Deloitte Access Economics

Forecast growth in labour costs in NEM regions of Australia

Report prepared for the AER

23 February 2015

Deloitte.

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Arek Gulbenkoglu
Director
Australian Energy Regulator
Level 37, 360 Elizabeth Street
Melbourne, Victoria 3000

23 February 2015

Dear Arek,

Report on State utilities sector WPI

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

Yours sincerely,

Chris Richardson
Director
Deloitte Access Economics Pty Ltd

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Glossary

ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
DAE	Deloitte Access Economics
EBA	Enterprise Bargaining Agreement
GDP	Gross Domestic Product
GFC	Global Financial Crisis
LNG	Liquefied Natural Gas
WPI	Wage Price Index

Executive Summary

Economic growth remains below trend

Australia's economy is facing continuing challenges:

- Cooling growth in China and a surge in global commodity supply has seen commodity prices slump, with that slump most recently extending to energy prices.
- Those falls in commodity prices (and an associated stalling in nominal national income growth) reinforce the downward pressures already evident on the pace of resource-related construction in Australia.

However, on the other side of the ledger:

- Businesses and families finally understand that interest rates will be lower for longer than they'd previously expected.
- That good news on interest rates is now being joined by good news on the exchange rate as well.

On balance, growth in Australia remains below trend, with relative strength shifting both geographically (from the resource States to Australia's south and east) and by sector (from mining and from engineering construction towards retail, housing construction and tourism).

The utilities sector remains under pressure

As prices of electricity have increased hugely in recent years, consumers have been agile and cut their consumption. That phase of cutting back caught the industry off-guard, as the quantity of electricity used in Australia had been growing consistently for over a century.

In addition, there have been a range of reasons for the stalling of demand over and above higher prices: increasingly energy efficient appliances and buildings, environmental awareness and fear of climate change, and changes in the economy away from electricity intensive industries (such as key customers in manufacturing).

However, there are signs that the decline in electricity consumption is stabilising (the removal of the carbon tax may have played a part here). Looking ahead, the **positives** include:

- Favourable movements in **cyclical drivers**. Historically low interest rates stimulating housing construction are boosting household consumption of power, while a lower $A is easing competitive pressures on Australia's export exposed manufacturers.
- The **rise in electricity prices over the last decade is unlikely to continue**, as the repeal of the carbon tax, introduction of flexible and market pricing arrangements as well as reforms to regulatory frameworks mean more efficient pricing. Consumers are less likely to continue to cut energy consumption going forward.
- In the longer run, **underlying growth will be aided by growth in population and incomes**. In the near term, income growth will be hit by the current weakness in jobs and wages.
- **New technologies that can smooth the energy consumption profile will make electricity provision easier and cheaper in the long run.**

A number of **negatives** remain for the utilities:

- **Australia's manufacturing base remains under competitive pressure** and continued weakness in manufacturing is likely to weigh on utilities demand in coming years.
- Australia's east coast gas producers are linked to world markets, but that means **domestic gas prices will increase (though estimates of that price change have eased of late), resulting in a fall in consumption**.
- **Increased competitiveness and availability of distributed generation** such as rooftop solar systems and battery storage and solar hot water systems are also likely to remain a source of reductions in household demand for electricity over the medium term.

Overall, the utilities sector is forecast to recover from its current dip (aided by a growing population, greater stability in electricity prices, and reduced risks to domestic gas pricing) to move back to modest levels of growth.

Wage growth remains at record lows

The Wage Price Index (WPI) grew by just 2.6% in the past year. That's less than the low recorded during the global financial crisis, and it is also less than the low hit when the introduction of the GST led to a hiccup in growth back in 2000.

There are key drivers for this weakness in wages – unemployment is up and so are measures of underemployment, while surveys show families have rising concerns about their job security. In addition, wages grew too fast during the resources boom, outstripping productivity gains and hence reducing cost competitiveness – meaning current modest gains are partly a payback for that as Australia grinds its way back towards better cost competitiveness.

Wage growth in the utilities sector is slowing

Wage gains in the utilities sector peaked soon after the global financial crisis, but have been on an easing trend ever since, with that trend slowdown modestly gathering pace across the period in which the output of the Australian utilities sector has been shrinking.

And that trend is continuing. Falling electricity consumption, an oversupplied wholesale market, rule changes and policy uncertainty are placing greater pressure on utilities in the near term, and lead to Deloitte Access Economics' forecast of easing growth in WPI in the sector in the next year or so.

In particular, competition for workers with some of the same skills as those in the utilities sector is now waning:

- The competition for utilities sector workers from the resources sector has dissipated and will decrease further over the outlook period. In February 2015, on the back of plummeting oil prices, global resources services provider Halliburton announced an 8% cut to its global workforce joining Baker Hughes and Schlumberger in similar moves. Australia's resources sector is following global cost reductions and the subsequent reduced competition for workers will slow wage gains in the utilities sector.
- Similarly, activity in the construction sector has not offset falling employment from resources sector and is not increasing competitive pressure on the utilities sector for workers.

- In addition, although pressures on Australian manufacturers from the $A have reduced as the currency has fallen, that won't generate a turnaround in this sector.

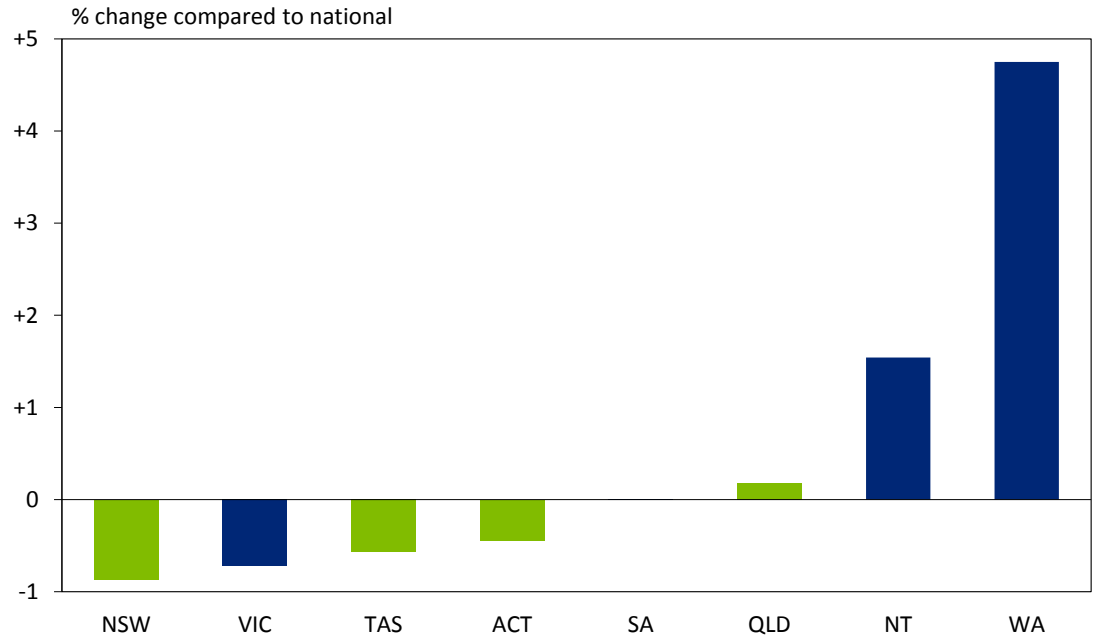
Through to late 2016 wage growth in utilities is projected to remain above national wage growth, and then utilities wages are forecast to modestly lag broader national wage growth over the medium term. Wage growth in the utilities was outpaced only by the arts and recreation sector in 2014 and this relativity is expected to continue, despite falling WPI growth in the utilities in the near term.

The gap between national and utilities wage data suggest wage growth in the utilities sector has still responded little to the general weakness in the sector and the broader Australian economy. That may reflect the lagged nature of bargaining in the sector, as well as the relative lack of competition in some areas. In the years beyond 2017, the investment cycle is expected to recover and increase demand for employees, increasing the national WPI above the utilities WPI as the lagged impact of the sectors' conditions are felt.

Utilities sector growth may recover from its current slump, but it is set to remain slow over the outlook period. 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 weigh on electricity demand and slow growth in employment in utilities, also limiting WPI growth in the sector. Alcoa closed its Point Henry and Yennora operations in late 2014 adding to the oversupply on energy in the east coast market. That reflects Deloitte Access Economics' 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. The extent of the decline in electricity demand (both in absolute terms, but particularly compared with earlier demand forecasts) is striking. The level of electricity consumed from the grid peaked in 2009 and that level is unlikely to be bettered in the next decade. Indeed, a more sanguine outlook suggests that by 2024 demand may be around 25% below from its peak – and close to 40% below the level forecast for that time as recently as 2010.

Wage gains have been weaker outside of WA and the NT

Chart i: Relative shifts in State WPI levels since 2007



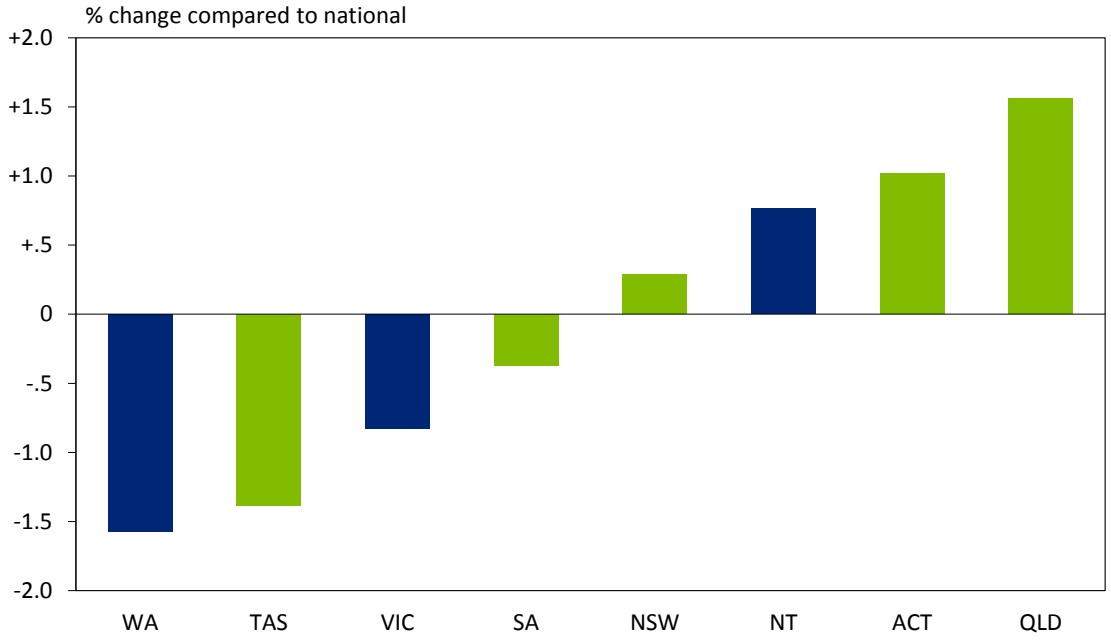
Source: ABS

This report focuses on wage developments in NSW, Queensland, South Australia, Tasmania and the ACT.

As Chart i makes clear, wage gains have not been evenly distributed across the country. Indeed, the rises across the period of the mining boom (effectively since 2007) have largely accrued to those States with the strongest construction and mining booms – Western Australia and the Northern Territory. Even Queensland, itself a beneficiary of the mining upswing, has lagged well behind the gains seen in those areas.

While South Australia has moved with the average since 2007, the remaining three jurisdictions have seen their relative wages fall – albeit modestly so – relative to wages in the economy as a whole.

Chart ii: Forecast shifts in State WPI levels to 2020



Source: Deloitte Access Economics' macroeconomic model

Forecast trends move more towards general economic trends

The results for the forecast period (shown in Chart ii) are driven by two forces. The first is the unwinding of some of the strength in the West (which only modestly offsets the gains made since 2007), while the second is the impact of general economic strength on particular States.

So although NSW and the ACT have both seen relative wage falls since 2007 – and while Queensland's growth has been less than might be expected – some of the key drivers of the relative effects are slowly turning – at least in part due to tougher times in States and Territories more dependent on outcomes in the resources and related sectors.

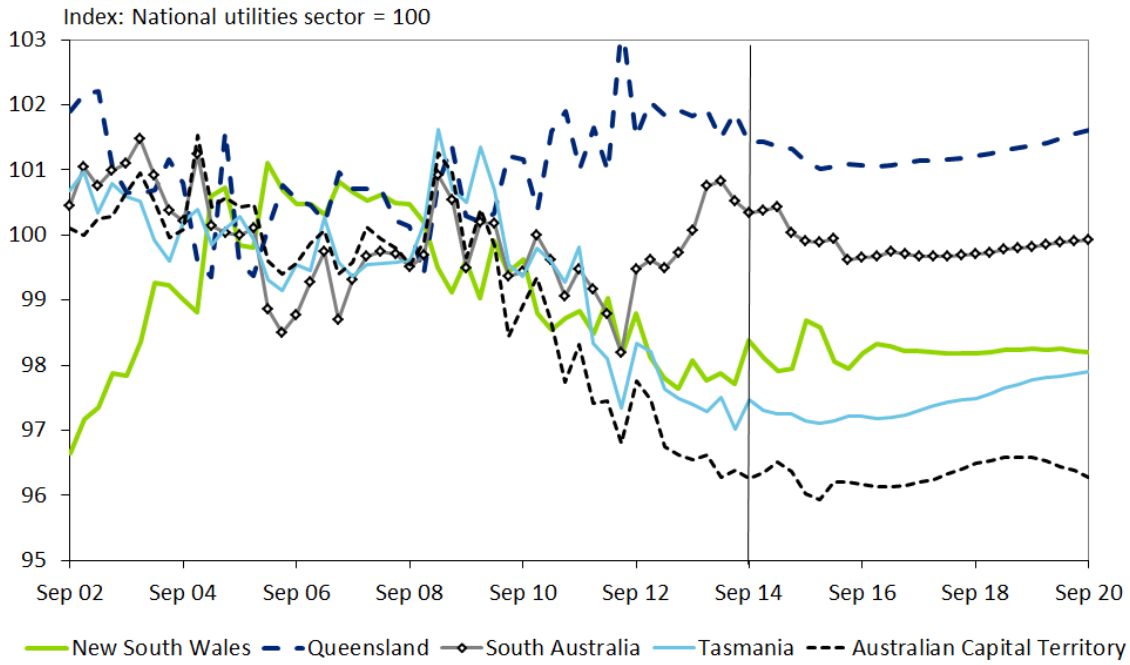
For Queensland, the short term is likely to see further modest growth. However, over the longer term wages growth is expected to pick-up as structural adjustments in the State's economy run their course and the general tenor of Queensland's performance picks up.

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. Tasmania's weaker economic prospects suggest wage growth will lag slightly, although much of the decline occurs in the early years of the forecasts.

But utilities sector WPI will move more closely with the national sector

While the States covered in this report differ substantially in their expected long term overall WPI outlook, the outlook is far more equal across the corresponding utilities sectors.

Chart iii: Relative trends in utilities WPI by State



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

Utilities wages in New South Wales, Tasmania and the ACT underperformed the other two States (and the national average) consistently since 2008, but all three are expected to at least hold their own in relative terms across the forecast period. Those changing relativities reflect the fact that:

- The NSW economy (and to a lesser extent some key Tasmanian sectors) 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 the Northern Territory will ease.
- The relative underperformance of utilities sector wages in these 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).

The outlook is slightly less rosy for the ACT, with the relative utilities WPI measure forecast to be relatively flat across the forecast period. The short term holds a number of risks for the ACT's economy due to public sector cutbacks, which would tend to drag the relative wage measure down. However, the waning strength of the resource States will limit the damage to the ACT, as will the relatively modest increases seen in recent years.

While drifting lower (relative to the national rates) from 2008 to 2011, utilities wages in South Australia have outperformed the average since – in line with the State's performance on wages

generally. That outperformance reflects the fact that (until late 2014) South Australia's wage growth has been relatively stable compared with a national picture of slowing growth.

As a result, it is likely that in the short term South Australian utilities sector wages will lag the upturn in the national growth rate, just as they lagged the downturn across 2013 and 2014. However, once that period has passed, the outlook is for growth rates at, or marginally ahead of the national average – thanks in part to the longer term easing in wages in WA and the Northern Territory.

The final State – Queensland – has seen its utilities wages growth outpace the national average. While not as strong an effect as it has been in the West, the competition for skilled workers required for the mining boom and related construction projects has helped keep wages in the utilities sector relatively buoyant, as it has for Queensland's wages measure more generally.

Yet, as Chart iii shows, the effect is already starting to ebb, and should ease further across the next two years. Falls in coal prices have dealt a blow to the economics of coal mining in the State, while recent falls in energy prices are doing the same for the oil and gas sector. These developments have meant that new mining developments in the State are now less likely to go ahead, meaning the competition effects for workers are set to diminish further.

However, while the mining boom and its related construction may be reversing, the State is set to see growth in other sections of construction – notably in the housing sector. That has been curtailed by the fall-out in financing in the post-GFC period and the downturn in the State's population performance. With finance levels now lifting, an expected turnaround in inward migration should lift the housing sector and the economy more generally. Both effects would boost the prospects for wage growth relative to the national rate – driving the longer term upward movement seen in the chart.

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 utilities sector related to the potential for privatisations in some elements of the industry.

Summary results

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	2.6	2.6	2.9	3.3	3.3	3.4
New South Wales	3.1	2.6	2.7	2.6	3.0	3.2	3.3	3.4
Australian Capital Territory	3.7	2.4	2.2	2.5	2.8	3.6	3.9	3.7
Queensland	3.0	2.7	2.5	2.7	3.2	3.6	3.6	3.5
South Australia	3.3	3.4	2.5	2.4	2.7	3.2	3.4	3.5
Tasmania	3.2	2.3	2.2	2.1	2.5	3.1	3.5	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	1.0	-0.1	0.7	-0.2	0.0	0.8	0.8	0.9
New South Wales	0.5	0.0	0.6	-0.2	0.2	0.8	0.9	1.0
Australian Capital Territory	1.8	0.2	0.7	-0.1	0.0	1.1	1.4	1.3
Queensland	1.0	-0.1	0.3	-0.1	0.2	1.0	1.0	1.0
South Australia	1.3	0.8	1.0	0.0	-0.1	0.7	0.9	1.1
Tasmania	2.0	-0.2	0.6	-0.7	-0.4	0.6	1.0	1.0

Source: ABS, Deloitte Access Economics labour cost model

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.

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	2.5	2.5	2.3	2.8	3.2	3.0	2.6	2.7
Consumer price index	2.3	2.7	1.9	2.8	2.9	2.5	2.5	2.4
Wage Price index	3.3	2.6	2.6	2.6	2.9	3.3	3.3	3.4
Ave. weekly earnings	4.4	2.7	2.1	2.8	3.1	3.5	3.6	3.6
Ave. weekly ordinary time earnings	4.6	3.0	2.5	3.0	3.6	4.0	4.1	4.1

Source: ABS, Deloitte Access Economics macroeconomic model

Table iii: Summary results – economic variables

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

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption							
Private sector	2.2	2.7	3.1	3.2	3.3	3.1	2.8
Public sector	2.3	2.4	2.6	2.4	2.6	2.6	2.6
Private sector investment							
Non-business housing	5.1	7.8	8.7	4.7	1.9	-0.3	2.7
Non-business real estate	14.2	-1.6	3.8	3.6	1.2	-0.9	1.9
Non-residential building	5.1	6.9	0.0	0.2	-0.5	-0.1	1.6
Engineering construction	-4.8	-20.4	-17.6	-6.6	-3.3	-2.8	-1.2
Machinery and equipment	-12.6	1.7	-4.5	3.2	1.3	0.9	2.7
IP and livestock	-0.4	3.9	-4.5	-3.2	-1.6	-0.5	1.1
Public investment							
General Government	2.8	-3.2	1.8	2.4	2.1	1.9	2.7
Public enterprises	-15.6	-3.5	11.0	2.3	-1.2	-1.1	0.6
Domestic final demand	1.0	1.1	1.6	2.5	2.4	2.2	2.5
Private sector	0.9	1.1	1.3	2.5	2.4	2.2	2.5
Public sector	1.5	1.3	2.8	2.4	2.3	2.4	2.5
Gross national expenditure	0.7	1.4	1.6	2.5	2.4	2.2	2.5
International trade							
Exports	5.8	5.7	5.2	6.7	5.4	4.5	4.1
Imports	-2.1	0.5	-0.6	3.3	2.7	2.6	3.6
Net (% additon to growth)	1.1	1.6	0.9	0.9	0.6	0.5	0.2
Total output (GDP)	2.5	2.3	2.8	3.2	3.0	2.6	2.7
Non farm output	2.4	2.4	2.8	3.2	3.0	2.7	2.7
Employment	0.8	1.3	1.5	1.6	1.6	1.6	1.6
Unemployment rate (%)	5.8	6.2	6.4	6.3	6.2	6.1	6.1

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	1.9	2.8	2.9	2.5	2.5	2.4
Wage Price Index (WPI)								
Nominal	3.3	2.6	2.6	2.6	2.9	3.3	3.3	3.4
Real	1.0	-0.1	0.7	-0.2	0.0	0.8	0.8	0.9
Average weekly earnings (AWE)								
Nominal	4.4	2.7	2.1	2.8	3.1	3.5	3.6	3.6
Real	2.1	0.0	0.2	0.0	0.2	1.0	1.0	1.1
Average weekly ordinary time earnings (AWOTE)								
Nominal	4.6	3.0	2.5	3.0	3.6	4.0	4.1	4.1
Real	2.3	0.3	0.7	0.3	0.8	1.4	1.5	1.6
Unit labour costs								
Nominal	0.2	0.4	1.4	1.6	1.3	2.0	2.4	2.4
Real	-2.0	-2.2	-0.5	-1.2	-1.5	-0.5	0.0	0.0

Source: ABS, Deloitte Access Economics macroeconomic model

Table v: Summary results – National sectoral wages

Financial year changes in nominal national industry sector Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.3	2.6	2.6	2.6	2.9	3.3	3.3	3.4
Utilities	4.2	3.2	3.3	2.9	3.1	3.0	3.0	3.0
Construction	3.3	3.0	2.4	2.3	2.9	3.2	3.2	3.3
Admin services	3.3	2.4	3.0	3.1	2.4	2.9	3.0	3.1

Source: ABS, Deloitte Access Economics labour cost model

Table vi: Summary results – State utilities sector nominal wages

Financial year changes in nominal utilities sector Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	4.2	3.2	3.3	2.9	3.1	3.0	3.0	3.0
New South Wales	3.7	3.0	3.5	3.1	3.0	2.9	3.0	3.0
Australian Capital Territory*	3.9	2.5	3.2	2.6	3.2	3.2	3.3	2.9
Queensland	4.3	3.2	2.9	2.6	3.1	3.1	3.1	3.2
South Australia*	5.0	4.2	3.0	2.4	3.0	3.0	3.1	3.1
Tasmania*	3.7	2.6	3.3	2.7	3.2	3.2	3.2	3.2

* Historical data estimated using Deloitte Access Economics Wage Price Index forecasting model. Unavailable from the Australian Bureau of Statistics

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 Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.9	0.5	1.4	0.1	0.3	0.5	0.5	0.6
New South Wales	1.1	0.4	1.4	0.3	0.2	0.5	0.6	0.6
Australian Capital Territory*	1.9	0.3	1.7	0.0	0.4	0.7	0.8	0.5
Queensland	2.3	0.4	0.6	-0.2	0.1	0.5	0.5	0.7
South Australia*	2.9	1.6	1.5	0.0	0.2	0.5	0.6	0.7
Tasmania*	2.6	0.1	1.7	-0.1	0.3	0.7	0.7	0.8

* Historical data estimated using Deloitte Access Economics Wage Price Index forecasting model. Unavailable from the Australian Bureau of Statistics

Source: ABS, Deloitte Access Economics labour cost model

Deloitte Access Economics

23 February 2015

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, Queensland, South Australia, 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 the States, and
- a discussion of how market conditions are expected to affect the labour forecasts.

The 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

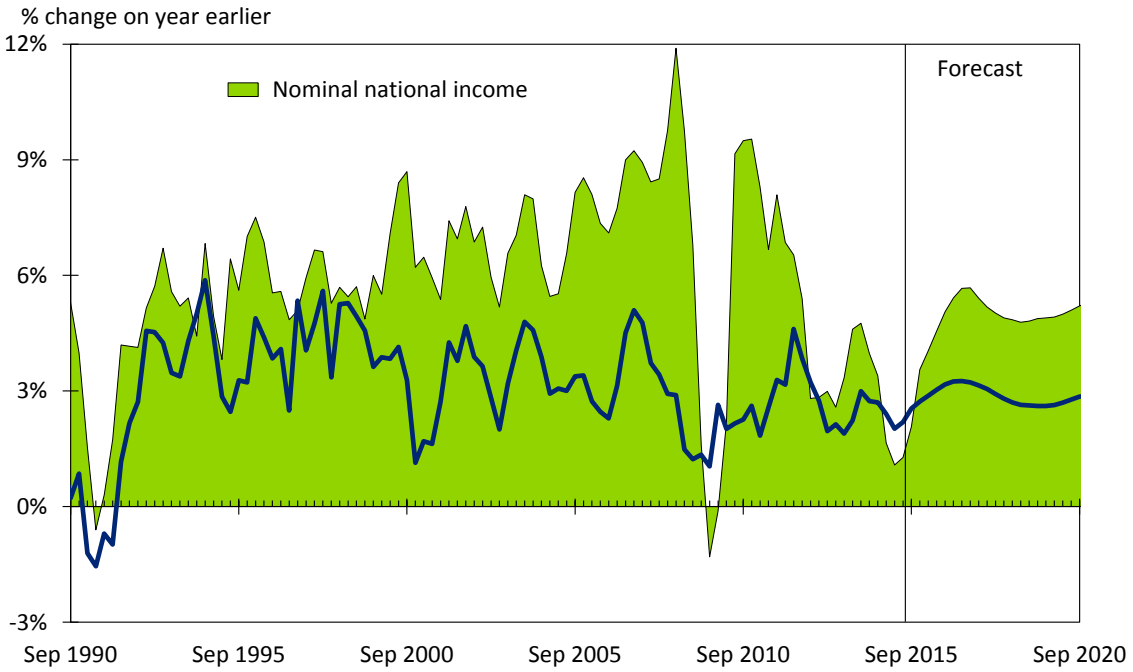
2.1 Australia

The recent drop in commodity prices strengthens the overall outlook for global growth, though at the cost of throwing a spanner in the works for commodity producers such as Australia.

Australia's economic transition from growth underpinned by the resources boom and rising terms of trade to more balanced growth depends on the extent to which other sectors can pick up the slack left by weakening mining-related construction and falling commodity prices.

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

Chart 2.1: Australian GDP growth



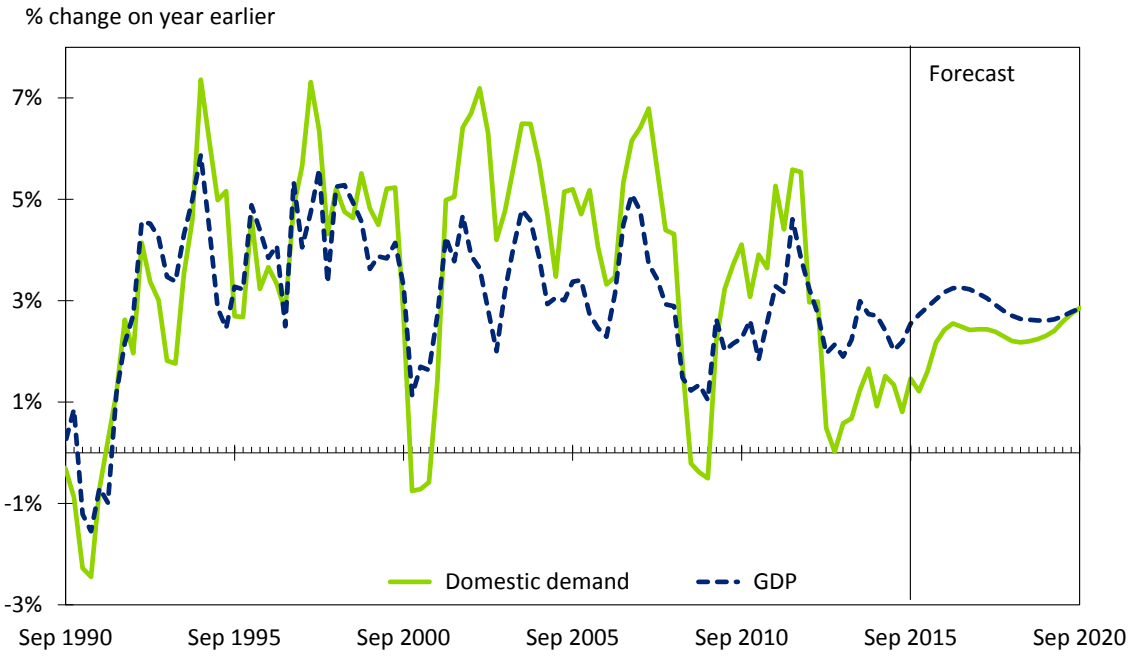
Source: ABS, Deloitte Access Economics macroeconomic model

Yet there are growth challenges ahead. First, **the substantial fall in the oil price** and continued stagnation in the Eurozone and Japan will hamper Australia's export earnings and income prospects. The remaining large gas projects that will make Australia one of the world's largest gas producers are being pressured as energy prices weaken and high costs locked in earlier squeeze margins.

Second, **the construction cliff remains a detractor from growth**. The drivers of the downturn in engineering construction work remain relevant – prices and profits in the resources sector have already fallen, supply continues to surge, future demand growth will not 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, **the size of the falls in industrial commodity prices through 2014 will influence the depth of Australia's readjustment**. Low oil prices are mostly good news for a globe that could do with some perking up, though it has different implications across different nations and businesses (good for commodity consuming countries and sectors, and bad for the producers). But the pace of these events also throws stress on to a world financial system that remains remarkably fragile seven years after the GFC. Low commodity prices will also add to the woes of Australian construction: the worse commodity prices get, the bigger the construction cliff will become.

Chart 2.2: Domestic demand and GDP

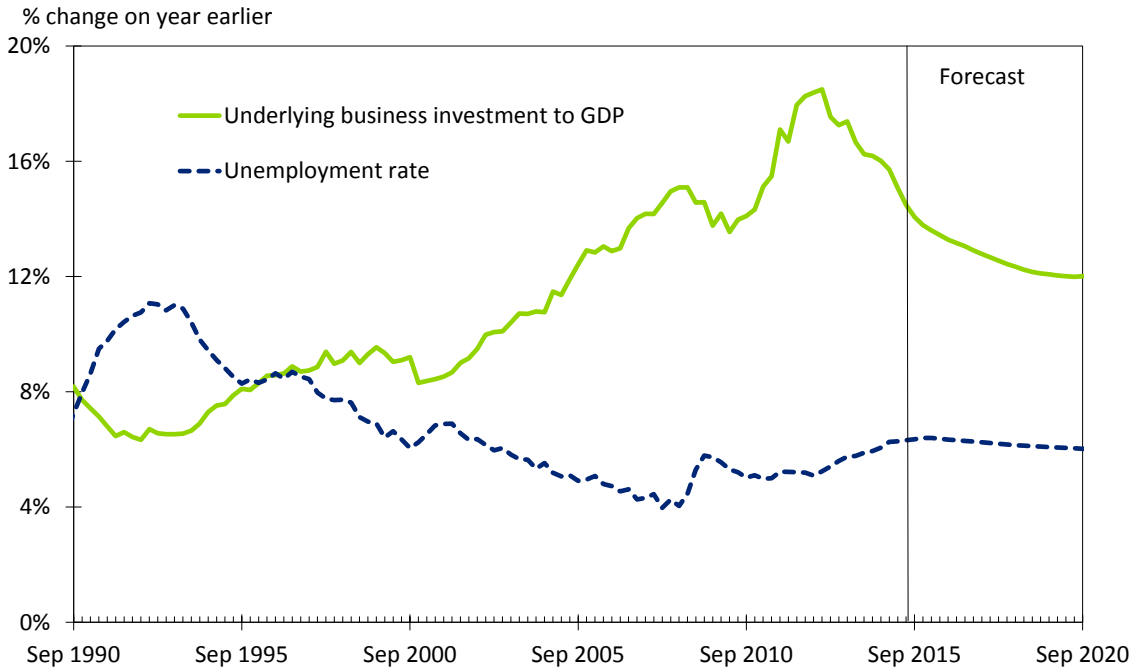


Source: ABS, Deloitte Access Economics macroeconomic model

Strong export growth will continue to lift overall gains in output. Yet that still leaves a growing gap between production and demand (as shown in Chart 2.2). As Australia's income boost of the past decade unwinds, our ability and willingness to spend is slowing. Chart 2.2 shows that the last decade was dominated by high commodity prices leading to rising incomes, leading to domestic demand growth outstripped production for most of that period.

However, the current income weakness is contributing to domestic demand travelling more slowly than overall production growth, widening the gap between production and demand growth.

Chart 2.3: Business investment/GDP and the unemployment rate



Source: ABS, Deloitte Access Economics maccroeconomic model

Chart 2.3 is a reminder that Deloitte Access Economics forecasts business investment will continue to shrink as a share of Australia's economy. Despite the fall in the $A, the profitability of producing industrial commodities has fallen and it is hard to see mining investment doing anything other than continuing to shrink. And although recent survey data shows the investment pipeline is not shrinking as fast as earlier thought, it will continue to contract.

The resultant continuing fall in resource-related investment in particular and business investment more widely remains the largest single negative for Australian output growth in the next two years.

2.2 NSW and the ACT

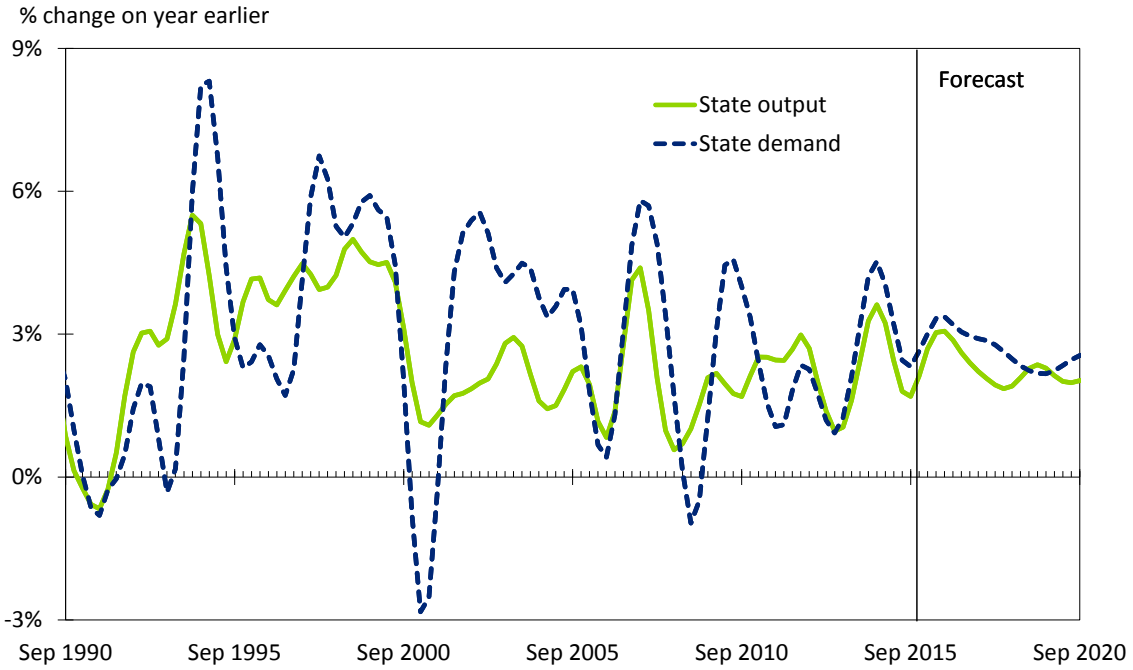
New South Wales is looking better than it has for a long time relative to the rest of the nation. The State was already climbing the growth ladder (amid good news in retail, car sales, jobs and population) even before the latest fall in the $A, or the realisation that interest rates will stay low for longer. Both those factors will further cement NSW international competitiveness and housing investment, improving the State's economic performance.

There are a number of **positives** worth noting:

- **Housing construction** is lifting not only due to low interest rates, but also in response to pent up demand, stronger population growth and higher housing prices. This will help to lift the State's financial services sector and State output growth.
- **Engineering construction** activity has seen a turnaround, with a number of major transport infrastructure projects announced in the lead up to the upcoming State election.

- **Commercial construction** activity in New South Wales hit its straps in 2013-14, jumping to well above levels of a year ago, and easily outpacing growth in engineering work over the same period. That trend is expected to continue into the near future.

Chart 2.4: NSW output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

While New South Wales is doing better relative to other States it shares Australia-wide risks. A hiccup in China's economy or Russia's politics could throw some spanners in the works.

On balance, the outlook for New South Wales is improving. New South Wales' share of net migration to Australia is back up to one third (it was a quarter of the total at its trough), and the proportion of migrants leaving the State to the rest of Australia has fallen by two-thirds over the past two years alone. New South Wales 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 the NSW economy.

Table 2.1: NSW output and demand forecasts

Financial year changes in New South Wales key economic variables							
Annual % change (unless noted)	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Consumption							
Private sector	2.6	3.6	2.8	3.1	2.8	2.3	2.3
Public sector	2.5	2.8	2.5	2.3	2.4	2.4	2.4
Private sector investment							
Dwelling investment	6.2	13.4	8.6	6.1	2.6	0.3	3.0
Non-residential building	-1.0	1.1	8.1	4.8	2.4	0.8	1.7
Engineering construction	-14.1	-22.5	12.5	5.8	5.0	0.4	0.6
Machinery and equipment	-5.1	9.1	1.0	5.0	3.2	1.5	2.8
Public investment							
General Government	8.1	1.4	-2.3	-0.4	0.8	1.1	2.0
Public enterprises	-9.2	-11.6	-9.2	-1.1	-2.4	-1.7	-0.1
Real final demand	2.6	3.6	2.8	3.1	2.8	2.3	2.3
Private sector	2.7	4.2	3.3	3.5	3.0	2.4	2.3
Public sector	2.1	1.3	0.9	1.7	1.9	2.0	2.2
Gross State output	2.1	2.8	2.4	2.7	2.0	2.2	2.1
Employment	0.5	1.4	1.3	1.1	1.3	1.3	1.4
Unemployment rate (%)	5.7	6.0	6.3	6.4	6.3	6.2	6.1

Source: ABS, Deloitte Access Economics macroeconomic model

The Australian Capital Territory has performed relatively well compared with the nation, broadly maintaining its share of national output and population over the past decade. Canberra often swims against the national tide, and that has been particularly true in recent times of its housing construction sector. At a time when low interest rates and good population growth lead to a strong response at the national level in terms of housing construction, the news at the local level was more modest.

A tough couple of years lie ahead. The Federal Government announced in the latest Budget update that 175 agencies will be axed or consolidated and maintains its target to cut 16,500 public service jobs, most of which will be felt in Canberra. This will cause some flow on negatives as housing construction slows and household spending is reined in.

Building approvals have stalled at levels comfortably below their 2013 peak and Canberra's residential property prices have done relatively little at a time when Australia's have moved ahead. That said, the replacement of a thousand 'Mr Fluffy' homes (affected by asbestos) will provide an important floor to housing construction in the ACT. The latest **job growth** data show it as being the weakest since 2006 and it probably has further to fall. Amid this increasingly challenging business backdrop, **corporate investment** has dropped into hibernation.

While the next few years are expected to be tough, 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: Australian Capital Territory's output and demand forecasts

Financial year changes in Australian Capital Territory key economic variables							
Annual % change (unless noted)	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Consumption							
Private sector	1.9	1.4	0.7	1.9	2.0	2.1	2.2
Public sector	4.2	1.9	1.8	1.8	2.1	2.2	2.3
Private sector investment							
Dwelling investment	-8.1	3.4	-6.5	0.9	-0.6	-1.7	1.3
Non-residential building	-21.0	2.1	12.3	10.6	3.5	3.8	2.0
Engineering construction	28.0	-19.9	-41.3	-5.4	3.9	7.5	0.8
Machinery and equipment	-33.2	22.9	-17.5	5.9	3.2	-0.7	5.5
IP and livestock	6.3	6.1	-3.8	-4.2	-0.6	0.3	1.5
Public investment							
General Government	4.4	4.4	-8.4	-3.0	-0.7	0.7	2.1
Public enterprises	-27.8	-15.8	8.4	5.3	0.4	-0.6	0.2
Real final demand	1.9	1.4	0.7	1.9	2.0	2.1	2.2
Private sector	-2.0	0.1	0.4	3.0	2.3	2.1	2.1
Public sector	4.0	2.1	0.8	1.4	1.8	2.1	2.3
Gross State output	0.7	1.1	0.9	1.6	2.7	3.1	2.3
Employment	0.6	-0.4	0.4	0.8	0.9	0.9	0.9
Unemployment rate (%)	-7.2	33.3	10.5	-0.3	-1.1	-0.9	-0.4

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 and a number of large mines closing. Chart 2.5 shows that the State is not growing much in terms of GDP.

However, the tide has turned across a wide range of indicators.

Some **positives** worth noting for Tasmania include:

- The last eighteen months saw growth in **retail sales** move up and nominal **retail turnover** in Tasmania is back above its 2009 levels.
- The **unemployment rate** has dropped notably since its peak at over 8% more than eighteen months ago.
- A healthy list of projects in the pipeline should sustain **investment** levels into the near future.

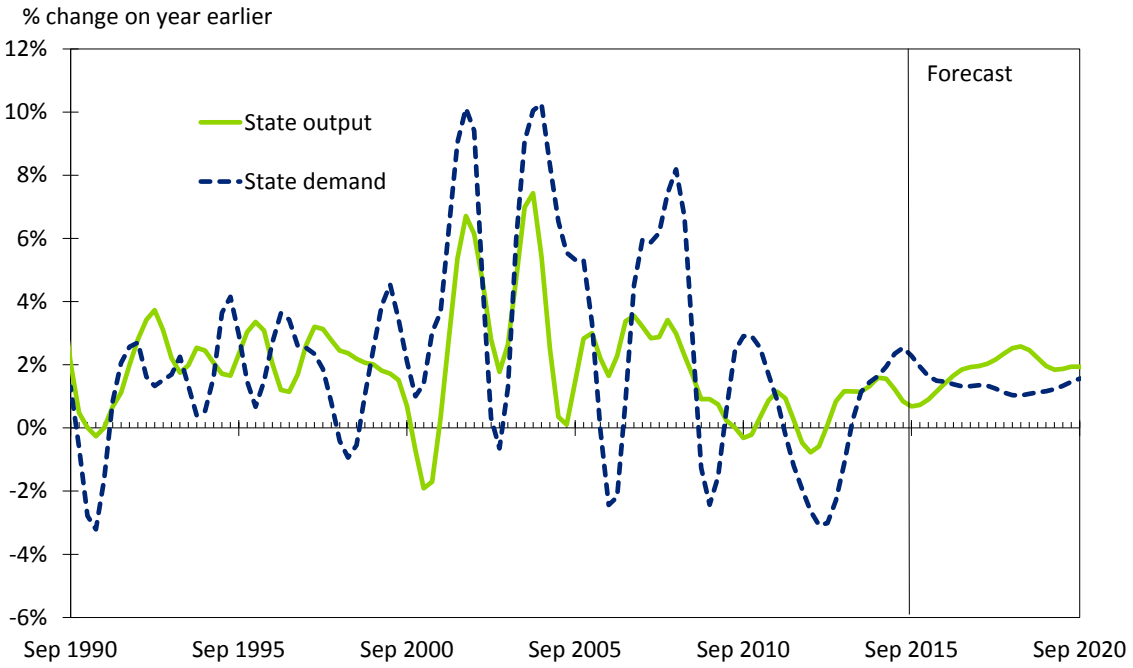
So Tasmania's cautious climb back from the tough times of 2012 and 2013 continues. Although the State's rebound is modest (overall spending in the State's economy is still lower than it was in the middle of 2011), its recovery looks to have legs, aided by the latest fall in the $A.

Engineering construction generally takes a smaller share of activity in Tasmania than it does in the mainland States, but the State's recent performance has been better. Work on the $500 million Midlands highway upgrade has begun. After a trough in early 2013, the value of work underway and in the pipeline in Deloitte Access Economics' *Investment Monitor* database is almost back to peak levels seen before the GFC.

Commercial construction activity took a hit with the decision to put site works on the Royal Hobart hospital development on hold for six months. Other projects are progressing such as the $100 million Icon shopping centre in Hobart and the Launceston General Hospital upgrade.

Despite the recent improvements seen in Tasmania's economic indicators, this is just a catch up after a bad run of performances. Tasmania grew more slowly than any other State or Territory last financial year. Retail sales and business investment spending has increased, but it remains a smaller share of the economy than in any other State. Overall, Chart 2.5 shows the potential for better times ahead; however Deloitte Access Economics does not forecast a change in fundamental trends for Tasmania.

Chart 2.5: Tasmania output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

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

Table 2.3: Tasmania's output and demand forecasts

Financial year changes in Tasmania key economic variables							
Annual % change (unless noted)	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Consumption							
Private sector	0.6	2.0	1.9	1.4	1.3	1.1	1.3
Public sector	0.4	1.3	0.9	1.1	1.3	1.5	1.5
Private sector investment							
Dwelling investment	1.3	12.5	11.2	2.3	-0.4	-1.9	1.0
Non-residential building	6.6	14.9	-2.3	-6.1	-2.5	-1.0	-0.1
Engineering construction	21.8	1.0	-11.2	-13.0	-2.4	-3.0	-2.8
Machinery and equipment	-16.8	8.9	-14.0	-4.1	-0.7	-0.2	2.6
Public investment							
General Government	20.9	-0.9	20.0	8.6	4.0	2.3	2.4
Public enterprises	-17.3	-24.2	6.7	5.3	0.0	-0.8	0.1
Real final demand	0.6	2.0	1.9	1.4	1.3	1.1	1.3
Private sector	0.4	3.1	1.2	1.0	1.1	0.9	1.2
Public sector	0.9	-0.9	3.6	2.4	1.7	1.5	1.6
Gross State output	1.2	1.4	0.9	1.7	2.1	2.5	1.9
Employment	-1.2	3.1	0.1	0.4	0.2	0.2	0.1
Unemployment rate (%)	7.6	7.1	7.5	7.4	7.3	7.1	7.0

Source: ABS, Deloitte Access Economics macroeconomic model

2.4 Queensland

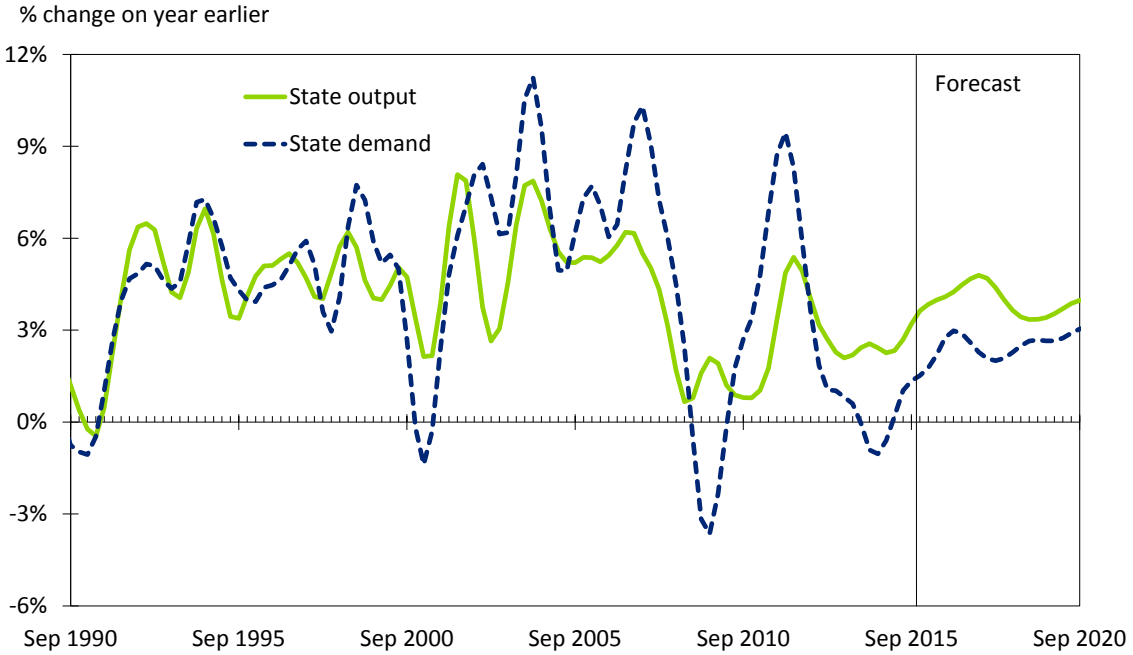
Recent months have not been kind to the prospects for economic growth in **Queensland**. The biggest growth driver of the moment lies in the construction of mega-gas projects. The sharp slicing in energy prices in the closing months of 2014 suggests that Queensland will see mining companies curtail extra expenditure on projects to remain viable.

And although lower fuel prices are always welcome, they also hide yet another threat for Queensland's economy coal exports as thermal coal loses competitiveness to cheaper oil. At a time when China's demand for the State's resources is cooling, that means the State's economic outlook is uncertain.

Some **positives** worth noting for Queensland include:

- Late 2014 saw the first exports of LNG from Curtis Island and, as the current clutch of mega-gas projects come on line, Queensland's **exports** are expected to leap.
- A lower **exchange rate** is signalling better news for the State's tourism sector, and will similarly be warmly welcomed by the State's farmers and miners.
- **Housing construction** has accelerated more in Queensland than it has in those southern States in the last couple of years.

Chart 2.6: Queensland output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

Engineering construction activity boomed on the back of high commodity prices, and just as investment in the coal sector looked to soften, the emergence of big gas projects more than took up the slack. For the first time on record, *Investment Monitor* data shows planned and definite capital investment in Queensland moving past $250 billion.

The economic backdrop is becoming less favourable for investment prospects in **commercial construction**. For the moment though, the legacy of the boom years is a pipeline of projects that would make any other State green with envy. Indeed the value of commercial projects in planning in Queensland stands shoulder to shoulder with the value of planned commercial projects in NSW, Victoria and WA combined.

The resources boom gave **Queensland** a generous (if indirect) pay rise. Money was abundant and it seemed resource companies were willing to pay almost anything to attract the right people. Queensland's economy – and Queenslanders themselves – responded and spent up big on everything from housing renovations to holidays. But times have changed. Income growth in the Sunshine State is now well below its rivals.

Table 2.4: Queensland's output and demand forecasts

Financial year changes in Queensland key economic variables							
Annual % change (unless noted)	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption							
Private sector	0.4	-0.3	1.8	2.8	2.1	2.5	2.7
Public sector	0.9	2.4	2.3	2.3	2.5	2.6	2.7
Private sector investment							
Dwelling investment	4.5	9.7	11.6	6.7	3.1	0.8	3.3
Non-residential building	-1.7	-19.2	-10.9	-5.2	-9.1	-2.4	0.1
Engineering construction	-3.0	-25.6	-20.1	-10.0	-13.7	-3.8	-1.1
Machinery and equipment	-14.5	2.5	-6.5	5.1	1.8	3.1	0.5
Public investment							
General Government	0.7	2.3	2.0	3.2	2.7	2.3	3.1
Public enterprises	-1.5	-10.7	8.6	6.8	1.3	0.1	1.1
Real final demand	0.4	-0.3	1.8	2.8	2.1	2.5	2.7
Private sector	0.3	-0.8	1.5	2.8	2.0	2.6	2.7
Public sector	0.6	1.3	2.7	2.8	2.4	2.4	2.6
Gross State output	2.3	2.4	3.6	4.4	4.5	3.4	3.6
Employment	1.5	0.5	2.6	2.0	1.6	1.4	1.4
Unemployment rate (%)	5.9	6.7	6.4	6.3	6.2	6.2	6.2

Source: ABS, Deloitte Access Economics macroeconomic model

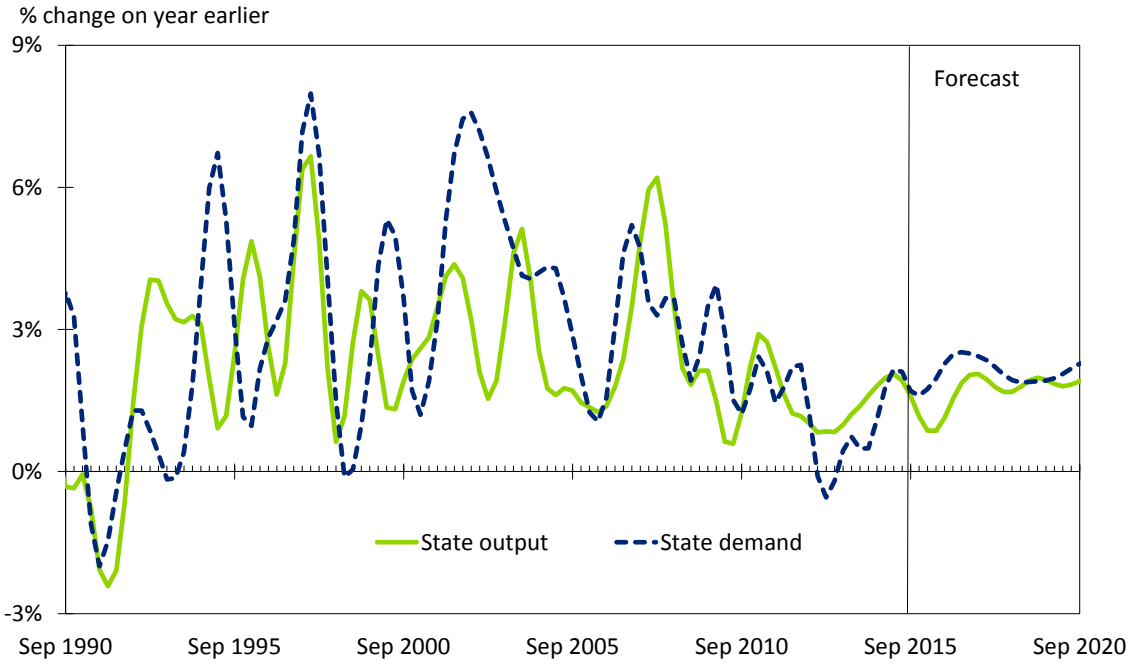
2.5 South Australia

While the negatives for **South Australia's** outlook have been headline grabbers, recent shifts in both interest rates and exchange rates are almost equally powerful positives. As Chart 2.7 helps to underline, current conditions have South Australia's economic growth rate recovering after the slowdown triggered by the closure of Holden and diversion of planned investment from Olympic Dam and Defence.

Some **positives** worth noting for South Australia include:

- **Unemployment** is already trending down amid some better gains on the job front.
- **Housing construction** activity jumped recently as dwelling starts indicated.
- **Interest and exchange rates** are now benefiting the State's exporters and borrowers and over the longer term South Australia is relatively well positioned to sell into Asia's maturing boom.

Chart 2.7: South Australia output and demand



Source: ABS, Deloitte Access Economics macroeconomic model

South Australia's **commercial construction** sector continues to struggle. Yet it isn't all doom and gloom. A number of projects entered the State's commercial construction pipeline in recent months, including a proposal to build a $200 million, 15 storey mixed use complex on the former Le Cornu site on O'Connell Street in Adelaide, the new $180 million Kings Point Shopping and Entertainment complex, as well as $2.1 billion of hospital upgrades.

Table 2.5: South Australia's output and demand forecasts

Financial year changes in South Australia key economic variables							
Annual % change (unless noted)	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Consumption							
Private sector	0.8	1.6	1.8	2.4	2.3	1.9	2.0
Public sector	1.4	1.9	1.7	1.5	1.7	1.9	1.9
Private sector investment							
Dwelling investment	13.6	6.2	2.7	0.7	-1.1	-2.9	0.7
Non-residential building	-3.1	-2.4	-4.4	-1.8	-0.2	-0.6	0.4
Engineering construction	-6.6	-8.8	2.0	0.1	0.8	-1.1	-0.8
Machinery and equipment	-6.3	4.7	-0.2	5.5	2.5	1.2	2.7
Public investment							
General Government	-0.9	-10.5	5.8	3.9	2.2	1.6	2.2
Public enterprises	-19.0	-0.6	-8.8	-1.6	-3.1	-2.4	-0.9
Real final demand	0.8	1.6	1.8	2.4	2.3	1.9	2.0
Private sector	0.9	2.2	1.7	2.7	2.5	1.9	2.1
Public sector	0.2	-0.1	1.9	1.8	1.7	1.8	1.9
Gross State output	1.3	2.0	1.1	1.7	1.9	1.8	1.8
Employment	-1.5	1.0	0.7	1.0	1.0	0.9	0.8
Unemployment rate (%)	6.8	6.4	6.6	6.3	6.2	6.2	6.2

Source: ABS, Deloitte Access Economics macroeconomic model

2.6 Utilities

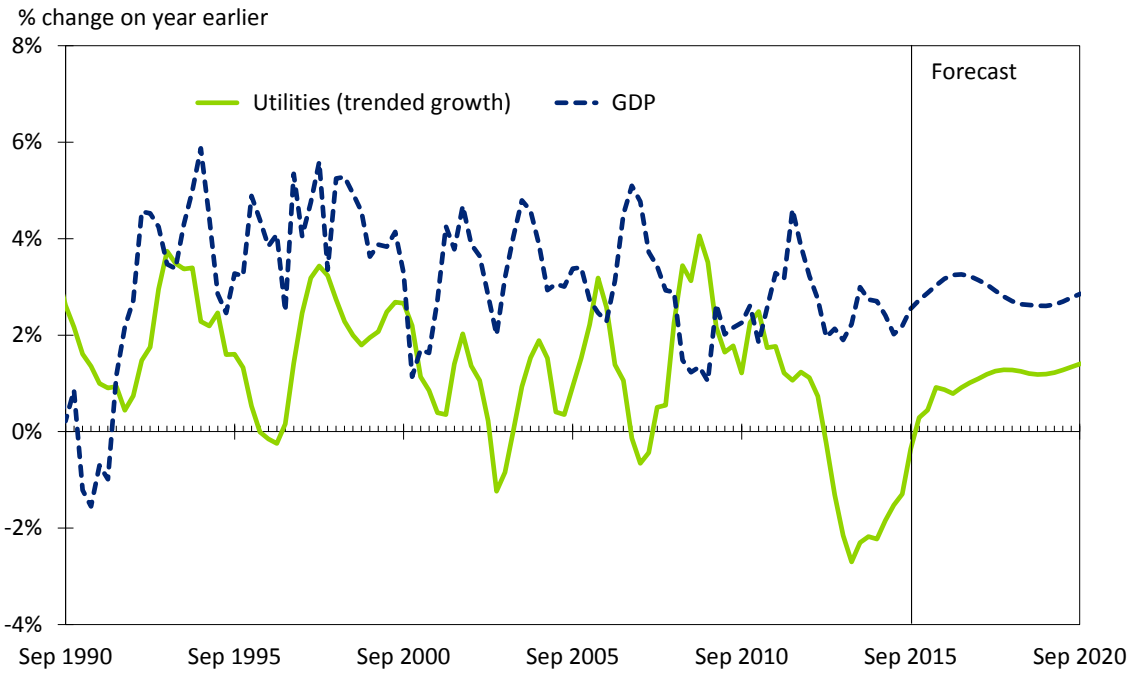
The utilities sector is the broad term applying to the electricity, gas, water and waste services industry, which is division D of the Australian and New Zealand Standard Industrial Classification, 2006).

It covers production engaged in the provision of electricity; gas through mains systems; water; drainage; and sewage services. Electricity accounts for half the industry employment, while water and waste services accounts for the second greatest share and gas accounts for a minor share of the industry.

Chart 2.8 below shows, **that growth in utilities sector output has fallen well below national output growth since 2011**. Utilities output has been falling as a share of national output since 1995 as manufacturing was increasingly offshored and national output grew strongly with the mining boom of the 2000s. 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. The **latest data show a large fall in the output of the utilities sector over the past year.**

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

Chart 2.8: Utilities output and GDP



Source: ABS, Deloitte Access Economics' macroeconomic model

The key to these trends is that rising prices and greater technology choice have contributed to falling demand:

- Savvy consumers are more efficient with their energy use and, in some areas, time of use tariffs and smart technology is providing an incentive to use energy outside peak periods.
- Prices of electricity have increased rapidly in recent years and consumers were agile and reduced their consumption.
- International competitive pressures also forced some of Australia's largest industrial users to shut down, further contributing to falling consumption.

However, there are signs that the decline in electricity consumption is stabilising. The removal of the carbon tax, falls in coal and gas prices, and changes to regulatory arrangements are beginning to allow lower retail electricity price pressures and greater consumer choice. That combination is slowing the fall in consumption.

Equally, however, earlier concerns on the size of the leap in domestic gas pricing in response to the development of an export market for Australian gas have been eased by falling global energy prices.

Looking forward, falling electricity consumption in the National Electricity Market (NEM) will bring both positives and negatives. The **positives** include:

- Favourable movements in **cyclical drivers**. Historically low interest rates stimulating housing construction are boosting household consumption of power, while a lower $A is easing competitive pressures on Australia's export exposed manufacturers.
- The **rise in electricity prices seen over the last decade is unlikely to continue**, as the repeal of the carbon tax, introduction of flexible and market pricing arrangements as well

as reforms to regulatory frameworks of network and distribution companies result in more efficient pricing. Consumers are less likely to continue to reduce energy consumption going forward.

- In the longer run, **underlying utilities growth will be supported by growth in Australia's population and incomes**. In the near term, income growth will be hit by the current weakness in employment and wages.
- **New technologies that can smooth the energy consumption profile will make electricity provision easier and cheaper in the long run.** AGL announced its distributed energy strategy in late 2014 to make battery technology and smart meters more widely available. At the same time electric car company Tesla opened its first Australian showrooms. Both of these technologies have the potential to smooth the daily electricity load profile, reducing the need for costly network upgrades in the long run. In the near term, these new technologies are disruptive and adaption to managing the changes that occur in the NEM may increase costs.

A number of **negatives** remain for the utilities:

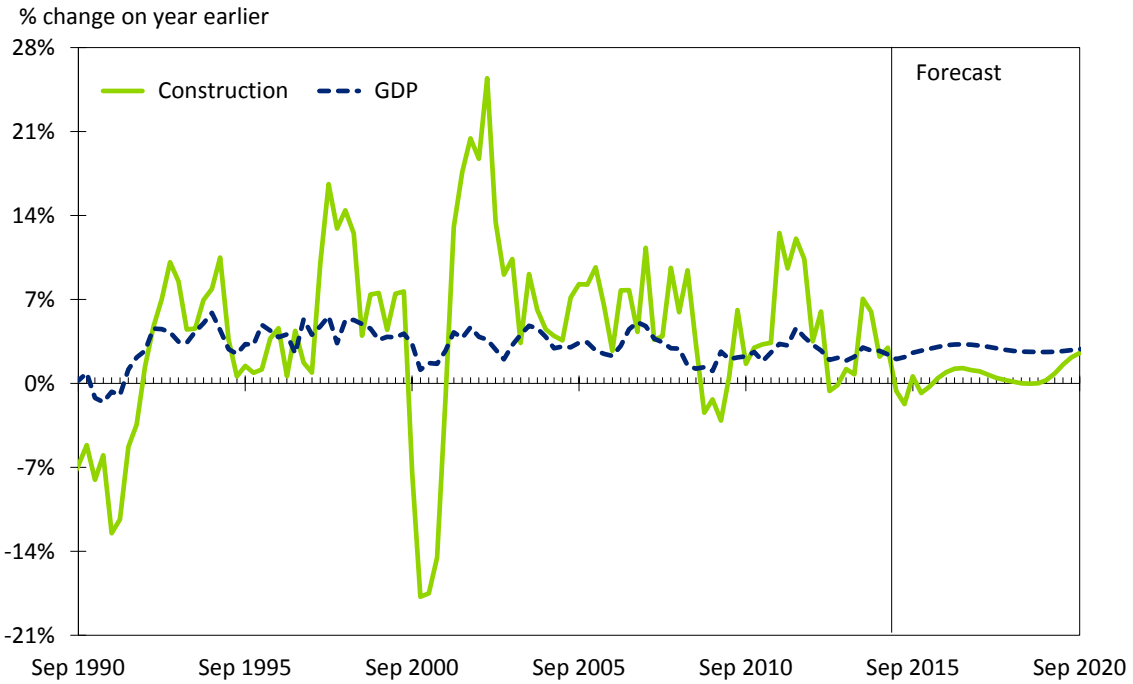
- **Australia's manufacturing base remains under competitive pressure** and continued weakness in manufacturing is likely to weigh on utilities demand in coming years.
- Australia's east coast gas producers are linked to world markets, but that means **domestic gas prices will increase (though estimates of that price change have eased of late), resulting in a fall in consumption**.
- **Increased competitiveness and availability of distributed generation** such as rooftop solar systems and battery storage and solar hot water systems are also likely to remain a source of reductions in household demand for electricity over the medium term.

Overall, the utilities sector is forecast to recover from its current dip (aided by a growing population, greater stability in electricity prices, and reduced risks to domestic gas pricing) to move back to modest levels of growth.

2.7 Construction

Australia's construction sector is in a phase of transition from the boom in resource-related projects to residential and commercial construction (see Chart 2.9). Falling energy and industrial commodity prices are good news for manufacturers, transport and tourism operators, as well as the utilities, but they are bad news for miners and construction tied to resource projects.

Chart 2.9: Construction output and GDP



Source: ABS, Deloitte Access Economics macroeconomic model

Deloitte Access Economics' forecast is for **engineering construction** work to slide sharply, a view that we have had for some time now. After all, the worse that prices look in $A terms, the less the likelihood of the next round of project approvals materialising. To date, the pain has not been too substantial, as a myriad of massive LNG projects have cushioned the fall. However, the construction phase for these projects is winding down meaning projects are moved into the production phase. For instance, BG's Curtis Island LNG project in Queensland (with a combined worth of over $60 billion) has completed its first shipment, while two more are scheduled to be completed by late 2015. That is the point at which the modest declines in engineering construction could become more marked.

Table 2.6: Engineering construction projects (December 2014 level and annual change)

Sector	% change Definite	on Sep 2013	% change In planning	on Sep 2013	% change Total $m	on Sep 2013
Manufacturing	2,015	15%	17,608	-17%	19,623	-14%
Transport	86,716	6%	173,305	15%	260,021	12%
Communication	46,375	0%	300	-	46,675	1%
Mining	241,214	-4%	192,161	2%	433,375	-1%
Power & water	14,374	-9%	24,690	4%	39,064	-1%
Rural and forestry	86	-83%	820	0%	906	-26%
Total ($m)	390,780	-2%	408,884	7%	799,664	2%

Source: Deloitte Access Economics *Investment Monitor,* December 2014

The good news is that **commercial construction** has picked up modestly in recent times, supported by low interest rates. Construction in the accommodation, entertainment and recreation and retail sectors has been strong. Not unlike residential construction, foreign

investment (for instance in casinos) has been a factor. This indicates commercial construction is being more driven by tourism and leisure than white collar employment activity (as a driver of office construction). Indeed, with unemployment at 12 year highs, the outlook for office construction does not look fantastic.

Housing construction has responded to strong price increases, an upswing that should continue into 2015 judging by the still elevated level of building approvals. Indeed, Master Builders Australia tipped dwelling commencements to rise to over 200,000 for the first time in Australia's history in 2015-16, and although Deloitte Access Economics forecast is around 15,000 commencements shy of that, it is no cause for builders to put down their tools any time soon.

Overall, the decline of the large engineering construction component has meant total construction activity has slowed – a trend that will continue in the near term.

Table 2.7: Commercial construction (December 2014 level and annual change)

	Definite	% change on Dec 2013	In planning	% change on Dec 2013	Total $m	% change on Dec 2013
Trade	5,929	-3%	4,222	-32%	10,151	-18%
Business parks	2,749	-40%	2,380	172%	5,129	-5%
Hotels and Resorts	2,362	93%	19,439	149%	21,801	141%
Offices	4,723	33%	6,767	-2%	11,490	10%
Education	1,492	-56%	1,065	36%	2,557	-38%
Health and community servic	16,123	-19%	3,190	37%	19,313	-13%
Culture, recreation & other	8,686	2%	4,305	14%	12,991	6%
Business services	698	-72%	2,268	3%	2,966	-37%
Government	988	-3%	603	364%	1,591	39%
Mixed use	16,510	0%	2,444	17%	18,954	2%
Total in $m	**60,260**	**-10.2%**	**46,683**	**41.1%**	**106,943**	**6.8%**

Source: Deloitte Access Economics Investment Monitor, December 2014

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 relevant States and Territories, and the wage outlook for the utilities and construction sectors.

3.1 Overview

Wage gains are at record lows, and are projected to be slow to rebound. Table 3.1 provides a summary of Deloitte Access Economics' 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	1.9	1.0	1.7	1.3	1.2	2.0	2.3	2.2
New South Wales	2.8	1.0	1.4	1.4	1.2	2.3	2.4	2.6
Australian Capital Territory	4.0	2.1	0.9	1.7	1.8	1.7	1.6	2.2
Queensland	0.7	1.7	0.8	1.6	0.7	0.6	1.4	1.2
South Australia	2.4	0.5	1.9	1.8	1.8	2.2	2.3	2.3
Tasmania	2.3	0.0	4.5	1.1	1.0	1.1	1.1	1.4

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	-0.4	-1.7	-0.2	-1.4	-1.6	-0.5	-0.1	-0.2
New South Wales	0.3	-1.5	-0.7	-1.4	-1.6	-0.1	0.0	0.2
Australian Capital Territory	2.0	-0.1	-0.6	-0.9	-0.9	-0.8	-0.9	-0.2
Queensland	-1.3	-1.1	-1.4	-1.2	-2.2	-1.9	-1.2	-1.2
South Australia	0.4	-2.0	0.4	-0.6	-0.9	-0.3	-0.1	-0.1
Tasmania	1.2	-2.4	2.9	-1.7	-1.8	-1.4	-1.3	-0.9

Financial year changes in nominal utilities sector Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	4.2	3.2	3.3	2.9	3.1	3.0	3.0	3.0
New South Wales	3.7	3.0	3.5	3.1	3.0	2.9	3.0	3.0
Australian Capital Territory	3.9	2.5	3.2	2.6	3.2	3.2	3.3	2.9
Queensland	4.3	3.2	2.9	2.6	3.1	3.1	3.1	3.2
South Australia	5.0	4.2	3.0	2.4	3.0	3.0	3.1	3.1
Tasmania	3.7	2.6	3.3	2.7	3.2	3.2	3.2	3.2

Financial year changes in real utilities sector Wage Price Index

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
National	1.9	0.5	1.4	0.1	0.3	0.5	0.5	0.6
New South Wales	1.1	0.4	1.4	0.3	0.2	0.5	0.6	0.6
Australian Capital Territory	1.9	0.3	1.7	0.0	0.4	0.7	0.8	0.5
Queensland	2.3	0.4	0.6	-0.2	0.1	0.5	0.5	0.7
South Australia	2.9	1.6	1.5	0.0	0.2	0.5	0.6	0.7
Tasmania	2.6	0.1	1.7	-0.1	0.3	0.7	0.7	0.8

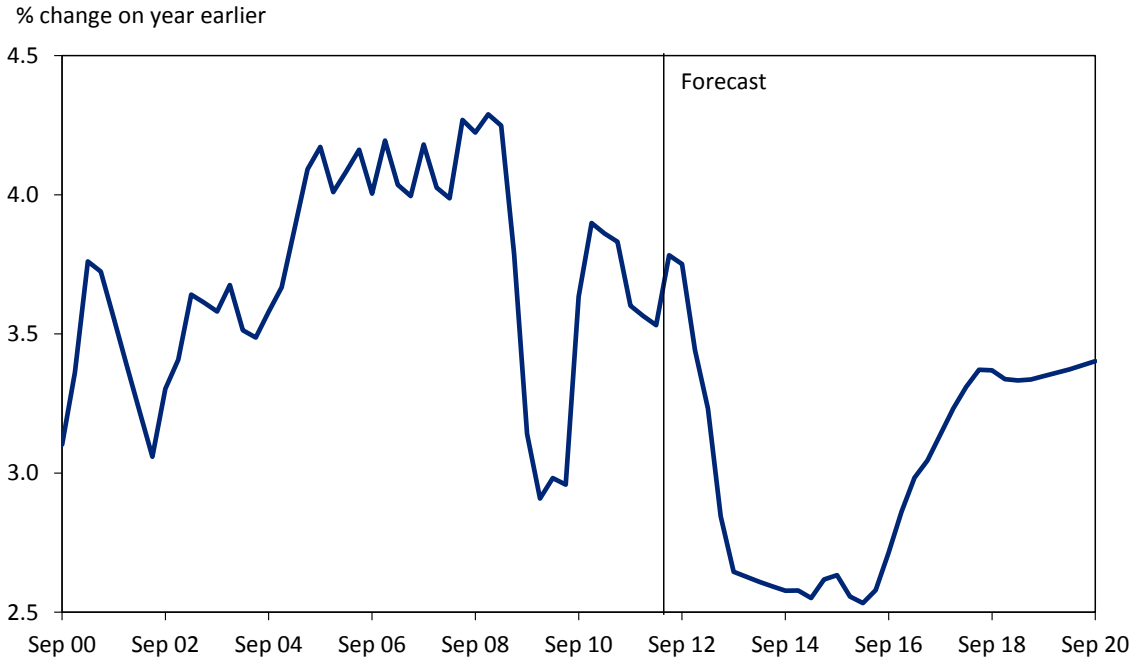
Source: ABS, Deloitte Access Economics' macroeconomic model

3.2 Australia

National wage growth is quite weak by any yardstick, and however measured. The drivers of weak wage growth range from slow economic growth since the global financial crisis (resulting in labour force underutilisation), to the overhang of a decade in which Australian wage gains ran ahead of productivity growth. Businesses that locked in high costs during the resources boom are now unwinding their earlier generosity and looking to constrain wage gains amid now testing competitive conditions.

All up, that points to low wage growth in the short and medium term before it picks up pace. It will take some time to improve cost competitiveness to Australian businesses.

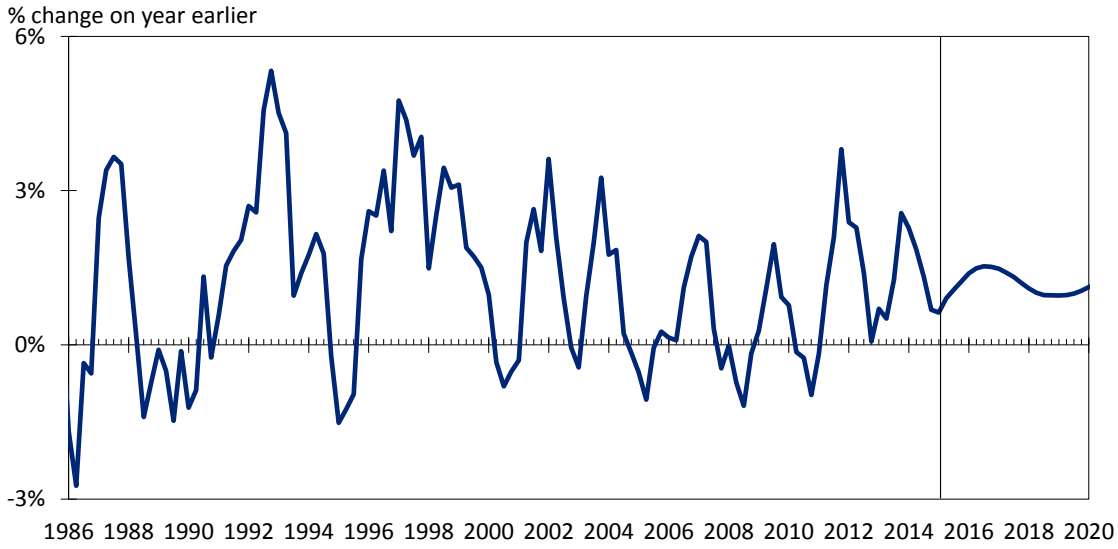
Chart 3.1: Overall Wage Price Index forecasts



Source: ABS, Deloitte Access Economics' macroeconomic model

There are obvious drivers for the weakness in wages – unemployment is up and so are measures of underemployment, while surveys show rising concerns about job security. Wages grew too fast during the resources boom, outstripping productivity gains and hence reducing cost competitiveness – meaning current modest gains are partly a payback for that as Australia grinds its way back towards better cost competitiveness.

Chart 3.2: Productivity growth



Source: ABS, Deloitte Access Economics' macroeconomic model

Deloitte Access Economics sees weakness in wage gains as likely to be evident at least until 2016, when a recovery (to what would be still relatively modest wage gains) finally begins. In a cyclical sense, it is hard to see public sector wage growth doing much in the near term – government budgets are under pressure thanks to the fast fading iron ore, coal and gas prices and a recalcitrant Senate. At the same time unemployment won't be falling back any time soon, with the resultant concern over job prospects also dampening wage prospects.

Table 3.2: National wage forecasts

Financial year nominal wages forecasts

Annual % change	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Wage price index	2.6	2.6	2.6	2.9	3.3	3.3	3.4
Average weekly earnings	2.7	2.1	2.8	3.1	3.5	3.6	3.6
Ordinary time earnings	3.0	2.5	3.0	3.6	4.0	4.1	4.1
Unit labour costs	0.4	1.4	1.6	1.3	2.0	2.4	2.4

Financial year real wages forecasts

Annual % change	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Wage price index	-0.1	0.7	-0.2	0.0	0.8	0.8	0.9
Average weekly earnings	0.0	0.2	0.0	0.2	1.0	1.0	1.1
Ordinary time earnings	0.3	0.7	0.3	0.8	1.4	1.5	1.6
Unit labour costs	-2.2	-0.5	-1.2	-1.5	-0.5	0.0	0.0

Source: ABS, Deloitte Access Economics' Labour Cost model

3.3 New South Wales and the ACT

The outlook for New South Wales has lifted compared to the more resource exposed States as low commodity prices cool new investment and employment prospects more in other States than they do in NSW. New South Wales' economy is benefiting from low interest rates (with knock on impacts for retail and housing construction via strong property prices, and directly via

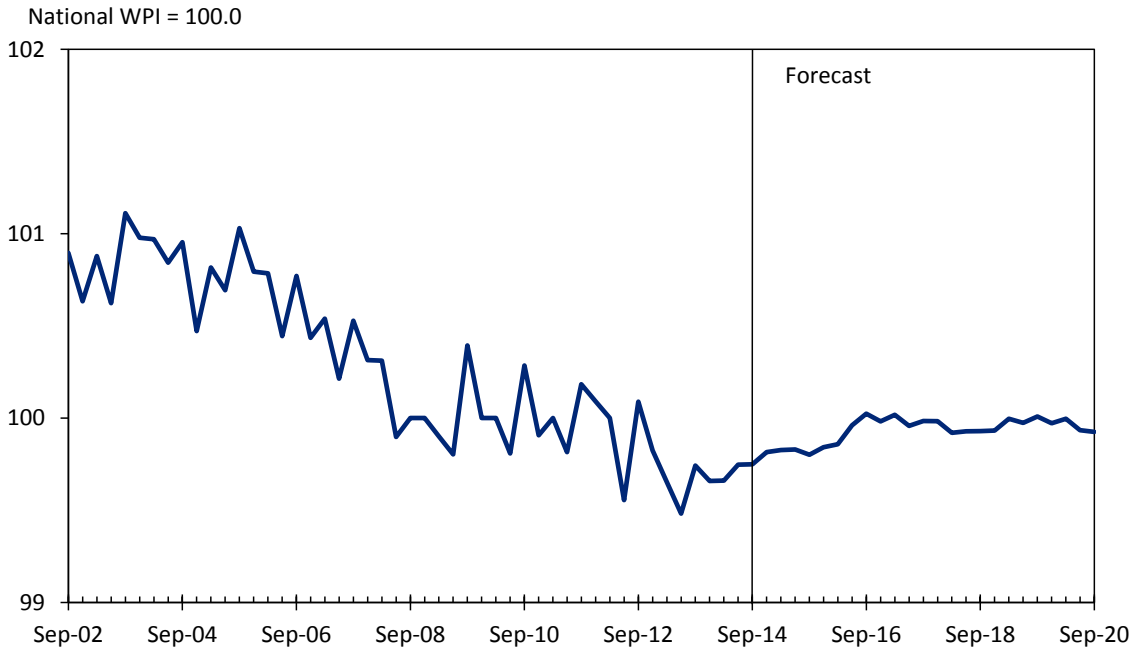
increases activity in financial services) and a resurgent services sector as a lower Australian dollar increases tourism activity in Australia's gateway city, Sydney.

These factors will help to shield the New South Wales economy from the fall in commodity prices and subsequent contraction in resource dependent sectors.

Australia's overall construction employment rose over 2014, with much of this concentrated in NSW as a strong housing sector stimulated housing construction. Declines in construction employment in the resources sector appear to have been offset by increases in other forms of construction employment, including in residential construction. New South Wales will benefit in the near term from the unwinding of high costs in the resources sector as the State's property prices continue to grow strongly and increase construction, attracting resources from resource rich States experience more dramatic impacts to employment and wages.

New South Wales has underperformed in terms of relative wage gains over the past decade. Chart 3.3 shows that wages in the State have trended down against the national average since 2004. However, that same chart is showing modest signs of a developing rebound.

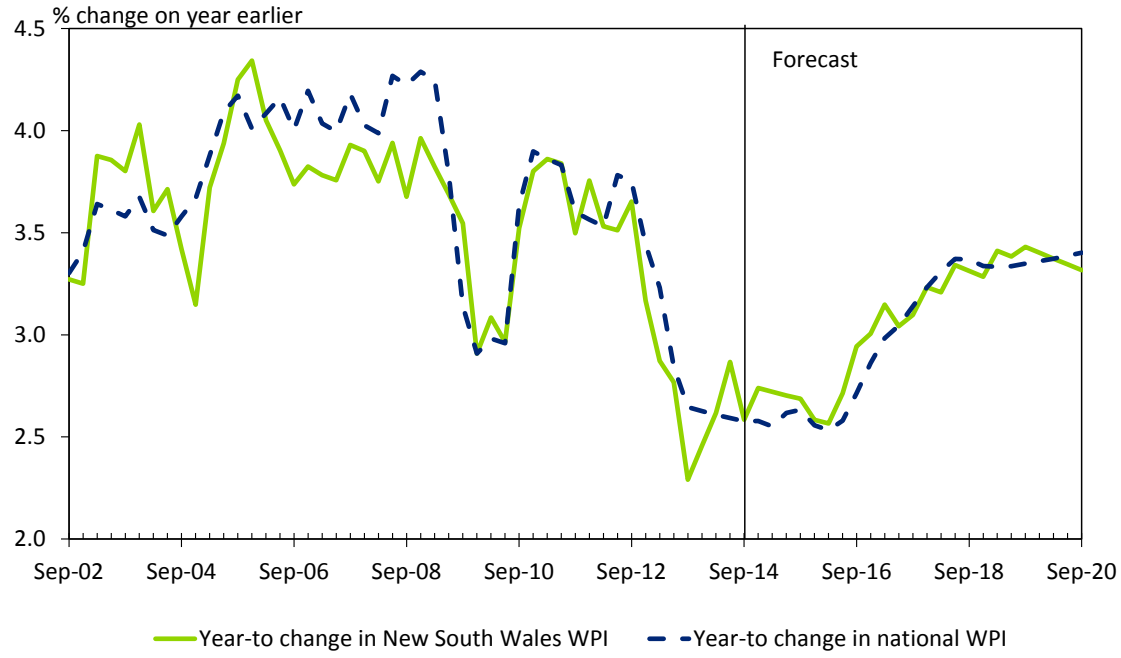
Chart 3.3: NSW WPI relative to national WPI



Source: ABS, Deloitte Access Economics' macroeconomic model

Historically low interest rates are expected to remain in place over the near term, helping to lift housing construction and labour cost growth in the State. 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 below).

Chart 3.4: NSW general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

With wage growth in resource rich States now tapering under increased competitive pressure, Deloitte Access Economics expects New South Wales' relative wage growth to improve relative to other States before eventually resuming a moderate downward trend in the longer run.

On the latter front, New South Wales' long term trend of declining relative wage prices is expected to resume from about 2019 onwards:

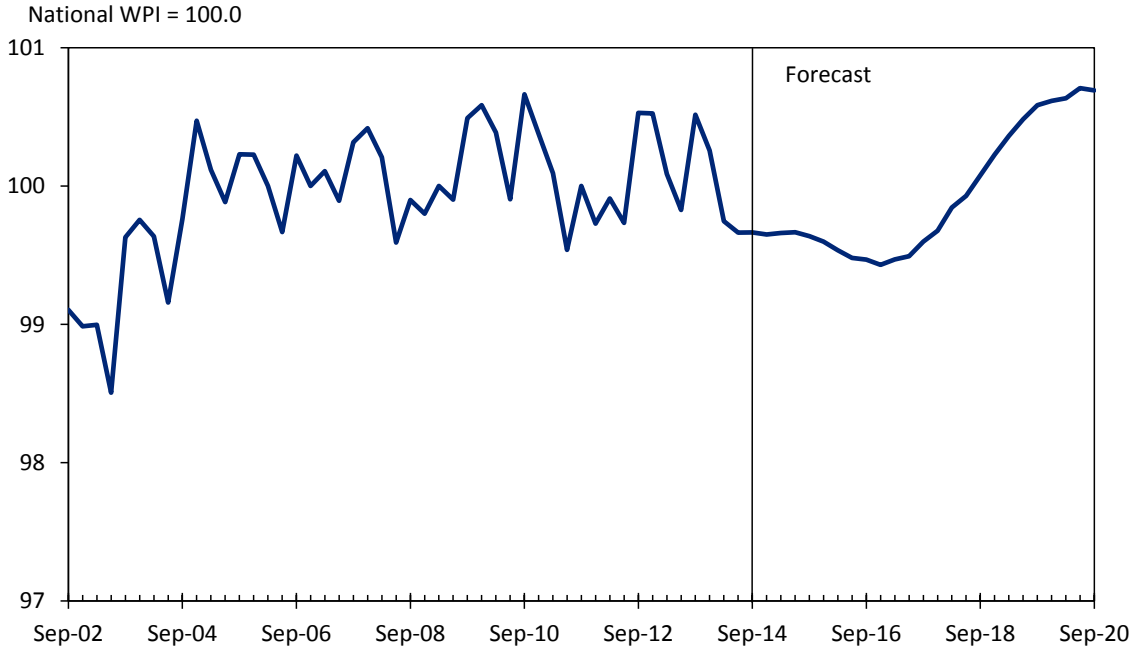
- The State's large financial and insurance services sector is expected to see slower wage growth than the national WPI over the projection period.
- Further, the slowing in Australia's resource sector wage growth will moderate in the longer term as major developing nations continue to increase demand for Australia's exports.

Where the ACT economy heads in the next few years comes back in part to the question of just how many jobs eventually go as a result of Federal cost cutting. The Federal Government cutbacks have been slow to flow so far, and Canberra's share of the jobs targeted appears to be broadly in line with its overall share of the Federal public service.

Those cuts are part of the slowdown that is already hitting the ACT economy, with additional challenges accruing from a slowdown in housing construction and from local families keeping their retail spend on a tight leash.

Those factors are driving Deloitte Access Economics forecast for ACT wages to fall relative to the national level in the near term (see Chart 3.5). In the longer term, as pessimism about Federal Budgets dissipates and the local construction cycle resumes, ACT wages are forecast to rise above the national rate. That latter phase may commence in 2017.

Chart 3.5: ACT WPI relative to national WPI



Source: ABS, Deloitte Access Economics' macroeconomic model

Building approvals in the ACT are stalled at levels comfortably below their 2013 peak and Canberra's residential property prices have done relatively little at a time when Australia's have moved ahead. Similarly, residential rental accommodation vacancy rates have been climbing pretty sharply for four years now, ever since the stimulus spending by Canberra in response to the GFC peaked back in 2010. The slower housing market will exert less competition for workers on the utilities sector and limit wage increases.

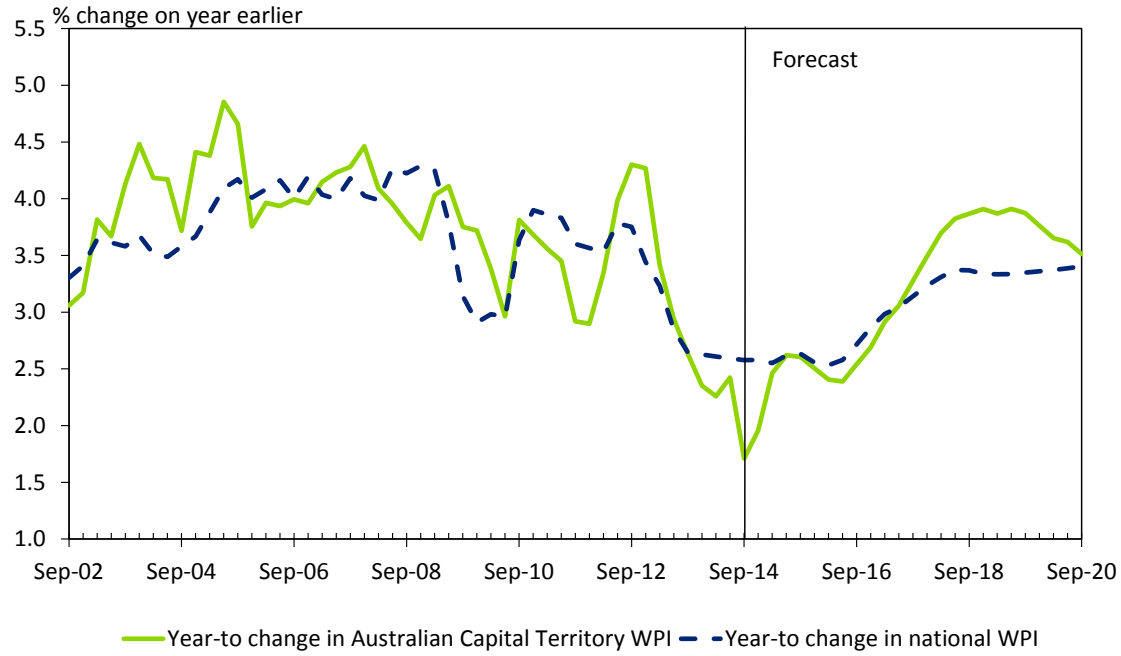
Although Canberra job cuts as a result of Federal Government savings have been slow to actually materialise, they have dominated the local headlines for some time. Local shoppers have stayed on the sidelines spending less on retail, anticipating tighter economic times and that has blunted the positives coming from really low mortgage interest rates.

Employment growth hit stalling speed in late 2014, pushing the unemployment rate up above 5%, although that still leaves it comfortably below the national equivalent. And the worse that the news looks on the job front, the more that the Territory's population growth rate drops back. Latest data show population growth in the ACT as being at its weakest since 2006, and it probably has further to fall.

Low employment and population growth will place downward pressure on the ACT's wage growth. In 2014-15 WPI growth is forecast to be 2.2% compared to the previous year as Budget-related pessimism and slower housing market decrease demand for labour.

In the medium term – about 2017 to 2020 – wage growth is expected to recover and outpace national wage growth as investment and labour productivity increase in the Territory (Chart 3.6). Long 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 from about 2021.

Chart 3.6: ACT general labour cost growth



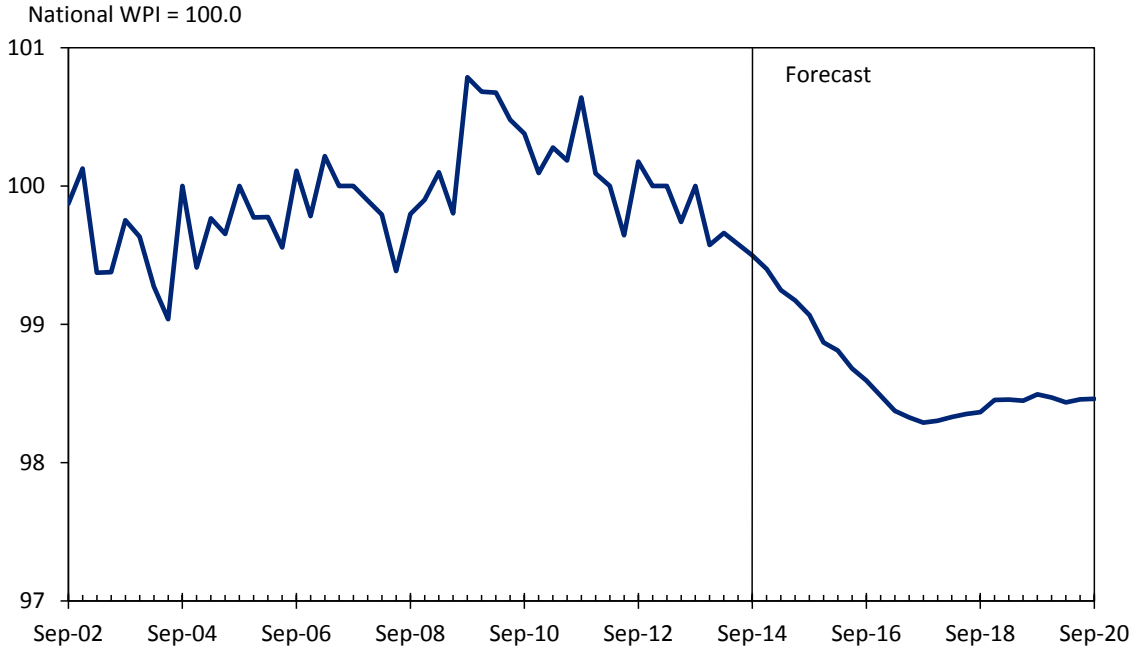
Source: ABS, Deloitte Access Economics' macroeconomic model

3.4 Tasmania

Tasmania's cautious climb back from the tough times of 2012 and 2013 continues. Although the State's rebound is modest (overall spending in the State's economy is still lower than it was in the middle of 2011), its recovery looks to be consolidating, aided by the latest fall in the $A.

Tasmania's economy has been a poor performer since late 2009. That poor economic performance was reflected in weakness in the Tasmanian labour market, and wage growth was also weak. The resultant falling trend in the State's wages relative to national levels is expected to continue over the outlook period to 2020 (see Chart 3.7).

Chart 3.7: Tasmania WPI relative to national WPI



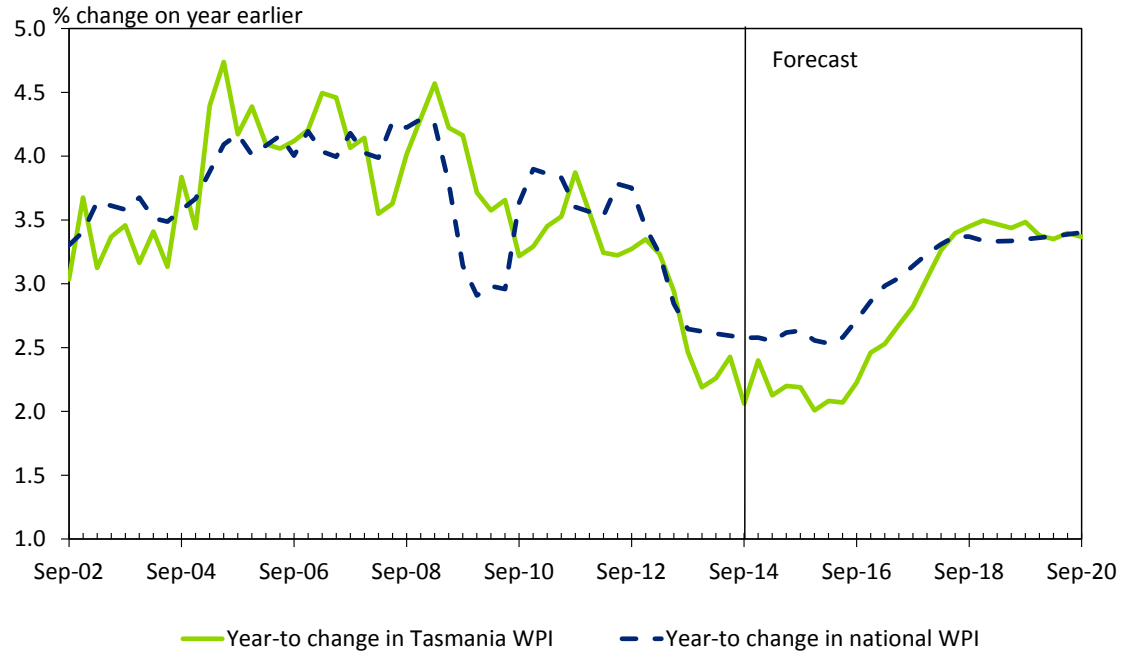
Source: ABS, Deloitte Access Economics' macroeconomic model

That said, Tasmania's unemployment rate has dropped notably since its peak at over 8% more than eighteen months ago. Job growth of late has been a little too good to be true, but Deloitte Access Economics is more than comfortable in saying that Tasmania's job market has taken a turn for the better. As employment stabilises over the outlook period, Tasmania's wage growth is forecast to increase as more people move into the workforce.

Tasmania's mining sector and workforce underwent major cutbacks during 2014, decreasing competition for utilities employees in Tasmania. In July 2014 the Henty gold mine closed, shortly followed by the Mount Lyell copper, which directly employed around a combined 350 workers. The closures added to a number of industrial closures and project cancellations, including the King Island wind farm project that would have increased demand for utilities sector employees and placed downward pressure on wage growth.

Looking ahead, Chart 3.8 shows that after the current period of employment and wage growth weakness, Deloitte Access Economics still expects wage growth in Tasmania to fluctuate in the 3% to 4% range in the medium to longer term. In later years forecast here wage growth in Tasmania is forecast to fall below the national level as the construction and investment cycle in the rest of the country resumes and wage growth nationally outpaces Tasmania.

Chart 3.8: Tasmania's general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

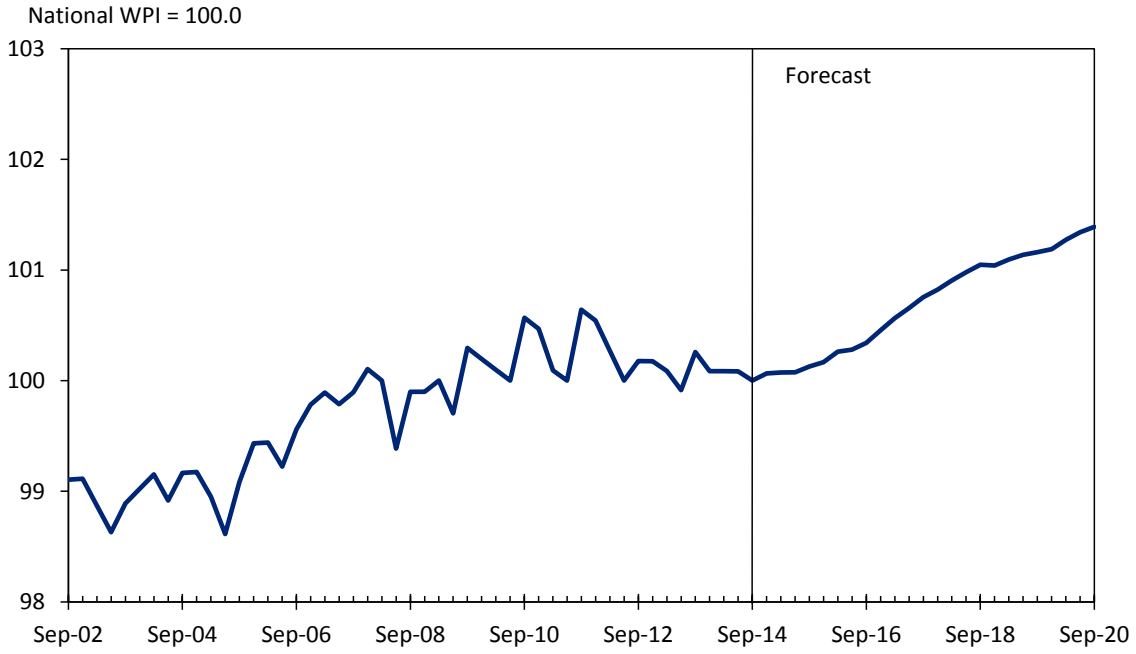
3.5 Queensland

A lower $A is good news, but recent oil price falls are a big blow to Queensland's gas prospects, and drought is similarly sapping some good news from the short term outlook. No wonder the State's population growth has dropped below Australia's for the first time in decades and employment has all but reached a stand still.

On the other hand, resources investment has so far held stronger Queensland than the likes of Western Australia. Indeed, the value of investment project in Queensland, recorded in the *Investment Monitor* database recently surpassed $250 billion for the first time on record. But that hasn't stopped a slide in wages growth in Queensland over 2014, as lower commodity prices caused a contraction in the State's coal sector.

In the past, the resources investment boom was great for wages growth. Money was abundant and it seemed resource companies were willing to pay almost anything to attract the right people. Queensland's economy – and Queenslanders themselves – responded and spent up big on everything from housing renovations to holidays. But times have changed. Income growth in the Sunshine State is now well below its rivals and only marginally above the national average.

Chart 3.9: Queensland WPI relative to national WPI



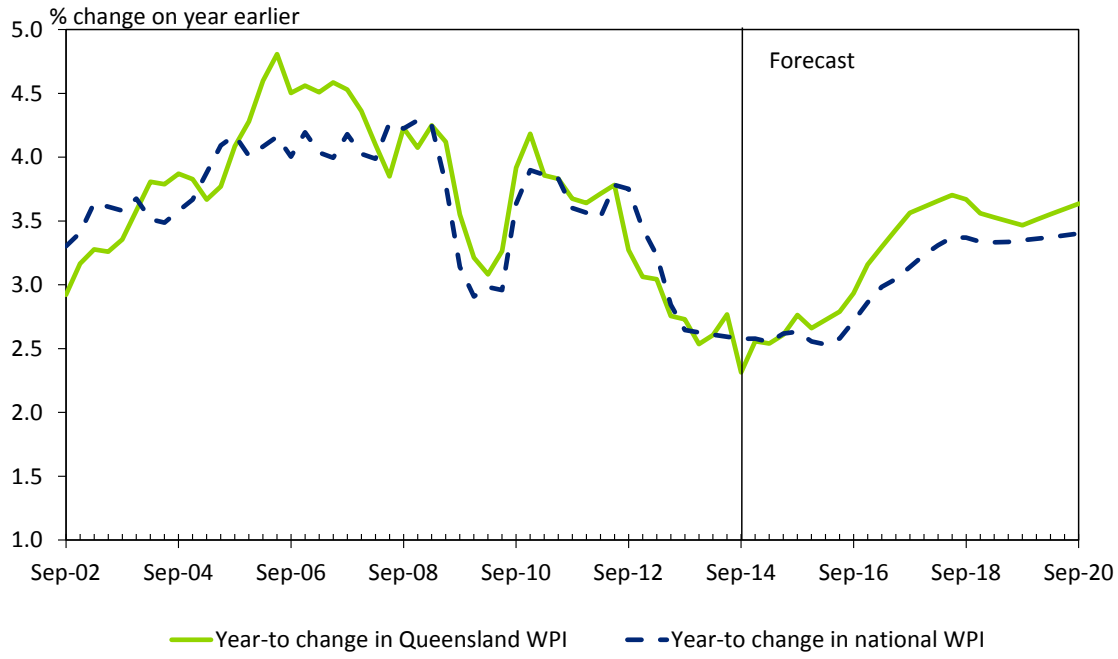
Source: ABS, Deloitte Access Economics' macroeconomic model

According to BREE, the three major LNG projects underway (Australian Pacific LNG, Curtis LNG and Gladstone LNG) employ over 16,000 construction workers with a skill set that compliments the utilities sector. More recently, Arrow Energy's plans to build an additional LNG facility on Curtis Island were shelved.

The State's unemployment rate has edged back up to 6.5% in seasonally adjusted terms according to the most recent ABS data. Meanwhile, forecasts for 2014-15 show employment growth at 0.5%, while working age population growth is expected at 1.9%, with that underpinning a moderate rise in the unemployment rate over the year.

As a result, wages growth over the short term is expected to be relatively flat as employment prospects move downwards and as other sectors struggle to match the wages paid in the resources sector in recent years. Chart 3.10 shows moderate wages growth over the next couple of years of 2.5% in 2014-15 before rising to 2.7% in 2015-16. Over the longer term wages growth is expected to pick-up as structural adjustments in the State's economy run their course, with wages growth of between 3% and 4% for the following years leading up to 2019-20.

Chart 3.10: Queensland's general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

3.6 South Australia

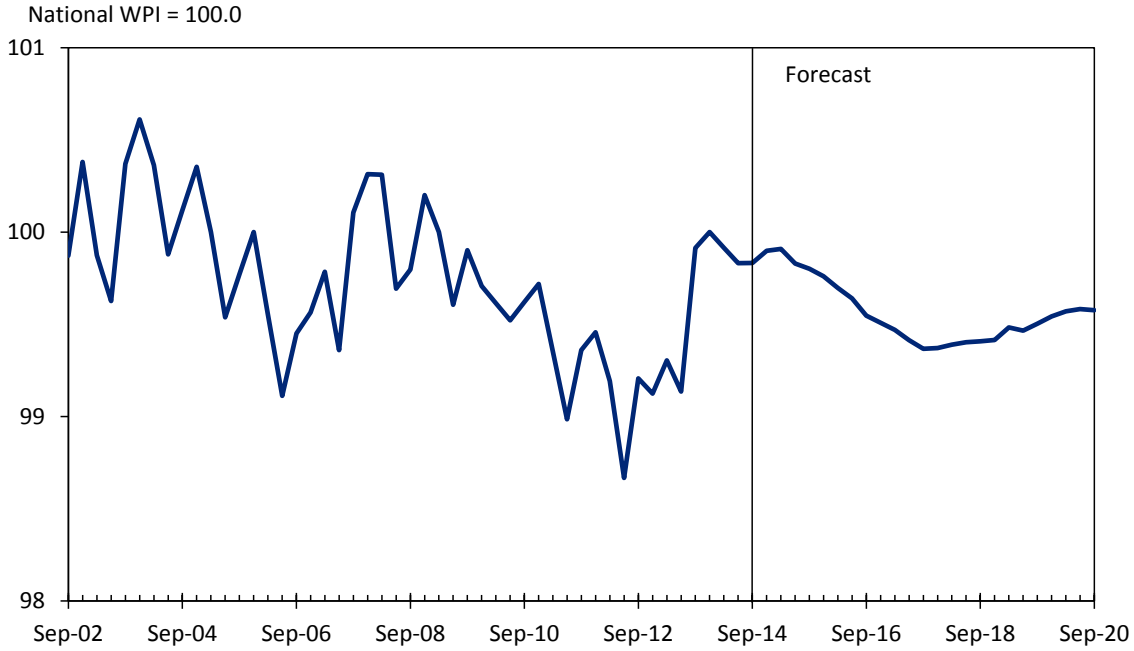
South Australia's economy is facing some well-known challenges in coming years.

Headline grabbing job losses at the likes of Holden are yet to fully play out, while ongoing pain in the manufacturing sector more broadly continues. Defence industries too are facing tough times ahead, with key negatives in the combination of a 'Valley of Death' in naval shipbuilding, and a smaller share of submarine dollars than South Australia had been hoping.

That combination will mean ongoing gloom on the job front, with many South Australian workers likely to know someone with their job in the firing line. As Chart 3.11 show, that will be enough to see wage gains slow relative to the national trend over coming years.

Yet that slowdown has much to do with matching weakness elsewhere, particularly in the short term, meaning the State will see a gradual fall in relative wages, rather than a rapid fall.

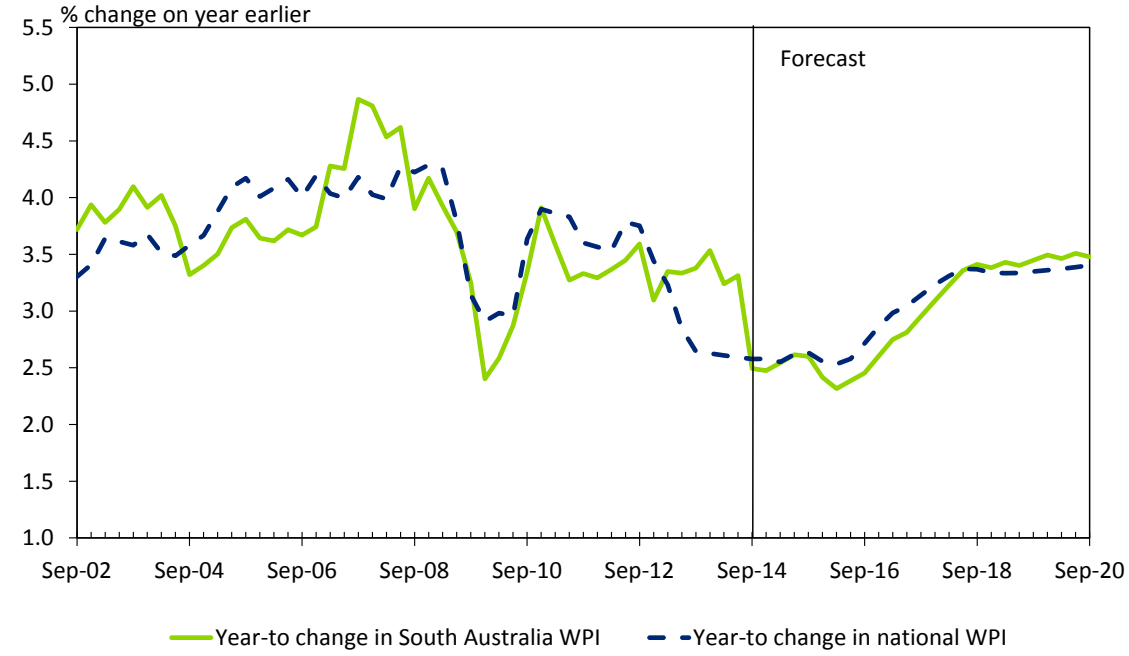
Chart 3.11: South Australia's WPI relative to national WPI



Source: ABS, Deloitte Access Economics' macroeconomic model

It is worth remembering that wage growth in South Australia has been slow to react to the subdued national trend. As Chart 3.12 below shows, wage held up over much of 2014, despite a relatively sharp slowdown for the nation as a whole.

Chart 3.12: South Australia's general labour cost growth



Source: ABS, Deloitte Access Economics' macroeconomic model

It is that brief period of outperformance that drives some of the expected softness looking forward.

More broadly, the underlying trends in the State are not as dire as the headlines would seem to suggest. That is because while South Australia will be feeling ongoing pain from the tough decisions taken by manufacturers in recent times, the economic fundamentals are already shifting in the State's favour. Declines in the $A in particular will ease some of the pressure on the State manufacturers, while lower interest rates too are a positive.

And while the latest unemployment figures see South Australia standing well above the national figure at over 7%, the good news on interest and exchange rates should be enough to see the news on the unemployment front improve somewhat in the year ahead.

Overall, that sees South Australian wage growth facing slightly stronger headwinds than other States, but with those challenges to play out gradually over time.

3.7 Utilities

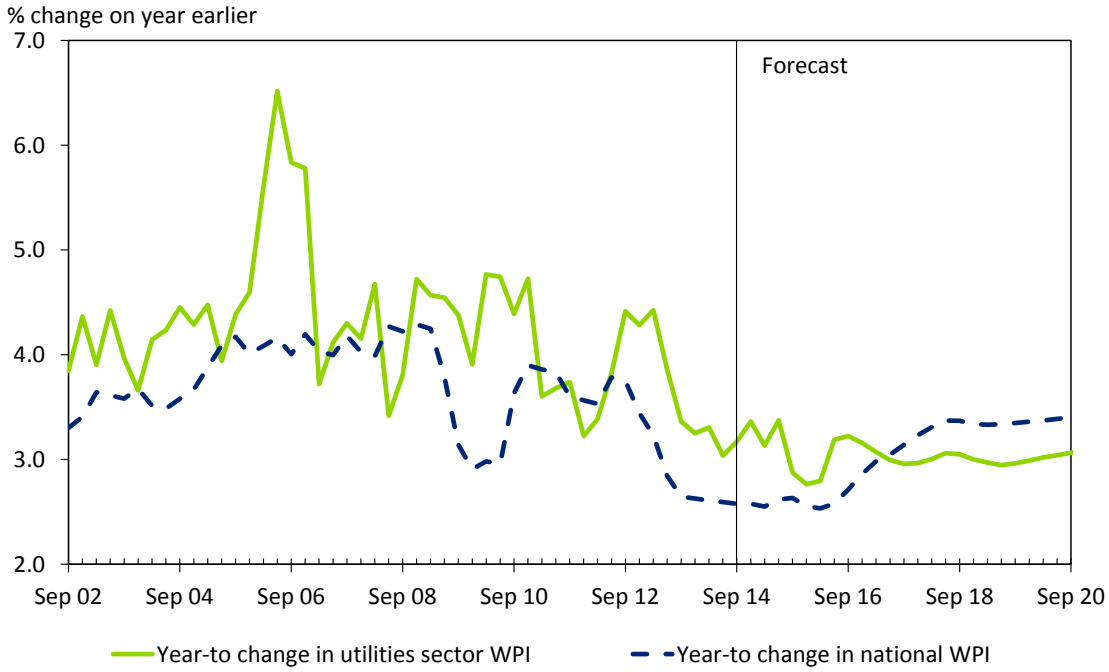
Australian wage growth is at record lows – lower still than it was in the global financial crisis – and is expected to recover slowly at best.

In contrast, although wages gains in the utilities sector have moderated notably from their most recent (2012) peak, they are still above national wage gains. The utilities sector's WPI rose 3.2% across the year to September 2014, while other public sector wages increased by 2.5%. The State's sectoral growth is also comfortably ahead of the national average rate of 2.6%.

The outlook for wage growth in the utilities sector is for a slowing decline in the WPI in the near term, before a return to more rapid gains from around 2019 (see Chart 3.13).

Equally, however, that means a change from a period of outperforming national wage growth through to late 2016, followed by a period of underperformance.

Chart 3.13: Utilities Wage Price Index forecasts



Source: ABS, Deloitte Access Economics labour cost model

Or, in other words, wages in the utilities sector are responding so some different pressures than are wages at the national level. Falling electricity consumption, an oversupplied wholesale market, rule changes and policy uncertainty are placing greater pressure on utilities in the near term, and lead to Deloitte Access Economics' forecast of easing growth in WPI in the sector in the next year or so.

Through to late 2016 wage growth in utilities is projected to remain above national wage growth, and then utilities wages are forecast to modestly lag broader national wage growth over the medium term. Wage growth in the utilities was outpaced only by the arts and recreation sector in 2014 and this relativity is expected to continue, despite falling WPI growth in the utilities in the near term.

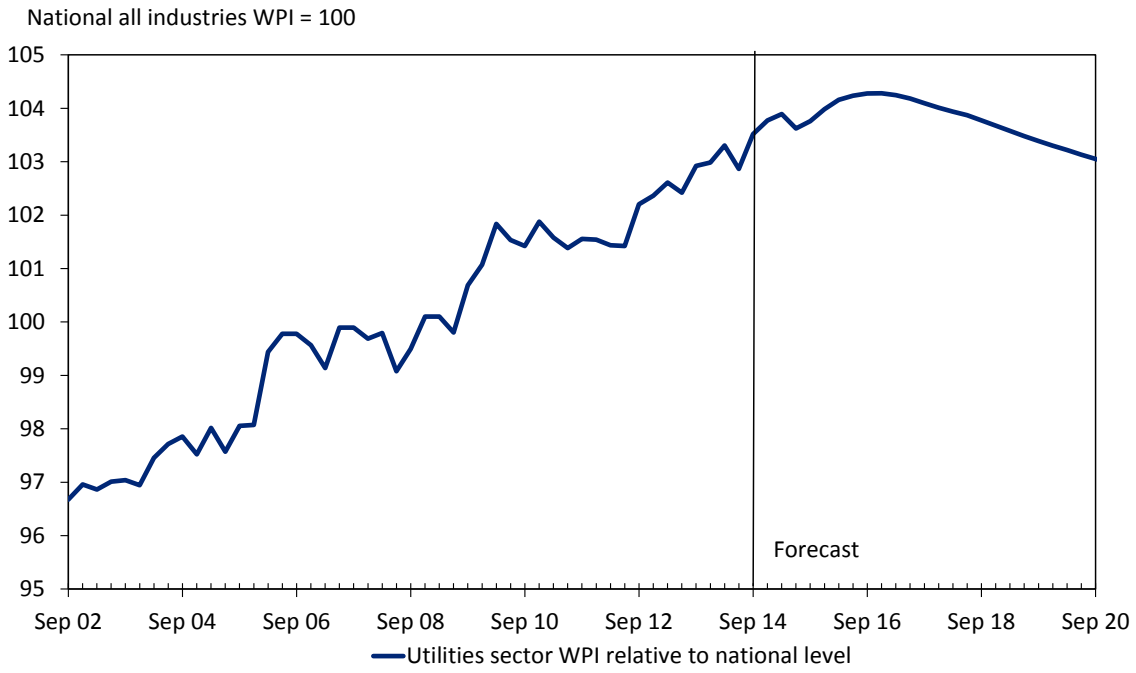
The gap between national and utilities wage data suggest wage growth in the utilities has still responded little to the general weakness in the sector and the broader Australian economy. That may reflect the lagged nature of bargaining in the sector, as well as the relative lack of competition in some areas. In the years beyond 2017, the investment cycle is expected to recover and increase demand for employees, increasing the national WPI above the utilities WPI as the lagged impact of the sectors' conditions are felt.

Utilities sector growth may recover from its current slump, but it is set to remain slow over the outlook period. 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 weigh on electricity demand and slow growth in employment in utilities, also limiting WPI growth in the sector. Alcoa closed its Point Henry and Yennora operations in late 2014 adding to the oversupply on energy in the east coast market. That reflects Deloitte Access Economics' 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. The extent of the decline in electricity demand (both in absolute terms, but particularly compared with earlier demand forecasts) is striking. The level of electricity consumed from the grid peaked in 2009 and current 'best-guess' forecasts do not expect the previous peak to be bettered in the next decade. Indeed, a low case scenario suggests demand could fall close to 25% from its earlier peak by 2024 – declining from 200,000 TWh to close to 150,000 TWh. As recently as 2010 the level of demand was expected to pass 250,000 TWh by 2020, but that outlook has been downgraded consistently since that time as actual demand levels have eased.

Chart 3.14 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 faster than overall wages, with a consistent level of relative increase over much of that period.

Chart 3.14: The utilities WPI relative to the national WPI



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

However, that tide is starting to turn. In particular, competition for workers with some of the same skills as those in the utilities sector is now waning:

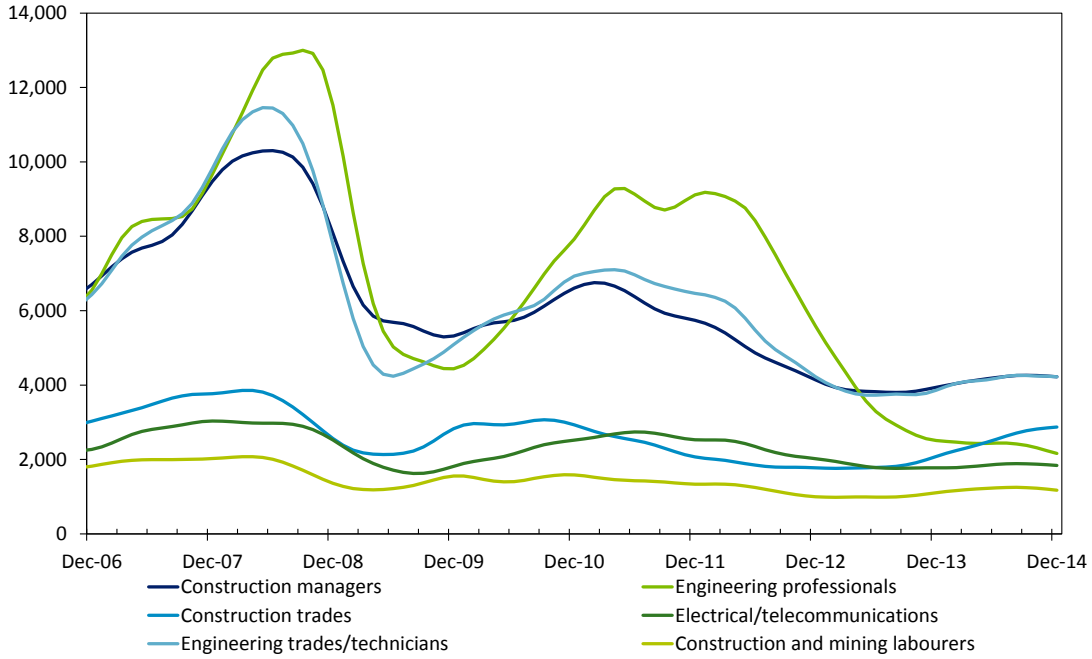
- The competition for utilities sector workers from the resources sector has dissipated and will decrease further over the outlook period. In February 2015, on the back of plummeting oil prices, global resources services provider Halliburton announced an 8% cut to its global workforce joining Baker Hughes and Schlumberger in similar moves. Australia's resources sector is following global cost reductions and the subsequent reduced competition for workers will slow wage gains in the utilities sector.
- Similarly, activity in the construction sector has not offset falling employment from resources sector and is not increasing competitive pressure on the utilities sector for

[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.

workers. (That said, low interest rate settings are expected to stimulate construction. These effects are discussed in section 3.8.)

- In addition, although pressures on Australian manufacturers from the $A have reduced as the currency has fallen, that won't generate a turnaround in this sector.

Chart 3.15: 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

The latest data shows that the **skill shortages which underpinned strong wage growth in the utilities in the past decade have diminished**. Chart 3.15 shows that job vacancies for a number of relevant trade and professional occupations that are found within the utilities sector are well below the peak during 2008. Although vacancies increased again during 2011 and 2012, the latest data confirms that vacancies remain well below the peaks. Job vacancies in the utilities occupations have changed little changed over the past year for most occupations.

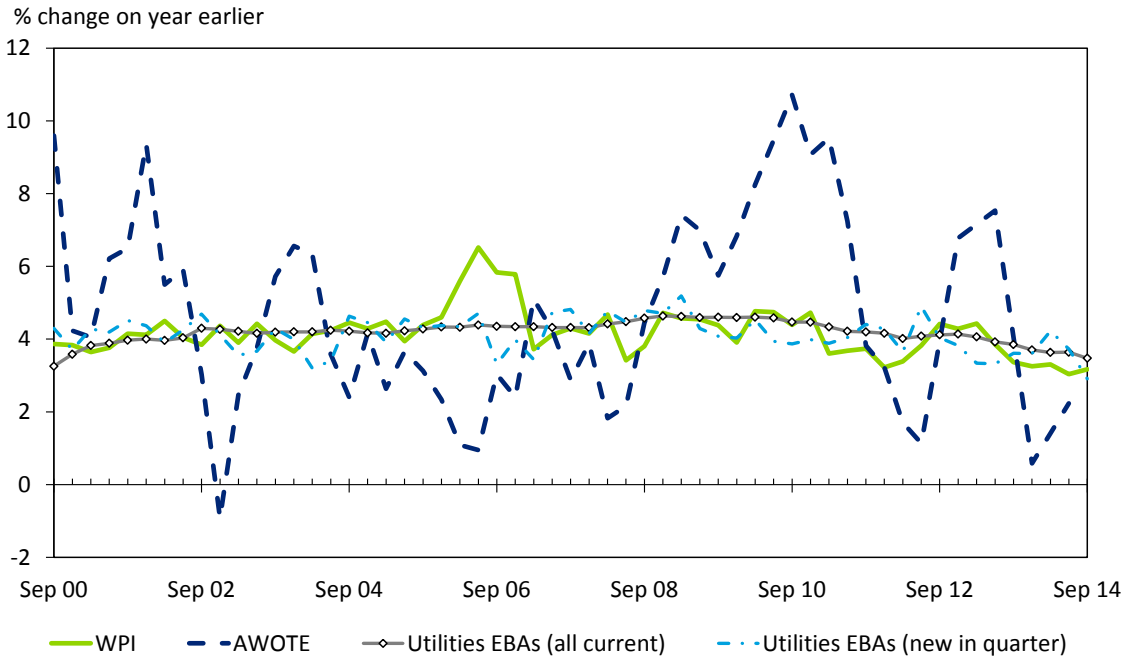
3.7.1 Comparison with results from enterprise bargaining agreements

Utilities wage growth is slowing across a range of measures – not just the WPI. Chart 3.16 compares growth in the utilities sector WPI with three 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 for comparison to the WPI. The AWOTE series is particularly volatile and is limited in its use in forecasting, whereas, the EBA series are good predictors of the trend growth in the WPI measure over time[3].

[3] Deloitte Access Economics' forecasts are developed using a more formal modelling approach rather than a more 'institution-based' approach which is based on increases in minimum wages and collective agreements. As such, while EBA data is taken into account, it is not the primary driver of our model.

It should be noted that while EBA growth provides one indication of wage growth, the percentage of employees in the utilities sector covered by EBAs varies from State to State when compared to the number of people employed in the sector. For example the percentage of utilities workers in the year to September 2014 covered by an EBA in NSW and Queensland was around 40%, while in Victoria just over a quarter of workers were on an EBA. The percentage covered in South Australia is around one third, while Tasmania and the ACT are lower still, at around 14%.

Chart 3.16: 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 Employment and cover growth in wages under EBAs:

- The first of these series (the 'all current' series) shows growth in wages under all EBAs current during the quarter. The current EBA series broadly flows 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 an indication of the future trends in the first EBA series. That is, if there were to be a sustained decline in wage growth, then that would show up first in new agreements. Therefore, changes in the new EBA series can be a precursor to movements in the latter series and the path of future utilities WPI (although the size of the new EBAs also needs to be taken into account).

In September 2014 wage growth for new enterprise bargaining agreements (EBAs) was 2.9% over the previous year, down from 3.2% in the June 2014 quarter. Wage growth in all existing EBA agreements fell to 3.5%, down from 3.7% in the previous quarter. This matches results from WPI data which showed utilities wages continuing a trend of slowing growth.

The broad picture arising is that wage gains in the utilities sector peaked soon after the global financial crisis, but have been on an easing trend ever since, with that trend slowdown

modestly gathering pace across the period in which the output of the Australian utilities sector has been shrinking.

And that trend is continuing. Given the broader factors pointing towards 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 points to further slowing of wage growth and the lagged impact of wage bargaining in 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.

3.8 Construction

One in every eleven workers in Australia is in the construction sector – a record share across the period for which the nation has good data.

Growth in the construction sector WPI has outpaced national WPI growth for most of the decade to 2012, driven by three related causes:

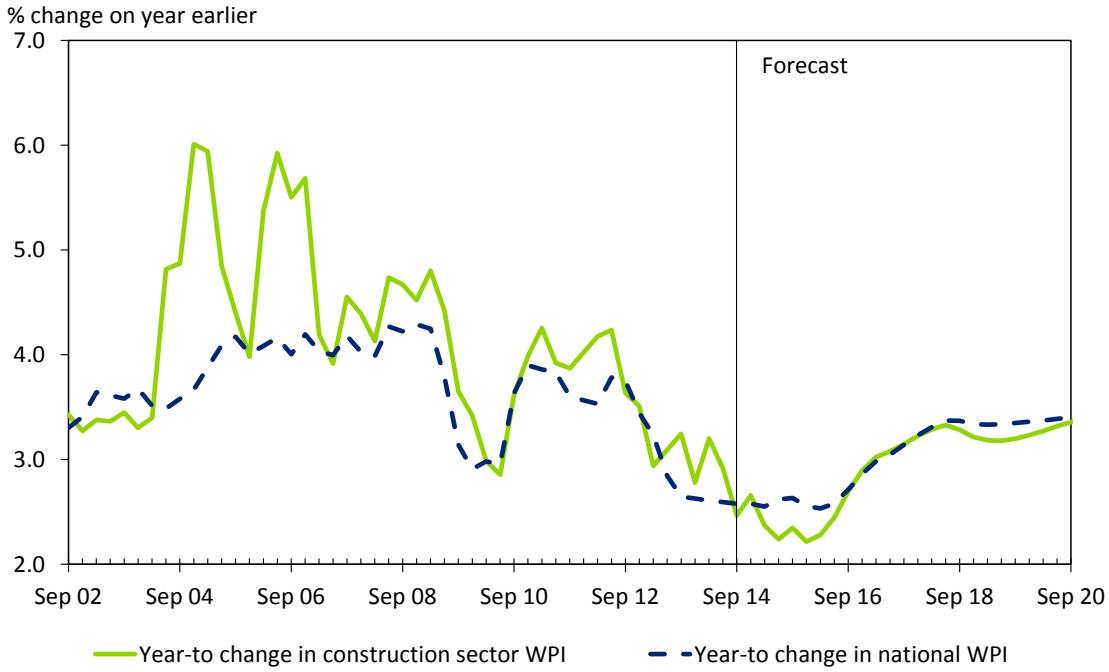
- Demand for construction workers rose sharply – that saw wage rates bid up (the occasional surges in construction sector WPI reflect those times where a number of large projects has been starting concurrently).
- Productivity growth in the sector has outpaced the national average – allowing the growth in wages to reflect the relatively rising efficiency of work done by each worker.
- 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.

Looking ahead, in brief:

- The resources boom that generated that strength in construction jobs is starting to flag – commodity prices have been falling since 2001, and work on large engineering projects peaked in 2012.
- There are important offsets. Most notably, low interest rates are generating a recovery in housing construction. However, the broad economic backdrop to wage gains in the construction sector is flagging.
- To date that fall off in construction wage pressures has been more evident in the WPI than it has in EBAs – partly reflecting union strength in this sector. However, the downtrend in construction wage growth probably has a little further to run.

The outlook for construction wages is for falling growth to 2016 as investment in resources projects unwind, followed by a gradual return to national growth rates over the medium term as the construction cycle resumes a greater degree of momentum (Chart 3.17). This reflects the movement of the WPI for all sectors nationally, with this relationship forecast to continue over the outlook, after a correction in the near term.

Chart 3.17: Construction WPI growth forecast



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

The slowdown in resource-related construction is the primary driver of Australia's construction wage outlook is one of general weakening. In September 2014 wage rises in the mining industry were 2.5% over the previous year – a substantial decrease from 5.2% for the year ending September 2012. Growth in construction wages is forecast to bottom out at around 2.2% in 2016.

Construction sector wages are then expected to recover and rise more closely in line with the national WPI cycle, around 3% by 2020.

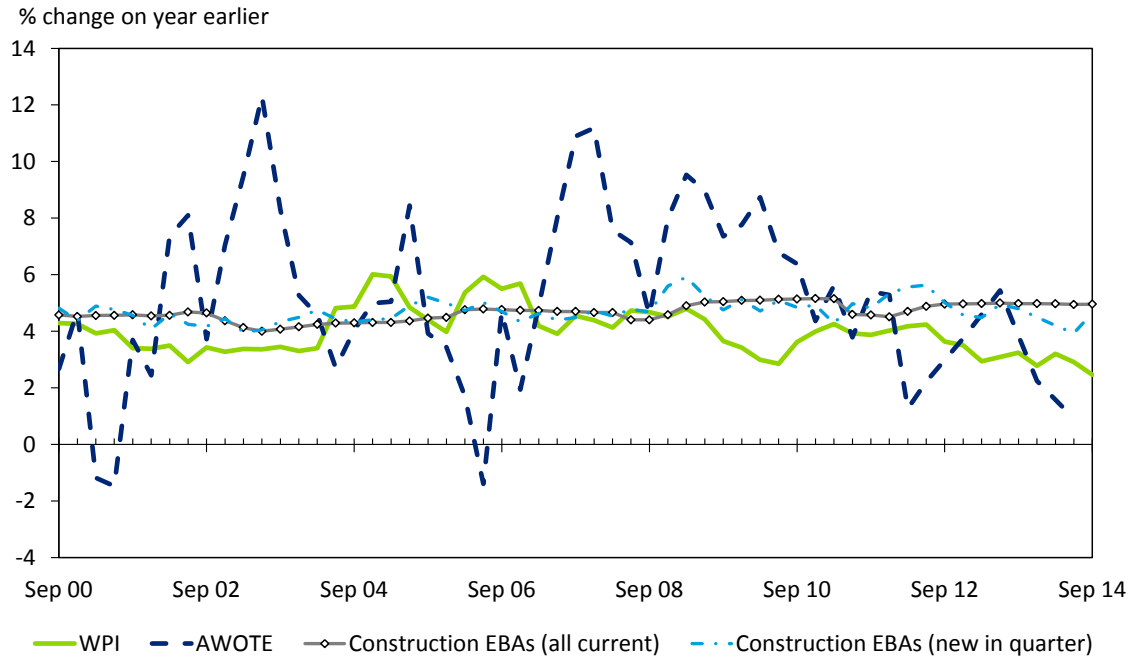
With Australia's mining-related construction spending now falling, competition for utilities sector workers will fall and place downward pressure on wage growth. The latest data from September 2014 shows that construction sector wage growth of 2.5% year on year has now fallen below national wage growth of 2.9% year on year. The result indicates that construction wages will underperform the nation in the short term.

3.8.1 Comparison with EBA results

As described in section 3.7.2 this analysis draws on three measures of wage growth and the trends in these measures will be discussed in this section. Chart 3.18 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 current EBA agreements.

In the September quarter 2014 wages in all current EBAs increased at 5% for the construction sector (compared to 3.5% for the utilities sector). Although existing EBA agreements can reflect the lagged negotiation of new contracts, new EBA agreements formed in the quarter provide an indicator of future sectoral wage trends.

Chart 3.18: Measures of construction sector wage growth



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

Wage outcomes for new construction sector EBAs continue on a downward trend in line with utilities and national results. In the September quarter 2014 wages in new construction EBAs increased 4.6% – down from 4.8% in September 2013 and the 6.0% rise seen in June 2012 (see Chart 3.18). With recent agreements seeing wage growth slow, the new EBAs indicate the potential for some moderation in wage gains in the near term.

Chart 3.18 also shows that since 2012 there has been a growing gap between the WPI and the EBA measures. This suggests that the construction WPI is more tightly tied to the weakness in the construction sector than the EBAs would indicate. While EBA results tend to closely track the direction of WPI movements, it should be remembered that:

- fewer than 15% of construction sector employees are covered by the EBAs included here, and
- the strength of construction sector unions may keep EBA outcomes stronger across a period in which wages more generally in the construction sector are decelerating.

3.9 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	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	2.6	2.6	2.6	2.9	3.3	3.3	3.4
Utilities	3.2	3.3	2.9	3.1	3.0	3.0	3.0
Construction	3.0	2.4	2.3	2.9	3.2	3.2	3.3
Admin services	2.4	3.0	3.1	2.4	2.9	3.0	3.1

Financial year changes in real national industry sector Wage Prices

Annual % change	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	-0.1	0.7	-0.2	0.0	0.8	0.8	0.9
Utilities	0.5	1.4	0.1	0.3	0.5	0.5	0.6
Construction	0.3	0.6	-0.4	0.1	0.8	0.7	0.8
Admin services	-0.3	1.1	0.3	-0.4	0.5	0.5	0.7

Financial year changes in nominal productivity adjusted Wage Price aggregates

Annual % change	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.0	1.7	1.3	1.2	2.0	2.3	2.2
Utilities	1.9	2.2	1.8	1.5	1.6	1.9	1.9
Construction	1.5	1.9	1.2	1.5	2.0	2.3	2.3
Admin services	0.6	1.5	2.0	0.9	1.6	2.0	2.1

Financial year changes in real productivity adjusted Wage Price aggregates

Annual % change	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	-1.7	-0.2	-1.4	-1.6	-0.5	-0.1	-0.2
Utilities	-0.8	0.3	-1.0	-1.3	-0.8	-0.6	-0.5
Construction	-1.2	0.0	-1.5	-1.3	-0.4	-0.2	-0.2
Admin services	-2.1	-0.4	-0.8	-1.9	-0.8	-0.5	-0.4

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.

Please note that WPI data for the utilities sector is only available for some jurisdictions. Deloitte Access Economics estimates that data where it is not available from the ABS. Details on that are at Appendix A.

4.1 State trends

NSW's utilities sector is expected to see some relative strength, driven by:

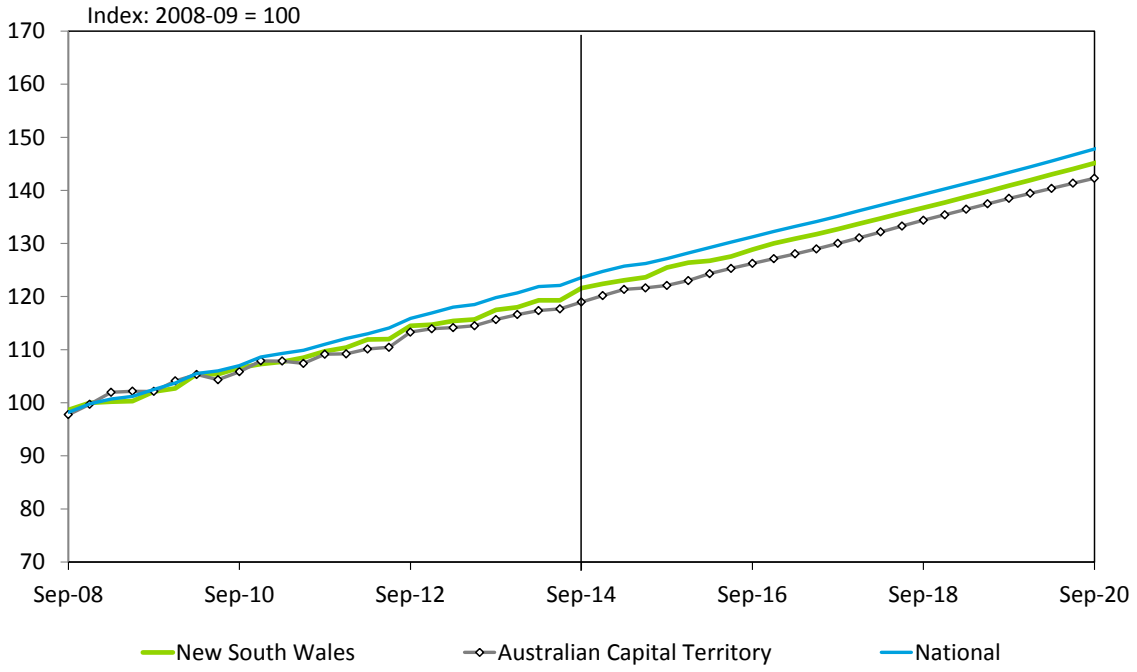
- Relative strength in NSW's residential construction sector, and
- Wider strength in the NSW economy amid a low interest rate environment.

In the September quarter 2014, the NSW WPI grew by 2.6% from the previous year as low interest rates and a lower Australian dollar increased housing construction activity and demand for NSW's service exports.

In contrast, the ACT WPI increased by 1.7% in the September 2014 quarter compared to the previous year as continuing Federal Budget cutbacks increased job uncertainty and as housing construction moderated, with that combination weighing on wages in the national capital.

Chart 4.1 below shows that, over the longer term, underlying trends in utilities wages at the national level tend to dominate the movements by State. The State and national WPI 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

Short term deviations by State occur when driven by a combination of:

- **General trends in State wage growth** – States with slower growth in output generally experience slower WPI growth.
- **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.

There are limits to how far Australia's wage rates can deviate over the longer term. Although the supply of employees is relatively sticky in its responses to demand for workers, in the long term workers are mobile. Persistent, large relative wage swings will tend to be limited by competition between States and industries as workers move towards better paying jobs.

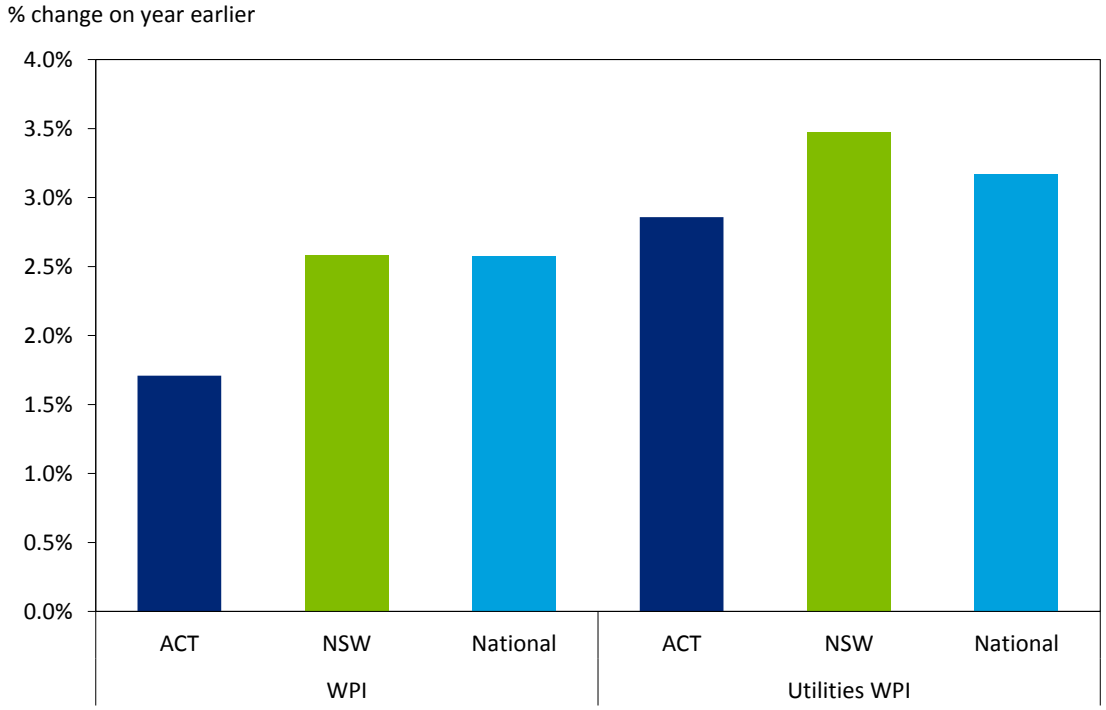
4.2 The utilities sector

In the near term growth in utilities wages is forecast to ease, then outlook for utilities sector wages in NSW and the ACT is for a return to moderate growth. The pace of wages growth in NSW, the ACT and nationally has been an easing in year-to growth in the utilities WPI. Chapter 3 set out the broader wage growth trend of easing in both NSW and the ACT in recent years, as it has done nationally. The magnitude of easing in NSW wage growth has been less than nationally in the last twelve months, whereas ACT wage growth has seen a more pronounced easing.

Chart 4.2 shows the wages growth in the utilities sector outpaced broad wage growth across the jurisdictions. In September 2014 year-to growth in the national utilities WPI was 3.2%, while year-to growth in national WPI was just 2.6%. NSW utilities grew at 3.5% in the year to September 2014, outperforming the national utilities sector and the State's WPI growth of

2.6% from the previous year. In September 2014 the ACT's utilities WPI growth was estimated by Deloitte Access Economics to be lower, at 2.9% and substantially higher that the Territory's total WPI growth of 1.7% over the same period.

Chart 4.2: Comparative WPI growth rates in 12 months to September 2014

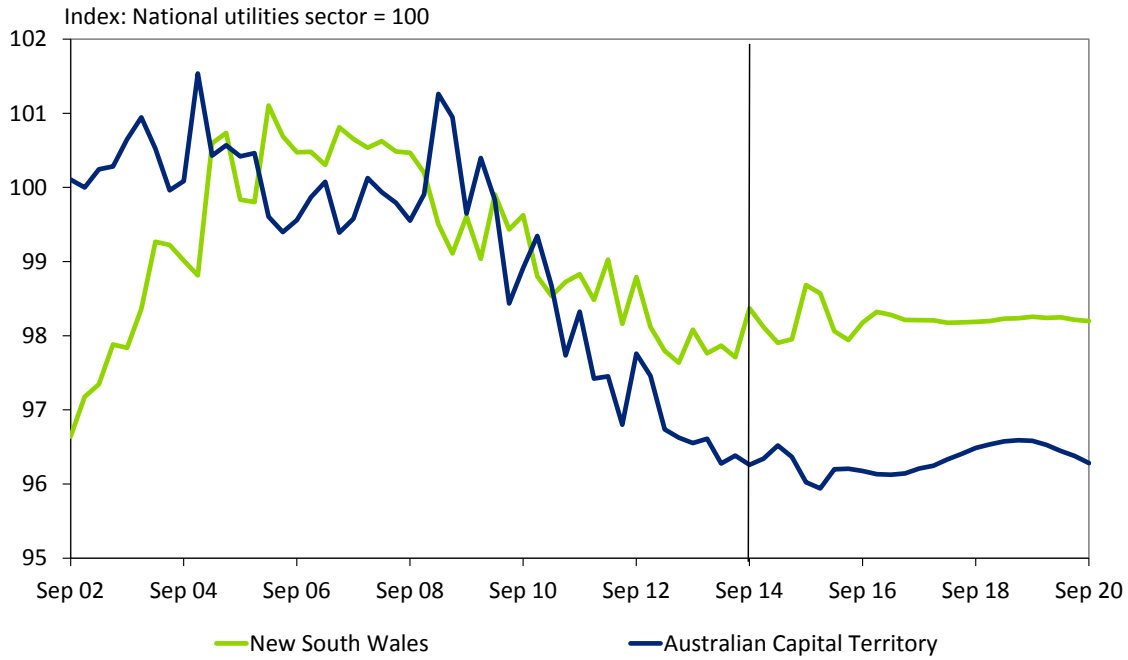


Source: Deloitte Access Economics for the ACT utilities sector estimate, ABS for the other figures

The easing in growth has been less marked for the utilities WPI than the national WPI of late, and the sector continues to grow faster than state averages. In the September quarter 2014 NSW' utilities sector wages grew at 3.5% from the previous year outpacing State WPI growth of 2.6% over the same period. That is reflected in Chart 4.3, 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 declined, although it rebounded somewhat in the September 2014 quarter.

Trends in strong investment, rising labour productivity and booming commodity prices that drove the wedge between the wage growth rates seen in the mining States and those seen in NSW and the ACT are dwindling. For example, the strength in construction 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 winds down. Lower commodity prices and low oil prices are also placing pressure on boards to cut costs, shelving or delaying new work.

Chart 4.3: Relative utilities WPI forecast for NSW and the ACT



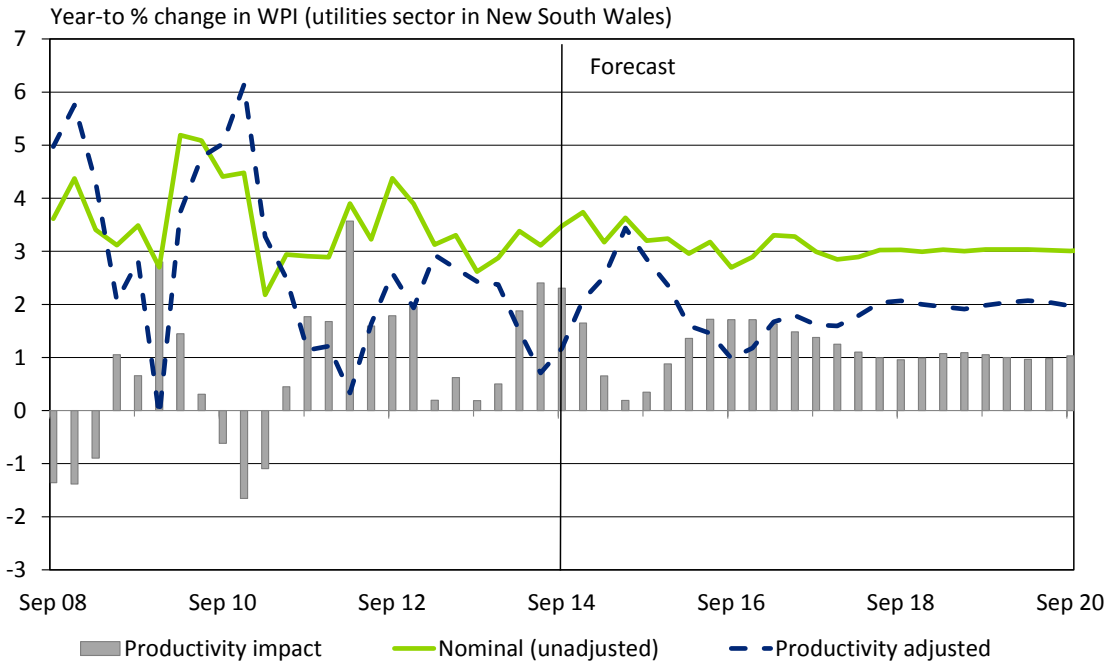
Source: ABS, Deloitte Access Economics labour cost model

The forecast profile in Chart 4.3 shows the NSW utilities WPI maintaining its relative difference to the national utilities sector WPI level due to:

- NSW's economy relatively improving against national performance.
- The 'sun belt' strength in wages across all sectors (including the utilities sector) in Western Australia and Queensland will become less obvious.
- The relative underperformance of NSW utilities sector wages in recent years has run its course, as also seen in the latest data and over time it may tend toward its underlying trend.

NSW's utilities sector is 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 trends.

Chart 4.4: NSW utilities WPI forecasts



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

Chart 4.4 shows that NSW' nominal utilities sector WPI growth is expected to remain around 3% annually over the outlook period, after falling from recently elevated levels.

Note the growth in NSW occurs across a period where growth in the utilities sector wages nationally will be lagging the overall rate of WPI increase. Deloitte Access Economics' 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 4.4.**

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

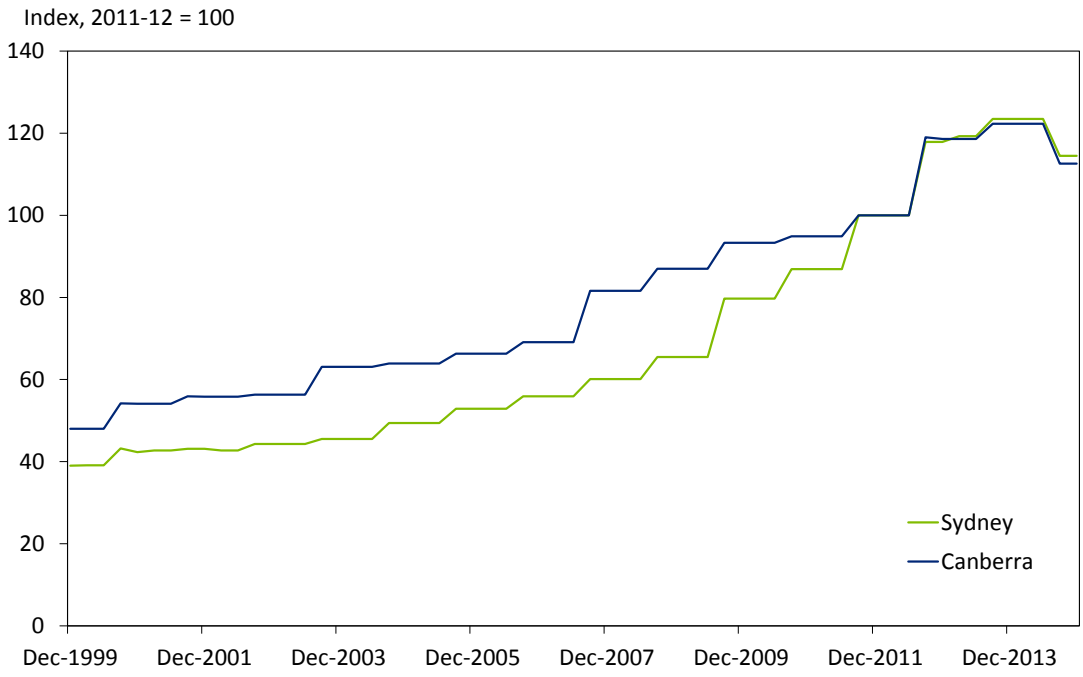
- Energy Australia is constructing two power generators (750MW each) at the Mount Piper power station near Lithgow with a completion date in 2015 at a cost of $2 billion.
- Endeavour Energy is upgrading its electricity infrastructure in Sydney at a cost of $1 billion.

- Seven dam upgrades and a number of sewerage treatment plant upgrades are also underway.

In the near term, employment in the NSW utilities sector will be supported by supply side completions rather than demand side growth. The demand outlook for utilities remains modest. As noted earlier in Chapter 2, weak prospects for output in the utilities will continue to hamper employment prospects in the sector, and flow through to downward pressure on wage growth.

As noted earlier, electricity price growth outpaced the general rate of inflation in Australia over recent years. As Chart 4.5 shows, that has also been the case in NSW and the ACT. The lack of rising demand in energy, reduced need to investment will place downward pressure on employment and wages in the competitive sections of the market.

Chart 4.5: Sydney and Canberra electricity prices



Source: ABS, 6401.0 Consumer Price Index, Australia

Declining demand is expected to moderate and place less pressure on utilities wages in the long run. Energy policy reforms resulting in rule changes to tariff price determinations, the way reliability standards are set and the removal of the carbon tax will all place downward pressure on electricity prices and decrease consumer responses to high prices. In the long term these reforms may also mitigate the need for infrastructure expansion and employment flowing from that expansion. However, in the near term factors such as targets for reliability for supply may remain an issue despite the new efforts for more consultative reliability standard setting. In the long run, as changes increase in prices moderate consumer behaviour change toward less energy use will slow and population growth will support the expansion of demand and employment in the utilities industry.

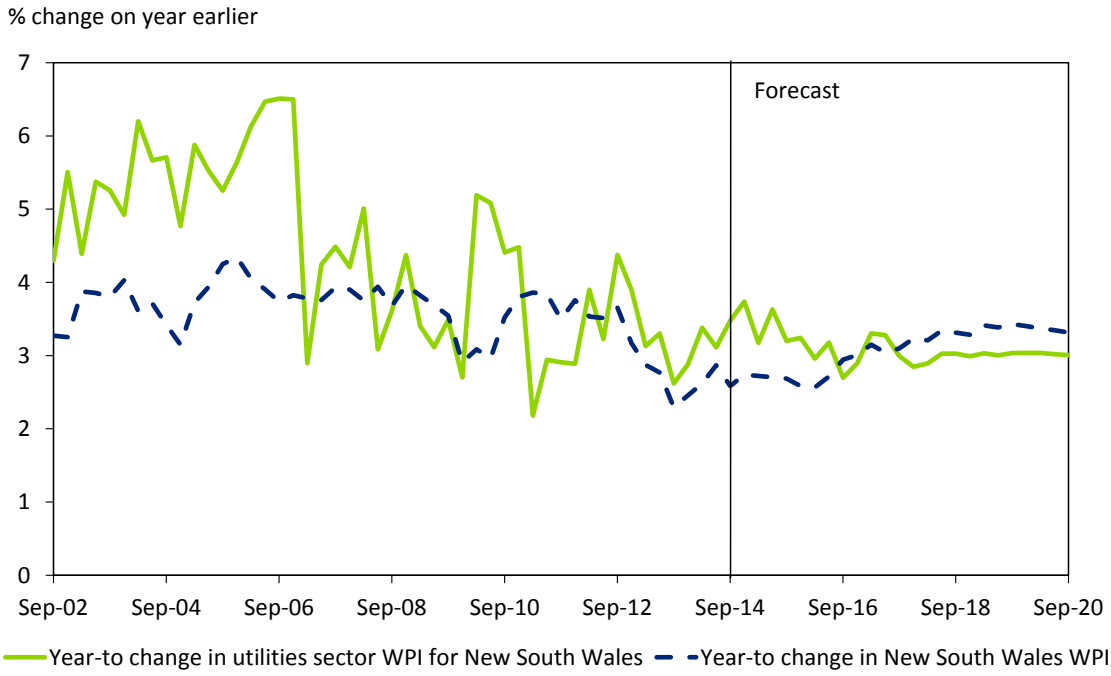
It should be noted that the AER's price determination following this report may also significantly impact future retail prices. The latest report on retail pricing by the Australian

Energy Market Commission found that network cost still account for over half of the representative consumer's electricity bill. The AER's tariff determinations play a significant part in determining final costs that are passed through to consumers, and how consumers react to those costs.

Other key factors influencing the NSW outlook include:

- The **outlook for manufacturing and gas-depended heavy industry remains weak** despite the fall in the $A. A continuing relative decline for the manufacturing sector will mean slower growth in energy consumption and in output from this State's utilities sector.
- National **engineering construction employment is now heading into a period of decline,** decreasing competition for utilities workers from the construction sector nationally**.** 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 4.6: NSW utilities forecast comparison



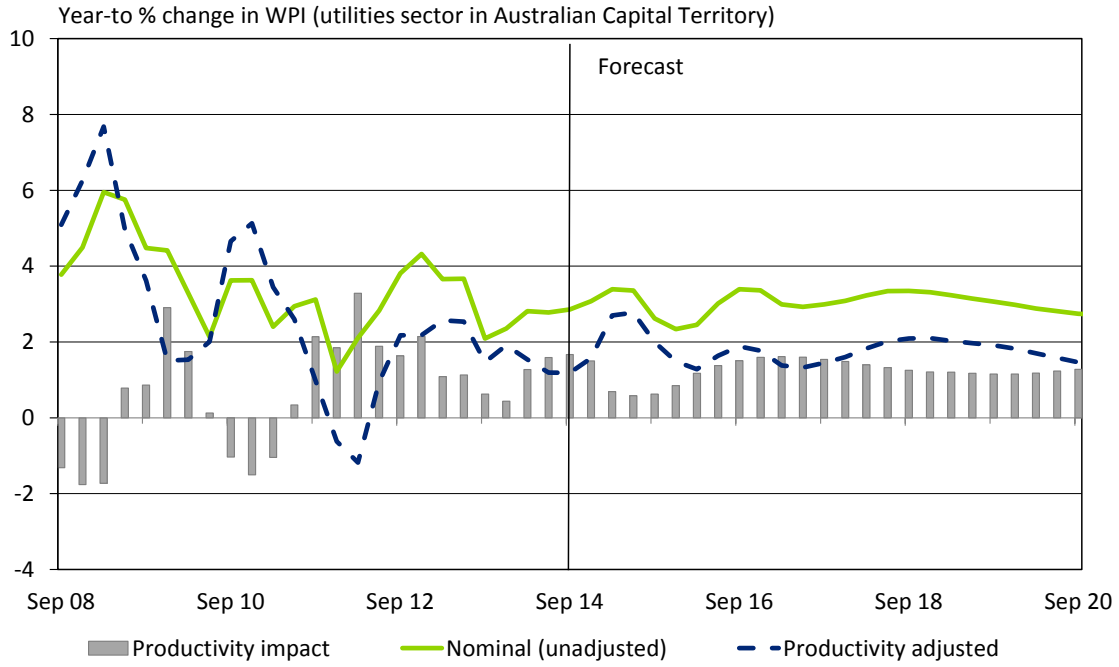
Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Chart 4.6 above shows that growth in NSW's utilities sector WPI currently remains around 3%, higher than the WPI for all sectors. The discrepancy is projected to ease from 2017, with growth in NSW's other sectors forecast to recover as investment and productivity improve in the State.

The outlook for the ACT's utilities sector is weaker than NSW. The pipeline for engineering construction in the ACT is quite limited and housing approvals are tapering off. Residential building grew strongly in the ACT in recent years, and is now likely to remain weak for some time.

Chart 4.7 shows the ACT's utilities sector WPI growth is expected to remain around current levels and moderate slightly to 2.7% annually in the year to September 2020.

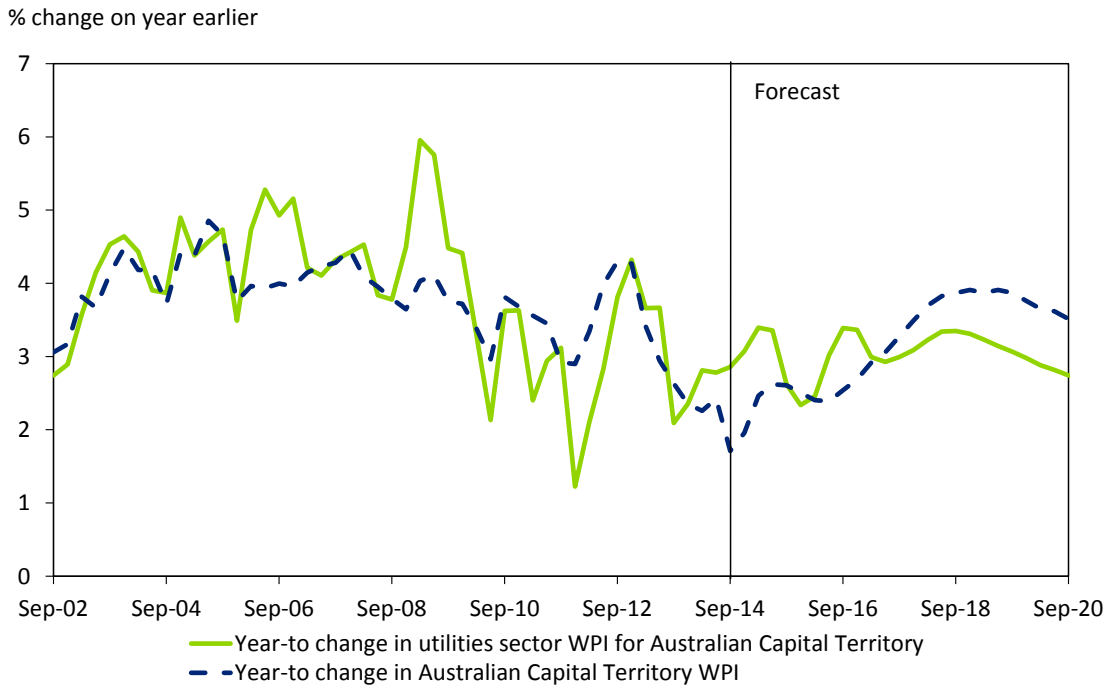
Chart 4.7: ACT utilities WPI forecasts



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

Chart 4.8 shows that growth in the ACT's utilities sector WPI is projected to outpace the ACT's overall WPI in the near term as Federal Government cutbacks and a slower housing market impact general ACT wages. In 2017, as the construction cycle and federal budget recovers, the ACT WPI growth rebounds and utilities wage growth lags over the remainder of the outlook.

Chart 4.8: ACT utilities forecast comparison

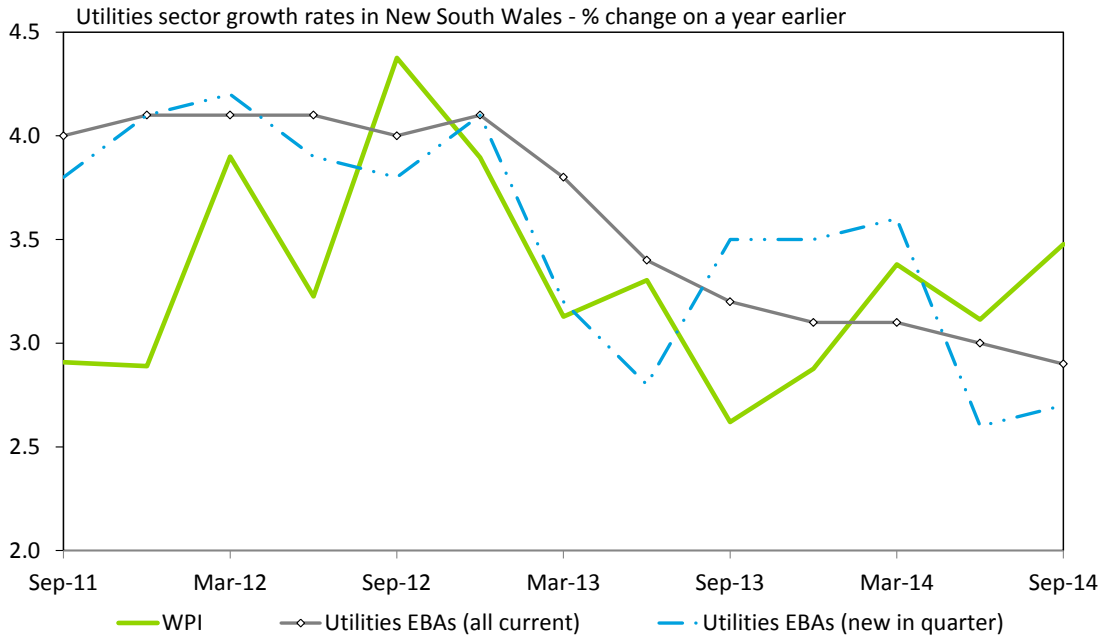


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

4.2.2 Comparison with EBA outcomes

Chart 4.9 compares the growth in NSW's utilities sector WPI with results from Enterprise Bargaining Agreements. NSW utilities EBA wage growth has eased since September 2013, but the WPI has increased. The latest data shows an increase in wages included in new EBAs in the last quarter to September 2014 which is consistent with a recent upward rise in the WPI result for NSW.

Chart 4.9: Comparative measures of wage growth in NSW utilities

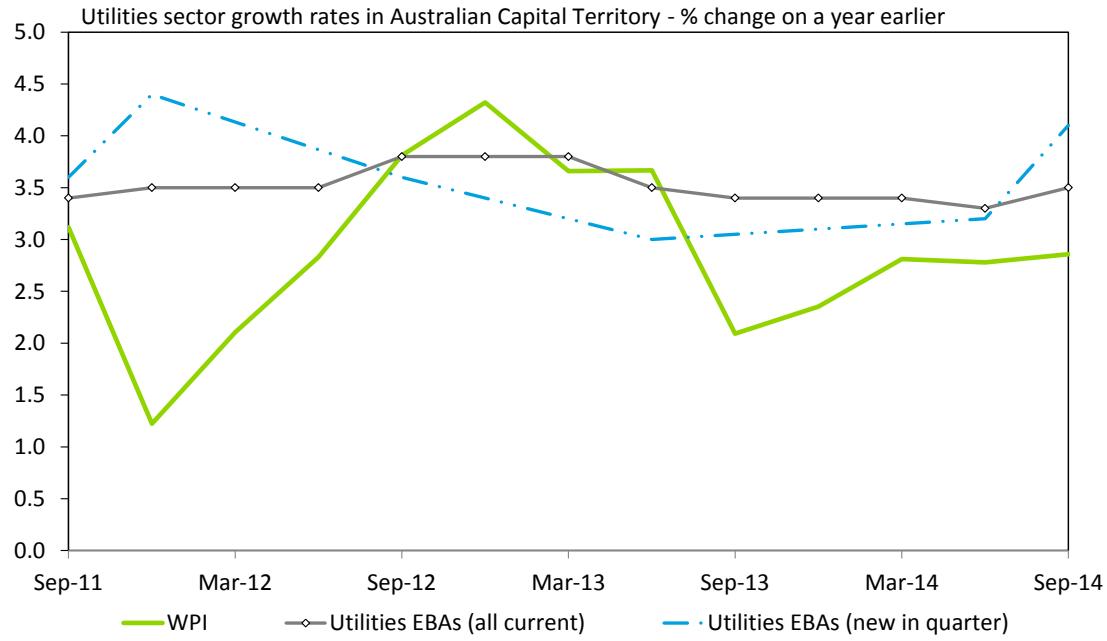


Source: ABS, Department of Employment

As discussed in Chapter 2, we see this as the lagged impact of wage bargaining in the utilities sector, rather than the start of a new upward trend in wage outcomes for the sector.

Chart 4.10 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 eased across all three of the ACT's utilities sector wage measures since September 2012. In September 2014 EBA data for new agreements showed that the downward trend for new utilities sector EBAs in the ACT increased. Although coverage is limited, the ACT might be showing stabilisation in wage growth.

Chart 4.10: Comparative measures of wage growth in ACT utilities



Source: ABS, Department of Employment

4.3 The construction sector

NSW will contribute to a greater share of national construction as resources-related construction falls in Western Australia and Queensland in particular. After NSW's construction activity relative to national levels fell during the 2000s it is now rising relative to other States. New South Wales' rising construction sector is driven by favourable housing market, increasing demand for construction. In the December quarter 2014 Sydney's house prices increased at the fastest rate in the country, rising 12 per cent from December 2013[4].

Overall, the outlook for NSW's construction sector is relatively positive. With interest rates low the outlook for housing construction is strong, and a relatively large pipeline of publicly-funded engineering construction infrastructure projects with increase demand for workers. Commercial construction is also strengthening although its current level remains relatively weak.

Engineering construction is receiving a boost from the public purse, with government trying to fill the void left by a softer private sector. **The recycling agenda in NSW** is set to gather strength with the current government announcing plans under 'Rebuilding NSW', a 20 year initiative consisting of $20 billion in infrastructure investment. To be financed by a 99-year lease of 49% of the State's electricity assets, a rail crossing of Sydney Harbour and additional roads. If these engineering construction projects go ahead they could increase competition for utilities workers from the construction sector, placing pressure on utilities wages over the medium term.

[4] ABS, 6416.0, *Residential Property Price Indexes: Eight Capital Cities*, December 2014.

The latest data indicate that NSW's housing construction is continuing to improve. Building approvals are growing strongly, as is lending for housing and dwelling investment is outperforming most of Australia. 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.

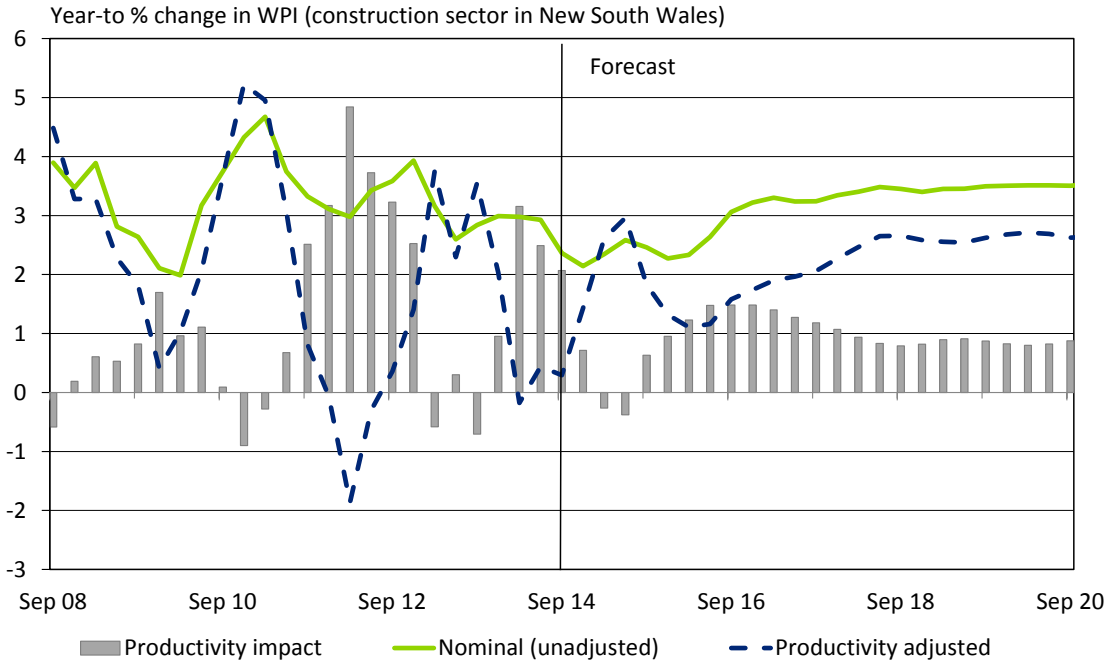
In contrast to the positive outlook for NSW **the overall, the outlook for the ACT's construction sector is weak.** Housing construction in the ACT has been very strong recently, so will not be boosted by the national housing recovery. And the pipeline for both commercial and engineering construction is weak with job uncertainty while federal budgets are tightened and the housing market weakening.

Engineering construction activity in the ACT had a setback of late, with the government forced to push back development plans and reallocate money to buy back and demolish more than 1,000 homes due to the presence of asbestos. That puts a shadow over projects such as the $783 million light rail project, as well as several projects slated under Canberra's 'Master Plan'. Meanwhile, work has wrapped up on the $480 million upgrades to Canberra Airport and on the $65 million John Gorton Drive extension, while the final bell was rung on construction of a $141 million windfarm in Tuggeranong.

The outlook for commercial construction activity is looking healthier. Work on two new hotels in Barton and at the Airport is underway. Plans for a new $200 million National Agricultural and Environmental Science Precinct at the CSIRO is a welcome addition to the pipeline of work, while the final date for a new office development at 1 Canberra Avenue and upgrades to the Belconnen Markets have been pushed back later into 2015.

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.

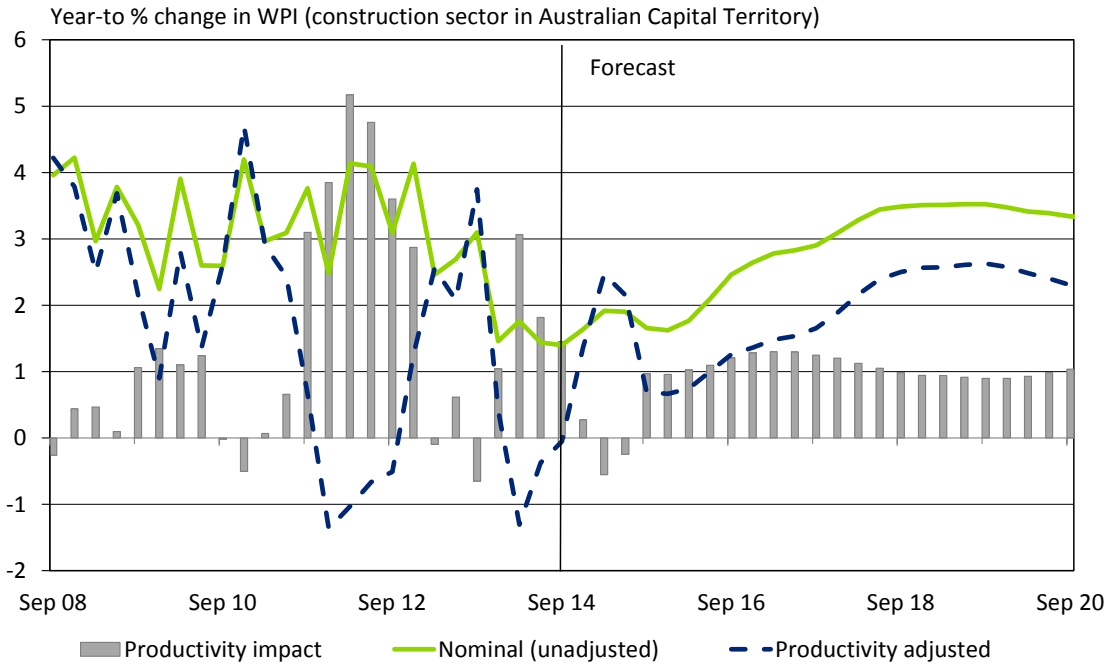
Chart 4.11: NSW construction WPI forecasts



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

As Chart 4.11 shows, nominal NSW construction wage growth in the year to September 2014 was a subdued 2.4%, continuing a trend down that began in 2011. ACT construction wages weakened even more, rising by just 1.4% in the year to September 2014 seen in Chart 4.12.

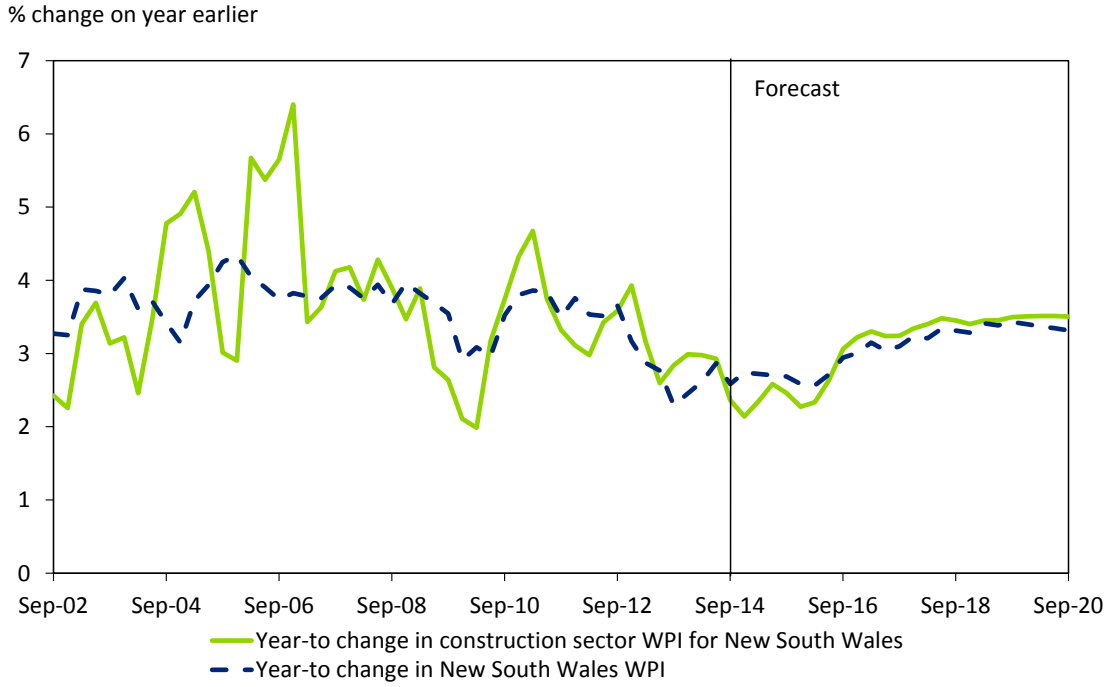
Chart 4.12: ACT construction WPI forecasts



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

In the near term, the NSW construction WPI is forecast to grow at a historically subdued rate at under 2% annually to mid-2016 (see Chart 4.13). Growth will then recover, broadly in line with national construction wages, to 3.5% annually over the medium term as the investment cycle recovers.

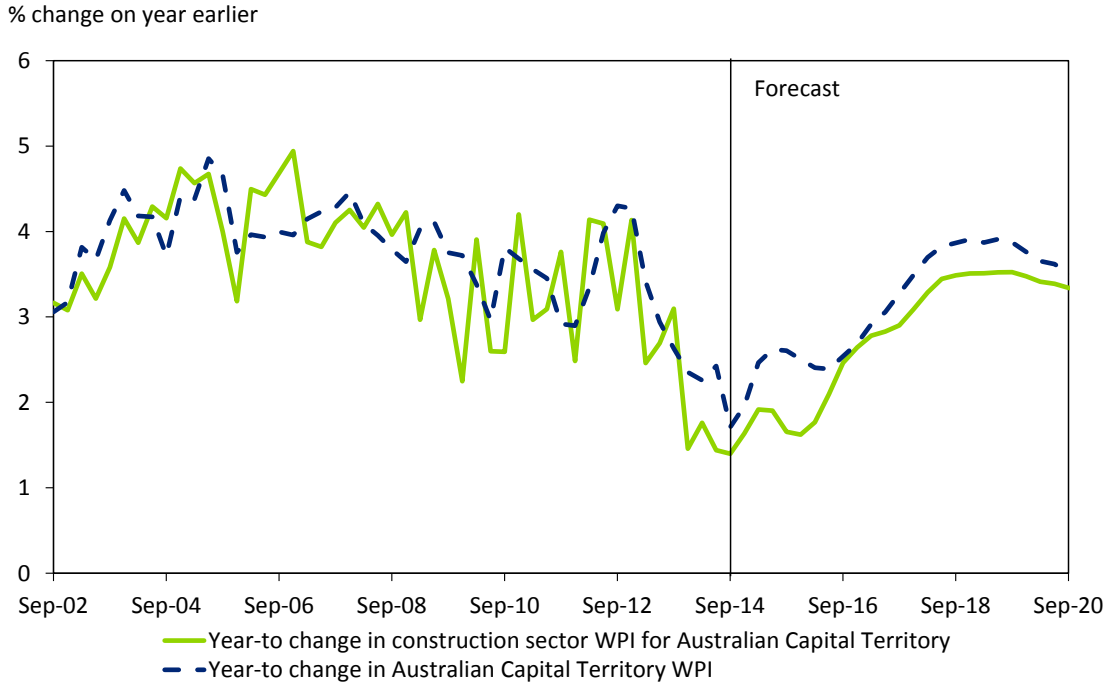
Chart 4.13: NSW construction WPI forecast comparison



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

Chart 4.14 above shows forecasts for ACT construction wages to remain quite weak over the next few years, before recovering with the government budget and construction cycle. 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. Over the medium term growth in wages is forecast to recover with rising productivity to a peak of 3.5% annually before moderating again. The weakness seen in the latest data continue to indicate that the ACT's construction sector wages will lag other sectors in the ACT in the near term, but move broadly in line with other sectors over the longer term.

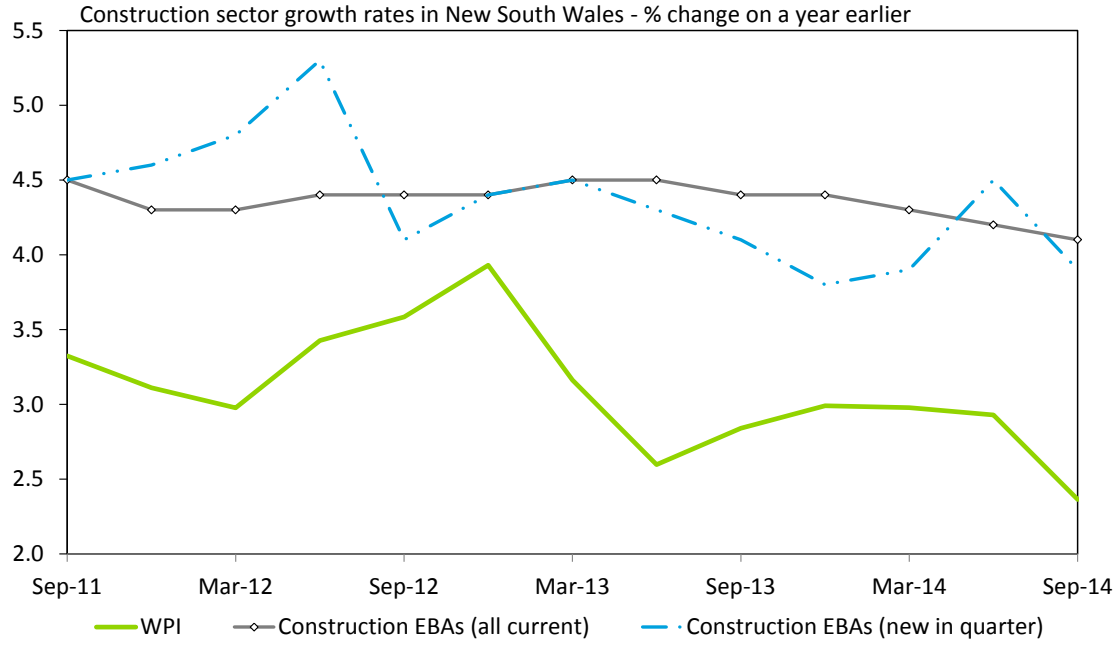
Chart 4.14: ACT construction WPI forecast comparison



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

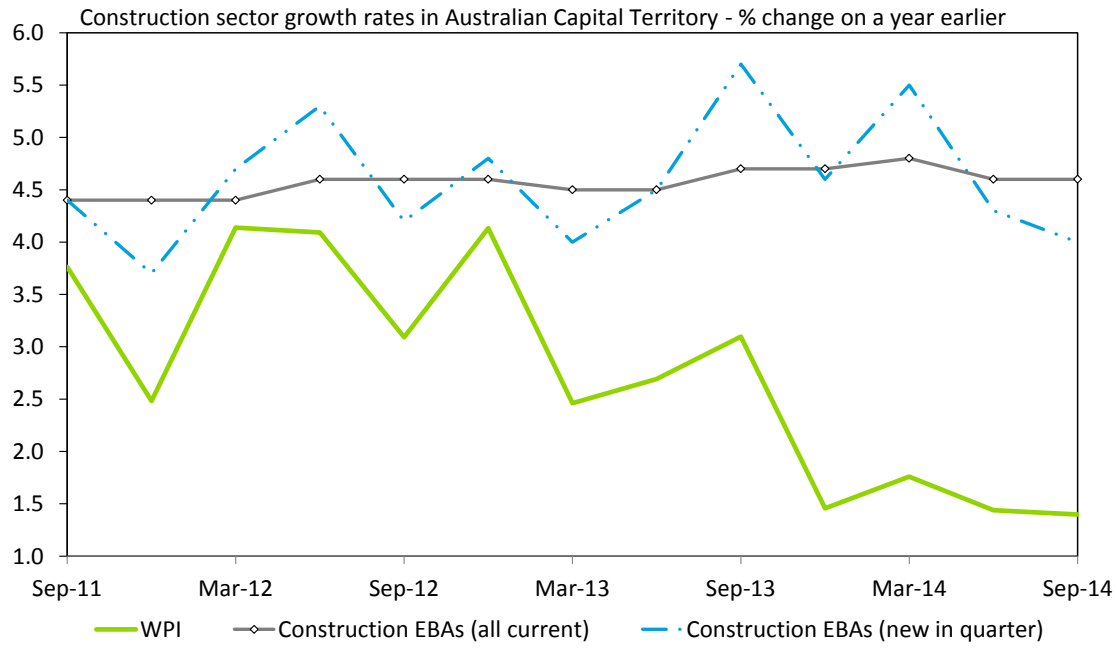
As Chart 4.15 shows, **growth in wages under new EBAs in NSW continues to slow**, suggesting a further easing in general construction sector wage growth may be seen. Similarly, Chart 4.16 shows the ACT has seen the same deceleration in wage outcomes under new EBAs recently, in line with easing evident in the construction sector WPI growth in the ACT.

Chart 4.15: Comparative measures of wage growth in NSW construction



Source: ABS, Department of Employment

Chart 4.16: Comparative measures of wage growth in ACT construction



Source: ABS, Department of Employment

Note 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. This can lead to large fluctuations from quarter to quarter and it is beneficial to consider each measure in the context of the broader sectoral trends.

4.4 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	2.7	2.6	3.0	3.2	3.3	3.4
Utilities	3.7	3.0	3.5	3.1	3.0	2.9	3.0	3.0
Construction	3.3	2.9	2.4	2.4	3.2	3.4	3.4	3.5
Admin services	3.9	3.4	3.8	2.9	2.5	2.9	3.2	3.2

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	0.0	0.6	-0.2	0.2	0.8	0.9	1.0
Utilities	1.1	0.4	1.4	0.3	0.2	0.5	0.6	0.6
Construction	0.7	0.3	0.3	-0.4	0.3	0.9	1.0	1.1
Admin services	1.4	0.8	1.7	0.0	-0.4	0.5	0.7	0.8

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	1.0	1.4	1.4	1.2	2.3	2.4	2.6
Utilities	2.5	1.7	2.3	2.1	1.4	1.8	2.0	2.0
Construction	1.9	1.4	1.8	1.4	1.8	2.4	2.6	2.7
Admin services	2.9	1.5	2.1	1.9	0.9	1.8	2.2	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	0.3	-1.5	-0.7	-1.4	-1.6	-0.1	0.0	0.2
Utilities	0.0	-0.8	0.2	-0.8	-1.4	-0.6	-0.4	-0.4
Construction	-0.6	-1.1	-0.3	-1.5	-1.0	0.0	0.2	0.3
Admin services	0.3	-1.0	0.0	-0.9	-1.9	-0.6	-0.2	-0.1

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	2.4	2.2	2.5	2.8	3.6	3.9	3.7
Utilities	3.9	2.5	3.2	2.6	3.2	3.2	3.3	2.9
Construction	3.1	1.9	1.7	1.8	2.7	3.2	3.5	3.4
Admin services	4.2	4.2	2.5	2.9	2.2	3.0	3.0	3.2

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	0.2	0.7	-0.1	0.0	1.1	1.4	1.3
Utilities	1.9	0.3	1.7	0.0	0.4	0.7	0.8	0.5
Construction	1.1	-0.3	0.2	-0.8	-0.1	0.7	1.0	1.0
Admin services	2.2	1.9	1.1	0.3	-0.5	0.5	0.5	0.7

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	4.0	2.1	0.9	1.7	1.8	1.7	1.6	2.2
Utilities	2.4	1.5	2.1	1.6	1.6	1.7	2.0	1.8
Construction	1.3	0.6	1.5	0.8	1.4	2.0	2.6	2.5
Admin services	2.8	2.3	0.7	2.0	0.8	1.7	1.9	2.1

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	2.0	-0.1	-0.6	-0.9	-0.9	-0.8	-0.9	-0.2
Utilities	0.4	-0.7	0.6	-1.0	-1.2	-0.7	-0.4	-0.6
Construction	-0.6	-1.6	0.0	-1.8	-1.4	-0.4	0.1	0.1
Admin services	0.9	0.1	-0.8	-0.6	-1.9	-0.8	-0.5	-0.3

Source: ABS, Deloitte Access Economics labour cost model

5 Tasmanian wage growth forecasts

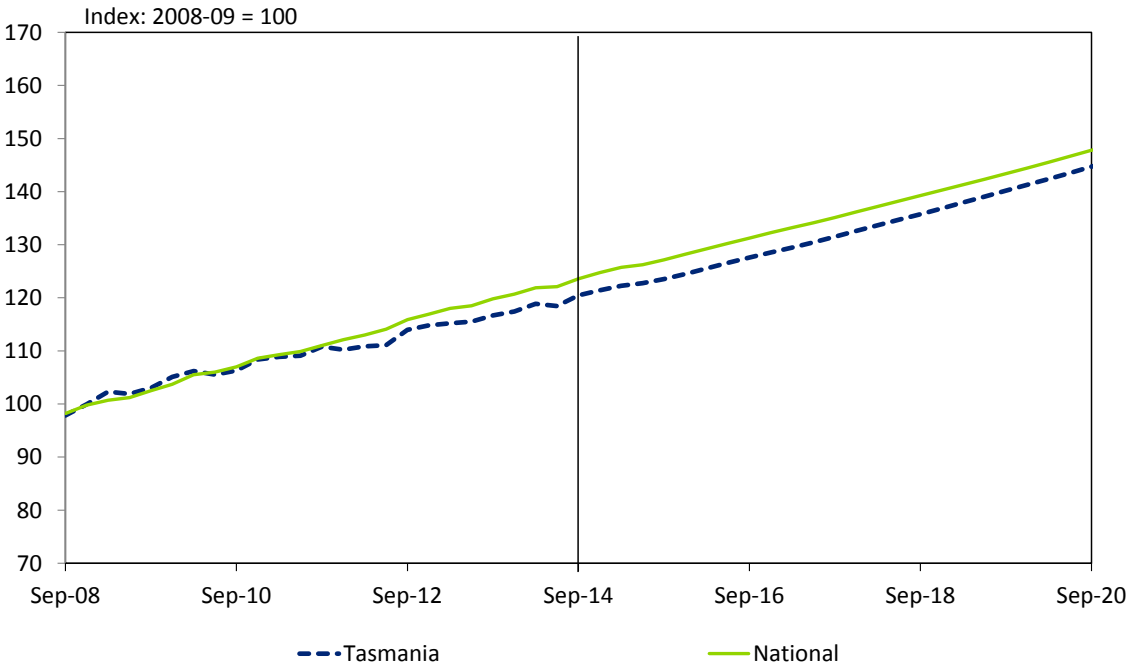
This chapter sets out the projections for labour costs in the utilities sector in Tasmania, and provides additional State level projections for the construction industry in Tasmania. See Appendix A for further technical notes.

5.1 State trends

Since late 2009, Tasmania's economy has been a poor performer. The poor economic performance is reflected in weakness in the Tasmanian labour market, and wage growth is also weak. After a period of slow economic growth, high unemployment and slow population growth Tasmania seems to have turned a corner. The outlook for the utilities sector wages is for subdued growth, although still outpacing growth in State wages.

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:

- **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.

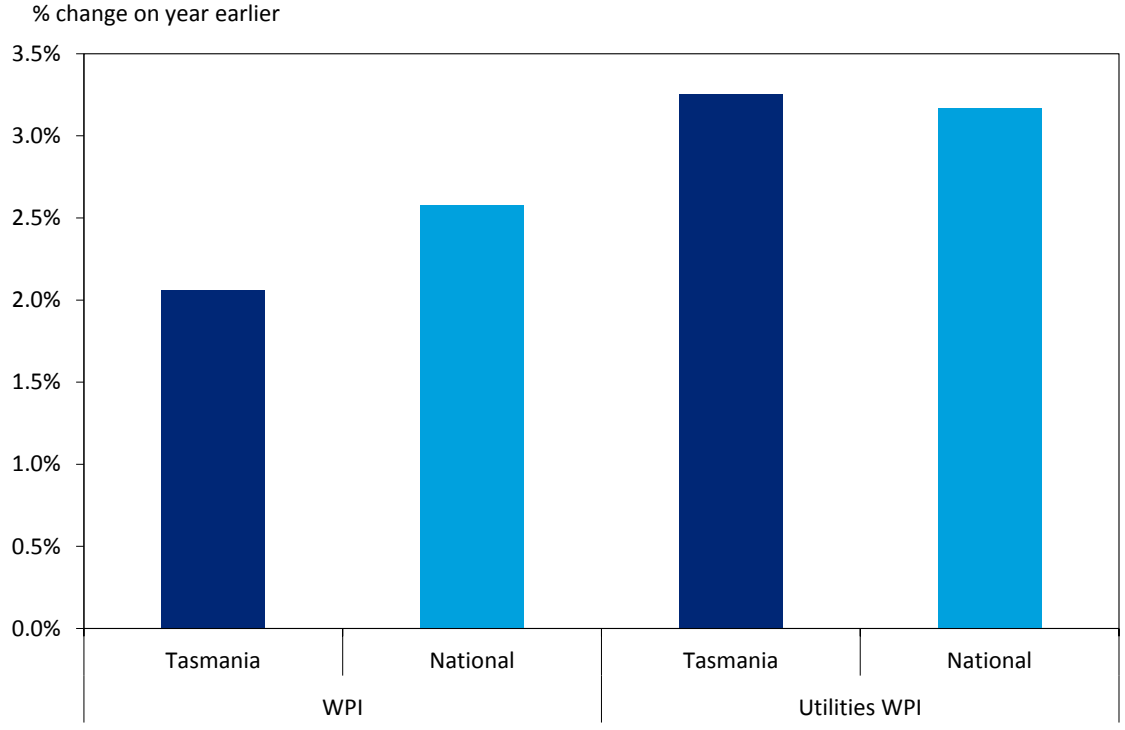
A small but noticeable gap has emerged between our estimates of the utilities WPI in Tasmania and that for the nation as a whole (Chart 5.1). The difference between Tasmanian utilities WPI growth and national utilities WPI growth is driven by relative weakness in the State's economy in general and business investment in particular.

That gap has eased of later and 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 diverge over the longer term. Large and lingering relative swings between State wages tend to be limited by competition between States and industries and by the ability of workers to move towards better paying jobs.

5.2 The utilities sector

As Chart 5.2 illustrates, wage gains in Tasmania have lagged behind the national wage gains recently. Tasmania's WPI growth in the most recent 12 month period was 2.1% while the national WPI grew at 2.6% in the same period. However, Tasmania's utilities sector WPI continues to follow national trends and grew strongly compared to the State average. The most recent data shows that Tasmania's utilities WPI grew at 3.3% in the 12 months to September 2014, marginally outpacing national utilities WPI growth of 3.2%. This differential in industry performance may reflect the relatively small workforce with requisite skills in Tasmania, ensuring utilities wage growth remains in line with national growth, despite Tasmania's generally gloomy economic performance.

Chart 5.2: Comparative WPI growth rates in 12 months to September 2014

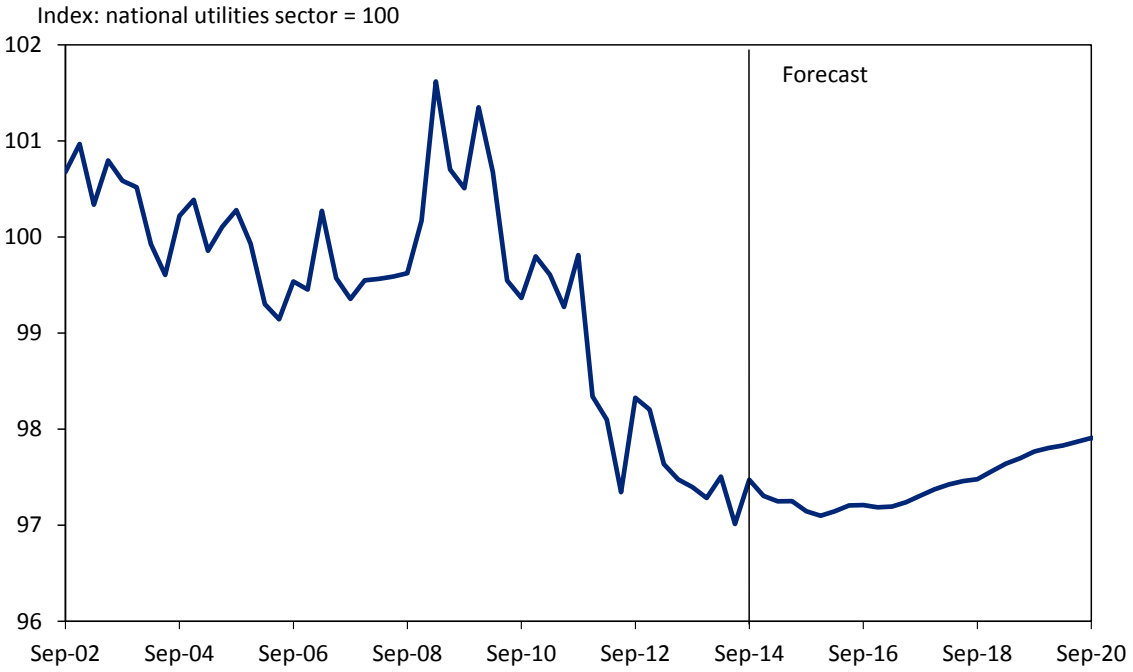


Source: ABS, catalogue number 6345.0, special request and Deloitte Access Economics Wage Model

Tasmania saw wages in the utilities lift sharply relative to other States during the GFC. Those gains were rapidly unwound and then replaced by a notable drop through 2010 and 2011 due to the strong gains that accrued to other States thanks to the mining boom.

The sharp decline in Tasmania's utilities wages relative to the national average continued through 2012 and 2013, although the latest WPI data suggest this decline is moderating. Looking forward, that levelling off is expected to continue for some time. The stabilisation in Tasmania's relative WPI is initially due to better news in Tasmania's labour market more broadly, and over the medium term it is due to the fading impact of gains in the resource sector States.

Chart 5.3: Relative utilities WPI forecast for Tasmania



Source: ABS, Deloitte Access Economics labour cost model

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.

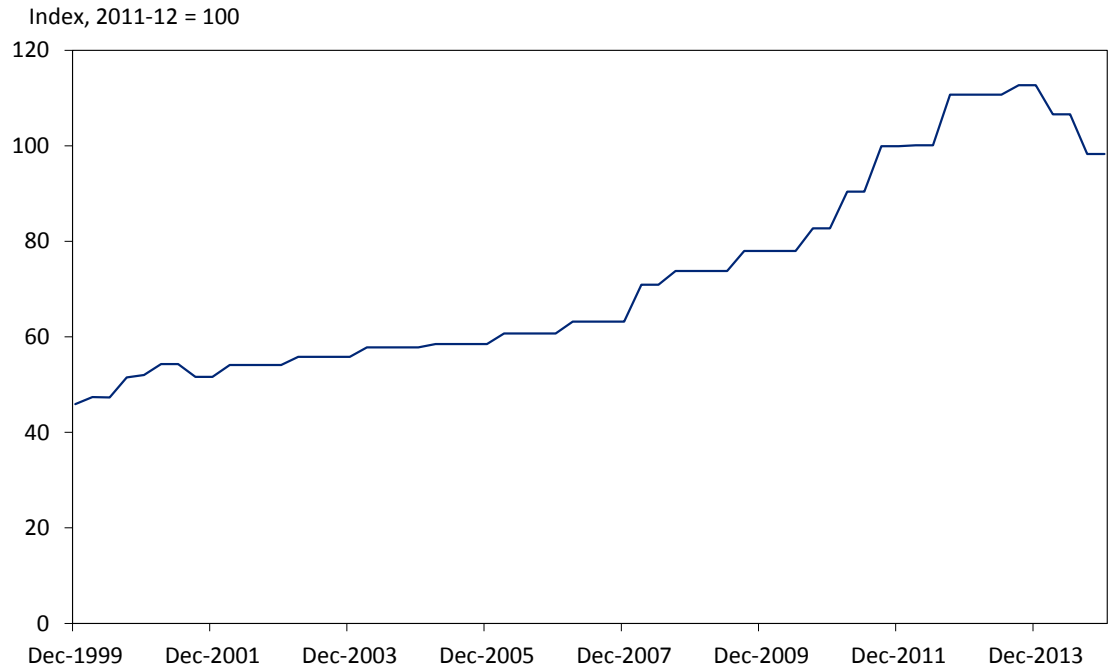
Forecasting growth rates based on a point-to-point comparison of results can amplify that volatility. **Deloitte Access Economics recommends that it is better to concentrate on the long run, underlying trends indicated in Chart 5.3.**

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.

Across the forecast period, low utilities output growth and falling electricity demand will limit jobs and wage growth in Tasmania's utilities sector. New renewable energy projects had been

expected to boost utilities output in coming years, but both the $2 billion wind farm on King Island and a $200 million wind farm at Granville Farm have been shelved in recent years. Coupled with a modest electricity demand outlook, output growth in the Tasmanian utilities will continue to be modest, limiting jobs growth and wage growth.

Chart 5.4: Hobart electricity prices

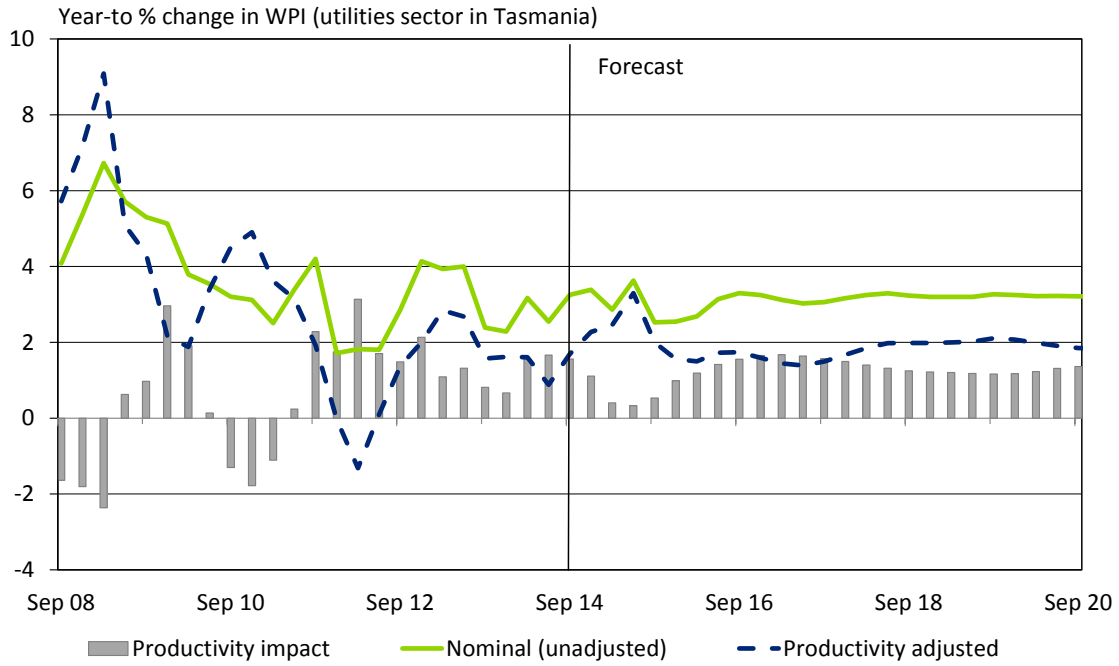


Source: ABS, 6401.0 *Consumer Price Index*, Australia.

As Chart 5.4 above shows, like the other NEM regions, Hobart has experienced high price rises over the last decade and consumers have responded by curtailing their energy consumption. As expected, the removal of the carbon tax has seen a reduction in electricity prices, however, this was a one off event.

Deloitte Access Economics does expect these price trends to moderate to degree due to the removal of the carbon tax and reforms to network pricing arrangements and reliability standards, government policy is only part of the story. In the near term the renewable energy target and the regulatory framework will continue to contribute to higher retail prices. In the near term, the price pressures on demand levels are likely to remain significant, although they should be less significant than in recent years. While energy costs remain relatively high and difficult for consumers to predict, consumer will continue to respond to prices and place downward pressure on utilities output and wages in the near term.

Chart 5.5: Tasmanian utilities WPI forecasts

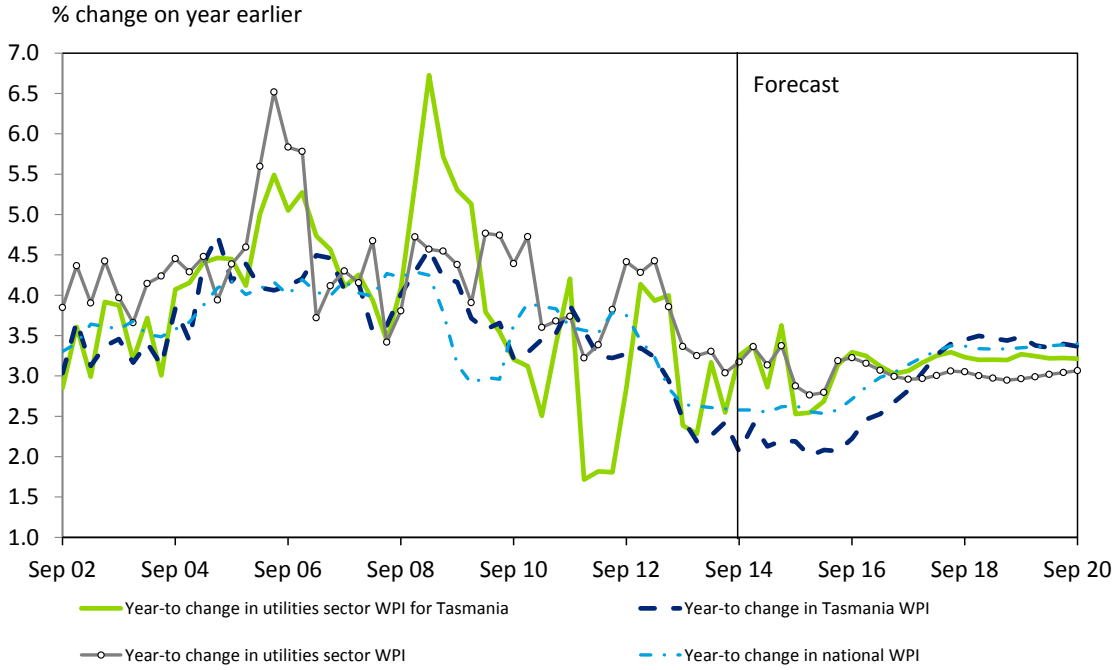


Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Chart 5.5 shows that Tasmania's WPI growth has fallen considerably since a high in 2008 but that fall in growth is forecast to moderate at around current levels. Despite moves to boost investment in Tasmania and a lower Australian dollar, the outlook for major power customers in manufacturing remains weak. Combined with the closure of a number of mining projects and low levels of construction, greater availability of skilled workers will limit wage pressures across several sectors.

The long term outlook is for 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 remain around current levels. Overall, that means an easing in the State's utilities sector WPI as shown in Chart 5.6, from around 3.6% in mid-2015 to dip below 3% as wage growth in the sector moves into line with both State-wide and national sectoral trends by 2016. WPI growth will then moderate at a growth rate of 3.2% annually by mid-2020.

Chart 5.6: Tasmanian utilities forecast comparison



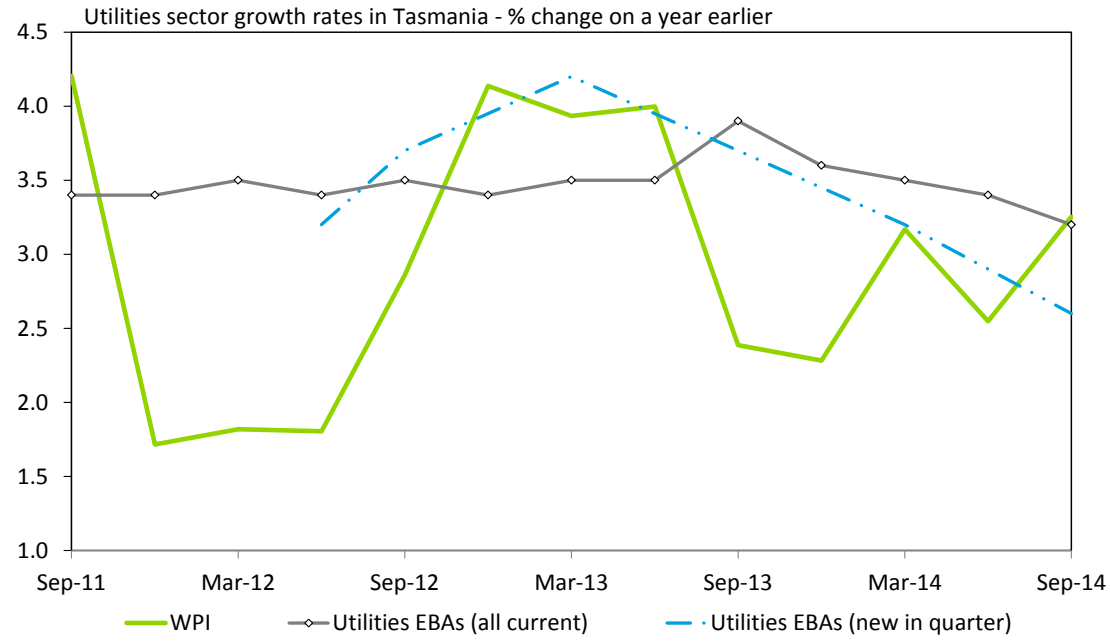
Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

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.

5.2.2 Comparison with EBA outcomes

Chart 5.7 compares the growth in Tasmania's utilities sector WPI with partial results from Enterprise Bargaining Agreements. The latest data show a continued decline in the rate of wage rises included in new EBAs Tasmania. All current utilities sector EBAs grew at 3.2% in late 2014 and new EBAs growing at 2.6% in the year to late 2014 reflected the continued weakness in Tasmania's economy as well as lower demand for utilities.

Chart 5.7: Comparative measures of wage growth in Tasmanian utilities



Source: ABS, Department of Employment

Comparatively, the WPI estimates have picked up above the 3% level, while both EBA measures are still showing a downward trend. That said, the data for the most recent quarter covered a small number of workers – around 100 workers in the utilities sector in Tasmania.

5.3 The construction sector

Tasmania's population grew more slowly than its peers over the last 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, limiting residential construction.

There are some bright spots in the outlook for Tasmania, including some response from building approvals and housing finance to the low interest rates on offer. Initiatives at the State level 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.

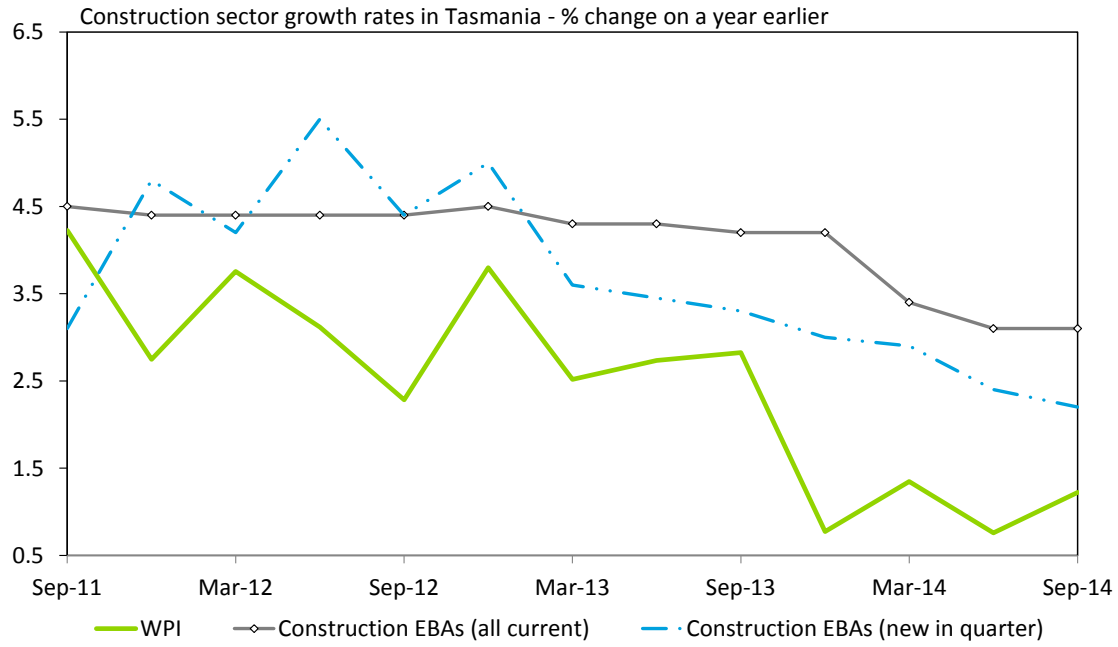
Engineering construction generally takes a smaller share of activity in Tasmania than it does in the mainland States, but the Apple Isle's recent performance has been better. Work on the $500 million Midlands highway upgrade has begun. After a trough in early 2013, the value of work underway and in the pipeline in Deloitte Access Economics' *Investment Monitor* database is almost back to peak levels seen before the GFC. However, these levels are rising from a very small base.

Commercial construction activity took a hit with the decision to put site works on the Royal Hobart hospital development on hold for six months. Plans for the $2 billion King Island wind

farms were scrapped, and the expected start date for the $500 million Central Highlands windfarm was pushed back into 2015. Other projects are progressing such as the $100 million Icon shopping centre in Hobart and the Launceston General Hospital upgrade.

New and current EBAs in late 2014 reflect the weakness in the construction sector of Tasmania. Wages growth for all current construction EBAs was flat at 3.1% as a change on the year earlier. Wages growth for new EBAs which are a barometer for future wage growth was down to 2.2% growth from a year earlier. The September 2014 WPI (which is more volatile than EBA wage growth) was up to 1.2% from a year earlier. The gap in the growth between the construction sector WPI compared to EBAs is reflective of the lagged bargaining that occurs under EBAs and strength of unions in the construction sector.

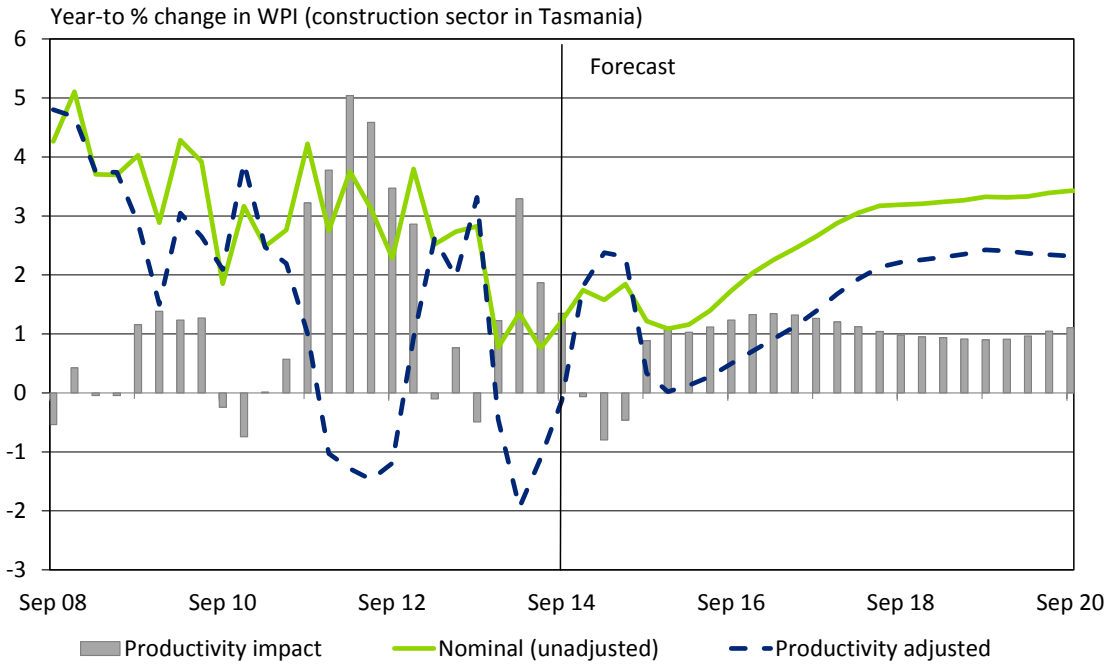
Chart 5.8: Comparative measures of wage growth in Tasmanian construction



Source: ABS, Department of Employment

Turning to the forecasts, weakness in construction sector wages is expected to fade in the medium term. The growth in wages comes from higher levels of productivity rather than stronger underlying wage pressure in the sector due to expanding output.

Chart 5.9: Tasmanian construction WPI forecasts



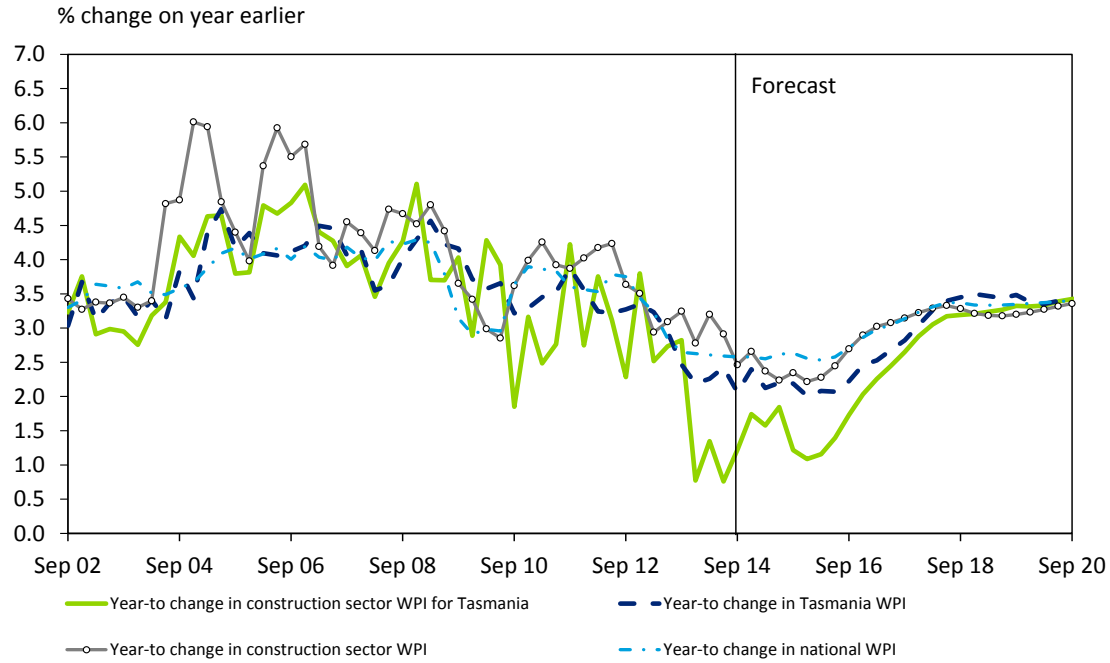
Source: ABS, Deloitte Access Economics estimates, Deloitte Access Economics labour cost model

Char 5.9 shows that productivity in Tasmania's construction sector will fall in the near term, brining wage growth down through 2016 as investment and construction continues to contract in Tasmania. From late 2016 over the medium term the investment and construction cycle is then forecast to improve lifting productivity and wages growth to around 3.3% annually by mid-2020.

As Chart 5.10 shows, the resulting forecasts for construction wages in Tasmania see a notable improvement ahead, though that improvement will:

- come off a very low base, and
- 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 5.10: 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 average in 2017 to settle at around 3.3% by mid-2020.

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.

5.4 Summary results

Forecasts for sectoral wage growth in Tasmania are shown in Table 5.1. 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	2.3	2.2	2.1	2.5	3.1	3.5	3.4
Utilities	3.7	2.6	3.3	2.7	3.2	3.2	3.2	3.2
Construction	2.8	1.4	1.6	1.2	2.1	2.9	3.2	3.3
Admin services	3.4	2.6	2.5	2.6	2.2	2.7	2.9	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	0.6	-0.7	-0.4	0.6	1.0	1.0
Utilities	2.6	0.1	1.7	-0.1	0.3	0.7	0.7	0.8
Construction	1.7	-1.1	0.0	-1.6	-0.7	0.4	0.8	0.9
Admin services	2.2	0.1	0.9	-0.2	-0.6	0.2	0.4	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	2.3	0.0	4.5	1.1	1.0	1.1	1.1	1.4
Utilities	2.2	1.4	2.4	1.7	1.5	1.7	2.0	2.0
Construction	1.1	-0.1	1.6	0.2	0.8	1.8	2.3	2.4
Admin services	2.0	0.6	0.9	1.7	0.7	1.3	1.8	2.0

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	1.2	-2.4	2.9	-1.7	-1.8	-1.4	-1.3	-0.9
Utilities	1.1	-1.1	0.8	-1.1	-1.3	-0.7	-0.4	-0.3
Construction	0.0	-2.5	0.0	-2.6	-2.0	-0.7	-0.2	0.0
Admin services	0.9	-1.9	-0.7	-1.1	-2.1	-1.1	-0.6	-0.3

Source: ABS, Deloitte Access Economics labour cost model

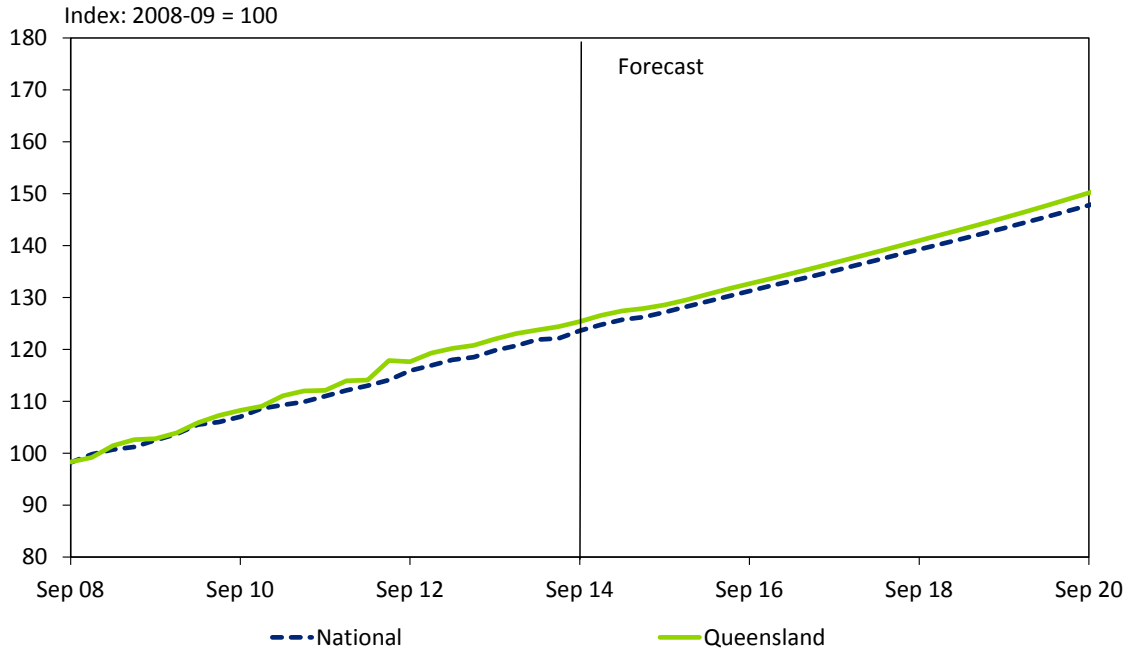
6 Queensland wage growth forecasts

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

6.1 State trends

As the earlier discussion notes, national trends tend to dominate movements in wages by State.

Chart 6.1: Utilities sector WPI forecasts – national, Queensland



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

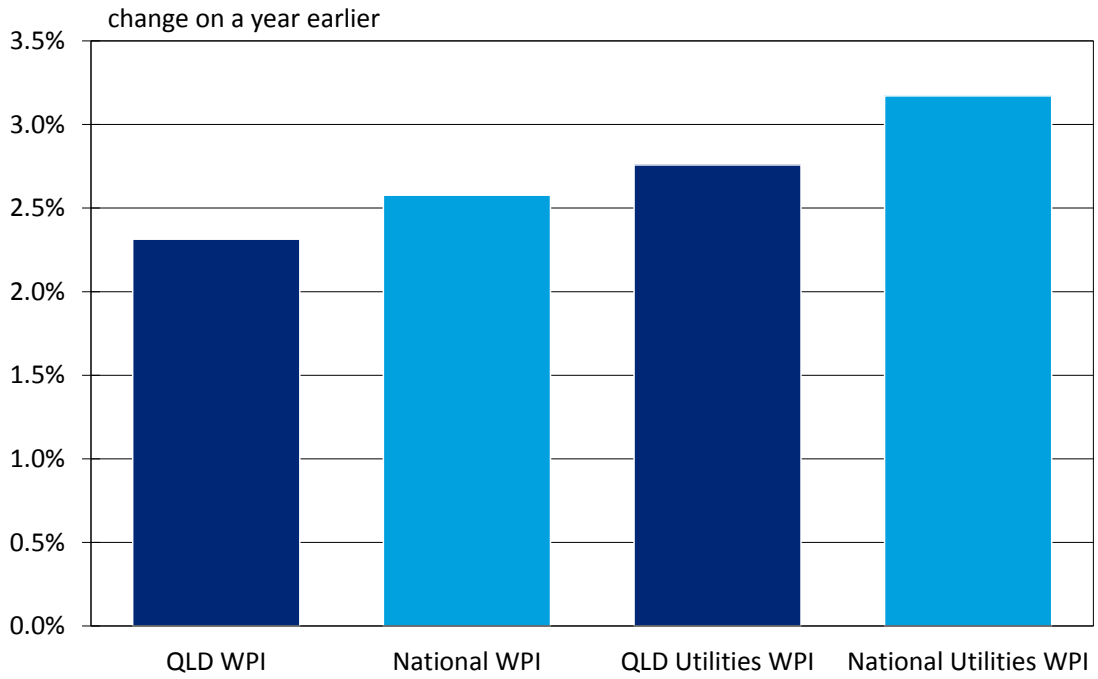
While Queensland has seen wages in the utilities sector rise and fall relative to their national counterparts over recent years, the broad trends remain similar to those of other States.

6.2 The utilities sector

As Chart 5.2 illustrates, wage gains in Queensland have fallen slightly 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.

That is also true of the utilities sector, where Queensland's estimated 2.8% growth figure means that the State's utilities sector wage gains are also slightly lower than is currently being seen nationally.

Chart 6.2: Comparative WPI growth rates in 12 months to September 2014

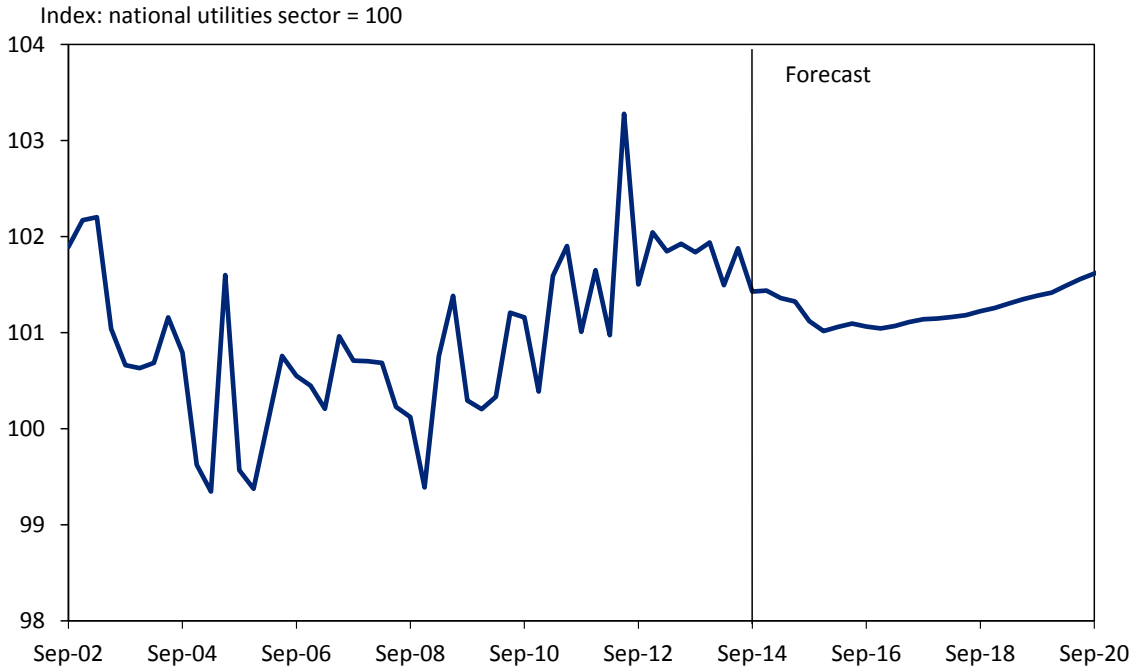


Source: ABS

The slowdown in relative utilities sector wage growth in Queensland reflected a relatively weak outcome for Queensland's utilities sector wage growth in the latest quarterly figures.

Deloitte Access Economics sees relative utilities wages in Queensland continuing to fall back over the next twelve months, as seen in Chart 6.3. Further ahead, relative utilities wage gains in Queensland are expected to outperform once again.

Chart 6.3: Relative utilities WPI forecast for Queensland



Source: ABS, Deloitte Access Economics labour cost model

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. 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 on the longer running underlying trends indicated in Chart 6.5**.

The forecasts suggest that the moderation in the growth in wages for utilities workers in Queensland (relative to the national average) that has become apparent in the past two years is set to continue over the course of 2015.

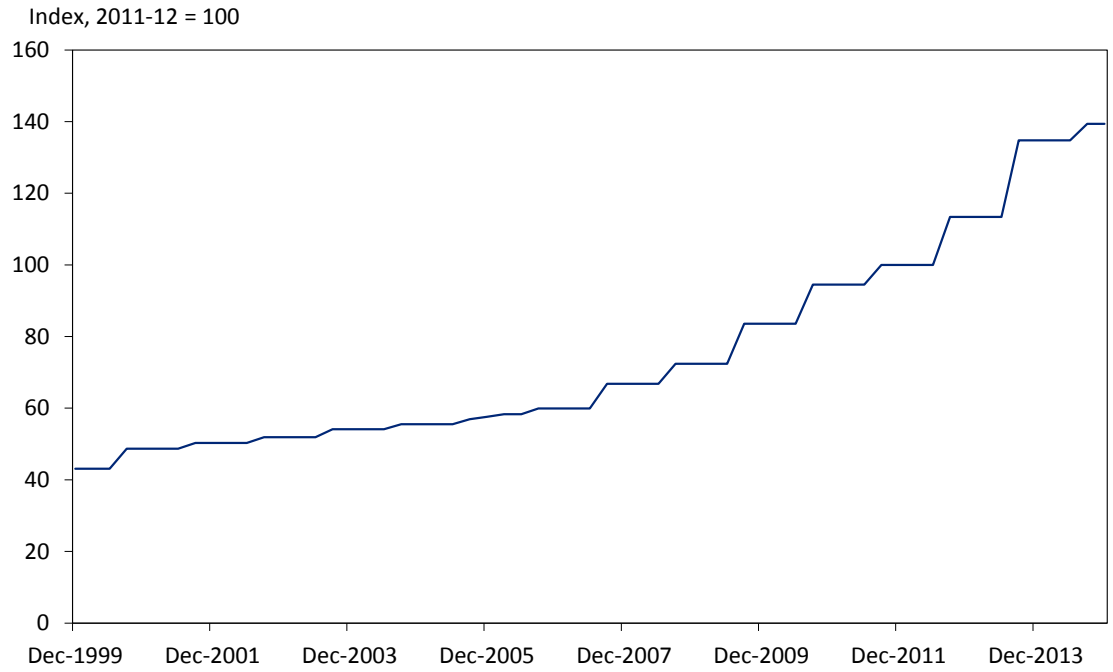
That comes against a backdrop of an easing of competition for workers from both the mining and construction sectors. Falls in coal prices have dealt a blow to the economics of coal mining in the State, while recent falls in energy prices are doing the same for the oil and gas sector. These developments have meant that new mining developments in the State are now less likely to go ahead. Although construction on several mega-gas projects that are already underway is continuing, a broader downturn in the sector is helping to reduce wage pressures in the utilities.

To some extent, the demand for the output of the utilities sector in Queensland is also being influenced by these factors, with the diminished prospects for coal mining likely to imply reduced energy demand than might otherwise be the case.

In contrast, the residential construction sector in Queensland is strengthening. The relatively strong recovery in the sector is due to the significant 'under-building' of new homes in recent years, with the current period of catch-up helping to lift demand for new connections over time. The outlook is positive, but expectations have eased lately, with slumping levels of inward migration meaning that the rate of Queensland's population growth has slowed sharply – even dropping back below the national average for the first time in many years.

Chart 6.4 indicates that Brisbane electricity prices have seen strong rises in recent years. As discussed earlier in this report in other capital cities, some factors that drove these increased have recently been eliminated as a generator of upward pressures on prices (such as carbon pricing) or may fade over time. However, other factors (such as targets for reliability of supply) may remain an issue. Overall, the price pressures on demand levels are likely to remain, although they should be less significant (and less likely to drive such rapid increases).

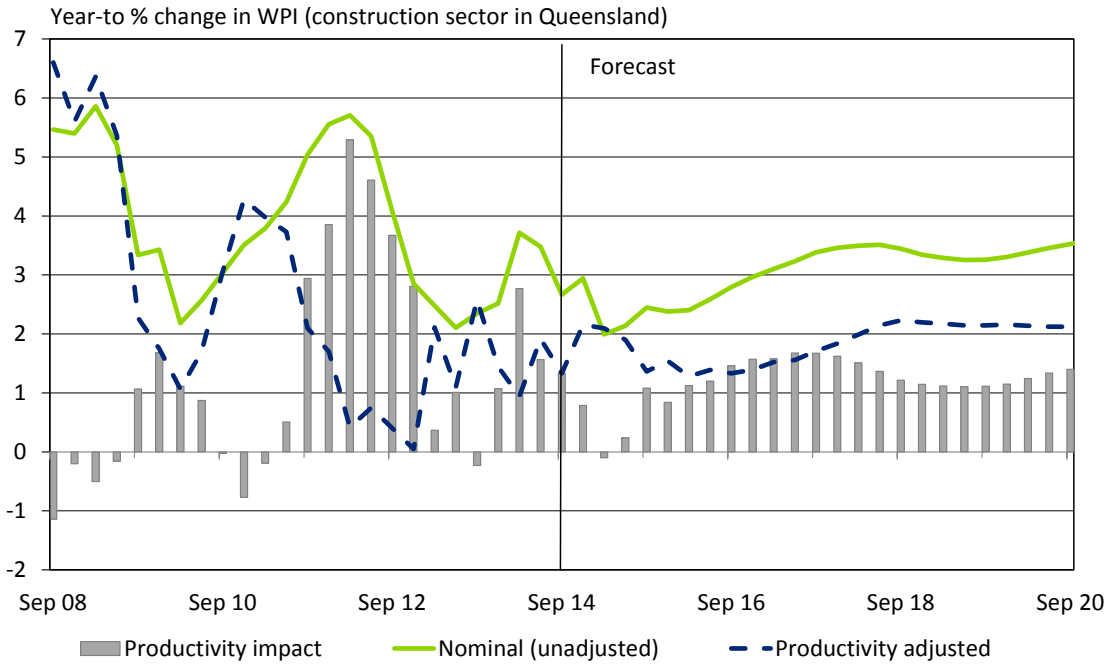
Chart 6.4: Brisbane electricity prices



Source: ABS, 6401.0 Consumer Price Index, Australia

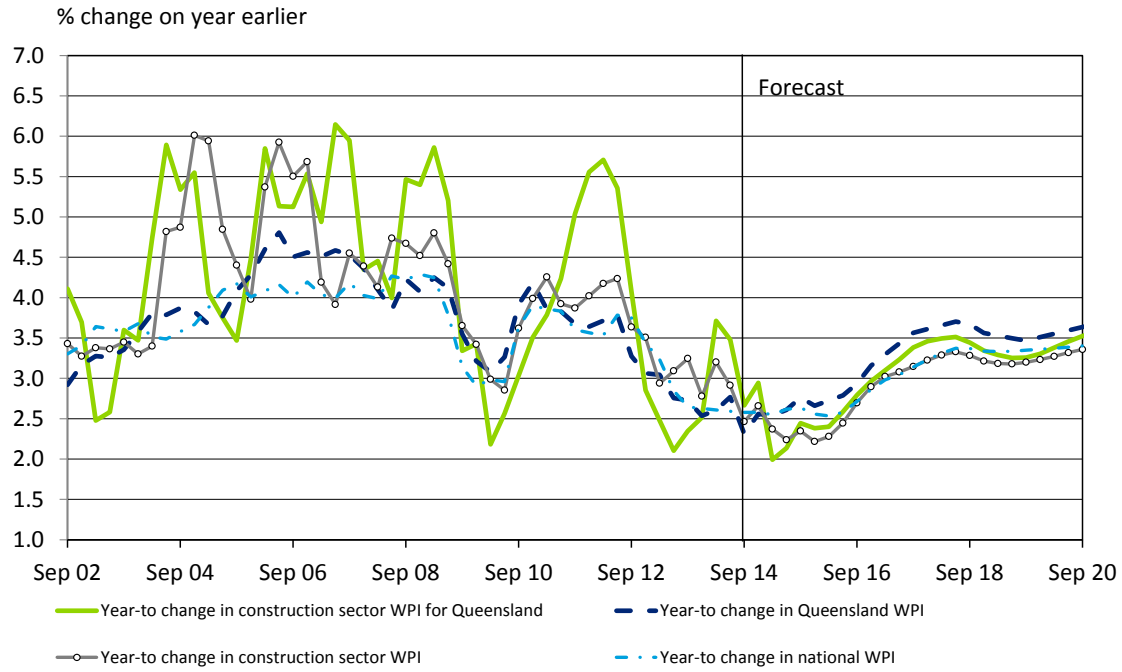
Chart 6.5 shows that Queensland's utilities sector wage growth is expected to further moderate in the near term in light of these factors. A recovery to a more solid rate of growth is then expected over the forecast period. However, utilities sector wage growth in Queensland is expected to remain broadly lower than it was during the period of the mining construction boom of recent years.

Chart 6.5: Queensland's utilities WPI forecasts



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

Chart 6.6: Queensland utilities forecast comparison



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

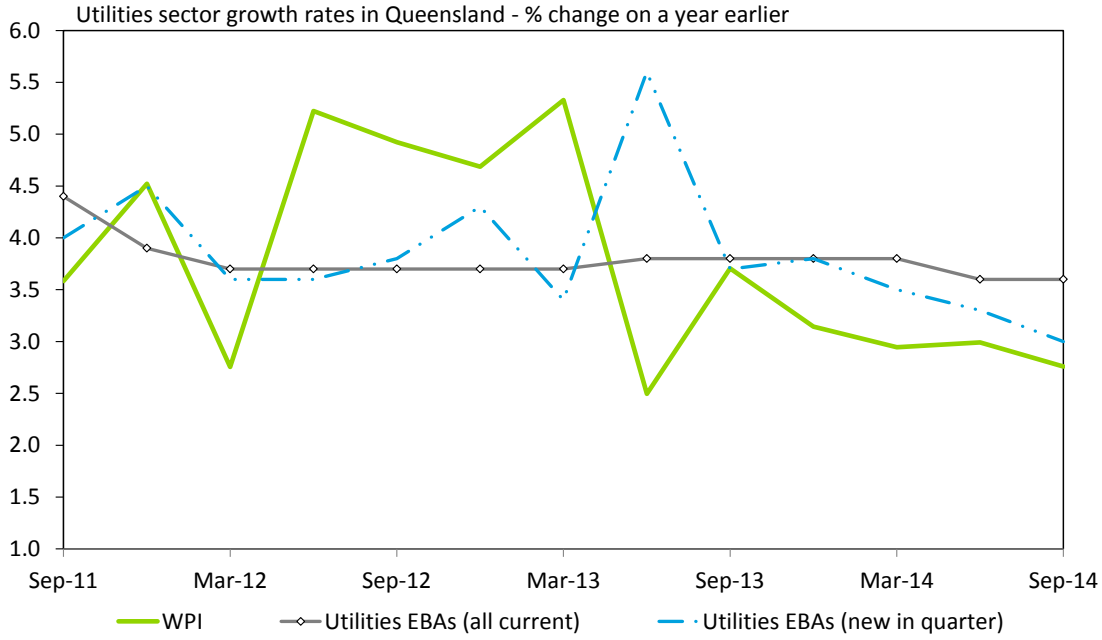
Finally, Chart 6.6 shows that Queensland's utilities sector wage growth is expected to be slightly weaker than Queensland's overall wage growth over time. That reflects a view that some of the relative wage gains made by the Queensland utilities sector in recent years will be given up, with those wage differentials within Queensland diminishing. This is expected to

occur even as utilities sector wage growth in Queensland outpaces the national utilities sector wage growth.

6.2.2 Comparison with EBA outcomes

Chart 6.7 compares the growth in Queensland's utilities sector WPI with partial results from Enterprise Bargaining Agreements. The latest data suggest an easing in wage rises included in new EBAs, a trend that has now been seen for the last three quarters. That is now flowing through into a slight easing in wage rises in all current EBAs, and is consistent with the recent moderation seen in WPI growth for the Queensland utilities sector.

Chart 6.7: Comparative measures of wage growth in Queensland utilities

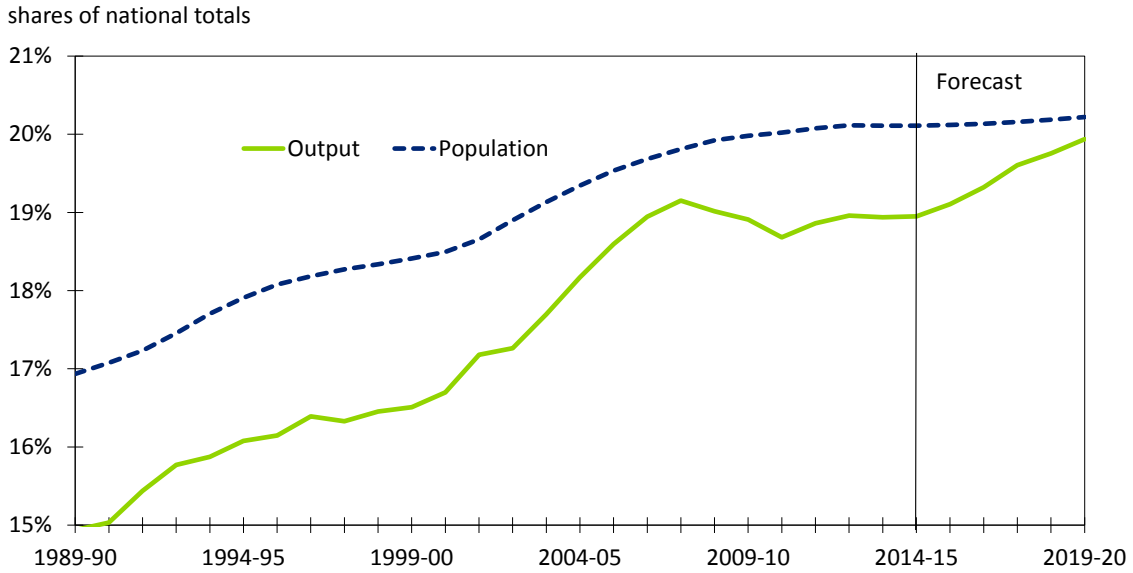


Source: ABS, Department of Employment

6.3 The construction sector

Australia's resource construction boom of recent years has largely been centred in Queensland and in Western Australia. Queensland's construction sector has therefore outpaced its national counterpart for some time now, with that gap evident both in activity and in wage growth over time. While the winding down of the resource construction boom will weigh heavily on Queensland's construction sector, there is an important offset in the way of lifting residential construction activity in the State.

Chart 6.8: Forecasts of Queensland population and output



Source: ABS, Deloitte Access Economics forecasts

A decade ago Queensland accounted for more than one-sixth of total capital investment in the nation, ranking below the value of work in NSW and around two-thirds of the value of work in WA. Today, Queensland accounts for around 28% of total investment activity in Australia and holds the largest share of investment of any single State. Engineering construction activity boomed on the back of high commodity prices, and just as coal sector investment looked to soften, the emergence of big gas projects more than took up the slack. Indeed, for the first time on record, Deloitte Access Economics' *Investment Monitor* data shows planned and definite capital investment in Queensland has moved past $250 billion.

Big gas projects are doing most of the heavy lifting in that total, and the three of those underway (Origin's $24.7 billion Australia Pacific LNG project off the coast of Gladstone; the $20 billion Curtin LNG project; and Santos' $16 billion coal seam facility at Gladstone) combine to account for over 1 in every 4 dollars spent on investment projects (both engineering and commercial) in Queensland.

Then again, this ship is turning. Although current dollars are massive, future ones look dicey.

For example, Hancock's $6.9 billion Alpha coal project has taken another big step sideways, with its construction now slated to commence late in 2015. However, without a marked turnaround in prices we may see further delays to the commencement dates of this and other coal projects in the State.

Public money is supporting a number of major transport projects. However, the transport sector has seen a number of delays on projects underway and plans for a $5 billion underground bus and train tunnel in Brisbane have been delayed by a year.

The resources boom gave Queenslanders a generous (if indirect) pay rise. Money was abundant and it seemed resource companies were willing to pay almost anything to attract the right people. Queensland's economy – and Queenslanders themselves – responded and spent up big on everything from housing renovations to holidays. But times have changed. Income

growth in the Sunshine State is now well below its rivals. The economy is becoming less favourable for investment prospects in commercial construction. For the moment though, the legacy of the boom years is a pipeline of projects that would make any other State green with envy. Indeed the value of commercial projects in planning in Queensland stands shoulder to shoulder with the value of planned commercial projects in NSW, Victoria and WA combined.

That may well not last, even if only because a number of major project completions in the health sector may drag down commercial investment levels in the near future. But those are challenges for later. For now, commercial construction is in a healthy position.

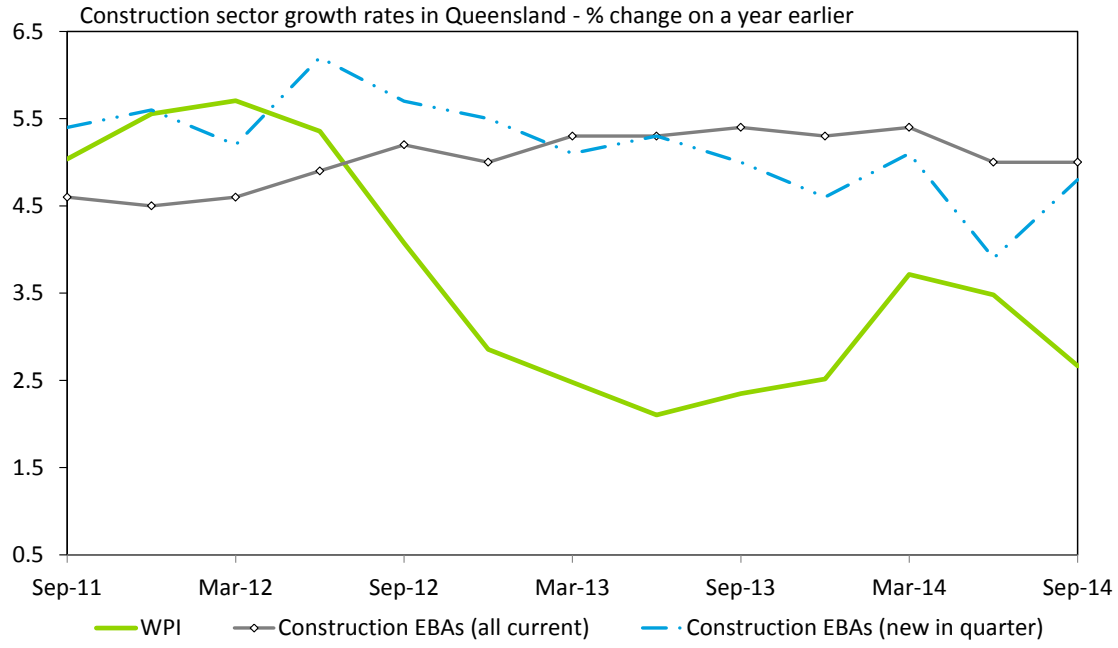
Finally, although house prices haven't screamed along in Brisbane to the same extent that they've done in Sydney or Melbourne, housing construction has accelerated more in the Sunshine State than it has in those southern States in the last couple of years.

So that's a good outcome – quantities needed to move more than prices anyway.

And a bunch of fundamentals still look pretty solid. Residential rental vacancy rates are still low, affordability looks fine relative to the rest of the nation, and housing commitments are stronger than they were. Yet the current upswing in the pace of building new homes and renovating old ones is looking a little less assured than it was. Building approvals are levelling out and, most importantly, population growth is amid a pretty substantial shakeout.

So there's still plenty of growth in housing construction ahead, but not as much as was earlier hoped.

Chart 6.9: Comparative measures of wage growth in Queensland construction

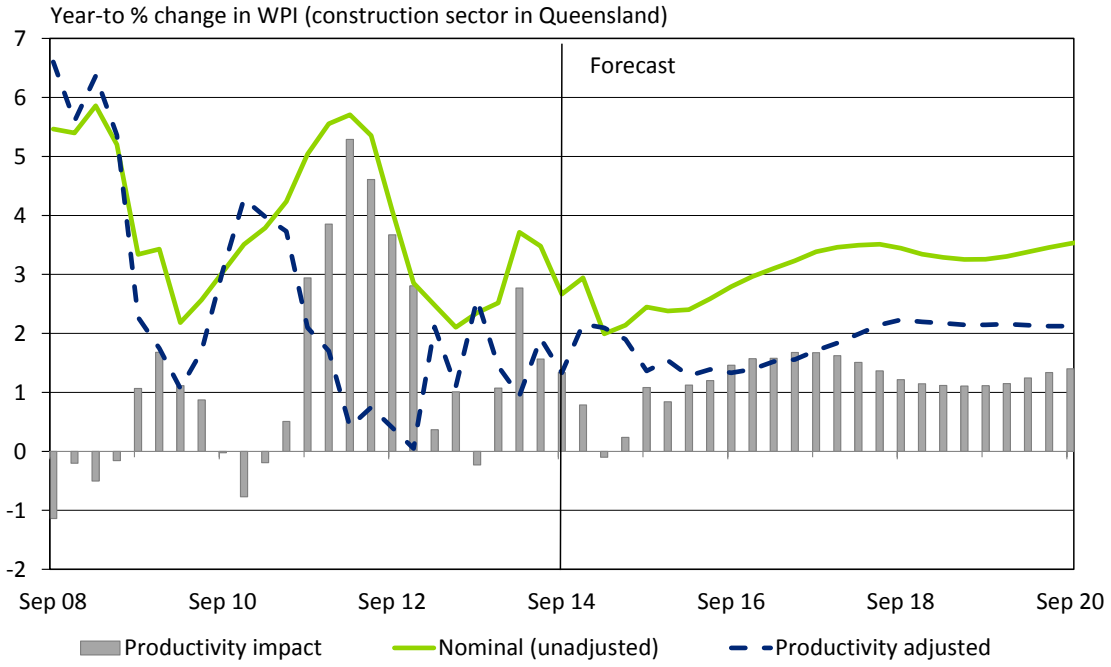


Source: ABS, Department of Employment

Overall, that leaves Queensland's construction sector still seeing reasonable activity levels in the immediate term, but with the prospect of further reductions in construction sector activity as construction of the State's big gas projects reach completion. The demand for construction

workers is therefore likely to be less than it was during the boom years – despite the strength now being seen in residential construction – meaning that the outlook for wages in the sector is also now more modest.

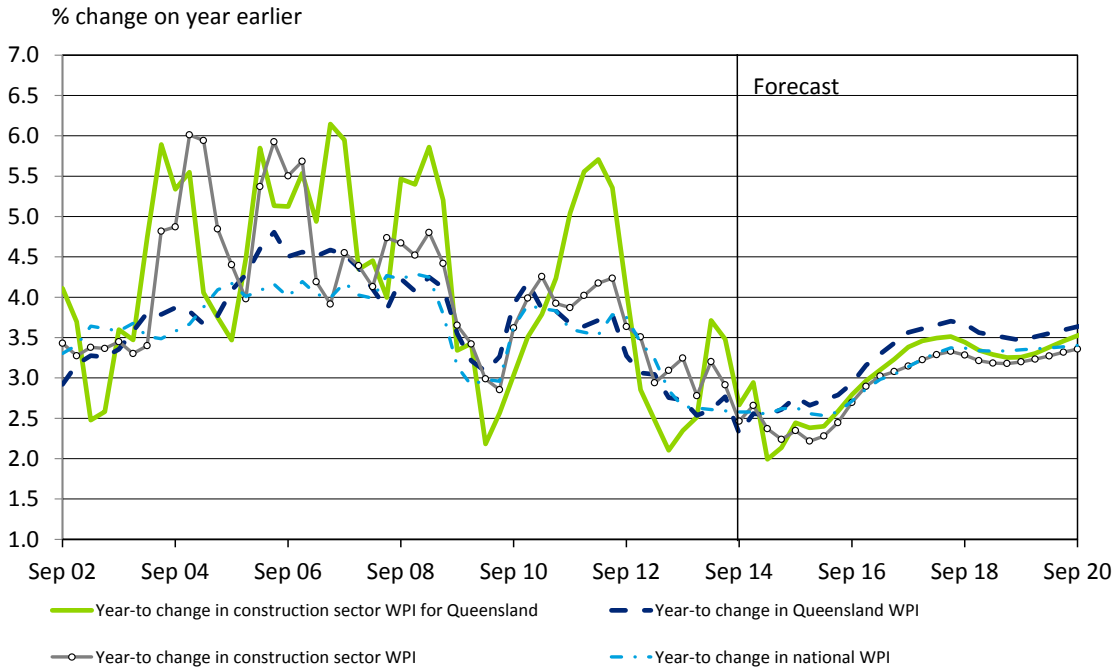
Chart 6.10: Queensland's construction WPI forecasts



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

Lower expectations for construction sector wage growth in the post-boom period match lower expectations for overall wage growth in the State, with construction sector wages lagging behind overall wage growth.

Chart 6.11: Queensland construction forecast comparison



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

Finally, Chart 6.7 compares the growth in Queensland's construction sector WPI with partial results from Enterprise Bargaining Agreements. The latest data suggest an easing in wage rises included in new EBAs, a trend that has broadly been underway for over two years. (A slight uptick in wage rises was seen in the September quarter of 2014, but the average wage rise remained below its level of two years ago). That is also now translating into signs of easing in wage rises under all EBAs. The softer EBA outcomes are consistent with the moderation seen in WPI growth for the Queensland construction sector.

6.4 Summary results

Forecasts for sectoral wage growth in Queensland are shown in Table 6.1. Forecasts include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 6.1: Queensland wage forecasts

Financial year changes in Queensland nominal Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.0	2.7	2.5	2.7	3.2	3.6	3.6	3.5
Utilities	4.3	3.2	2.9	2.6	3.1	3.1	3.1	3.2
Construction	2.9	3.0	2.4	2.5	3.0	3.5	3.3	3.4
Admin services	2.1	1.3	2.4	3.0	2.8	3.1	2.9	3.3

Financial year changes in Queensland real Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.0	-0.1	0.3	-0.1	0.2	1.0	1.0	1.0
Utilities	2.3	0.4	0.6	-0.2	0.1	0.5	0.5	0.7
Construction	0.9	0.2	0.2	-0.4	0.0	0.8	0.8	0.8
Admin services	0.1	-1.4	0.2	0.2	-0.1	0.5	0.3	0.8

Financial year changes in Queensland 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	0.7	1.7	0.8	1.6	0.7	0.6	1.4	1.2
Utilities	2.5	2.2	1.5	1.5	1.3	1.3	1.7	1.7
Construction	0.9	1.7	1.9	1.4	1.5	1.9	2.2	2.1
Admin services	0.4	-0.3	0.5	2.1	1.1	1.4	1.6	2.0

Financial year changes in Queensland 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	-1.3	-1.1	-1.4	-1.2	-2.2	-1.9	-1.2	-1.2
Utilities	0.5	-0.6	-0.7	-1.3	-1.7	-1.3	-0.8	-0.7
Construction	-1.1	-1.0	-0.3	-1.4	-1.5	-0.7	-0.4	-0.4
Admin services	-1.5	-3.0	-1.7	-0.7	-1.8	-1.1	-0.9	-0.5

Source: ABS, Deloitte Access Economics labour cost model

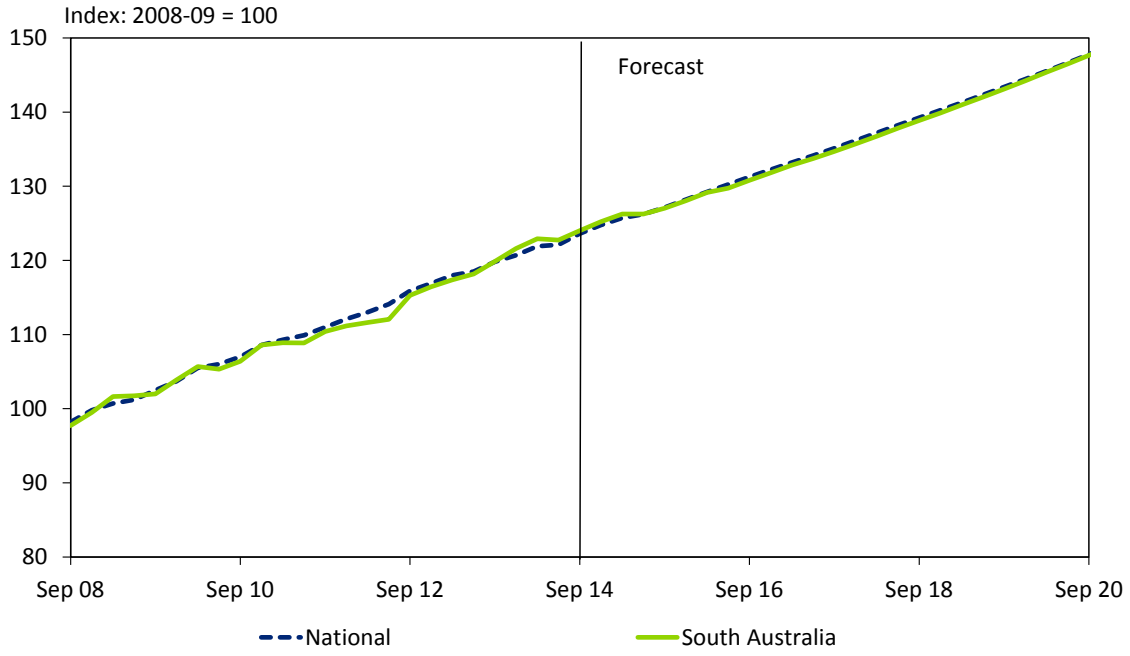
7 South Australian wage growth forecasts

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

7.1 State trends

As the earlier discussion notes, national trends tend to dominate movements in wages by State.

Chart 7.1: Utilities sector WPI forecasts – national, South Australia



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

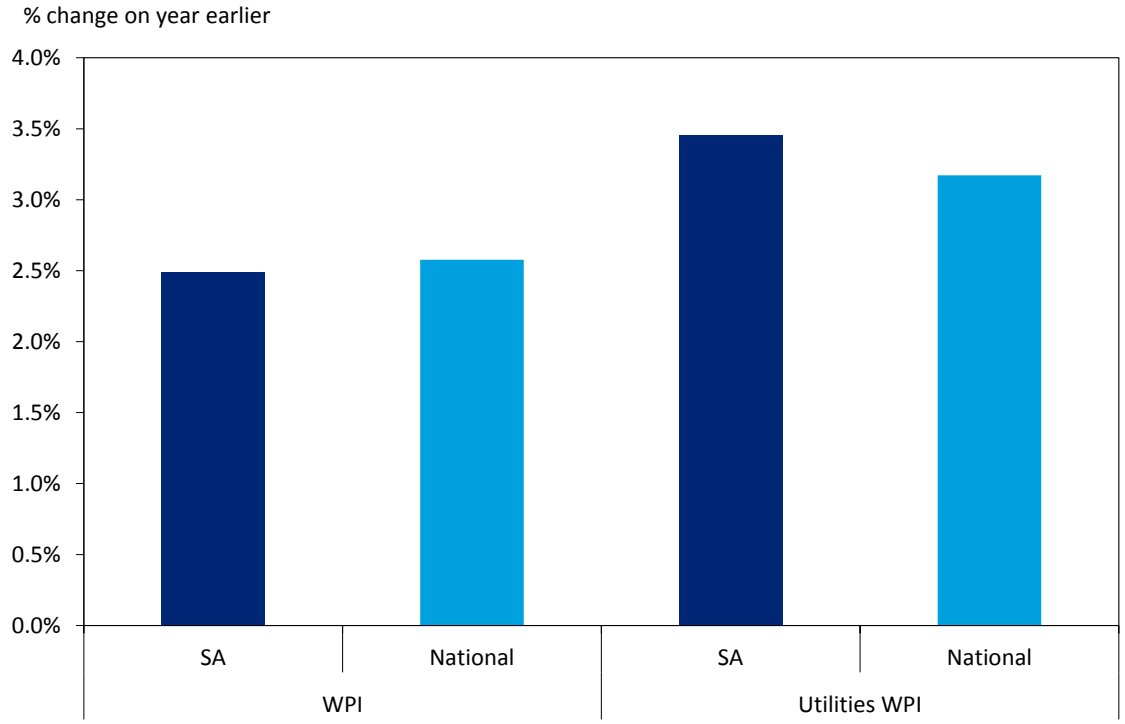
While South Australia has seen wages in the utilities sector rise and fall relative to their national counterparts over recent years, the broad trends remain very similar to those of other States.

7.2 The utilities sector

As Chart 7.2 illustrates, overall wage gains in South Australia have been keeping pace with those of the nation as a whole over the past year. With growth in the South Australian WPI lying just 0.1 percentage points below the national figure, that suggests broad wage trends in keeping with those in other States.

Yet the same can't be said of the utilities sector, where South Australia's estimated 3.5% growth figure means the State is running ahead of national wage trends, even as utilities growth for the nation as a whole is seeing solid gains.

Chart 7.2: Comparative WPI growth rates in 12 months to September 2014



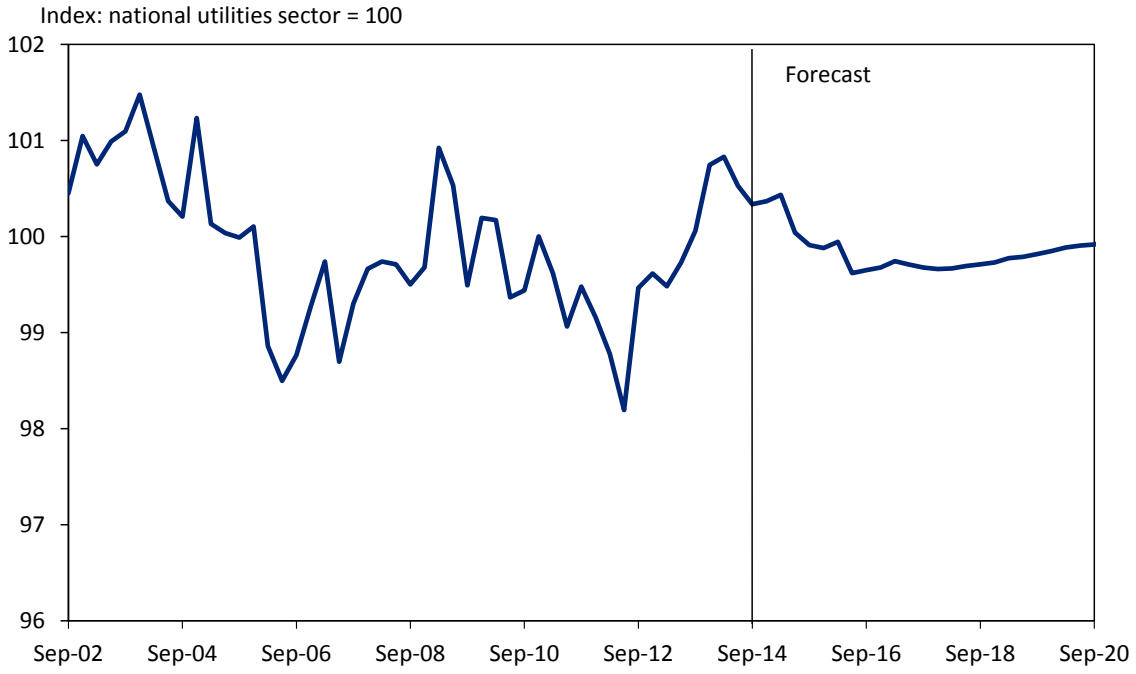
Source: ABS

But the latest quarterly figures for South Australia show something of a turning point for utilities wage growth, with the recent outperformance of the State giving way to slower growth in mid-2014.

That relative slowdown looks to have some way to go given the strong increases seen over the past two years.

Accordingly, Deloitte Access Economics sees relative utilities wages in South Australia gradually falling back toward their longer run average, as seen in Chart 7.3. That process will take some time, with the strong wage growth of recent times and a modest slowdown in wage growth going forward enough to see wages in the State remain relatively elevated for the next 12 to 18 months.

Chart 7.3: Relative utilities WPI forecast for South Australia



Source: ABS, Deloitte Access Economics labour cost model

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 South Australia, which is not only a smaller State, but one for which much of the relevant data must be estimated, rather than measured directly.

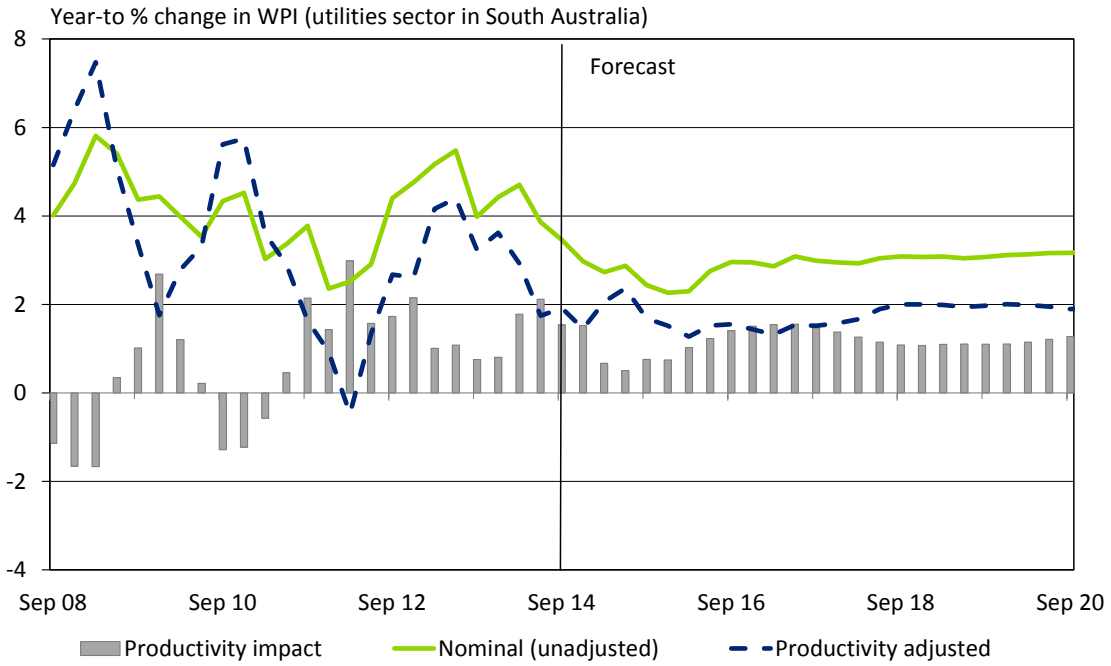
Forecasting growth rates based on a point-to-point comparison of results can amplify that volatility. **For that reason Deloitte Access Economics recommends that it is better to concentrate on the longer running underlying trends indicated in** Chart 7.4.

Those results suggest a period of relatively soft growth in wages for utilities workers in South Australia, with much of that weakness emerging over the course of 2015. That weakness comes amid an easing of competition for workers emerging from both the construction and mining sectors, which will help to reduce wage pressures in the utilities.

It is also a reflection of relatively weak business investment in the State. With businesses reluctant to expand their capacity, that suggests less demand for the electricity and gas needed to power growth in South Australia's industrial heartland.

Still, Chart 7.4 shows a relatively gradual easing from recent strength, rather than a sharp slowdown in wage growth.

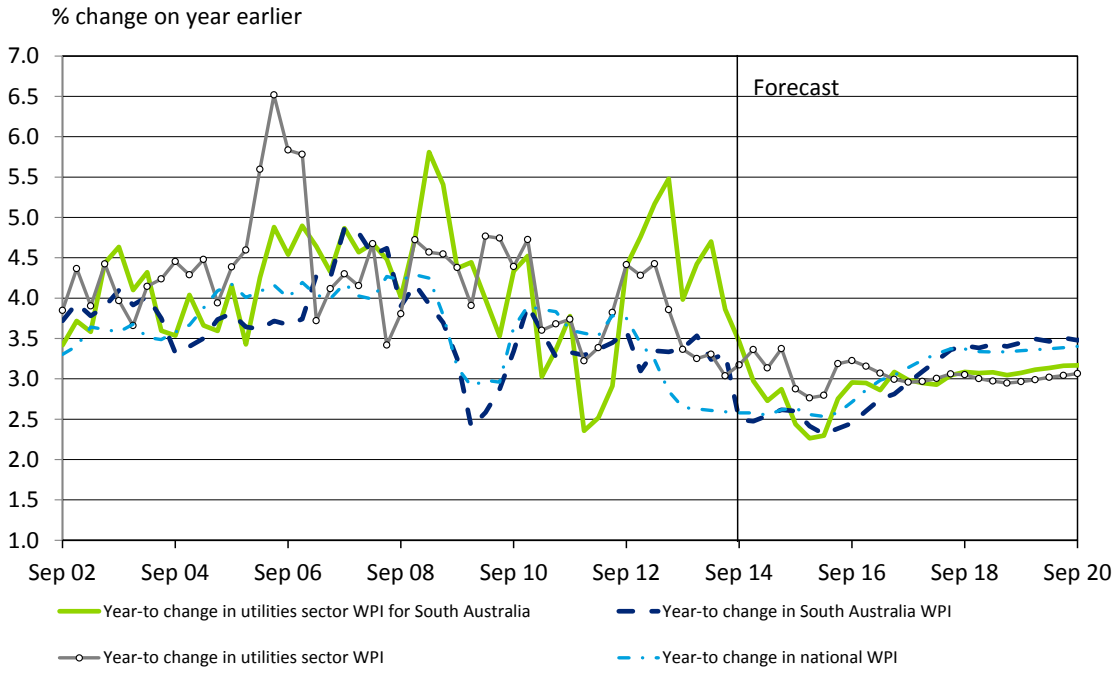
Chart 7.4: South Australia's utilities WPI forecasts



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

Indeed, utilities sector wages are predicted to outpace matching wage gains for the South Australian economy as a whole over this period, amid a more immediate wage slowdown in other sectors.

Chart 7.5: South Australia utilities forecast comparison



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

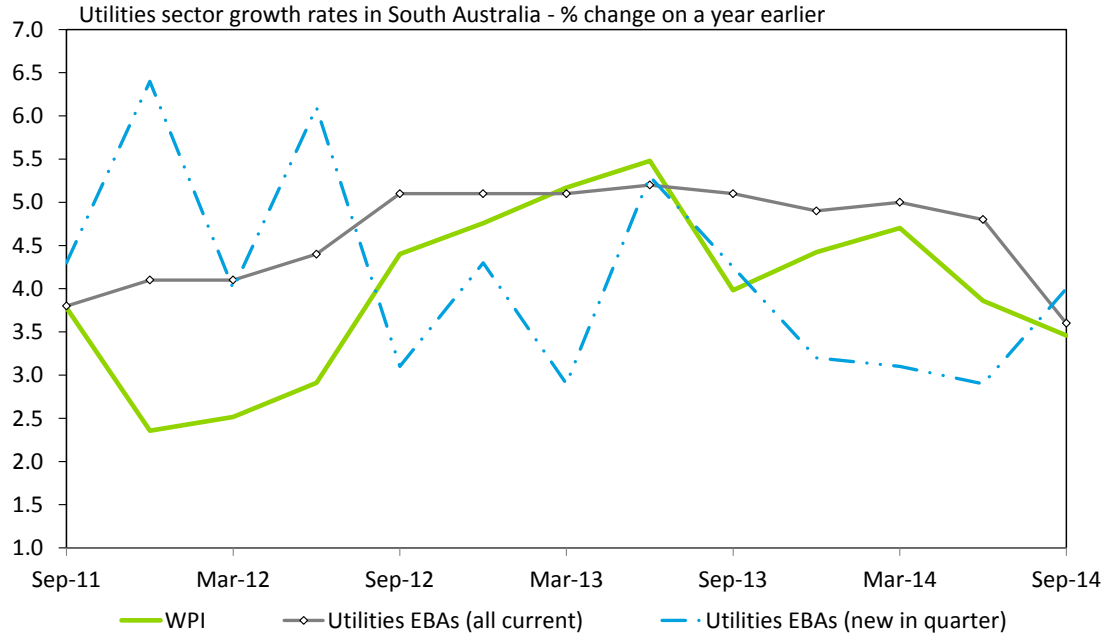
7.2.2 Comparison with EBA outcomes

Chart 7.6 compares the growth in the WPI for South Australia's utilities sector with partial results from South Australia's Enterprise Bargaining Agreements.

The latter are showing an uptick in wage rises in recent quarters, following a period of subdued growth in evidence for some time now.

That said, recent signs of life haven't been enough to offset the impact of some major past agreements dropping out in the September quarter of 2014, resulting in a notable reduction in growth across all in-force agreements in the latest data.

Chart 7.6: Comparative measures of wage growth in South Australia utilities

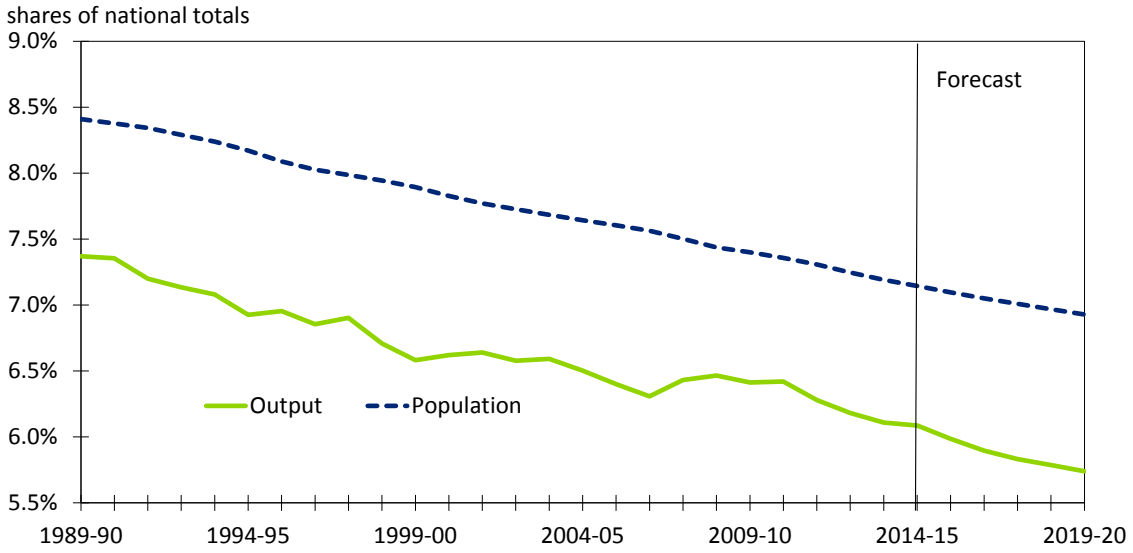


Source: ABS, Department of Employment

7.3 The construction sector

South Australia' construction sector has been struggling to keep pace with its national counterpart for some time now, with that gap evident both in activity and in wage growth over time. While South Australia has seen better news on population growth in recent times, ongoing population struggles continue to provide a backdrop to housing construction that is modest at best.

Chart 7.7: Forecasts of South Australia population and output



Source: ABS, Deloitte Access Economics forecasts

A softening of the outlook for housing construction is one factor weighing on wage growth in the State's construction sector, though recent interest rate cuts will help to support activity in the short term.

Non-residential construction is facing some disappointment over coming years. In part that reflects an economy in which businesses aren't looking too keen to invest in new capacity.

It is also the result of what has been an impressive pipeline of engineering construction beginning to run dry. Olympic Dam and the additional $18 billion worth of planned resource projects slated for the State are now squeezed between rapidly cooling commodity prices and the substantial cost increases of recent times. That will make it increasingly hard to attract investment money into its long list of planned resources projects.

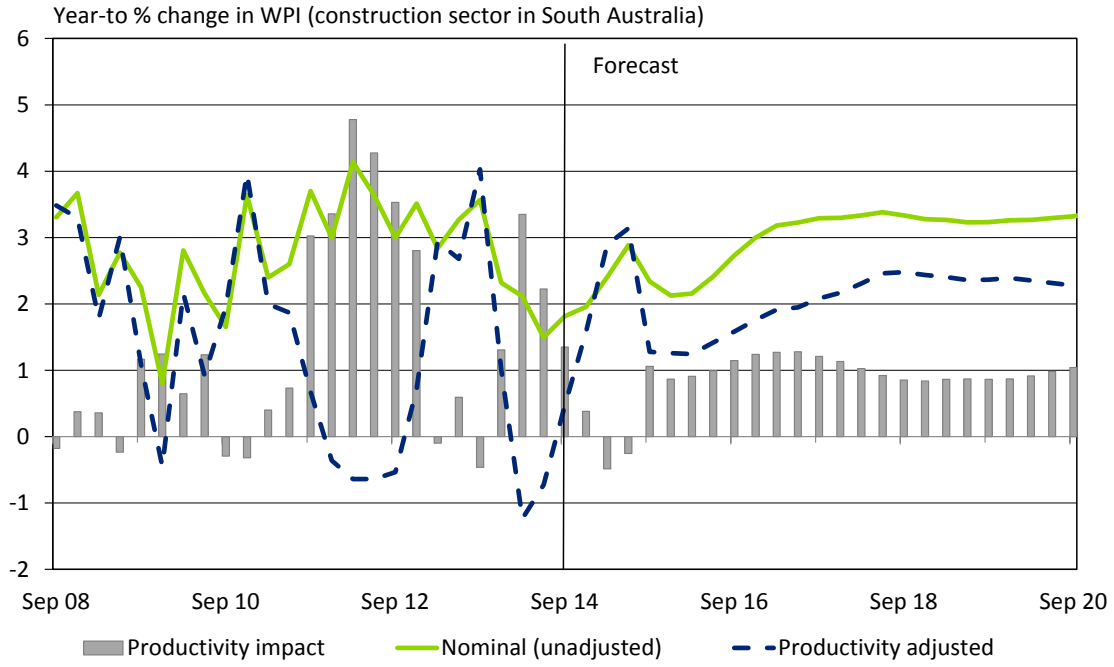
But for now the workload remains fairly healthy, led by work to upgrade the Port Pirie smelter at a cost of $514 million to begin later in 2015. Work is also on track on the $408 million duplication of the Southern Expressway, while the second stage development of the Snowtown wind farm is scheduled to wrap up shortly.

Meanwhile South Australia's commercial construction sector continues to struggle. Yet it isn't all doom and gloom. A number of projects entered the State's commercial construction pipeline in recent months, including a proposal to build a $200 million, 15 storey mixed use complex on the former Le Cornu site on O'Connell Street in Adelaide, as well as the new Kings Point Shopping and Entertainment complex. The latter is expected to cost $180 million and commence in the next year. The big dollars of public money are to be found in the health sector, including the Lyell McEwin hospital redevelopment, the stage 2 redevelopment of the Queen Elizabeth hospital, and the new Royal Adelaide hospital. These are all underway, with a combined cost of over $2.1 billion.

Overall, that leaves South Australia's construction sector lacking the sort of activity required to power wage growth, meaning the outlook for wages in the sector is modest at best.

That is a continuation of what has been a story of ongoing underperformance relative to national trends dominated in recent times by the resource states of Queensland and Western Australia.

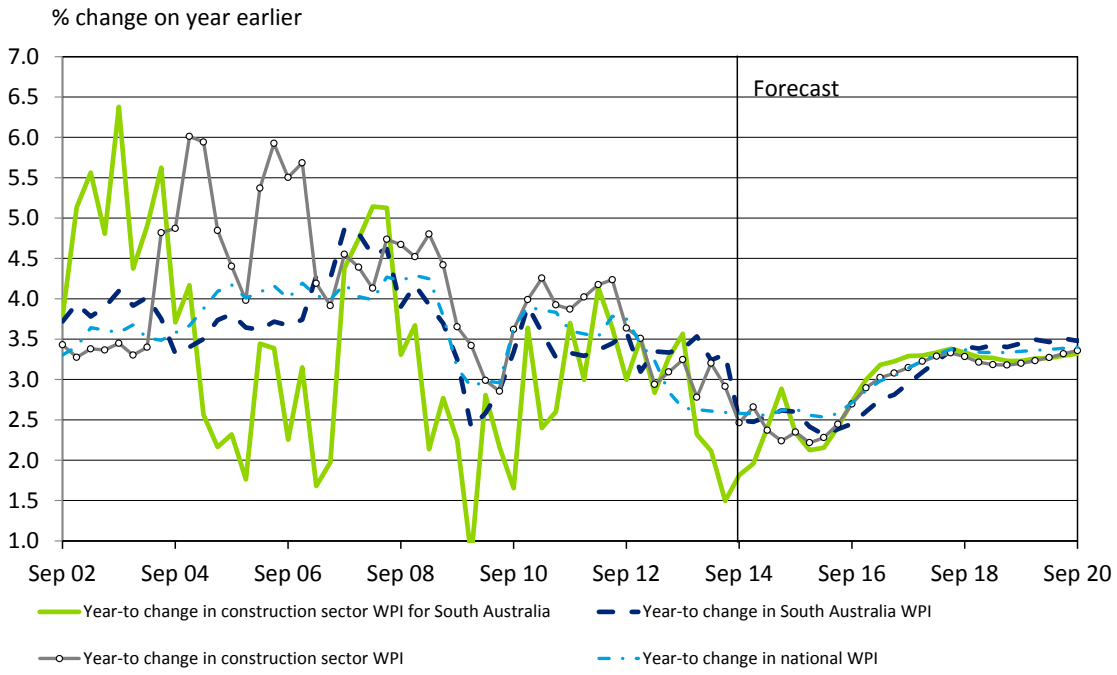
Chart 7.8: South Australia's construction WPI forecasts



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

It also broadly matches similarly low expectations for overall wage growth in the State, leaving construction sector wages lagging behind their utilities counterparts over the next year or two.

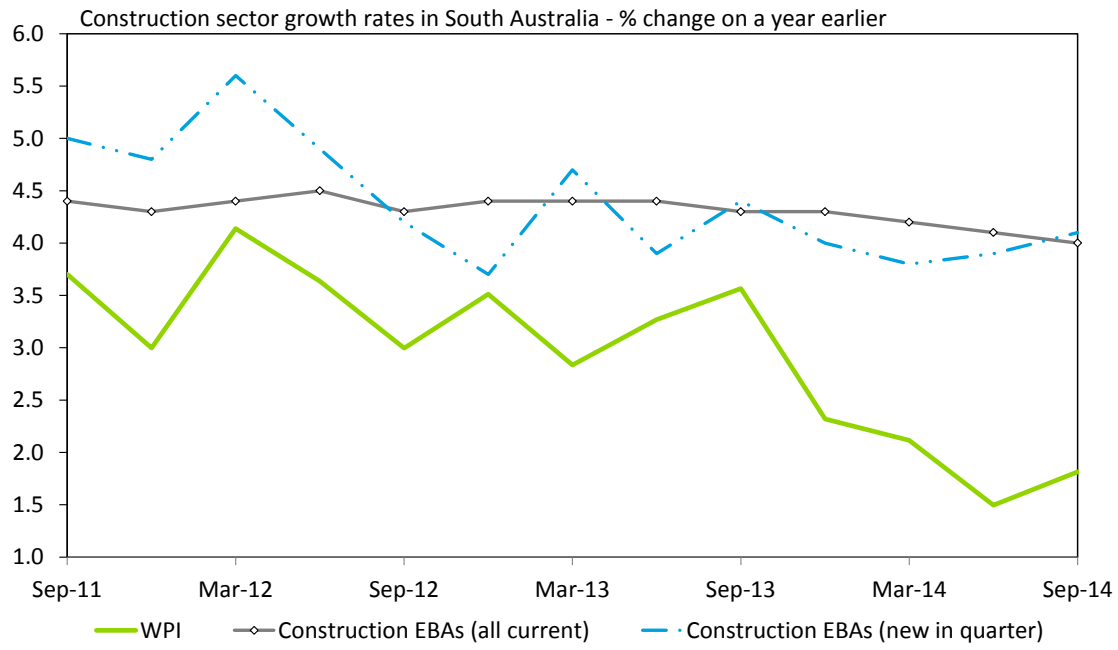
Chart 7.9: South Australia construction forecast comparison



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

Wage growth under EBAs in South Australia's construction sector have generally tracked well above broader industry wage trends, and that gap has widened further in recent quarters.

Chart 7.10: Comparative measures of wage growth in South Australia construction



Source: ABS, Department of Employment

That suggests some room for wage growth to pick up in the short term, and is part of the reason for an expected bounce back in wages through to mid-2015.

7.4 Summary results

Forecasts for sectoral wage growth in South Australia are shown in Table 7.1. Forecasts include real and nominal WPI, and real and nominal productivity adjusted WPI.

Table 7.1: South Australia's wage forecasts

Financial year changes in South Australia nominal Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	3.3	3.4	2.5	2.4	2.7	3.2	3.4	3.5
Utilities	5.0	4.2	3.0	2.4	3.0	3.0	3.1	3.1
Construction	3.2	2.4	2.3	2.3	3.0	3.3	3.3	3.3
Admin services	2.2	2.5	2.1	3.0	2.2	3.0	3.3	3.3

Financial year changes in South Australia real Wage Price aggregates

Annual % change	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
All industries	1.3	0.8	1.0	0.0	-0.1	0.7	0.9	1.1
Utilities	2.9	1.6	1.5	0.0	0.2	0.5	0.6	0.7
Construction	1.1	-0.2	0.7	-0.2	0.3	0.9	0.8	0.8
Admin services	0.2	-0.1	0.5	0.5	-0.5	0.5	0.9	0.9

Financial year changes in South Australia 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	2.4	0.5	1.9	1.8	1.8	2.2	2.3	2.3
Utilities	3.5	2.9	1.9	1.5	1.5	1.7	2.0	2.0
Construction	1.4	0.7	2.0	1.3	1.8	2.3	2.4	2.4
Admin services	0.9	0.4	0.3	2.1	0.9	1.8	2.3	2.2

Financial year changes in South Australia 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	0.4	-2.0	0.4	-0.6	-0.9	-0.3	-0.1	-0.1
Utilities	1.4	0.3	0.4	-0.9	-1.2	-0.7	-0.4	-0.4
Construction	-0.6	-1.8	0.5	-1.1	-0.9	-0.2	0.0	0.0
Admin services	-1.1	-2.1	-1.2	-0.3	-1.8	-0.7	-0.1	-0.1

Source: ABS, Deloitte Access Economics labour cost model

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Appendix A: Technical notes on WPI data and forecasts

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.

Table A.1 shows 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[5] have been calculated by the ABS. Beyond this point data is imputed.

Table A.1: Data availability by sector

State	Utilities	Construction	Admin Services
New South Wales	WPI	WPI	WPI
Victoria	WPI	WPI	WPI
Queensland	AWOTE	WPI	WPI
South Australia	AWOTE	AWOTE	WPI
Western Australia	AWOTE	WPI	WPI
Tasmania	Imputed only	AWOTE	Imputed only
Northern Territory	Imputed only	AWOTE	Imputed only
Australian Capital Territory	Imputed only	AWOTE	AWOTE

Source: ABS

Where utilities sector WPI is not published, Deloitte Access Economics imputes the value, 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.[6]
- 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 construction and administration sectors.

[5] 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.

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

Note this means **there is no longer any officially released time series estimate for utilities wages outside of New South Wales and Victoria** (in terms of WPI measures). **Therefore extreme care needs to be taken in analysing these series over time.** The modelling here implicitly assumes that overall Tasmanian and 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.[7]

As the table shows, the ABS produces all the required WPI data for NSW, but not the other States discussed in this report. AWOTE data for the missing 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 was far more volatile than WPI in later years, we limit the deviations that this might imply.[8]

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.

[7] 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.

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

Appendix B: 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 C: Macroeconomic and wage forecasting methodology

Introduction

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

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

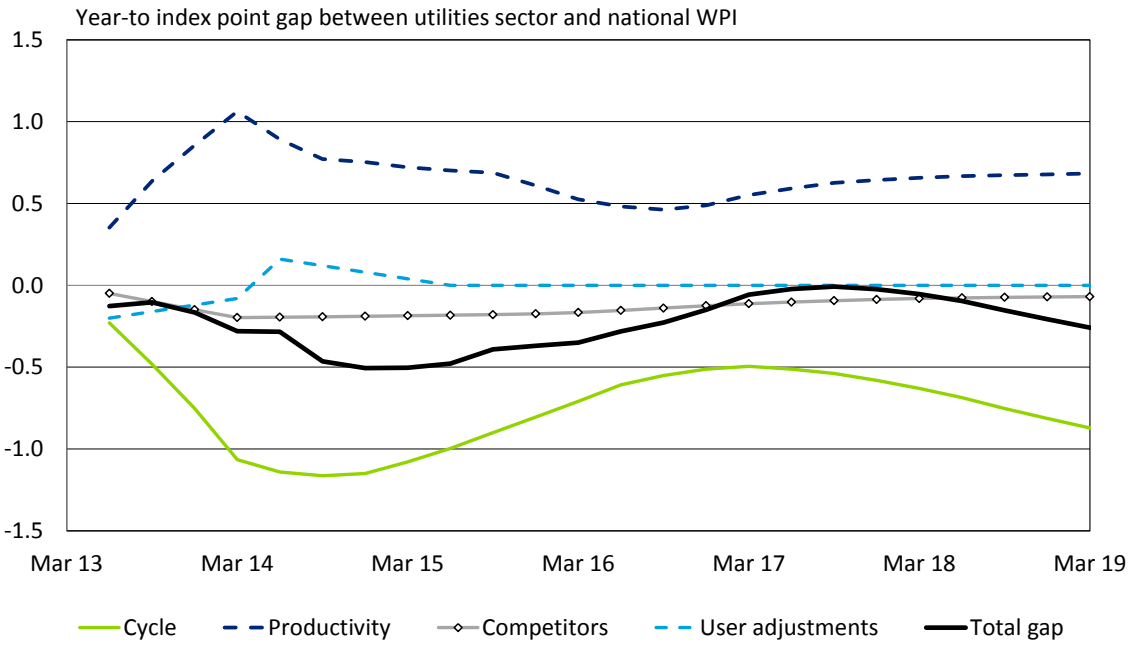
vice versa. In this model, the key factor is how fast the industry (or State) is growing relative both to the national average, as well as to historical averages. So, while manufacturing growth in the future may be below the national average, if the gap is relatively less that has been seen in recent 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 C.1: Sample composition chart of sectoral wage drivers (national level)



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

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

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

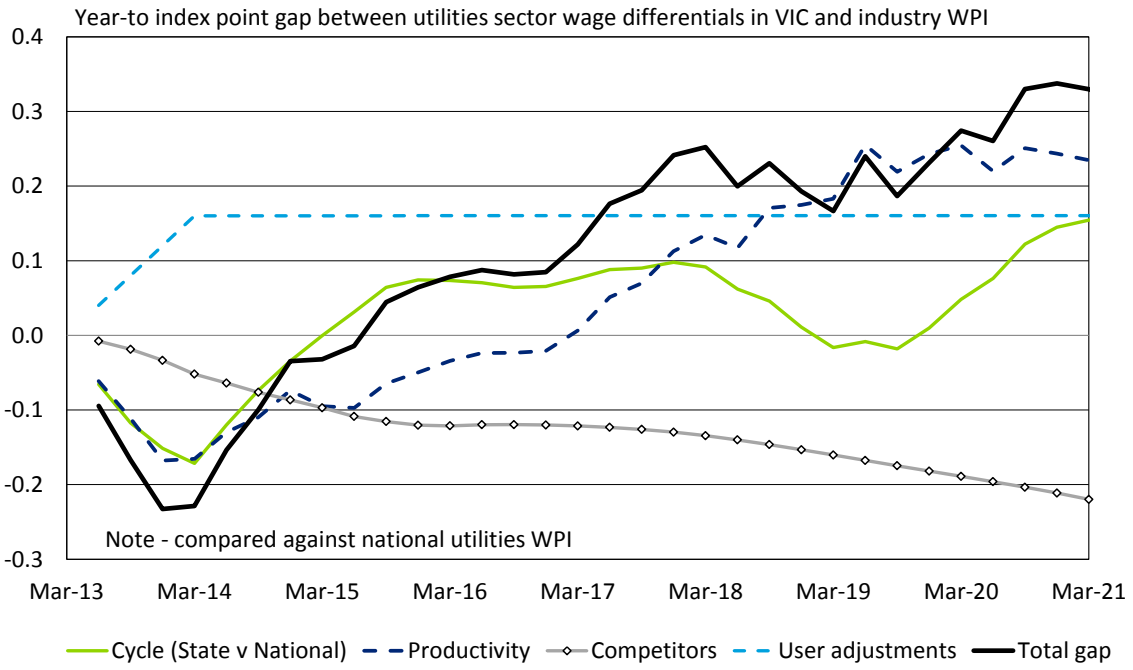
- The recent strength in the construction sector will keep upward pressure on the wages in the sector (represented here by the **Cycle** line). By the end of 2012 growth rates will begin to move in line with the overall economy and the cyclical pressure will diminish (and reverse further out); but
- The higher rate of productivity growth in the utilities sector will put upward pressure on the WPI for construction across the forecast period (the **Productivity** line). This effect will largely dissipate further out; but
- The relatively strong growth in construction sector wages implied by these first two trends (and the recent strength in the WPI) means the sector will face minor downward wage pressure from other sectors. Weakness in the manufacturing sector in particular will limit the impact from competitor industry wages (the **Competitors** line). In the longer term the otherwise stronger wage growth in the sector will not see a need for wages to rise to maintain pace with growth in competitor sectors (mining, construction and manufacturing) to prevent workers being tempted to move.

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

In the case of State-level indices, our point of departure is the national industry WPI. So the chart below implies that 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 C.2: Sample composition chart of sectoral wage drivers (State level)



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

Labour prices versus labour costs

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

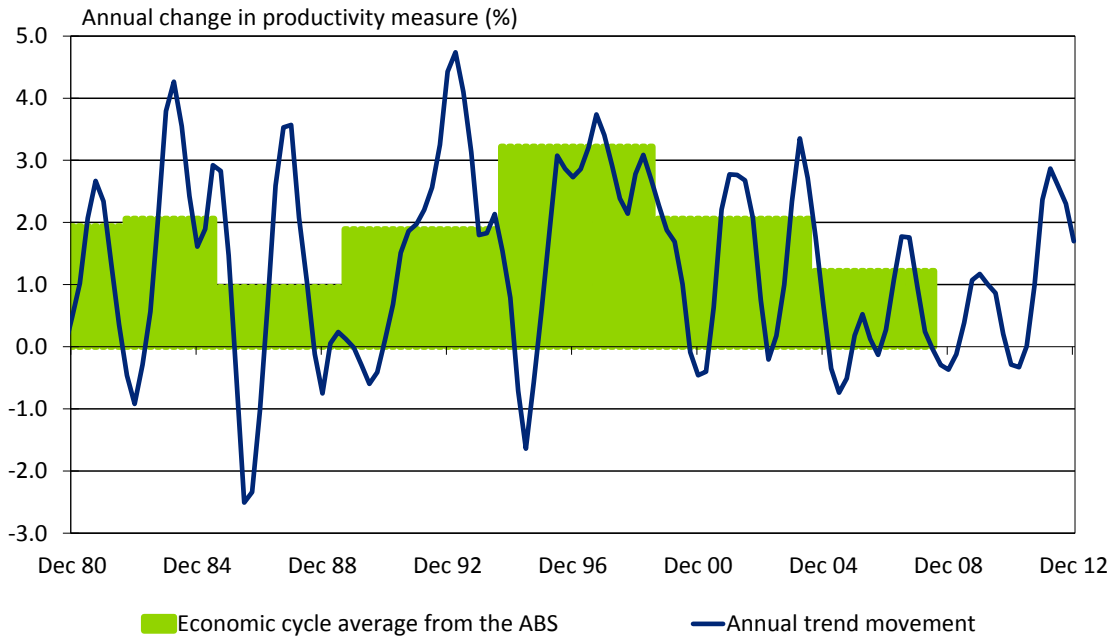
However, labour costs will rise at a different rate due to the effects of labour productivity growth. Effectively, labour productivity measure the number of units of output an individual employee can produce in a given time period. The more units of output each worker can produce, the fewer workers are required to create a given level of industry output. If productivity is rising, the total cost of labour (the price of each employee multiplied by the number of employees) will rise less rapidly than the individual employee's price.

The measure adopted for increases in labour costs is the growth in productivity-adjusted labour prices. Because so many factors can influence productivity (for example, during times of rapid expansion in employment, productivity may fall as new workers are often less productive that those who have been working in an industry for longer, but productivity may

also rise as 'economies of scale' become available, and workers who may has been underemployed in their workplace increase their effective level of output) it is often best measured over an entire economic cycle. The chart below shows annual growth in a simple productivity measure against the ABS' cyclical average measure (the last published cycle ends in 2007-08, so the last few years have no official cyclical productivity growth measure).

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

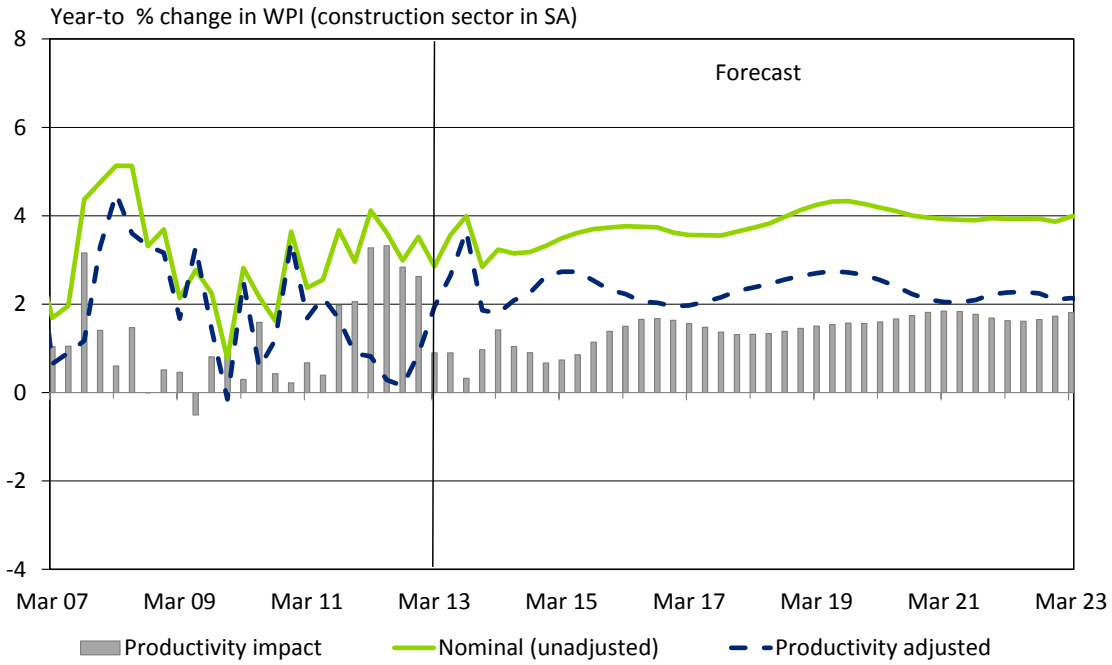
Chart C.3: Growth in productivity – annual methodology vs economic cycle methodology



Source: ABS

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

Chart C.4: Sample measure of forecast productivity effects



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

In the example above, the cyclical impact of productivity becomes 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 D: Different measures of wage growth

The Australian Bureau of Statistics published an article in the October 2005 issue of Australian Labour Market Statistics (catalogue 6105.0) which discussed the comparative features and relative merits of the measures they produce.[9] 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

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

Drawbacks to using the WPI measure

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

- First, the WPI is published by State and by sector separately, but not by State and by sector. That is, the WPI for NSW is published, and the mining sector WPI is also published, however the NSW mining sector WPI is not. The latter data is only available by special request and, in the case of small sample sizes, the ABS does not release their estimates. In contrast, more series at the 'by State and by sector' are available for AWOTE from the ABS 6302.0 release. However, it is possible to 'back out' reasonable estimates of WPI at the 'by State and by sector' level. Appendix 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 the Department of Employment's Trends in Federal Enterprise Bargaining reports[10], 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.

[10] See employment.gov.au/trends-federal-enterprise-bargaining

Table D.1: National wage surveys

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

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