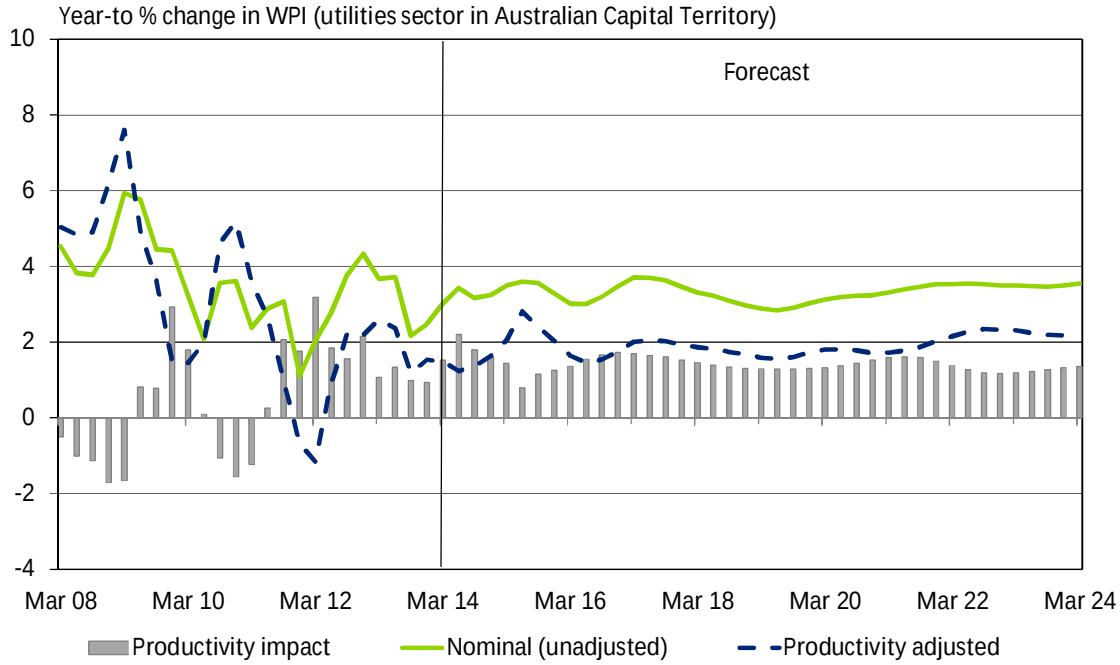
NSW's utilities sector is therefore expected to see some relative strength driven by its residential construction sector, and potentially also by increased competition for utilities workers from the engineering construction sector. However, the NSW utilities sector will not be completely insulated from the broader national influences on the utilities sector.

Chart 4.7 above shows that growth in NSW's utilities sector WPI currently remains elevated relative to the WPI for all sectors. The discrepancy is projected to ease over time, with growth in NSW's utilities sector WPI projected to lag growth in NSW's overall WPI over time. However, NSW's utilities sector WPI is forecast to show growth marginally stronger than the national utilities sector over the period.

The ACT's utilities sector has a slightly weaker outlook for the impact of other sectors than does NSW. While manufacturing is relatively minor in the ACT, the pipeline for engineering construction in the ACT is quite limited. On the other hand house building already lifted strongly in the ACT in recent years, and is now likely to remain weak for some time.

Chart 4.8 shows a similar picture for the ACT's utilities sector WPI, with growth expected to remain quite subdued.

Chart 4.8: ACT utilities WPI forecasts

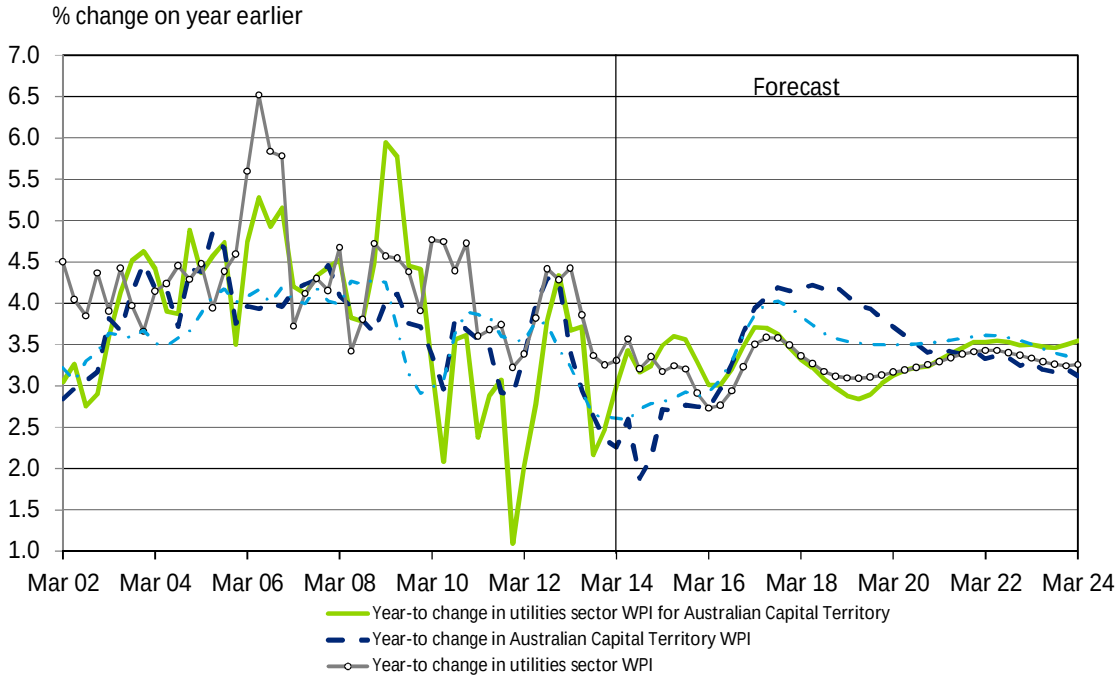


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Chart 4.9 shows that growth in the ACT's utilities sector WPI is projected to outpace the ACT's overall WPI in the near term (with the latter expected to be hit more by the current Federal Government cutbacks), before lagging it over the medium term.

The ACT's utilities sector WPI is forecast to show growth marginally stronger than the national utilities sector over the period, as wage relativities return to longer term trends.

Chart 4.9: ACT utilities forecast comparison

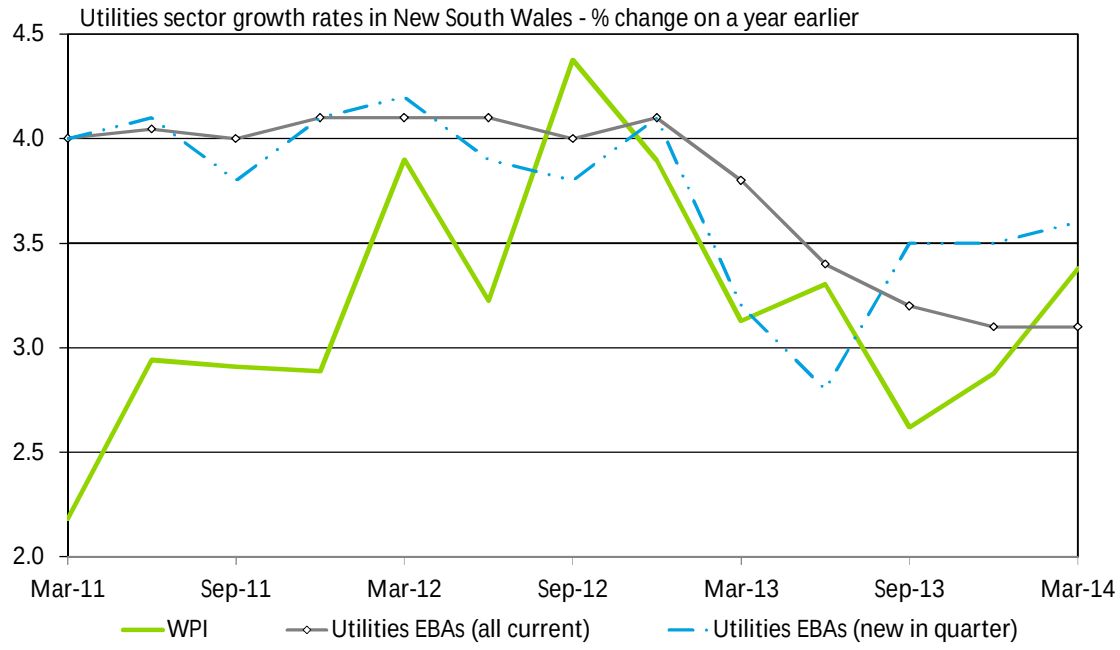


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

4.4.2 Comparison with EBA outcomes

Chart 4.10 compares the growth in NSW's utilities sector WPI with results from Enterprise Bargaining Agreements. Wage growth has eased across all three measures since September 2012. The latest data show an uptick in wage rises included in new EBAs in the last three quarters. That has been consistent with a recent upward rise in the WPI result for NSW.

Chart 4.10: Comparative measures of wage growth in NSW utilities

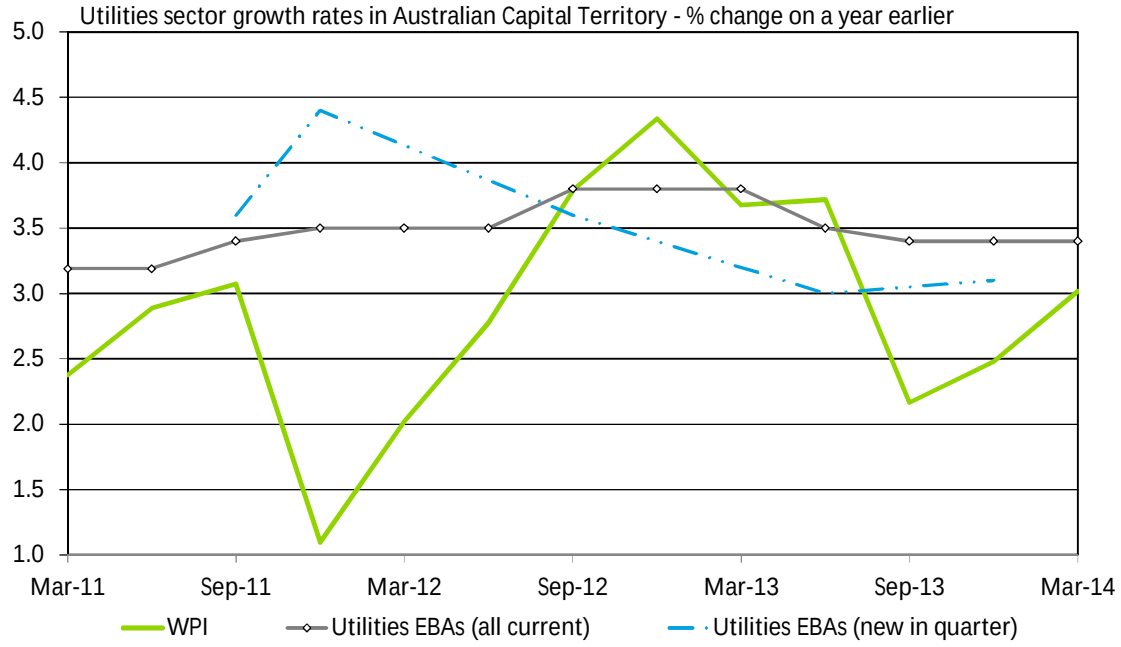


Source: ABS, DEEWR

As discussed in Chapter 2, we see this as the lagged impact of wage bargaining in the sector, rather than the start of a new upward trend in wage outcomes for the sector. As Chart 4.7 showed earlier, growth in NSW's utilities sector WPI is forecast to edge up slightly in the immediate future, before easing over the next two years.

Chart 4.11 makes the same comparison for the ACT, but it should be remembered that the utilities sector WPI series for the ACT has been estimated by Deloitte Access Economics. Wage growth has also eased across all three of the ACT's utilities sector wage measures since September 2012. EBA data for new agreements show that the downward trend for new utilities sector EBAs in the ACT did pause in December 2013, while EBA data for new agreements were not available for the ACT for March 2014 when this report was finalised.

Chart 4.11: Comparative measures of wage growth in ACT utilities



Source: ABS, DEEWR

4.5 The construction sector

In Chapter 2, the broader NSW economy's falling share of national output and jobs over much of the past decade was noted. The construction sector in NSW was a key driver of that fall, with housing as well as commercial and engineering construction underperforming the nation.

Housing construction in NSW fell from more than a third of the national total in the early 2000s to less than a quarter in 2008-09, and has only begun to recover its share in the past couple of years. Meanwhile, commercial and engineering construction in NSW has underperformed since the early 2000s largely due to the absence of the enormous lift in resource-related construction that the resource rich states have enjoyed over the past decade.

Commercial construction peaked ahead of the GFC and then fell for several years. The good news is that commercial construction activity in NSW appears to have bottomed in late 2011, and it has been on a rising trend since then. That has been supported by lower interest rates

as well as a recovering NSW economy. In particular, both retail and employment numbers have lifted of late. However, for the former that comes after several years of weakness, while the composition of recent employment growth has been less favourable for office demand due to weakness in white collar employment and elevated office vacancy rates are still a concern.

As such, the level of commercial construction activity in NSW still remains relatively subdued and slightly below its pre-GFC peak, but we expect the recovery in commercial construction to continue to gather pace over the next year. The project pipeline includes the mammoth $6 billion Barangaroo development, the largest project in the State, which is already underway and will keep construction supported until 2020. A myriad of other smaller projects – both current and in the pipeline – also mean commercial construction looks quite robust.

Both the resource and non-resource related components of the State's engineering construction activity have been shrinking over the past year. Among other factors, the non-resource related component of this sector (mainly infrastructure) tends to be notably driven by population growth (in the very long run), but from year to year there can be large swings as output and employment rely far more on large one-off infrastructure projects.

It helps that the State Government is increasing its spending on infrastructure , which is contributing to a relatively healthy pipeline of (public-funded) engineering construction projects. The largest project in the pipeline is the $11.5 billion WestConnex road project, which has the backing of both State and Federal governments, while the $8.3 billion North West Rail Link and the $3 billion NorthConnex projects are both expected to start construction later this year – a combination which will keep NSW's engineering construction levels elevated. And the green light has now been given for the $1.6 billion new CBD and South East Light Rail project, with the project due to be completed in 2019-20. Planning has also commenced on a second Sydney airport in Western Sydney which is due to commence construction in 2016.

That said, despite a healthy collection of infrastructure projects, NSW is not completely immune to the coming downturn in resource-related construction . Softer commodity prices have resulted in weakening profits in the mining sector (especially for coal producers in NSW), which has reduced the incentive to extract further resources at the margin in NSW. It does not help that NSW, like the rest of Australia is a high cost construction zone compared to other international markets. However, this slowdown will be less prominent in NSW compared to other regions in Australia, due to a lower exposure to the initial resources boom.

In terms of the resource-related project pipeline, weakness in prices for coal has taken chunks out of the pipeline, with project completion also beginning to gather pace. The $1.3 billion Ulan West thermal coal project has recently reached completion, as has the $1.4 billion Ravensworth coal mine expansion. Meanwhile the courts have dismissed an appeal by Rio Tinto and the State Government to reinstate the Planning Minister's approval of the Warkworth Extension Project – the main concerns being environmental. Add those elements together, and the fall in resource-related investment in NSW is set to continue.

Accordingly, the fate of the overall construction sector in NSW is likely to lie in housing construction. Building construction in NSW has seen a period of disappointment, particularly when compared with activity in Victoria. In part, that reflected relatively weaker population growth, but it also reflected the fact that NSW's housing construction has also been significantly constrained by supply side issues – zoning, developer chargers and ongoing delays around land releases for example.

That resulted in a long period of under-building in NSW, which meant that the fundamentals had increasingly been pointing to a recovery in housing construction in NSW. Assisted by lower interest rates, that recovery is now underway. The latest data indicate that NSW's housing construction is now exiting the earlier period of disappointment at speed – as is not unusual after a longish spell of under-building. Approvals have roared ahead, as have lending for housing. And the striking surge in housing prices in Sydney means that the "build or buy?" equation has swung more sharply in favour of the former in NSW than has been true elsewhere. Add in keen Asian interest in purchasing, and that combination is a pretty magic mix. In fact approvals in NSW recently surpassed those in Victoria for the first time in almost a decade. That said, although the forecasts point to good growth in housing construction , it would be even better still if it weren't for continuing issues around the development approval process in this State.

Overall, the outlook for NSW's construction sector is relatively positive. That is driven by a strong outlook for housing construction, and relatively large pipeline of public-funded engineering construction infrastructure projects. Commercial construction is also strengthening although its current level remains relatively weak.

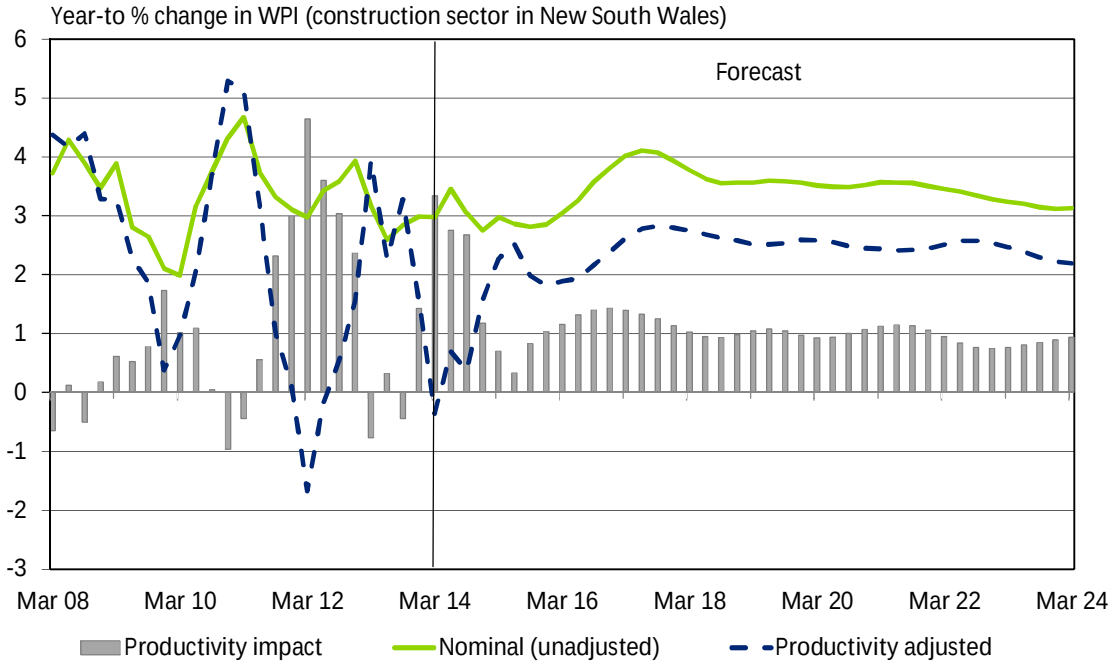
The ACT's construction sector has performed reasonably well against the national benchmark over the past decade. That is because, unlike the rest of the nation, housing construction in the ACT boomed. The ACT's share of national housing construction rose from less than 1½% in the pre-GFC years to a peak of 2½% in 2012. That was a massive outperformance considering the small size of the ACT's economy. However, that also means that – despite continuing strength in both the leading indicators of housing construction and in population growth – it will be difficult to see outcomes that are better in the next year or so. That says that the ACT is likely to be out of step with the national picture. The outlook in these forecasts sees housing construction levels in the short term dropping a bit from those seen in recent years.

The ACT's commercial construction has also enjoyed a strong run in recent years. However, that has also meant a significant addition to existing supply, which is now being exacerbated by the public sector cutbacks underway. Office vacancy rates have increased significantly and the commercial construction outlook remains pretty forlorn. Engineering construction remains morose. Of the eight projects currently in the Deloitte Access Economics' Investment Monitor database, six are underway, with all of them to be completed by 2016. That leaves a pretty bare cupboard going forward. In fact, Investment Monitor indicates that the ACT currently has the smallest engineering pipeline in relative terms of all jurisdictions (that is, the ratio of pipeline to current engineering work).

Overall, the outlook for the ACT's construction sector is relatively weak. Housing construction in the ACT has been very strong, so won't be boosted by the national housing recovery, while the pipeline for both commercial and engineering construction is weak.

Wages growth for the construction sector in NSW has eased despite some better news of late for the construction sector in NSW, with the slowdown in wages growth also reflecting the national construction slowdown as well as the broader slowdown in wage growth.

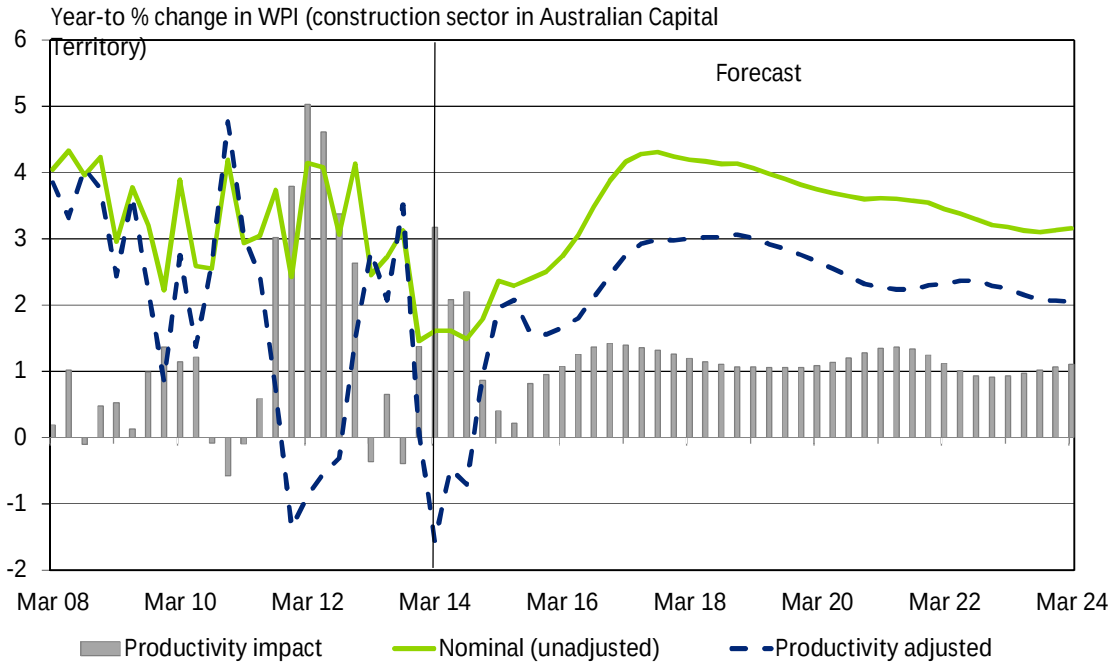
Chart 4.12: NSW construction WPI forecasts



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

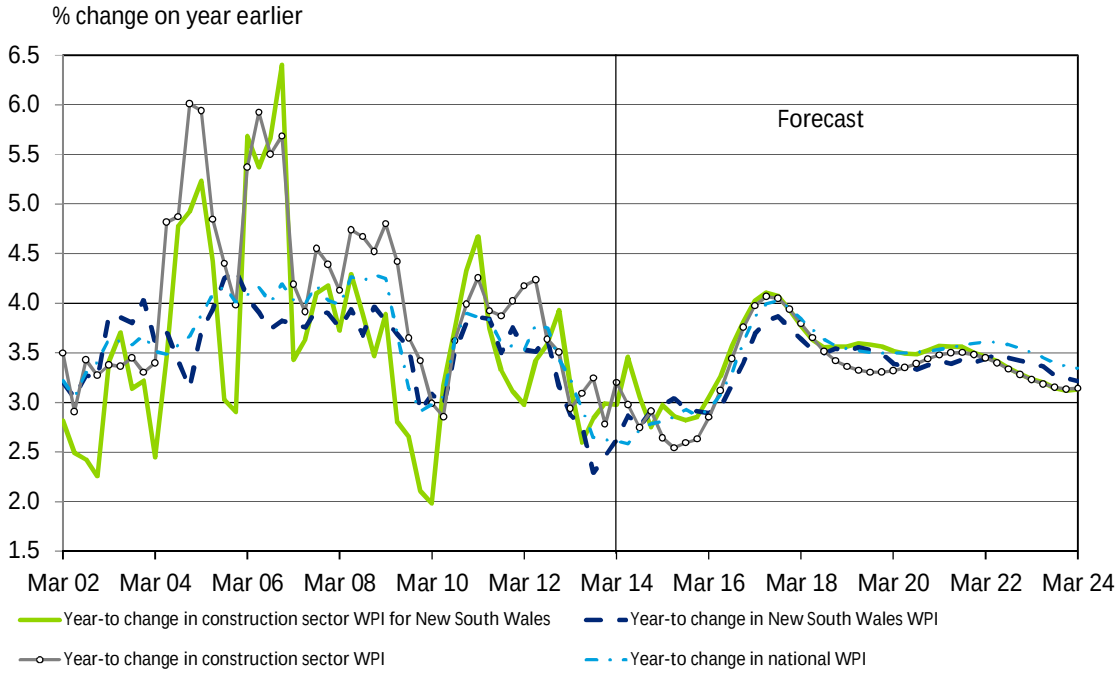
As Chart 4.12 shows, growth in the year to March 2014 was a subdued 3.0%, although it has been edging up slightly since June 2013. The ACT construction WPI has weakened even more, rising by just 1.6% in March 2014, with the current downturn the most severe since 1997.

Chart 4.13: ACT construction WPI forecasts



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

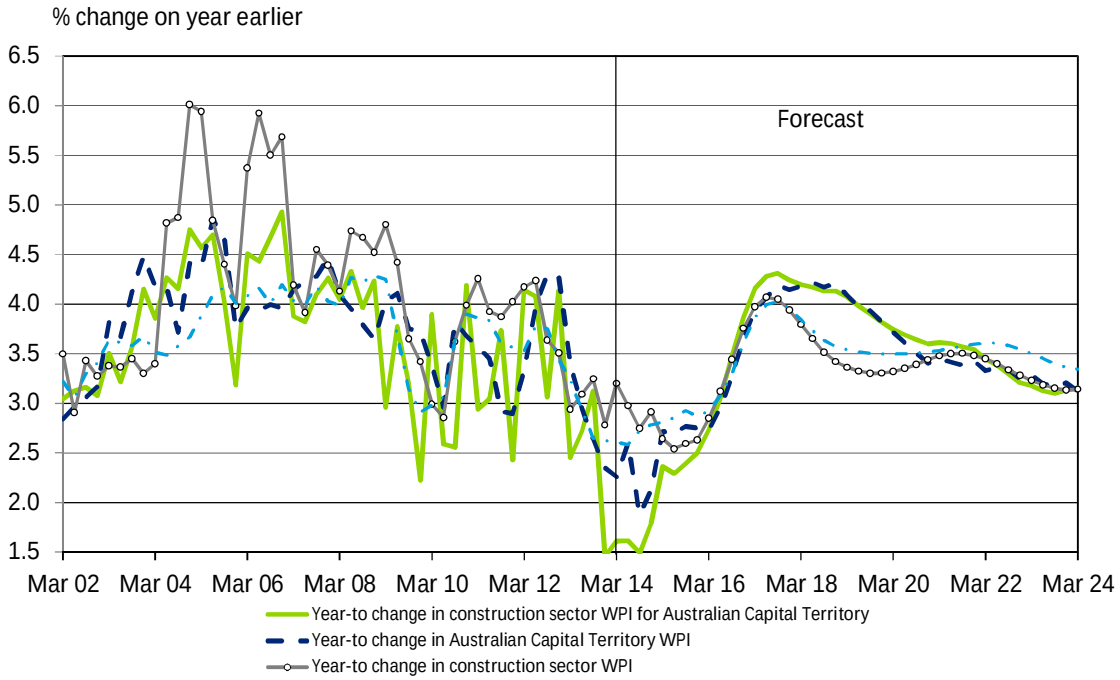
Chart 4.14: NSW construction forecast comparison



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

Given the general trends we expect, the projection is for NSW construction wages to grow at a fairly subdued rate over the next two years. Growth will then recover, broadly in line with national construction wages.

Chart 4.15: ACT construction forecast comparison



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

That pattern means that NSW's rate of growth in construction wages is forecast to be broadly similar to the national pace of growth, but with a slight relative outperformance over time. NSW's construction wages are also forecast to slightly outperform other sectors in the State.

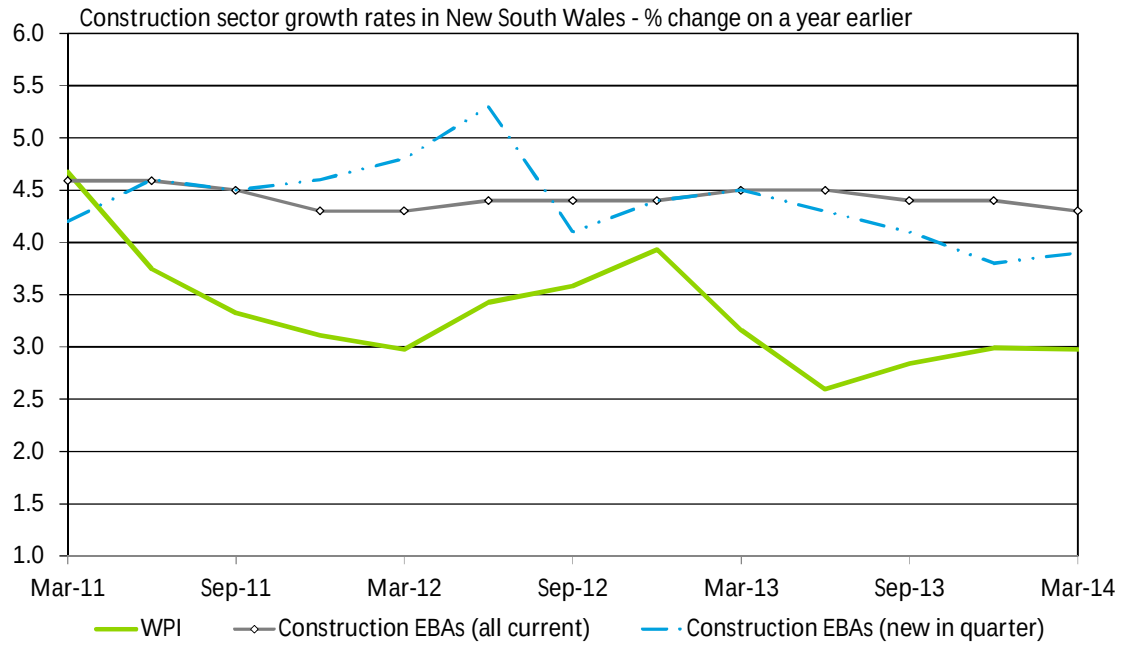
As Chart 4.15 above shows, the expectation is for ACT construction wages to remain quite weak over the next few years, before recovering more significantly. The ACT's construction markets are weak, and hence the rate of growth in construction wages is forecast to underperform the national pace of growth over the next three years.

That said, a period of outperformance is then expected over the medium term. Given the extent of the weakness seen in the latest data, the ACT's construction sector wages are forecast to lag other sectors in the ACT in the near term, but move broadly in line with other sectors over the longer term.

As Chart 4.16 shows, growth in wages under new EBAs in NSW continues to ease , suggesting a further easing in general construction sector wage growth may be seen. On the other hand the ACT has seen a surprising acceleration in wage outcomes under new EBAs recently, in contrast to the easing evident for broader construction sector wage growth in the ACT.

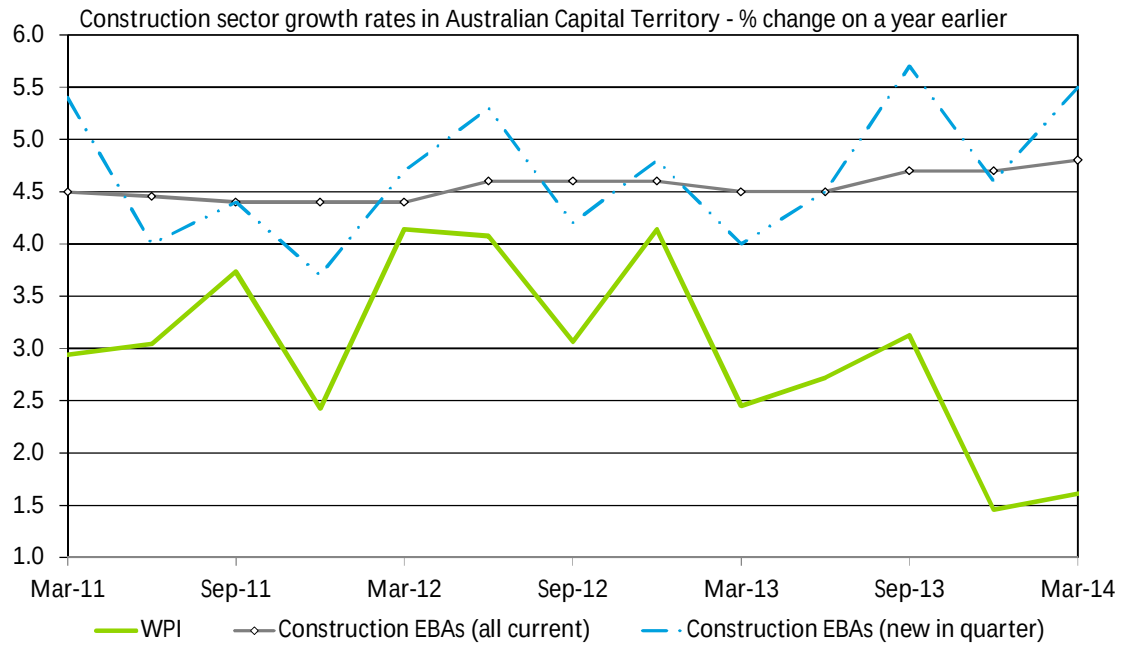
It should also be noted that growth in wages under all current EBAs continues to be faster than growth in the construction WPI for NSW, although the gap (at around 1½ percentage points per year) is smaller than the typical gap seen at the national level of construction (closer to 2 percentage points per year). That reflects the relatively weaker union position in the State's construction sector, which is reflected in the proportion of State workers covered by EBAs.

Chart 4.16: Comparative measures of wage growth in NSW construction



Source: ABS, DEEWR

Chart 4.17: Comparative measures of wage growth in ACT construction



Source: ABS, DEEWR

While nationally around 14.3% of construction workers are covered by EBAs – below the national average – the comparative figure for NSW is 7.1%. That is well below both the national average and Victoria's share of 17.4%.

That said, it should be remembered 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.

4.6 Summary results

Forecasts for sectoral wage growth in NSW are shown in Table 4.1 below and forecasts for the ACT are shown in Table 4.2. Forecasts include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 4.1: NSW wage forecasts

Financial year changes in New South Wales nominal Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.1	2.6	2.9	2.9	3.5	3.7	3.5	3.4
Utilities	3.7	3.2	3.3	2.9	3.4	3.5	3.3	3.3
Construction	3.3	3.1	2.9	3.0	3.9	3.9	3.6	3.5
Admin services	3.9	3.3	2.8	2.7	3.1	3.6	3.6	3.4

Financial year changes in New South Wales real Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	0.5	-0.1	0.2	0.4	0.7	1.2	1.1	1.1
Utilities	1.1	0.6	0.6	0.4	0.5	1.0	0.9	1.0
Construction	0.7	0.4	0.2	0.5	1.0	1.4	1.2	1.2
Admin services	1.4	0.7	0.1	0.1	0.3	1.2	1.2	1.1

Financial year changes in New South Wales nominal productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	2.8	0.4	0.8	1.6	2.0	2.8	2.3	2.6
Utilities	2.5	1.5	1.7	1.6	1.8	2.2	2.1	2.2
Construction	2.1	1.3	1.7	1.9	2.5	2.8	2.6	2.6
Admin services	2.3	0.9	1.5	1.4	1.6	2.4	2.4	2.3

Financial year changes in New South Wales real productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	0.2	-2.2	-1.8	-0.9	-0.8	0.3	-0.1	0.2
Utilities	0.0	-1.1	-1.0	-0.9	-1.0	-0.2	-0.2	-0.1
Construction	-0.5	-1.3	-1.0	-0.6	-0.3	0.3	0.2	0.2
Admin services	-0.2	-1.6	-1.2	-1.0	-1.2	0.0	0.1	0.0

Source: ABS, Deloitte Access Economics labour cost model

Table 4.2: ACT wage forecasts

Financial year changes in Australian Capital Territory nominal Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.7	2.5	2.4	2.8	3.7	4.2	4.1	3.8
Utilities	3.9	2.8	3.4	3.2	3.5	3.4	2.9	3.1
Construction	3.1	1.9	2.0	2.7	4.0	4.2	4.1	3.8
Admin services	4.2	5.2	2.7	2.3	3.1	3.9	3.9	3.5

Financial year changes in Australian Capital Territory real Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.8	0.1	-0.4	0.2	0.8	1.6	1.7	1.4
Utilities	1.9	0.4	0.6	0.6	0.6	0.8	0.5	0.7
Construction	1.1	-0.4	-0.8	0.1	1.0	1.6	1.6	1.4
Admin services	2.2	2.8	-0.1	-0.2	0.2	1.2	1.5	1.2

Financial year changes in Australian Capital Territory nominal productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.8	0.5	1.0	1.9	2.4	2.4	1.8	2.1
Utilities	2.3	1.4	2.0	1.9	1.8	1.9	1.6	1.7
Construction	1.5	0.4	1.1	1.6	2.6	3.0	3.0	2.7
Admin services	2.0	2.7	1.6	1.2	1.5	2.5	2.7	2.3

Financial year changes in Australian Capital Territory real productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.8	-1.8	-1.8	-0.7	-0.5	-0.2	-0.6	-0.2
Utilities	0.4	-1.0	-0.8	-0.7	-1.0	-0.7	-0.8	-0.6
Construction	-0.4	-1.9	-1.7	-0.9	-0.3	0.4	0.6	0.4
Admin services	0.1	0.3	-1.2	-1.4	-1.3	-0.1	0.3	-0.1

Source: ABS, Deloitte Access Economics labour cost model

5 Tasmanian wage growth forecasts

This chapter sets out the projections for labour costs in the utilities sector in Tasmania, and provides additional State level projections for the construction industry in Tasmania.

5.1 Technical notes on WPI data and forecasts

It should be borne in mind that the ABS does not release an official WPI measure for either the Tasmanian utilities sector or the Tasmanian construction sector, so Deloitte Access Economics estimates an imputed value for each series. For the Tasmanian utilities sector this imputed value is based on a combination of:

- WPI for utilities as a whole, and the relevant States, as well as relative movements in those industries with the States that do have an official estimated WPI. [8]
- When and where previously published, AWOTE for the sector in question. Note that all sectoral by State AWOTE estimates were discontinued at the end of 2011.
- Data on enterprise bargaining agreements.

The same method is used to estimate an imputed value for the Tasmanian construction sector.

In brief, there is now less information published than previously on State level wages by industry. For two of the industries under consideration in this chapter – the utilities in Tasmania, and the construction sector in Tasmania – Deloitte Access Economics has estimated wage (WPI) growth using a range of related data, including overall Tasmanian WPI wage growth, overall utilities sector (and construction sector) wage movements, data for enterprise bargaining agreements, as well as the data published for other States.

While a greater discussion can be found in Appendix D, the key points to bear in mind are:

- Not all industries have WPI published for all States (see Table D.1 for a detailed list of the components of this report that are based on published ABS data and those which have been imputed by Deloitte Access Economics). Some industries for which WPI data is not published at the State level previously had official estimates of average weekly ordinary time earnings provided. The latter were useful in indicating relative wage movements. However, this additional source of data was discontinued at the end of 2011, meaning the ABS no longer produces any compensation measures at the State by industry level for these sectors. In addition, the differential movements in overall AWOTE (compared with overall WPI) need to be accounted for if the AWOTE measure is used to inform an estimate of the detailed WPI measure.
- In those cases (since the start of 2012) where no State-specific industry WPI figure is available, a combination of the overall national WPI growth rate for that sector, the overall State WPI growth rate and (where available) movements in detailed wages covered by

[8] Tasmanian sectoral WPI indices are currently published only for the manufacturing and public administration sectors.

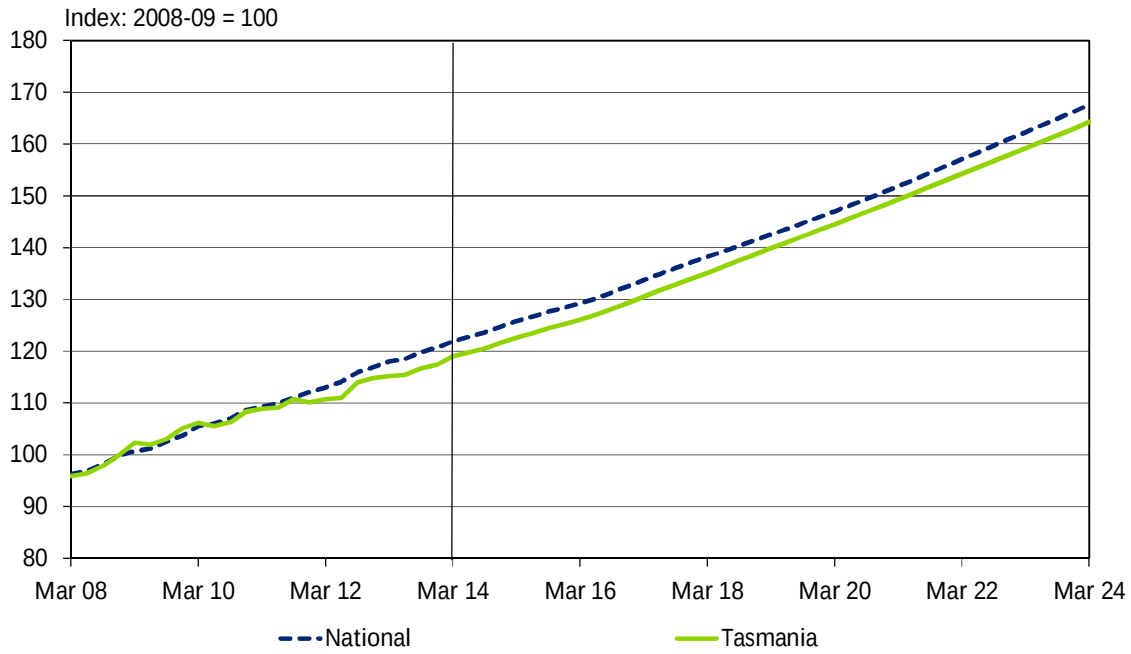
EBAs is used. Among the key sectors shown here, this affects the utilities and construction sectors in Tasmania.[9]

- Note this means there is no longer any officially released time series estimate for utilities wages in Tasmania (in terms of WPI, AWOTE or other equivalent measures). Therefore extreme care needs to be taken in analysing these series over time. The modelling here implicitly assumes that overall Tasmanian WPI wage growth, overall utilities sector wage movements, data for enterprise bargaining agreements, as well as the data published for other States, can be used to create a reasonable estimate of the specific WPI series in history. However, there is no guarantee that the data used matches what the ABS data would show were it to be released.[10]

5.2 State trends

As Chart 5.1 below shows, over the longer term the underlying trends in wages in the sector at the national level tend to dominate the movements by State – these lines look very similar in both history and forecast, although volatility ('noise' in the data) can lead to significant movements in smaller jurisdictions.

Chart 5.1: Utilities sector WPI forecasts – national and Tasmania



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

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

[9] The Tasmanian utilities sector employs around 3,700 people compared to total State employment of around 232,000, while the Tasmanian construction sector is a larger employer and employs around 17,500 persons.

[10] The ABS does estimate these values, but does not release them externally due to the small number of businesses that are included in the sample, and the possibility that individual results could be estimated from the data if it were to be released.

- 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.

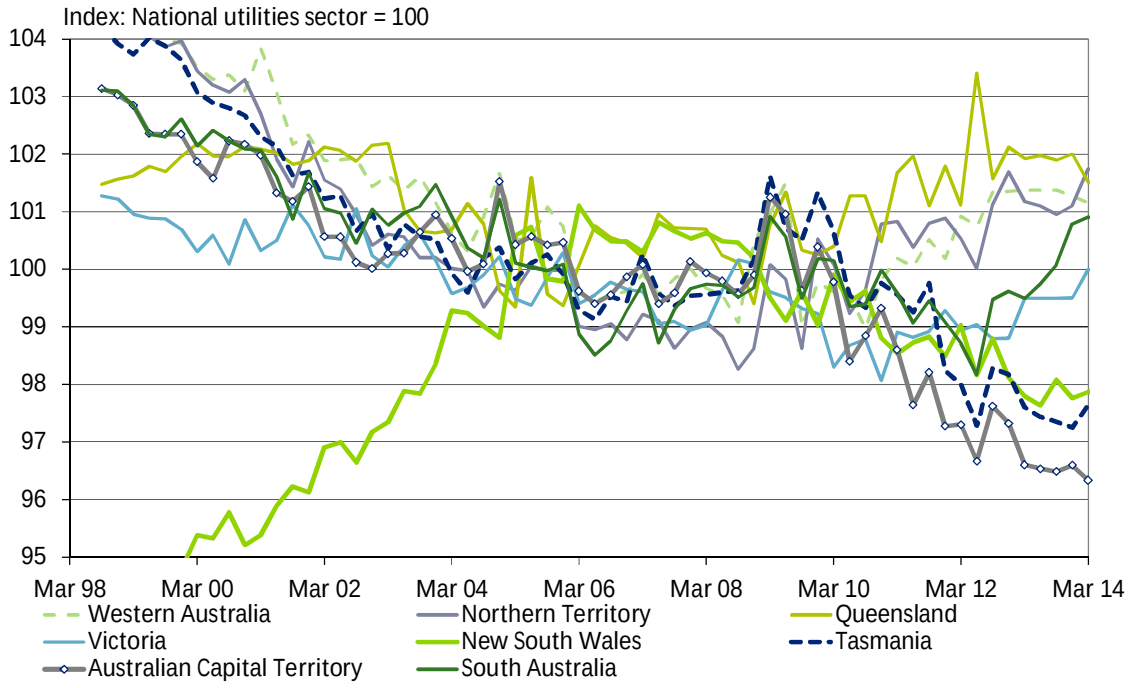
A small but noticeable gap has emerged between our estimates of the utilities WPI in Tasmania and that for the nation as a whole in recent years, largely driven by relative weakness in the State's economy in general and business investment in particular.

That gap is expected to narrow slightly in the years to come. 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.

5.3 Wage relativities across States in the utilities

The differences in index levels for utilities wages by State are easier to see when expressed in relative terms, as they are in Chart 5.2 below.

Chart 5.2: Relative utilities WPI 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. [11] Both the volatility at the State level and the tendency for indices to revert towards the national average over time are evident.

[11] 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.

From the late 1990s to around 2005 the utilities sector has seen relatively faster wage growth nationally, with much of that strength specific to New South Wales. Following a period of wage levels hovering around the national average, wages in Tasmania's utilities sector have fallen behind the substantial gains seen in Western Australia, Queensland and the Northern Territory.

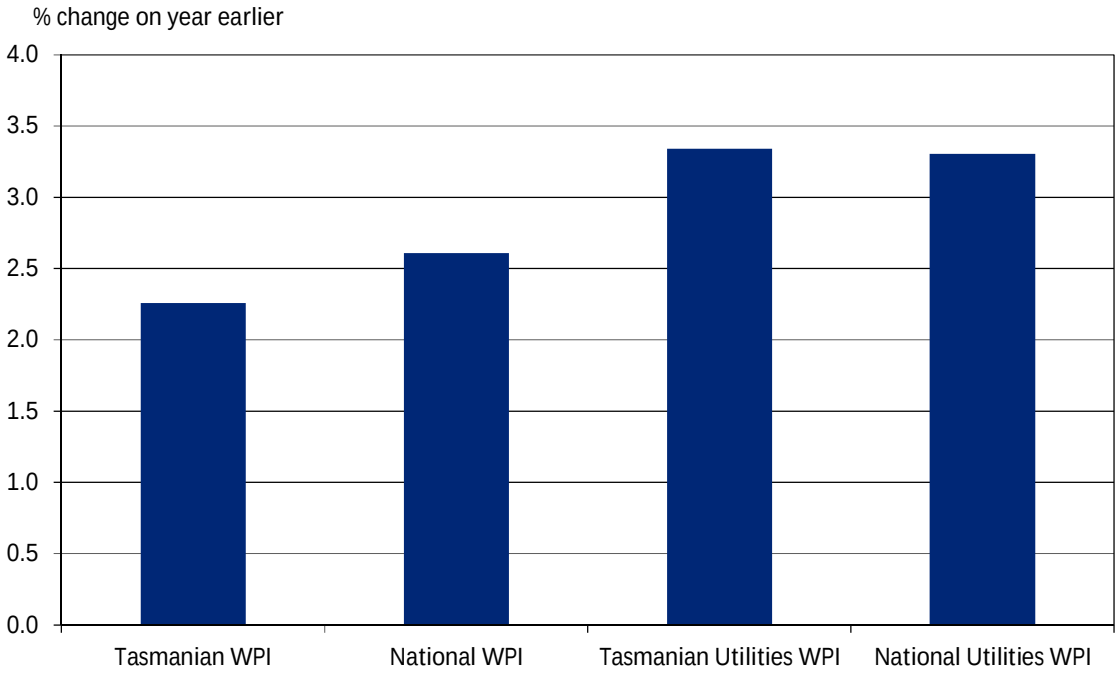
Indeed, since 2010 only the ACT has experienced slower growth in utilities wages than Tasmania.

5.4 The utilities sector

As Chart 5.3 illustrates, wage gains in Tasmania have been lagging behind their national counterparts of late, with growth in the most recent 12 month period some 0.3 percentage points lower in the State than that seen nationally.

But that isn't true of the utilities sector, where Tasmania's estimated 3.3% growth figure means the State is holding its own amid solid gains in other States and Territories.

Chart 5.3: Comparative WPI growth rates in 12 months to March 2014



Source: ABS

That result is a solid outcome for wage gains in the sector when compared with a year earlier, when State-wide wages were matching the national average but the utilities were lagging behind by some 0.4 percentage points.

That is, wage gains in Tasmania's utilities sector may have slowed, but they have been growing more quickly of late than broader wage measures might suggest.

Tasmania saw wages in the utilities lift sharply relative to other States during the GFC, before those gains were rapidly unwound and then replaced by a notable drop through 2010 and 2011 due to strong growth elsewhere associated with the mining boom.

Despite a sharp decline in broader wage growth in the State, utilities wages have since levelled off in relative terms – though this measure remains volatile.

Looking forward, that levelling off is expected to continue for some time, initially due to better news in Tasmania's labour market more broadly, but increasingly due to the fading impact of strong gains in the resource sector States as the construction phase of the resources boom loses strength.

Chart 5.4: Relative utilities WPI forecast for Tasmania

Source: ABS, Deloitte Access Economics labour cost model

Looking further ahead, the forecasts in Chart 5.4 shows Tasmania clawing back some of the ground lost on other States in recent times. That said, those relative gains are some way off, and are expected to be modest at best.

Moreover, any relative upswing over this period will be occurring against the backdrop of a utilities sector which will be lagging the overall rate of WPI increase nationally. 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 wage growth than that seen 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. That is particularly true in the case of Tasmania, which is not only a smaller State, but one for which much of the relevant data must be estimated, rather than measured directly.

Forecasting growth rates based on a point-to-point comparison of results can amplify that volatility. For that reason Deloitte Access Economics recommends that it is better to concentrate of the longer running underlying trends indicated in Chart 5.2 and Chart 5.4.

Following a lift during the GFC, our estimates of Tasmania's utilities WPI experienced a period of slower growth through late 2011 and into 2012 at a time when national wage gains in the sector were gathering pace. More recent results saw sectoral wages accelerate away from the overall rate of State wage increases, though they remained below matching gains in the utilities sector nationally.

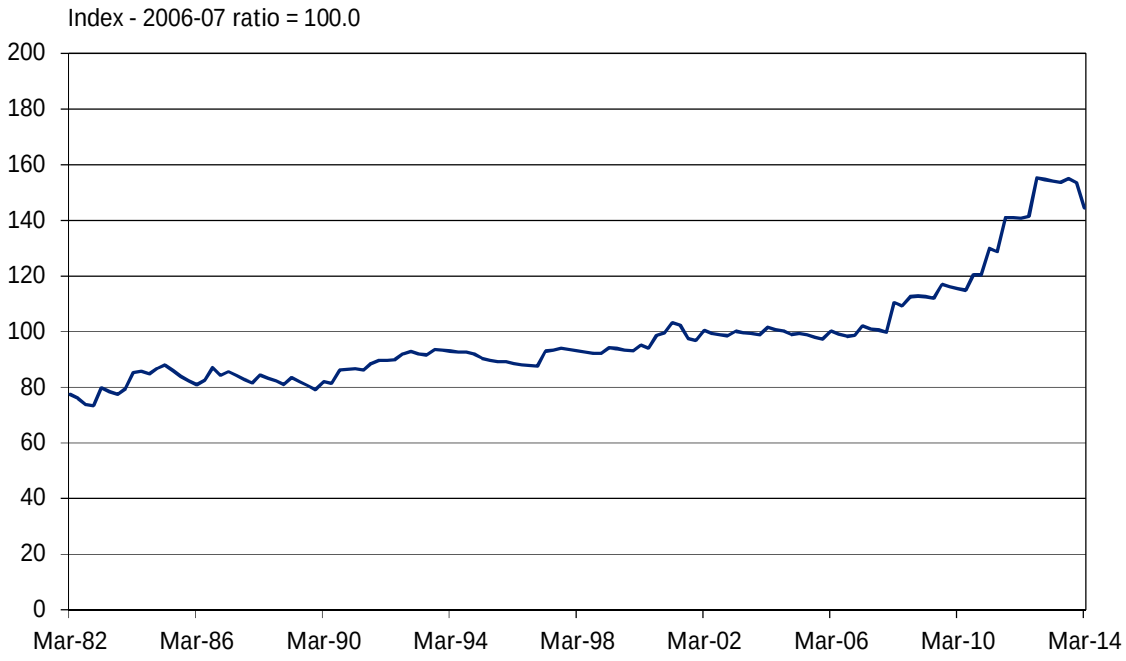
Output in Tasmania's utilities sector has been declining as a share of its national counterpart for much of the past two decades. That decline is closely linked to similar trends in the State's population – slower growth in population means fewer new houses in need of water and power.

A notable exception to that relative decline was the GFC period, where Tasmania's utilities output consistently outpaced that of other States for the first time since the early 1990s.

More recently, most of those gains have slipped away. With the local sector shrinking since 2012, Tasmania's utilities have been hit harder than those of other States.

Possible projects in renewable energy have the potential to boost utilities output in coming years. These include a $2 billion wind farm on King Island and a $200 million wind farm at Granville Farm.

Chart 5.5: Hobart electricity prices relative to total Hobart CPI



Source: ABS

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 2, 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 Chart 5.5 above shows, from the start of available records in 1980 up until 2007, movements in electricity prices broadly tracked with overall inflation.

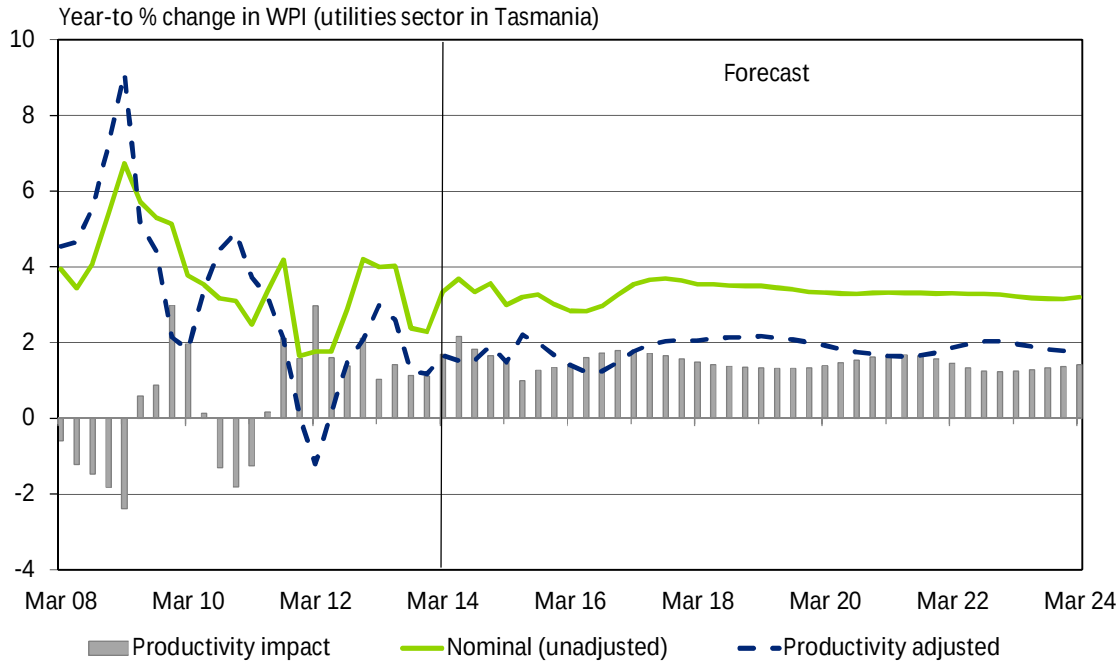
However, those prices have leapt in the past six years, rising by more than half relative to general price levels over than time.

While we do expect these trends to reverse to some degree due to the removal of the carbon tax from 1 October 2014, that one policy is only part of the story. 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 of 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) than in recent years.

If there is good news for utilities sector jobs in Tasmania, it that the State hasn't seen the worst of the sharp increases in electricity prices over recent years. Electricity prices may have leapt by around half in real terms, but this only represents around two thirds of the price rises seen nationally, while those across Bass Strait in Victoria were worse still.

In part that is a result of the greater concentration of hydroelectric power generation in Tasmania, which has offered a degree of shelter from the impact of both renewable energy targets and the carbon price. With the latter now on the way out, part of that relative price advantage may soon follow.

Chart 5.6: Tasmanian utilities WPI forecasts



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

Despite moves to boost the local forestry sector and an expected degree of relief from the high value of the Australian dollar over time, the outlook for major power customers in

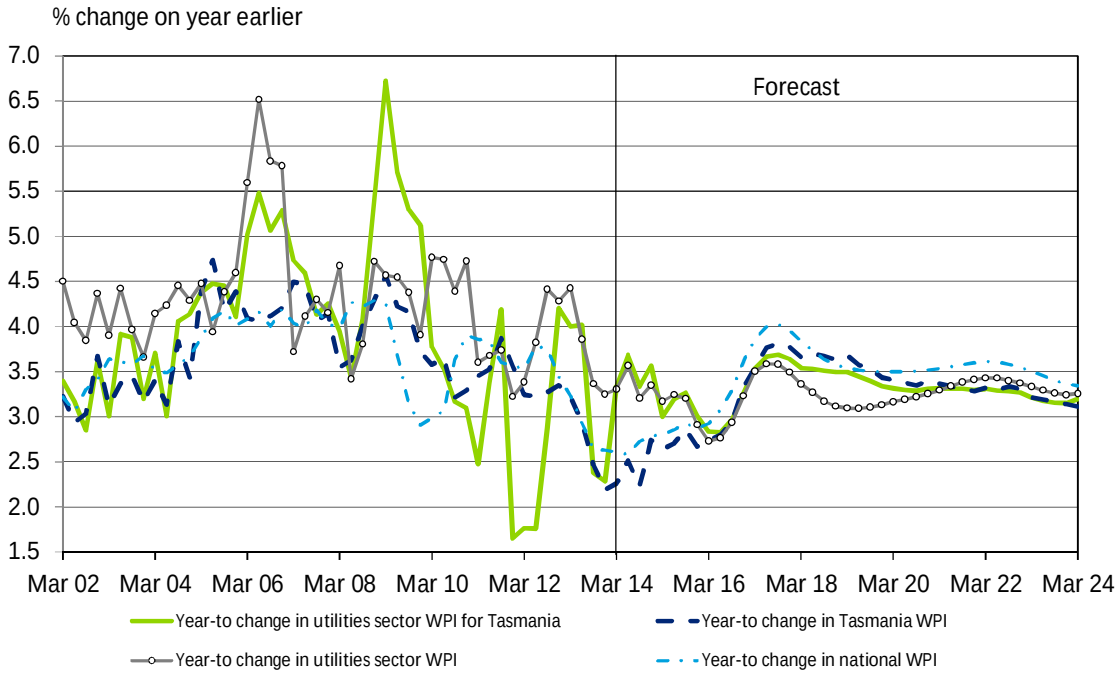
manufacturing remains weak. That suggests not only weaker demand for utilities sector output, but greater availability of skilled workers which may cut into wage pressures across several sectors.

Tasmania's construction sector too is softening, continuing to slide after a relatively strong performance in the immediate aftermath of the GFC.

These factors mean both less demand for utilities and less competition for utilities workers – both leading to the conclusion that wage pressures emerging in the utilities sector will tend to ease off from current levels. That combination should take some pressure off utilities wage growth over the coming period, with wage gains expected to ease closer to those for State-wide wages.

Overall, that means an easing in the State's utilities sector WPI as shown in Chart 5.7, from around 3½% to dip below 3% as wage growth in the sector moves into line with both State-wide and national sectoral trends by 2016.

Chart 5.7: Tasmanian utilities forecast comparison

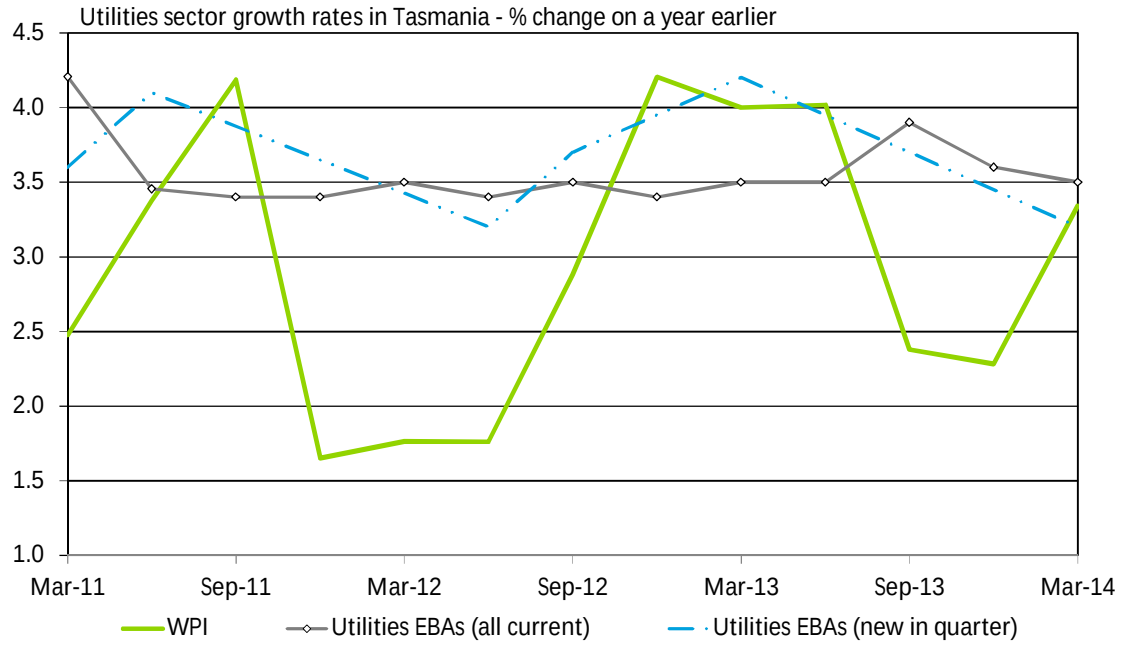


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

As noted above, that will coincide with a period where the recent strong outperformers (mainly Queensland and Western Australia) are also projected to fall back towards the national average in terms of wage growth in general and utilities wages in particular.

Chart 5.8 compares the growth in Tasmania's utilities sector WPI with partial results from Enterprise Bargaining Agreements.

Chart 5.8: Comparative measures of wage growth in Tasmanian utilities



Source: ABS, DEEWR

Both the WPI estimates and outcomes from new EBAs showed wages pressures easing into 2012, before a pick up in wage growth later in that year. That said, the WPI estimates have been more volatile than the rates implied by new EBAs, and considerably more volatile than the rates across all current EBAs.

Most recently, the WPI estimates have picked up above the 3% level, while both EBA measures are still showing a downward trend. As Chart 5.8 shows, wage rises included in new EBAs were relatively weak in the most recent quarter, at around 3¼%. That said, the data for the most recent quarter covered a small number of workers – around 1 in 20 workers in the sector nationally and less still in Tasmania.

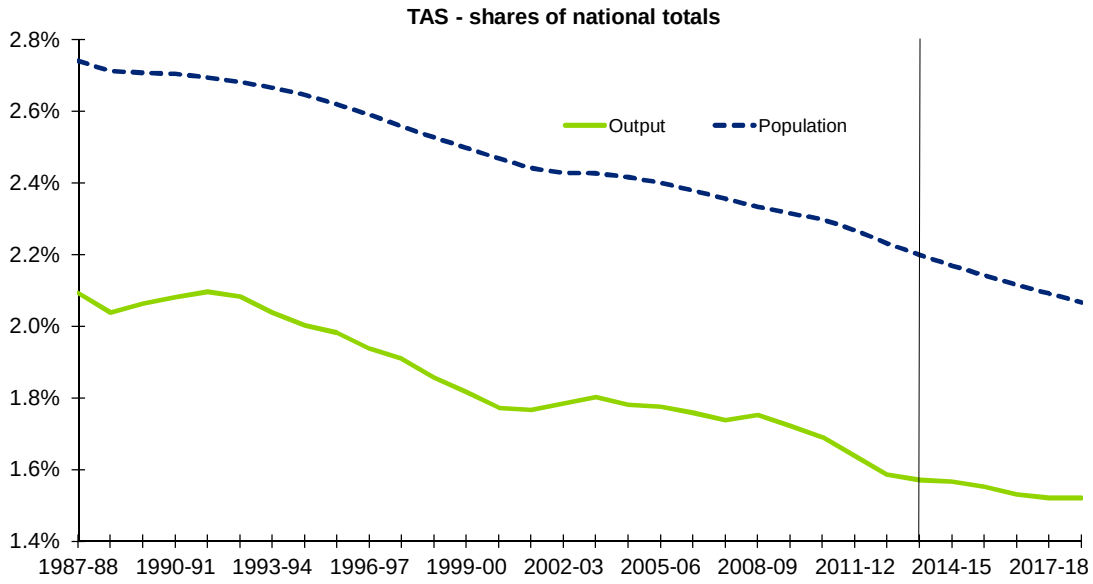
5.5 The construction sector

Chart 5.9 shows the longer term trend in Tasmania's share of the nation's population and output. It shows a State which has been growing more slowly than its peers over two and a half decades – a trend which is expected to continue over coming years.

That broader trend is a powerful headwind for any sector to fight, but it is particularly tough for builders, as population growth is a fundamental driver of the need for new homes.

There are some bright spots in the outlook, including some response from building approvals and housing finance in Tasmania to the low interest rates on offer. Initiatives at the State level have also play a role here, and the Tasmanian Government is offering incentives for first homebuyers to build, rather than simply buy. That should mean some better news lies ahead for Tasmania's housing construction sector. Yet that is measured optimism: even though population growth is lifting, it will still see the State lag behind its peers.

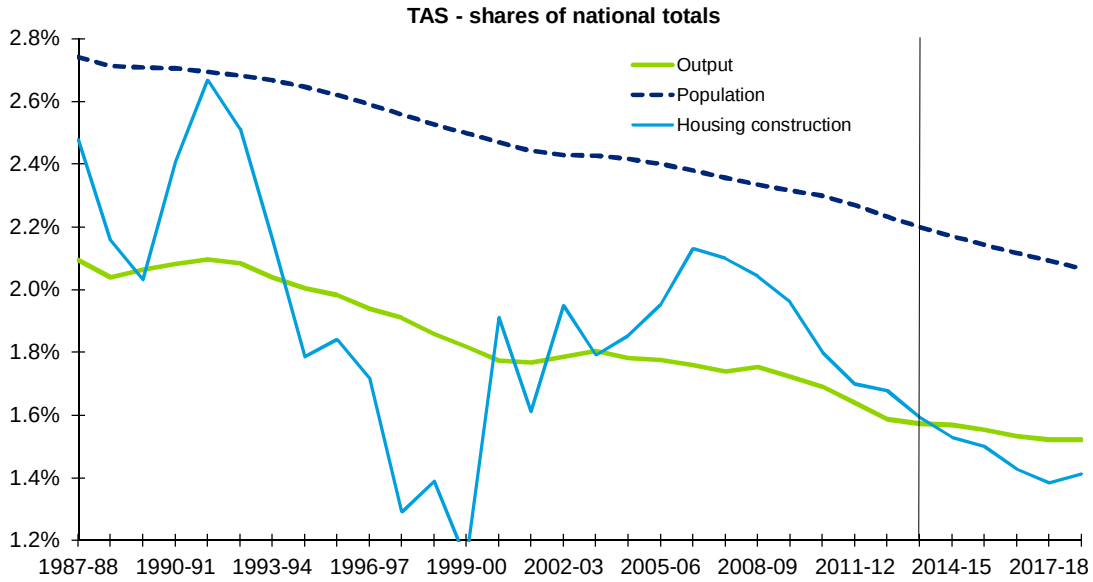
Chart 5.9: Forecasts of Tasmanian population and output



Source: ABS, Deloitte Access Economics forecasts

Indeed, the State's demographics outlook remains too weak to imply much ongoing good news for this industry, as illustrated in Chart 5.10.

Chart 5.10: Forecasts of Tasmanian housing construction

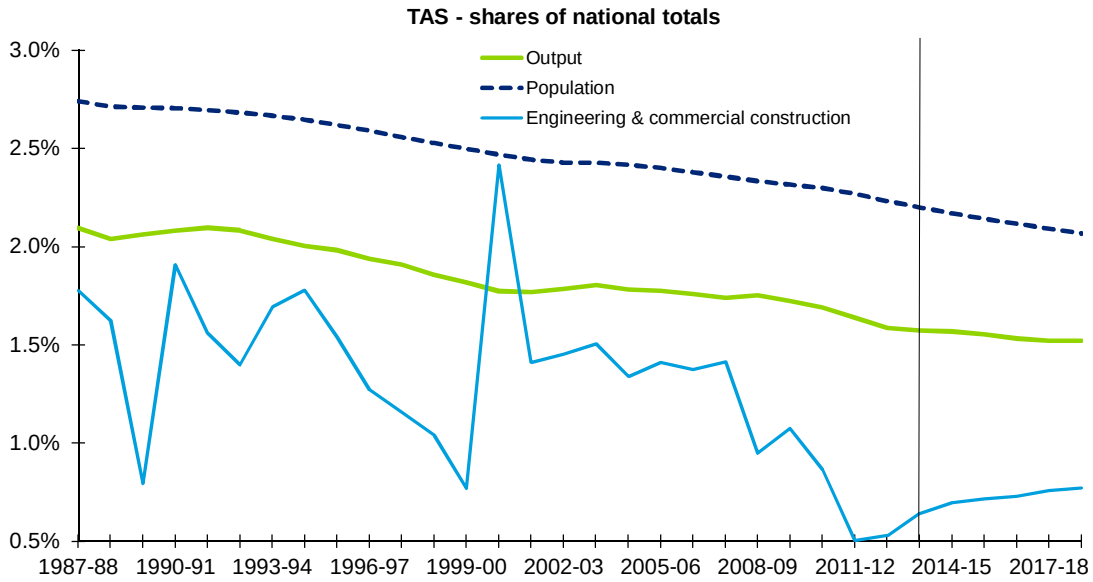


Source: ABS, Deloitte Access Economics forecasts

Unlike the picture for most States, there is some hope for Tasmania's engineering construction sector. In part, that is because the last few years saw engineering construction in the State particularly weak. This component of construction hasn't been as important to Tasmania in the past as it has to the likes of Queensland and Western Australia, but Tasmania's share of the national spend is at its lowest in more than two decades.

But there is better news ahead, with the $104 million Midlands Water Scheme and the $84 million New Norfolk Boyer Mill reaching completion, a handful of smaller projects are still under construction. A few larger projects remain as possibilities, including the $2 billion wind farm on King Island as well as the much needed $500 million Midland Highway Upgrade. Combined with a $239 million proposal to revitalise the States' freight rail network and another possible wind farm ($200 million) at Granville Farm, these projects have the potential to provide some much needed spark for the engineering construction sector.

Chart 5.11: Forecasts of Tasmanian engineering and commercial construction



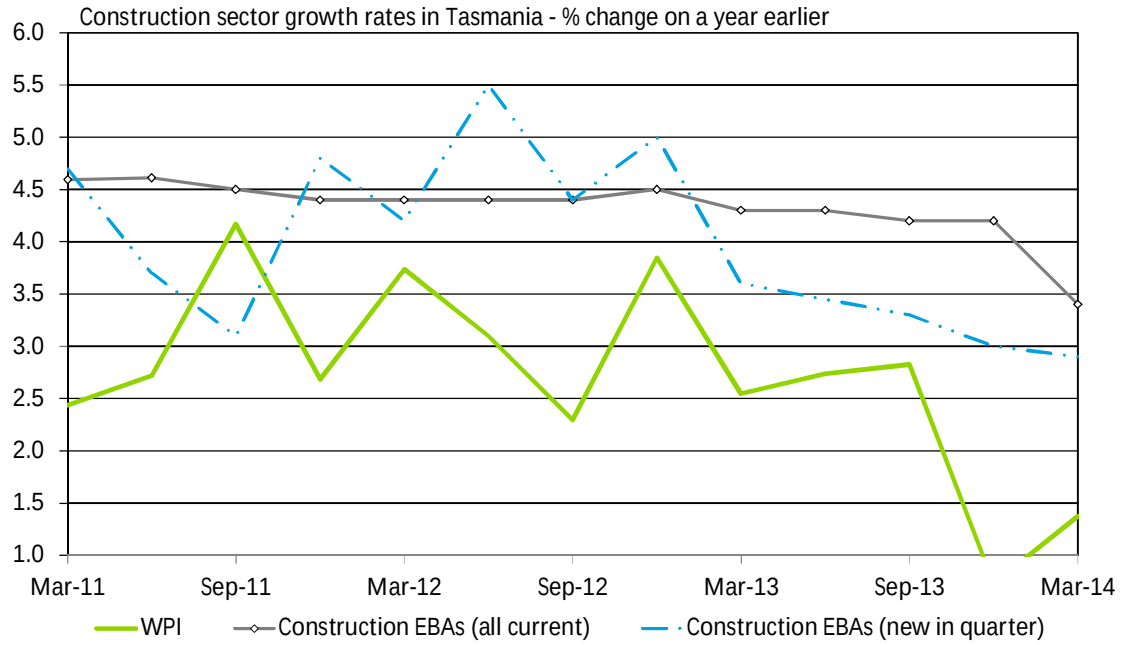
Source: ABS, Deloitte Access Economics forecasts

On the other hand there has been little change to the outlook for commercial construction activity in Tasmania, which currently is led by a series of hospital upgrades, the biggest of which is the $465 million redevelopment of the Royal Hobart hospital. Recently, $25 million was committed to the expansion of a salmon hatchery in Ranelagh. In Hobart, a $100 million Parliament Square development has had funds committed to it, with construction slated to commence later this year.

As Chart 5.13 shows, that combination of weakness in construction activity has meant little pressure on wages in Tasmania's construction sector of late, with increases of around 1½% in the year to March 2014. Not only is that a weak result, but it comes at a time when wage growth in the construction sector nationally has been running above broader price growth. Indeed, after accounting for productivity gains in the sector, our estimates of the cost of labour in Tasmania's construction workforce were going backwards in the most recent 12 month period.

That picture is consistent with a continued falls in wage growth through EBAs in the State. The latter have typically run ahead of broader wage growth in Tasmania, but the most recent data indicate a substantial narrowing of the gap between these two measures in recent times. Indeed, wage growth in new EBAs is now at the lowest levels seen in the three year period covered by Chart 5.12 below.

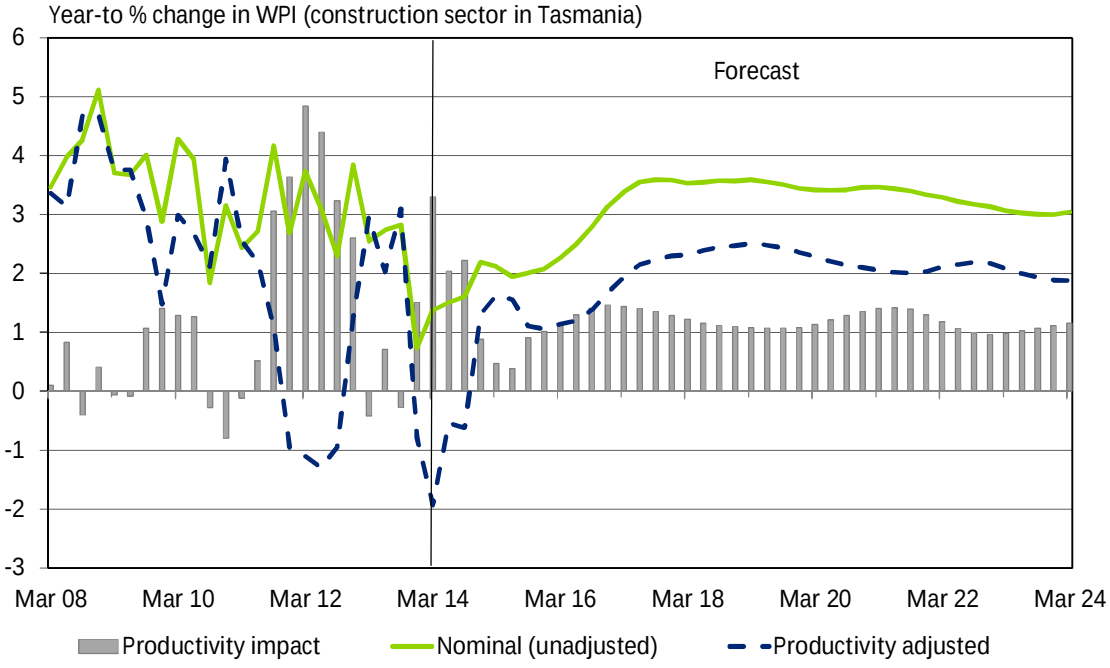
Chart 5.12: Comparative measures of wage growth in Tasmanian construction



Source: ABS, DEEWR

Turning to the forecasts, weakness in construction sector wages is expected to fade in the short term, though much of the good news on wages comes from higher levels of productivity rather than stronger underlying wage pressure in the sector.

Chart 5.13: Tasmanian construction WPI forecasts

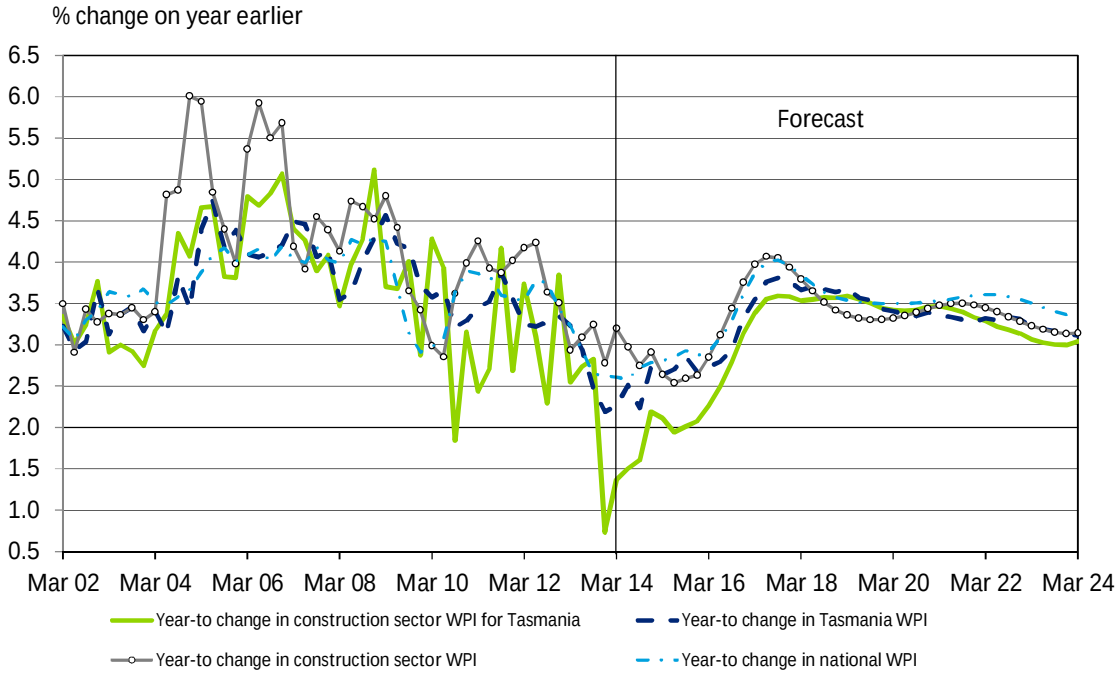


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Those short term productivity gains are forecast to ease in mid-2015, but wage gains are expected to hold steady at around 2%. While we see Tasmania's construction sector continuing to struggle against the backdrop of slow population growth, there is a limit to the resulting weakness in wages at a time when other States will be experiencing growth above 2½%. That is particularly true after a period where wages in Tasmania have been trailing well behind their counterparts elsewhere.

As Chart 5.14 shows, the resulting forecasts for construction wages in Tasmania see a notable improvement ahead, though that improvement will: (1) come off a very low base and (2) result in wage growth that remains slower than that for the national construction sector, and for wages more generally, for a number of years.

Chart 5.14: Tasmanian construction forecast comparison



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

Looking further forward, Tasmania's construction sector is expected to see wage growth returning close to its longer term historical average in 2017 to settle at around 3½%.

To the degree that skills are transferrable from the construction sector to the utilities, that picture of weak wage pressures gradually fading over the next few years will take some wage pressure off wages in Tasmania's utilities sector.

5.6 Summary results

Forecasts for sectoral wage growth in Tasmania are shown in Table 5.1 below. Forecasts include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 5.1: Tasmanian wage forecasts

Financial year changes in Tasmania nominal Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.2	2.4	2.6	2.8	3.4	3.7	3.6	3.4
Utilities	3.8	2.9	3.3	3.0	3.4	3.6	3.5	3.3
Construction	2.9	1.6	2.0	2.2	3.2	3.6	3.6	3.4
Admin services	3.4	3.9	2.8	2.4	3.0	3.2	2.7	3.1

Financial year changes in Tasmania real Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	2.0	-0.2	0.1	0.3	0.6	1.2	1.2	1.1
Utilities	2.6	0.3	0.8	0.5	0.5	1.1	1.1	1.0
Construction	1.7	-1.0	-0.5	-0.2	0.4	1.1	1.2	1.1
Admin services	2.3	1.3	0.3	0.0	0.2	0.7	0.3	0.7

Financial year changes in Tasmania nominal productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	2.8	-0.5	0.3	0.9	1.3	1.5	0.9	1.3
Utilities	2.3	1.4	1.8	1.6	1.6	2.1	2.1	2.0
Construction	1.3	-0.1	1.0	1.1	1.8	2.3	2.5	2.3
Admin services	1.4	1.4	1.6	1.1	1.4	1.8	1.4	1.8

Financial year changes in Tasmania real productivity adjusted Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.6	-3.0	-2.1	-1.5	-1.5	-1.0	-1.5	-1.1
Utilities	1.1	-1.2	-0.7	-0.8	-1.2	-0.4	-0.2	-0.4
Construction	0.2	-2.6	-1.5	-1.3	-1.0	-0.2	0.1	0.0
Admin services	0.2	-1.2	-0.9	-1.3	-1.4	-0.7	-0.9	-0.5

Source: ABS, Deloitte Access Economics labour cost model

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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

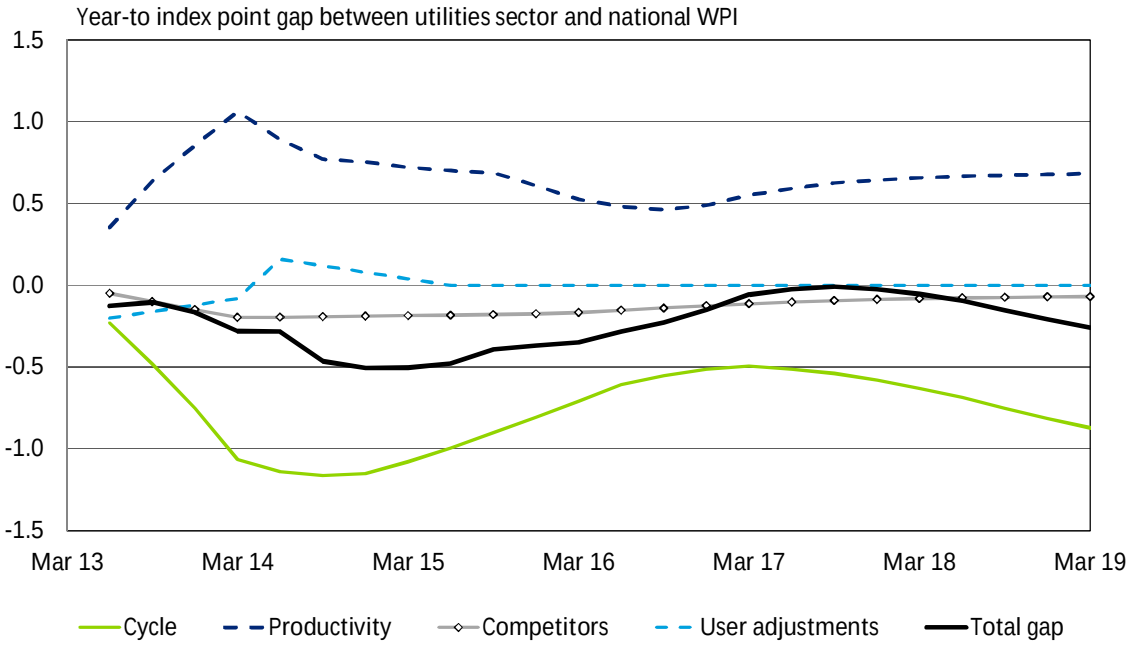
and vice versa. In this model, the key factor is how fast the industry (or State) is growing relative both to the national average, as well as to historical averages. So, while manufacturing growth in the future may be below the national average, if the gap is relatively less that has been seen in recent 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:

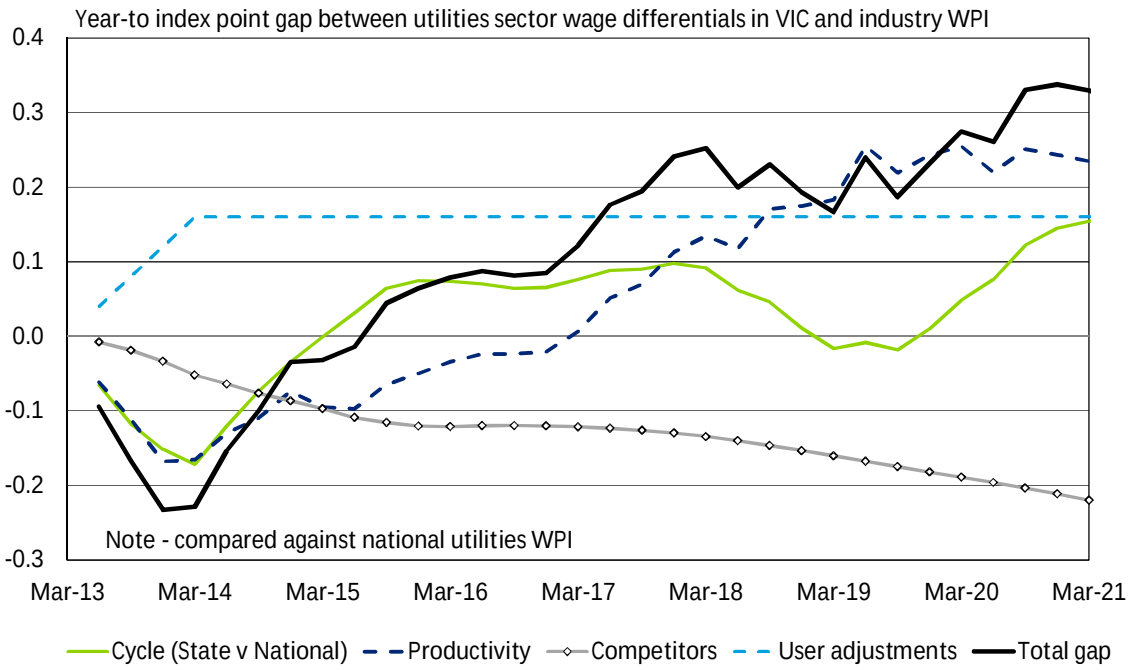
- The recent strength in the construction sector will keep upward pressure on the wages in the sector (represented here by the Cycle line). By the end of 2012 growth rates will begin to move in line with the overall economy and the cyclical pressure will diminish (and reverse further out); but
- The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

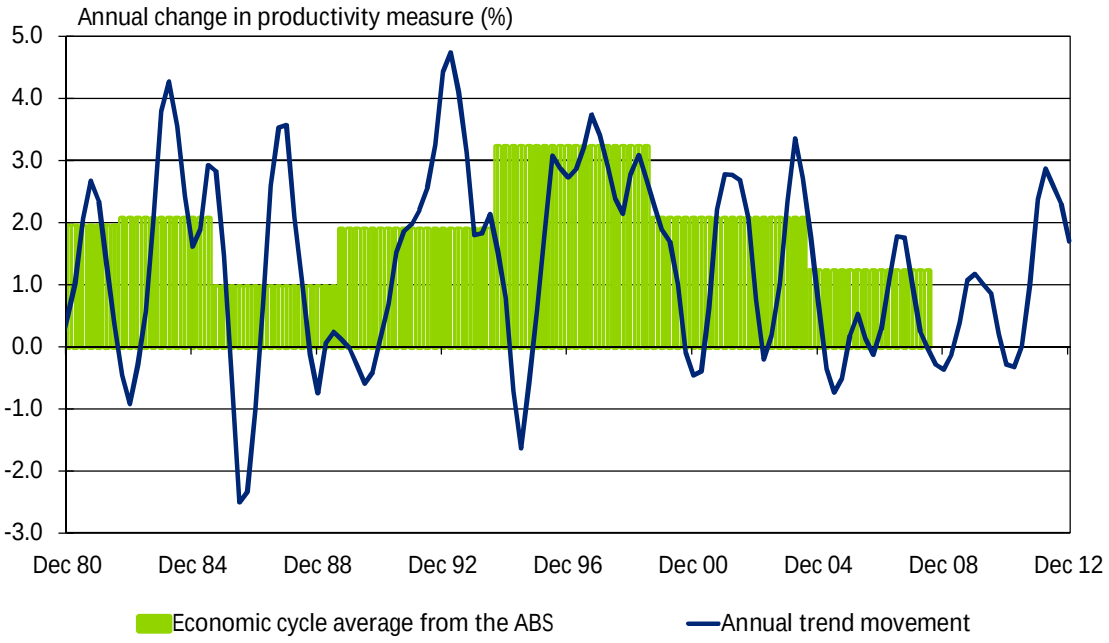
However, labour costs will rise at a different rate due to the effects of labour productivity growth. Effectively, labour productivity measure the number of units of output an individual employee can produce in a given time period. The more units of output each worker can produce, the fewer workers are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

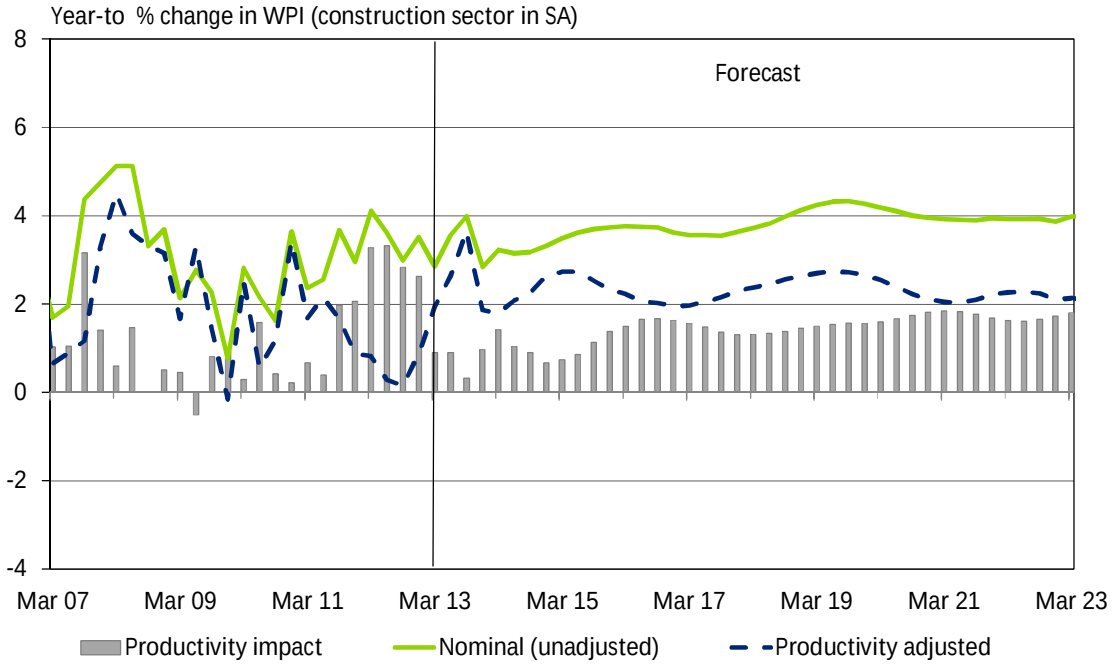
Chart B.3: Growth in productivity – annual methodology vs economic cycle methodology



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.[12] 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

[12] 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: WPI sectoral history at the State level

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

The following table shows (for the key States and sectors modelled) which data is available in time series for the WPI and (for those where WPI is not available) AWOTE. These are data series provided on the new ANZSIC06 basis. In the case of WPI data this has been provided across the period from September quarter 2008 to March quarter 2014 (23 quarters of data on a consistent basis).

Where AWOTE data is shown as being available, only estimates from May 2009 to November 2011[13] have been calculated by the ABS. Beyond this point data is imputed.

Table D.1: Wage data series availability

	Utilities	Construction
New South Wales	WPI	WPI
Australian Capital Territory	Imputed only	AWOTE
Tasmania	Imputed only	AWOTE

Source: ABS

As the table shows, the ABS produces all the required WPI data for NSW, but not in the case of the ACT and Tasmania. AWOTE data for the missing ACT and Tasmanian construction sectors was available until the end of 2011, but has now been discontinued. In addition, the overall AWOTE data itself is not consistent with the WPI data for Australia, so rather than using the raw data, to obtain a State by industry WPI we have used the deviations in the AWOTE growth from State AWOTE averages and applied a consistent ratio to the known State WPIs.

In other words, if the Tasmanian construction sector AWOTE measure rose faster than the overall State AWOTE measure, then we allow the Tasmanian construction sector WPI measure to rise faster than Tasmania's overall WPI. Because the AWOTE data has been far more volatile than WPI in recent years, we limit the deviations that this might imply. [14]

In addition to the AWOTE methodology (and in the most recent quarters, in place of it) we have used trends from EBAs to drive deviations in WPI growth rates. In all cases where WPI data is not published, the estimated results are normalised to ensure that the totals for the States are consistent with the levels of the industry components.

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

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

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