OXFORD ECONOMICS

ELECTRICITY-RELATED LABOUR ESCALATION FORECASTS TO 2028/29

PREPARED BY OXFORD ECONOMICS AUSTRALIA
FOR ESSENTIAL ENERGY

FINAL REPORT

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BIS Oxford Economics

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1. EXECUTIVE SUMMARY

In response to the Terms of Reference (TOR): 'Provision of Real Cost Escalation Calculations and Advice' of 16th May 2023, Oxford Economics Australia (OEA) - formerly BIS Oxford Economics - has prepared a discrete set of labour price indices relevant to electricity transmission and distribution networks in Australia and NSW. We understand these forecasts will be used by Essential Energy to develop their operating and capital expenditure forecasts. These forecasts, in turn, will be included in Essential Energy's next revenue reset submission to the Australian Energy Regulator (AER), with the next reset period covering the five-year period from 2024/25 to 2028/29 (FY25 to FY29) inclusive.

For **electricity network-related labour**, Oxford Economics Australia forecasts total wage costs for the national (Australian) Electricity, Gas, Water and Waste Services (EGWWS or 'Utilities') sector — expressed in Wage Price Index (WPI) terms — will average 3.7% per annum over the five-year reset period from 2024/25 to 2028/29. In real terms, the national EGWWS WPI is forecast to average 1.0% p.a. over the five years to 2028/29 (see Table 1 below), similar to the 1.0% p.a. averaged over the decade to 2019/20.

Note that these forecasts include the impact of the proposed increases to the Superannuation Guarantee (SG) over the five years from 2021/22 to 2025/26 (i.e., covering the first two years of the DNSP's next regulatory period). We estimate that the Australian and states' EGWWS WPI will be, on average, -0.04% lower in each of the relevant three forecast years, than if the SG increases did not proceed. This is much lower than previous estimates of the economic incidence', because the very tight labour market has provided workers with considerably more bargaining power and we believe the 'discount' on wages for superannuation is now very low. However, given the SG is, in effect, a labour 'on-cost', in terms of escalating total wage costs over the regulatory period, **the full annual 0.5%** for the **SG increase** should therefore be **added to the forecast increases in the WPI** for each relevant year.

Over the forecast period from 2024/25 to 2028/29, Australian EGWWS WPI growth is expected to remain higher than the All Industries WPI average, with the Australian All Industries WPI forecast to average 3.4% over the five years to 2028/29. This means that the Australian EGWWS WPI is expected to be 0.3% higher than the All Industries average. Note that the impact of the SG Increases on the All Industries WPI is assumed to be -0.11% in each of the five years to 2025/26.

Utilities wages are forecast to increase by more than the national average over the forecast period because of the following factors:

- the electricity, gas and water sector is a capital-intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors
- the strong union presence in the utilities sector will ensure outcomes for collective agreements (which cover 65% of the EGWWS workforce) remain above the wage increases for the national All Industries average. In addition, as EBAs wage rises are normally higher than individual agreements and, as there is a higher proportion of employees on EBAs compared to the national average (38%), this means higher overall wage rises in the EGWWS sector.
- increases in individual agreements (or non-EBA wages) are expected to push higher over the next two years and remain high in 2025/26 due to the tight labour market, with the unemployment rate now expected to remain between 3.6% to 4% over the next two years.

- demand for skilled labour will strengthen further due to record levels of utilities investment from 2023/24 to 2028/29, with overall utilities investment levels expected to gradually increase and remain elevated over the next six years (and beyond). Electricity-related engineering construction has lifted 41% over the past two years and OEA forecasts that it will rise a further 18% over the next six years to 2028/29 to be 66% higher in 2028/29 compared to 2020/21 levels. This will also be a key driver of wages going forward.
- overall national average wage growth tends to be dragged down by the lower wage and lower-skilled sectors such as Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns impacting on wages growth, such as occurred in the wake of the COVID-19 impacts. The EGWWS sector is not impacted in the same way, due to its obligation to provide essential services and thus retain skilled labour.

The economy is expected to remain resilient over the short-to-medium term and, although OEA's economic growth (GDP) forecasts are for modest weakening over FY24 and FY25, we still expect the labour market to remain tight, with labour demand still relatively strong and the unemployment rate remaining around 3.6% to 4% over the next two years to FY25. The rise in the unemployment rate is also expected to be kept in check by falls in the participation rate, as some workers drop out of the labour force as employment growth slows (many of these will fully retire). Skill shortages, which have already emerged, are expected to remain acute in many parts of the economy, although there has been some recent evidence of shortages of unskilled labour beginning to ease. The tight labour market will see wage pressures remain elevated.

Wages have been slower to pick up compared to the inflation rate, due to lags in the transmission of wage increases, particularly in the enterprise bargaining segment, where the duration of agreements runs for 2-3 years. The All industries WPI is forecast to increase to a peak of 3.9% in 2023/24 (from 3.5% in 2022/23), before easing slowly over the subsequent four years as the economy cools and the unemployment rate rises back above 4%. The strengthening in economic and employment growth from 2027/28 will then see All Industries WPI growth pick up sharply to 3.5% in 2028/29.

We expect to see the continuation of critical skilled labour shortages and competition for scarce labour - particularly from the mining and construction sectors - which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 2 years to FY25 and remain at elevated levels to the end of the decade. Meanwhile, overall construction activity will remain elevated at close to current levels over the next four years (before again lifting from 2027/28), leading to strong labour demand in that sector, particularly over FY23 and FY24 when activity surpasses the 2018 levels. With regard to utilities investment, Oxford Economics Australia is forecasting steady increases over the next 6 years (and beyond), with electricity-related engineering construction projected to be 18% higher in FY29 compared to FY23 levels, following a 41% increase over the past two years. However, given the need for much greater amounts of transmission and distribution investment, let alone renewables generation, these projections could be considered conservative – there is a significant upside risk to the quantum of electricity-related investment required and therefore upside to the levels of skilled labour required.

Employers are already reporting an increasing shortage of technicians and trade workers, and employees with STEM skills. These are essential workers in the utilities sector. A key problem is that the TAFE (technical and further education) systems across the country have simply not been training enough workers. OEA research shows this is compounded by new graduates in the trades stream, in particular, not increasing fast enough to replace retiring workers, with new graduate numbers in some trades actually falling. Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration only fully returned in the first half of 2022, after being suspended since early 2020.

Although now resumed, the backlog of skilled labour shortages will be slow to fill, meaning that the skill shortages will persist for at least the next 2 years.

With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to attract and retain staff and we expect wages under both individual arrangements and collective agreements to show further strong increases over the 2023/24 to 2025/26 period. The EGWWS WPI rebounded strongly over FY23 to match the national average. From FY24, we again expect the EGWWS WPI to outpace the All Industries WPI over the forecast period. Driving this will be much higher EBAs negotiated in an environment of high inflation and a very tight labour market, particularly for the types of skilled labour that dominate in the EGWWS sector.

Table 1. Summary – Labour Cost Escalation Forecasts: New South Wales & Australia - including Impact of Proposed Superannuation Guarantee Increases (financial years)
(per cent change, year average, year ended June)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Average (g)
	Actuals							Forecasts	Next Revenue Determination Period					
Nominal Wage Changes														
Electricity Network-Related Labour														
EGWWS WPI - New South Wales (a)	**1.3**	**1.3**	**2.6**	**2.5**	**1.6**	**1.8**	**3.0**	**3.9**	**4.1**	**3.9**	**3.6**	**3.4**	**3.7**	**3.7**
EGWWS WPI - Australia (b)	2.2	2.0	2.8	2.7	1.8	1.5	3.5	4.1	4.1	3.9	3.6	3.4	3.7	3.7
Contractor Labour Cost Escalation														
Construction WPI - New South Wales (c)	**2.0**	**2.6**	**2.0**	**1.5**	**2.1**	**2.8**	**3.7**	**4.2**	**4.0**	**3.8**	**3.5**	**3.4**	**3.7**	**3.7**
Construction WPI - Australia (b)	1.7	1.9	1.9	1.5	1.3	2.6	3.6	4.2	4.0	3.8	3.5	3.4	3.7	3.7
All Industries Wages														
All Industries WPI - New South Wales	**2.1**	**2.1**	**2.3**	**2.1**	**1.5**	**2.4**	**3.3**	**3.9**	**3.7**	**3.5**	**3.3**	**3.1**	**3.5**	**3.4**
All Industries WPI - Australia (d)	2.0	2.1	2.3	2.1	1.5	2.4	3.4	3.9	3.7	3.5	3.3	3.2	3.5	3.4
Consumer Price Index (headline) (e)	1.7	1.9	1.6	1.3	1.6	4.4	7.0	4.2	2.68	2.68	2.68	2.68	2.68	**2.68**
Real Wage Changes (g)														
Electricity Network-Related Labour														
EGWWS WPI - New South Wales (a)	-0.4	-0.6	0.9	1.2	0.0	-2.7	-4.0	-0.3	1.4	1.2	0.9	0.7	1.0	**1.1**
EGWWS WPI - Australia (b)	0.5	0.0	1.1	1.3	0.2	-2.9	-3.5	-0.1	1.4	1.2	0.9	0.7	1.0	1.0
Contractor Labour Cost Escalation														
Construction WPI - New South Wales (c)	0.2	0.7	0.3	0.2	0.5	-1.7	-3.4	0.0	1.3	1.1	0.8	0.7	1.0	**1.0**
Construction WPI - Australia (b)	0.0	-0.1	0.2	0.2	-0.3	-1.8	-3.4	0.0	1.3	1.1	0.8	0.7	1.0	1.0
All Industries Wages														
All Industries WPI - New South Wales	0.4	0.2	0.7	0.7	-0.1	-2.1	-3.8	-0.3	1.0	0.8	0.6	0.4	0.8	**0.7**
All Industries WPI - Australia (d)	0.2	0.1	0.7	0.8	-0.1	-2.1	-3.7	-0.3	1.0	0.8	0.6	0.5	0.8	0.8

Source: ABS, RBA, BIS Oxford Economics

(a) Electricity, Gas, Water and Waste Services (EGWWS) Wage Price Index (WPI) for New South Wales.
(b) Australian sector wage forecasts provided for comparison
(c) Construction Sector Wage Price Index (WPI) for New South Wales.
(d) Australian All Industries WPI provided for comparison.
(e) Inflation forecasts are RBA forecasts for the next 2-3 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on a glide-path to the mid-point of RBA inflation target (2.5%) by year 5. The overall forecasts are then calculated as a geometric mean of the 'official' RBA inflation forecasts over the 5 years to the end of the regulatory period, with that mean applied to each of the regulatory years. This methodology is the position adopted by the AER.
(f) Average Annual Growth Rate for 2024/25 to 2028/29 inclusive, ie for next regulatory period.
(g) Real price changes are calculated by deducting the inflation rate from nominal price changes.

Wages in the New South Wales utilities sector are expected to move in line with the national utilities sector average over Essential Energy's upcoming regulatory period (see table 1). Recent enterprise bargaining data from the Commonwealth Employment Conditions Department (formerly the Department of Employment and Workplace Relations) shows that NSW has gradually narrowed the gap in EBAs in relation to the national average over the past three years, with the latest data (March 2023) showing currently operating AAWIs (Average Annualised Wage Increases) are the same as the

national average. However, the annual averages of approved agreements have again slipped below the national average, with the NSW utilities WPI showing slower growth than the national average in 2022/23 and expected again in 2023/24. From 2024/25 we are forecasting the NSW utilities WPI to virtually match the national average.

There will be strong wage pressures in NSW, particularly due to high and increasing levels of construction activity, while the NSW utilities sector will face competition for key skilled workers from interstate utilities, construction and mining sectors. With strong competition for similarly skilled labour from the mining and construction industries, firms in the NSW utilities sector will need to raise wages to attract and retain workers. This is expected to be accompanied by record levels of utilities-related construction in the state – boosted by Snowy Hydro II - and high levels of mining-related investment and construction activity generally.

Given service provider's outsourced labour is mainly supplied by firms in the construction industry, we will proxy **external labour cost escalation** by wages growth (as measured by the WPI) in the state's construction industry. Our research has shown that construction activity (i.e., work done in the sector) normally has a strong influence on construction wages, although changes in wages tend to lag construction (in work done terms) by around one year.

Our forecast is for the Australian and **NSW Construction WPI** to both average 3.7% over the five-year reset period to 2028/29 – or 1.0% per annum on average in real (inflation-adjusted) terms (see Table 1). Note that these wage forecasts for the Construction WPI include the impacts of the SG increase over 2023/24 to 2025/26 (i.e., covering the first two years of Essential Energy's next regulatory period). In the construction industry sector, we estimate the economic incidence impacts will be -0.07% for each year of the SG increase.

Australian and NSW construction wages are expected to strengthen further over 2023/24 to 2025/26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 (in 2024 - see figure 5.4) and serious and widespread skills shortages continue, underpinning higher wages due to strong labour demand. Although residential building activity and non-residential building activity are now coming off the boil, rising engineering construction is pushing total construction activity higher, driven by a new wave of mining investment and a plethora of publicly funded transport infrastructure projects (particularly in the eastern states of the nation).

The growth in NSW construction activity is expected to lag the national average growth over 2023/24 to 2028/29 – but still be quite strong as strong growth comes through in NSW infrastructure projects and both dwelling and non-dwelling building activity remain elevated. Despite slower growth in overall construction activity, we expect growth in NSW construction wages to closely track the national average through to 2028/29, due to the ongoing tight construction labour market.

2. INTRODUCTION

In response to the Terms of Reference (TOR): 'Provision of Real Cost Escalation Calculations and Advice' of 16th May 2023, Oxford Economics Australia (OEA) - formerly BIS Oxford Economics - has prepared a discrete set of labour price indices relevant to electricity transmission and distribution networks in Australia and NSW. We understand these forecasts will be used by Essential Energy to develop their operating and capital expenditure forecasts. These forecasts, in turn, will be included in Essential Energy's next revenue reset submission to the Australian Energy Regulator (AER), with the next reset period covering the five-year period from 2024/25 to 2028/29 inclusive. Over the next regulatory period forecasts of both nominal and real price growth of the relevant inputs are provided. The forecasts in this report were finalised in early-mid September 2023.

The Australian Bureau of Statistics is the primary data source for the consumer price index, wages, employment, real gross value added and investment (including engineering construction) data, and for a range of other economic variables. The data used in the projections is the latest available as at early-September 2023 and includes the June quarter 2023 Consumer Price Index (CPI), Wage Price Index (WPI) and National Accounts data releases. Other inflation and interest rate data were sourced from the Reserve Bank of Australia.

Forecasts of the economic variables in this report were mostly sourced from Oxford Economics Australia reports, including the Australian Macro Service, Long Term Forecasts: 2023 – 2036, Engineering Construction in Australia 2023-2036 and Building in Australia 2023-2036, along with other unpublished forecasts and from Oxford Economics Australia internal research and modelling.

The previous Summary section presents an overview of the outlook for the labour costs, including numerical forecasts presented in the summary table (and separately provided in an excel spreadsheet).

Section 3 provides a macroeconomic outlook for Australia and NSW. This section also has forecasts of key economic variables plus a discussion of the drivers and logic underpinning the projections, to provide context for the labour market outlook.

Section 4 discusses BIS Oxford Economics' national wage and CPI projections and discusses the use of the Reserve Bank of Australia forecasts of the Consumer Price Index (CPI) for the deflation of nominal wages and other input costs. Forecasts of the All Industries Wage Price Index (WPI) are also provided in section 3. Not that most of the references to historical data and forecasts of wages in Sections 4 and 5 are in nominal terms unless specifically stated that the data/forecasts are in real (inflation-adjusted) terms.

Sections 5 provides the forecasts and rationale of the wage projections for the Electricity, Gas, Water and Waste Services (EGWSS) and Construction sectors for Australia and New South Wales, as measured by the Wage Price Index (WPI). It also includes a discussion on the Superannuation Guarantee Increases and their impact on wage costs.

3. MACROECONOMIC OUTLOOK

3.1 AUSTRALIA MACROECONOMIC FORECASTS

Australian economy now slowing, but recession not expected in the near-term

Real Gross Domestic Product (GDP) has recovered well from the COVID-related slump in 2020, posting growth of 2.2%,3.7% and 3.4% over FY21, FY22 and FY23 respectively, with Gross National Expenditure (GNE: domestic demand plus change in stocks) experiencing faster growth of 3.7%, 5% and 3.6% respectively in those years.

GDP growth has slowed, falling back from 0.7% q/q in each of the September and December quarters 2022 to 0.4% q/q in each of the March and June quarters 2023, with through-the year (y/y) at 2.1% in the June quarter, compared to 2.6% y/y/ in the December quarter and 6% y/y in the September quarter 2022. In the June quarter 2023, activity was well supported by investment and net exports. An improvement in weather conditions and a drawdown of inventories boosted mining exports. Meanwhile, the recovery in the services balance gained pace in Q2 due to strong inward tourist and student flows. However, consumption growth remains meagre, with high inflation and the drag from higher interest rates weighing heavily on discretionary spending.

Household consumption increased by just 0.1% q/q in Q2. The divergent trends between discretionary and essential spending continued to widen, with the recent contraction in discretionary spending worsened in Q2 to a 0.5% q/q decline despite a pickup in vehicle sales. The savings rate has fallen below its pre-pandemic level, meaning the scope for households to fund consumption by saving less is becoming more limited. However, the tight labour market, rising wage growth, and strong population growth will all support spending over the next year.

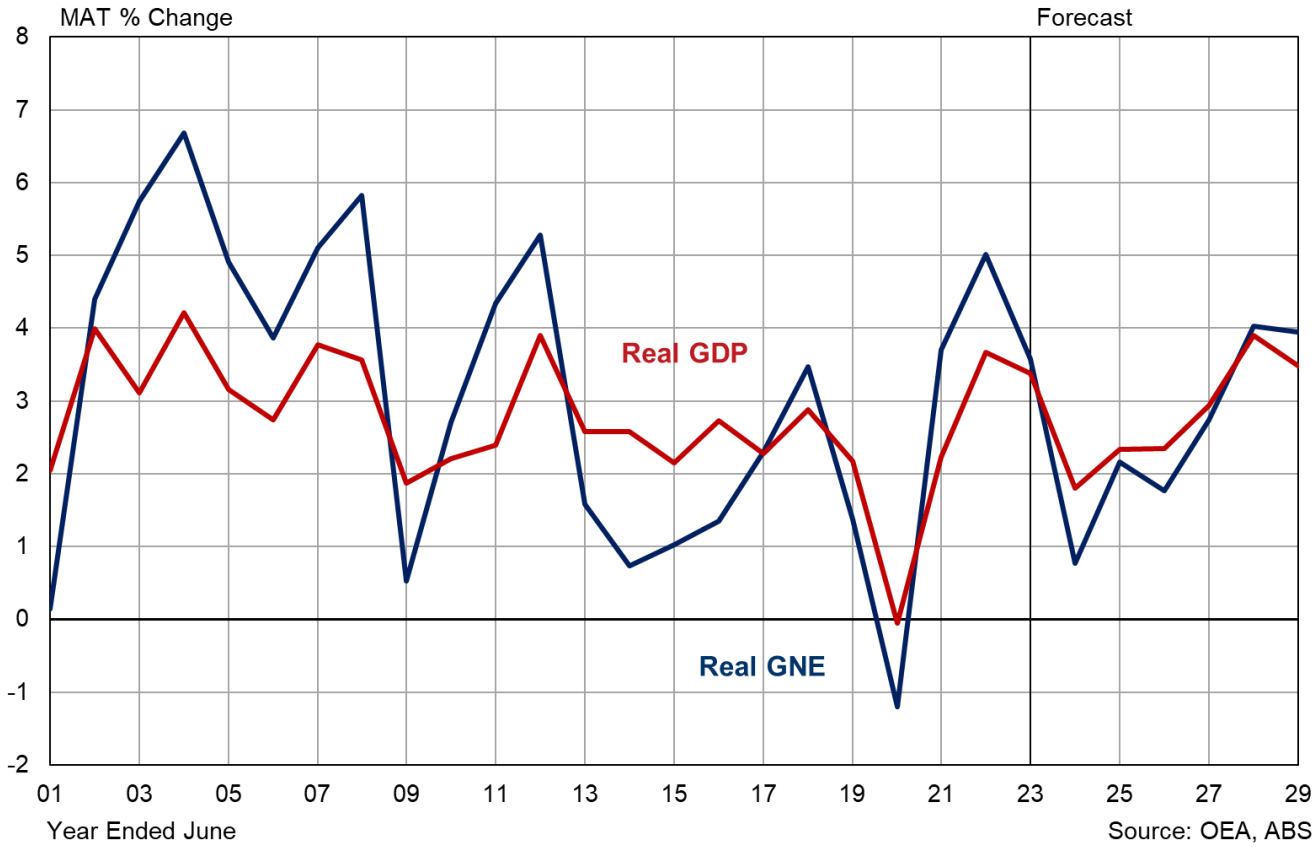
Private business investment activity was relatively strong over the first half of 2023, increasing by 4.6%. Some of this strong performance reflects the clearing of some supply bottlenecks. Machinery and equipment investment was particularly strong in Q2 due to businesses taking delivery of new vehicles. Moreover, the cessation of tax incentives for equipment spending has brought forward some activity and will make momentum over the second half of 2023 patchier. Mining investment picked up over FY21 and FY22, and into FY23. With prices for a number of commodities expected to remain at healthy levels over the medium term and strong demand for renewable energy related minerals, we expect further investments to get underway and mining investment to continue to rise and remain strong through most of this decade. Overall, new business investment increased 6% in each of FY22 and FY23, with around 4% growth expected in each of FY24 and FY25, before growth eases. The recovery in business investment will not only drive near term demand but will increase the economy's productive capacity in the long run.

Public investment is still being well supported by transport infrastructure and health projects, although some commitments have been wound back. Despite the considerable backlog of work still to be done, dwelling investment continues to falter, contracting by a further 0.2% q/q in Q2, although this was driven by another sharp fall in alterations and additions activity. There remains a substantial backlog of work to be done in new dwellings, but the realisation of these projects remains constrained by stretched capacity, compounded by a spate of recent insolvencies in the construction sector.

Import demand was broadly flat in the quarter, meaning the goods trade made a positive contribution to growth. Services exports continued to recover sharply from the pandemic, increasing by a remarkable 12.1% q/q in Q2. Growth was driven by tourist and student flows, with the number of international students in the country surpassing its pre-pandemic level. The outlook for services exports remains positive, but growth will slow from here.

We expect that some of the factors that supported growth in the first half of 2023 will prove to be temporary and that momentum will slow in the second half. Investment in machinery and equipment is likely to pull back, and the recovery in the services balance does not have as far to run. Nevertheless, population growth remains strong, which is supporting growth in household spending and will add to demand for housing and infrastructure going forward.

Figure 3.1 Australia – Basic Economic Indicators



The labour market continues to track strongly. Employment growth was an exceptional 4.2% in FY23, with the unemployment rate sitting in a narrow band between 3.4-3.7% and averaging 3.5%, while the participation rate is at record highs. Labour demand remains very strong – employment growth was 3.0% in August while job vacancies are still at high levels, suggesting further solid growth in employment in the near term (see chart 4.2). Faster population growth has facilitated strong jobs growth. This strength is the best insurance the economy has against a drastic collapse in growth. But it is adding to inflationary pressures in the economy. While the labour market continues to track in such a strong position, there will continue to be upward pressure on wage growth, and wages growth will pick up further in FY24.

One main negative influence on economic growth in the near-term is the progressive tightening of fiscal policy, which will see government consumption expenditure wound back. However, the tax cuts slated for July 2024 represent a reversal of this tightening stance and also represent an upside risk to inflation.

After rate hikes at 10 consecutive meetings, the RBA finally paused its hiking cycle in April, but then added another 0.25% increase in May and June, before pausing again over July, August and September. The official cash rate now at 4.1%. Price growth has peaked, and while the resolution of supply-side issues will relieve some of the inflation, it's the breadth and persistence of core inflation pressures that are causing most of the bank's concerns. The pickup in wage growth and emergence

of strong demand pressures in rental markets pose upside risk to the inflation outlook. Inflation remains uncomfortably high, and the very tight position of both labour and rental markets means there is lots of scope for an upside surprise to core inflation. It's still possible there may be another one or two rate hikes in the near-term. There is also an elevated risk that the tax cuts of July 2024 may induce another one or two rate hikes, particularly if core inflation has not been markedly reduced by early 2024.

Global Economic Outlook

Our baseline forecast for global GDP growth is 2.5% in calendar 2023, 2.6% for FY23 and a weak 2% in FY24, following 3.1% in calendar 2022 (and 4.3% in FY22). Growth is then predicted to improve to 2.5% in FY25 and 3% in FY26. Although economic data continue to paint a relatively downbeat picture, it doesn't suggest that economies are entering a deeper slump. Growth will still remain weak through 2023, particularly in the US, Canada and most of Europe where growth will be between 0.5% and 1.5% over the next two years.

Offsetting the weakness of advanced economies will be strong Chinese GDP growth, forecast to increase by 5% in calendar 2023 (after 3% in 2022), 4.4% in FY23 and 4.7% in FY24, before easing back to around 4.5% over FY25 to FY29. However, recent problems in China's property sector and some weakness in data releases is of concern, although we think that China will take action to keep its economy growing in the near-term. The stronger outlook for China will also improve the outlook in the rest of Asia. Overall, we think that the balance of risks is now less tilted to the downside and believe that the risks of a substantial global economic slump have diminished over the past 8 months.

High and rising US interest rates and increased uncertainty has seen a broad-based appreciation of the US dollar since late 2021, which has pushed down the value of the Australian dollar to around US$0.68 since mid-2022, with another downshift recently to below US$0.65. Our outlook is for the AUD to remain weak over 2023 and 2024, before appreciating gradually to US$0.73 by mid-decade as US interest rates fall faster than Australian rates, with an average of US$0.73 projected over the second half of the decade.

Beyond the near-term weakness, we expect global growth will return to its trend pace of around 3% by FY26, and gradually slow over the long term as resident population growth eases. Australia's trading partner growth (weighted by exports) is forecast to grow at a faster pace over the next 5-20 years (between 0.5 to 1% higher), due to the high weights of China, East Asia and India (all of which are expected to outpace the average pace of global growth) in Australia's export mix.

Domestic demand and GDP to weaken sharply in FY24, improving in FY25

Australian domestic demand is forecast to slow from 3.4% in FY23 to 0.8% in FY24, with a partial rebound to 2.1% in FY25. Net exports are expected to provide a positive contribution over the next two years, as tourism and education boost exports, while imports weaken due to slowing domestic demand and a low A$. GDP growth is forecast to be 1.8% in FY24 and 2.3% in FY25.

Housing investment is expected to decline over FY24 and FY25 as the current backlog of work is finished and high interest rates impact new dwelling construction and alterations and additions activity. On the other hand, we expect further moderate growth in business investment in FY24 and FY25 as some deferred investment is undertaken, although some sectors, such as hotel construction and other tourism-related investment, will take longer to recover. Private sector engineering construction will remain buoyant due to higher levels of electricity and telecommunications infrastructure and higher levels of mining investment, particularly oil and gas. Meanwhile, public investment is expected to see moderate growth over the next two years to FY25, as a large pipeline of transport infrastructure and social and institutional buildings projects come through. Meanwhile, government recurrent expenditure is expected to weaken sharply as governments attempt budget

repair. With employment growth expected to slow as investment and government spending eases, household consumption expenditure growth will also slow sharply over FY24, with higher inflation and higher interest rates also weighing on spending. Tax cuts slated for July 2024 will boost spending in FY25, although there is still some uncertainty around these tax cuts.

Trade volumes will be a mixed bag. We expect mining export volumes to pick up over the next 2-3 year as new capacity comes onstream. Rural exports bounced back over calendar 2021 and will remain strong over FY23 and into FY24, with bumper seasons in the eastern states boosting grain, other crops and dairy exports. Meat exports will strengthen too. Manufacturing exports will remain constrained due to weak global growth but will pick up over FY25 and FY26 as overseas conditions improve. Overall merchandise export volumes will continue to display moderate growth over FY23 to FY26. Meanwhile, growth in import volumes will weaken sharply in FY24 before improving in FY25, in line with domestic demand. Net exports are expected to make a positive contribution to growth over FY24 and in FY25.

Large increase in both service credits and debits are expected over FY23 and FY24, before moderating in FY25. This will have different implications for the all-important tourism and education services trade and related industry sectors. Education exports were worth $37.6 billion in FY19 (before the COVID pandemic), or almost 39% of overall services exports (compared to only $461m for outbound education import 'debits'). Education exports have bounced back, helped by the earlier-than-expected return of Chinese students and partly because there is a large backlog of visas already for overseas students. We also expect inbound tourism 'exports' to recover well in the medium-term, aided by a low A$. Tourism exports (including 'business travel') were worth $25.3 bn in FY19 (26% of overall services exports), compared to $50.6 billion for outbound services 'imports' – which then accounted for almost 50% of overall services debits. We expect a slower ramp-up in outbound tourism (compared to inbound tourism), with tourism flows unlikely to recover back to their previous levels for another couple of years. The forecasts assume that the tourism and education credits (inbound) will recover back to pre-COVID levels by early-2024, while outbound tourism debits will not get back to the 2018 peaks until 2026.

Mild slowdown in mid-2020s, before economy moves to trend growth

Annual headline inflation jumped to 7.8% (y/y) in the December quarter 2022, while underlying inflation lifted to 6.4%, before the headline rate fell back to 7.0% in the March quarter 2023 and then 6% in the June quarter. Although we think the inflation peak has passed, the rise and broadening of in inflationary pressures has seen the RBA lift the cash rate by 4% since May 2022 to 4.1% in June 2023, with standard variable housing rates now around 8.5% and variable discounted rates at 7.1%. The RBA may raise rates again in the near-term, but we expect a pause in rises over FY24. However, large tax cuts expected in July 2024 are likely to see a further lift in rates over the second half of 2024, as the RBA attempts to curtail the extra demand pressures from the tax cuts, with elevated inflationary pressures still expected to be present with unemployment rate at or just below 4%. The persistence of high interest rates – with the extra lift in mid-late 2024 - will continue to impact consumer spending and housing and business investment over FY25 and into FY26. With government capital spending weakening at that time and recurrent spending still constrained, the end result will see annual domestic demand growth falling below 2% in FY26 and remaining somewhat subdued in FY27. GDP growth will also be soft.

Interest rate cuts are expected from early-mid 2025 and over FY26 and FY27 in response to the weakening in the economy and because we expect inflation to be back in the RBA target range of 2%-3%. The large rate cuts will precipitate a very strong rebound in dwelling construction – by mid-decade there will be a very large undersupply of housing, with pent-up demand waiting to be unleashed. The current undersupply is only being exacerbated by high immigration and under-building. As consumers and businesses re-adjust to the 'normalcy' of higher interest rates – although

at much lower levels than the 2000s and 2010s – investment and consumer spending will return to long term trend (or potential) rates of growth over the second half of the 2020s with an initial rebound in GDP growth to 2.9% in FY27 and then 3.9% in FY28, before subsequently easing back.

Table 3.1 Australia – Key Economic Indicators, Financial Years

Year Ended June								Forecasts					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total New Private Investment (+)	**-1.9**	**3.6**	**-2.8**	**-3.4**	**3.6**	**6.0**	**1.0**	**1.1**	**-0.1**	**1.4**	**5.3**	**8.5**	**7.1**
New Public Investment (+)	**8.5**	**11.3**	**4.7**	**0.1**	**4.2**	**7.1**	**5.4**	**1.4**	**2.7**	**-1.0**	**-2.7**	**1.0**	**4.0**
Gross National Expenditure (GNE)	**2.3**	**3.5**	**1.4**	**-1.2**	**3.7**	**5.0**	**3.6**	**0.8**	**2.2**	**1.8**	**2.7**	**4.0**	**3.9**
GDP	**2.3**	**2.9**	**2.2**	**-0.1**	**2.2**	**3.7**	**3.4**	**1.8**	**2.3**	**2.3**	**2.9**	**3.9**	**3.5**
Inflation and Wages													
CPI (Yr Avg) - RBA forecasts (*)	1.7	1.9	1.6	1.3	1.6	4.4	7.0	4.2	3.2	2.7	2.5	2.5	2.5
Wage Price Index (Yr Avg)(**)	2.0	2.1	2.3	2.1	1.5	2.4	3.5	3.9	3.7	3.5	3.3	3.2	3.5
Employment													
– Employment Growth (Yr Avg)	1.5	3.0	2.3	0.5	0.5	3.3	4.3	2.4	1.3	0.9	1.0	1.8	2.3
– Employment Growth (May/May)	2.1	2.6	2.7	-5.7	8.2	3.4	3.4	1.6	1.2	0.7	1.4	2.1	2.2
– Unemployment Rate (May) (%)	5.5	5.4	5.2	7.0	5.1	3.9	3.6	3.8	4.0	4.4	4.3	3.9	3.6
Labour Productivity Growth													
– Total	0.8	-0.1	-0.2	-0.5	1.7	0.4	-0.9	-0.6	1.0	1.5	1.9	2.0	1.2
– Non-farm	0.6	0.0	0.1	-0.3	1.2	-0.1	-0.7	-0.4	1.0	1.6	1.9	2.1	1.2

Source: BIS Oxford Economics, ABS and RBA

+Expenditure on new assets (or construction work done). Excludes sales (or purchases) of second hand assets.

*Headline CPI forecasts based on Reserve Bank of Australia's forecasts to June 2023 quarter. Beyond this, we've used the arithmetic mean the next 2 years and the the mid-point of the Reserve Bank's 2 to 3 per cent inflation target range after 2024.

** Based on Ordinary Time Hourly Rates of Pay Excluding Bonuses. Includes impact of Superannuation Guarantee increases.

Over the longer term, potential growth will slow primarily due to a smaller contribution from labour force growth compared to recent history. Net overseas migration will fall back to a more normal level, and the contribution from natural increase (births minus deaths) will also moderate. The relatively large cohort of Australians aged 65+ moving into retirement will also place downward pressure on the labour force participation rate, although this will continue to be somewhat alleviated by relatively high net immigration.

3.2 OUTLOOK FOR THE NEW SOUTH WALES ECONOMY

In New South Wales, State Final Demand (SFD) growth rebounded in FY21 from the FY20 COVID-19 slump to 4.4%, while GSP growth was 2.6% – both above the national equivalents. In FY22, SFD growth eased back to 3.2% and GSP to 1.8%, impacted by lockdowns in the second half of 2021 and floods in the first half of 2022. Growth was also impacted by domestic and international restrictions (affecting education and tourism). The state economy then lifted in FY23, with SFD growing 4.3% and GSP by an estimated 4.8%, with GSP boosted by the sharp rebound in international tourism and education services and also supported by healthy rural and mining exports.

SFD was boosted in FY23 by strong growth in household spending (6.6%), with the lack of lockdowns and strong employment growth (5.8%) lifting spending, although growth slowed through the year as higher interest rates impacted heavily indebted households. The labour market is still remarkably tight, with the unemployment rate currently (August 2023) at 3.6%, having drifted up from 2.9% in June 2023. Although the participation rate has dipped a little, it's near a record high at around 66.3%. Business investment was also strong in FY23, while public investment growth was positive but less than FY21 and FY22. Dwelling investment saw a small decline.

In FY24, we expect a marked slowing in growth to 0.3% for SFD and 1.0% for GSP, as the post-covid bounce ends and the substantial increases in interest rates over the past year impact household spending and housing investment. We also expect weak public consumption to drag on growth over FY23 to FY25 – as governments attempt budget repair - before subsequently picking up from FY26. Dwelling building activity (including renovations) is forecast to fall -9.2% in FY24 and a further -13% in FY25. Household consumption expenditure slows to 0.7% in FY24 but picks up to 2.5% in FY25 due to the stage 3 tax cuts from July 2024 flowing through to household disposable income and spending. The bounce in household spending underpins the partial recovery in SFD to 1.3% in FY25, with GSP forecast to be 1.3%. Moreover, larger average mortgage sizes mean higher interest rates may have a stronger impact on consumption through the cash flow channel in NSW.

Business investment is expected to show another moderate increase in FY24 of around 4% underpinned by higher engineering construction and equipment investment, but then weakens due mainly to declines in private non-residential building. Public investment is expected to show solid growth over the next 2 years, before plateauing in FY26. Driving this will be a strong program of public transport projects, backed by state and federal government stimulus in road and rail infrastructure, as well as increasing levels of private investment in renewable energy generation assets and associated transmission network development.

Net exports will contribute to growth in FY24. Record winter grain crops over FY21 to FY23 and large increases in other crops will drive higher exports over FY22, FY23 and into FY24, due to large stocks are rundown. Mining exports, including the dominant coal exports, are also expected to increase over FY23 and FY24. Inbound tourism and education credits will add to export strength, although the lift in outbound international tourism over FY23 to FY25 will offset some of the boost from solid export growth. Meanwhile, net interstate trade in goods and services will contribute to GSP growth over FY24 to FY26 as other states grow faster than NSW.

Table 3.2 New South Wales – Key Economic Indicators, Financial Years

								Forecast					
Year Ended June	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
New South Wales													
Total Construction Activity(*)	8.2	13.5	2.2	-7.8	-1.6	-2.9	8.8	-0.3	-5.2	-3.8	0.4	5.9	5.8
State Final Demand	3.5	3.3	1.9	-2.0	4.4	3.2	4.3	0.3	1.3	1.3	2.4	3.5	3.4
Gross State Product (GSP)**	**2.5**	**2.3**	**2.6**	**-0.6**	**2.6**	**1.8**	**4.8**	**1.0**	**1.3**	**1.7**	**2.9**	**3.7**	**3.0**
Employment Growth (Year Avg)	1.0	2.9	3.0	-0.3	0.0	1.0	5.8	1.7	1.0	0.6	0.8	1.4	1.9
Australia													
Total Construction Activity(*)	-3.3	12.2	-9.1	-3.7	-0.7	2.0	5.7	1.6	-0.7	-0.8	2.8	8.0	7.5
Australian Domestic Demand	2.3	3.4	1.6	-0.8	3.0	5.0	3.6	0.8	2.1	1.9	2.8	4.0	3.9
Gross Domestic Product (GDP)	2.3	2.9	2.2	-0.1	2.2	3.7	3.4	1.8	2.3	2.3	2.9	3.9	3.5
Employment Growth (Year Avg)	1.5	3.0	2.3	0.5	0.5	3.3	4.3	2.4	1.3	0.9	1.0	1.8	2.3

Source: Oxford Economics Australia and ABS

* Total construction work done in constant prices as per the ABS Building Activity and Engineering Construction Activity
Total construction is the sum of new dwelling building (includes alterations and additions activity greater than $10,000), new non-building activity and new engineering construction.

** GSP is an estimate for FY2023

SFD growth is projected to remain subdued over FY26, due to the high interest rates over 2023-25 impacting housing investment and consumer demand, with NSW suffering relative to the national average due to a higher household debt burden. Household consumption expenditure growth will ease back after the tax cut boost of FY25. Declines in public investment over FY26 to FY28 are also expected to contribute to weaker SFD and GSP growth, with public investment declining after a number of very large transport and other infrastructure projects wind down and are completed. A pickup in growth is then expected to ensue from FY27, as consumer spending and housing recover

and strengthen as interest rates are eased through FY26 and FY27, with business investment expected to pick-up from FY28. Meanwhile, trade-exposed industries will be supported by a low Australian dollar, expected to remain in a range of US$0.64 to US$0.75 over the next 6 years. New South Wales will also continue derive benefits from solid economic growth in other states, given its tendency to run a positive balance on interstate trade in goods and services.

The state's overall growth will continue to be hampered by slower population growth than the national average, with the state's population forecast ease from around 1.8% in FY23 to 1.3% in FY24 and then average 1% p.a. over the next 5 years to June 2029 – 0.4% lower than the national average. This will affect household consumption and housing demand.

Over the six years to FY29, SFD and GSP are forecast to average 2% and 2.3% p.a. respectively. Employment growth is expected to track below the national average over each of the next 6 years. However, the state's unemployment rate is still expected to remain below the national average, as it has been for the past decade. This will help maintain confidence and underpin household spending. A strong pickup in the state's economic growth is expected from FY28, as consumer spending and housing recover and strengthen, further buoyed by stronger business and public investment into FY29.

4. WAGES AND INFLATION OUTLOOK

4.1 RBA CPI FORECASTS ARE USED TO CALCULATE REAL WAGES

To calculate real wage and other cost increases, we deflate nominal price growth by deducting expected inflation. For the inflation forecast, we use the methodology preferred by the Australian Energy Regulator (AER). This methodology uses the official near-term CPI forecasts from the Reserve Bank of Australia (RBA) and a glide path from the last RBA forecast in the SoMP to the longer-term average, which is based on the 2.5% mid-point of the RBA's inflation target band (i.e., 2 to 3%). The AER then uses the geometric average of the five regulatory years as the deflator for each year. The RBA's August 2023 'Statement on Monetary Policy' forecast the headline CPI rate to be 4 ¼ % for the December quarter 2023 and then to 3 ½ % in the June quarter 2024 – giving a year average CPI rate of 4.2% for FY24. The RBA's CPI forecast for December 2024 is 3 ¼ %, and 3% by June 2025 - giving a year average CPI rate of 3.2% for FY25 – before easing to 2 ¾ % in December 2025. Beyond the RBA's forecast from the SoMP, we assume the CPI averages 2.5% over the medium-to-long term. The geometric average used for the five years from 2024/25 to 2028/29 is 2.68%.

4.2 OUTLOOK FOR CPI

Current strong inflationary pressures will be slow to abate

Consumer price inflation was subdued for the five years to the March quarter 2020, with annual (through-the-year or y/y) headline CPI inflation ranging between 1.0% and 2.2%; averaging 1.7%. Meanwhile, underlying (or core) inflation fell below the Reserve Bank's target 2-3% band in March 2016 and stayed there. The onset of COVID-19 in early 2020 then saw considerable volatility in the headline CPI measure over 2020 and 2021, due to volatility in oil prices, government responses to Covid, demand impacts and then supply chain impacts due to Covid – but the CPI remained under 2% over FY20 and FY21.

However, by late 2021/early 2022 it was apparent that inflationary pressures were increasing and broadening. Significantly, the September quarter 2021 saw core inflation – which excludes the extreme price movements, such as the 'usual' petrol price volatility – move back into the RBA's 2-3% target range for the first time since the December quarter 2015. Both core and headline inflation accelerated through 2022, with headline CPI peaking at 7.8% and core inflation peaking at 6.4% in the December quarter 2022, as a number of factors conspired to worsen local and global inflation. These factors included severe supply chain shortages and delays, the zero-Covid policy pursued by China, the outbreak of war in Ukraine (and associated sanctions on Russian oil and other commodity exports). Food prices also jumped in early 2022 because of the impact on wheat and other foods prices from the Ukraine war, while the floods in eastern Australia led to substantial rises in some food prices through 2022. The supply-chain disruption for imported goods were also exacerbated by the decline in the Australian dollar over 2022 and into 2023. Added to this was evidence of rising demand inflation via widening profit margins, as local businesses took advantage of stronger economic conditions.

Another important component of procyclical inflation since mid-2021 has been the cost of constructing a new dwelling (which constitute 8.6% of the CPI basket'). Cost inflation in the construction sector has been escalating since late 2020, due to both the surge in construction work generated by the HomeBuilder subsidy, and materials and labour shortages caused by this additional demand and exacerbated by supply bottlenecks and workplace restrictions. The house purchase component increased 20.7% y/y over the year to September 2022, before easing over the subsequent three

quarters. Construction cost inflation will slow further in the coming quarters, but over the next year it will still remain high relative to its history.

Price inflation to ease back over the next 2 years as supply pressures ease

Although we expect oil and other commodity prices to ease further through 2023, it will take some time for supply networks to completely normalise. But most of these supply-side pressures will abate over 2023, and their absence will cool headline inflation materially through 2023. Demand-driven inflation will be slow to abate over the year, despite RBA attempts to 'cool' strong demand with higher interest rates. Moreover, the tightening labour market - with the unemployment rate currently around 3.7% and expected to stay under or near 4% for the next 2 years - will contribute to wage pressures, which have so far contributed little to the above-average CPI inflation, apart from construction costs. Overall, headline CPI inflation averaged 4.4% in FY22 and 7% in FY23, (following 1.6% in FY21), with annual (through-the-year, or y/y) price growth easing back to 6.0% in June quarter, pushed down by the 0.8% q/q rise in the June quarter.

However, some structural factors will add to inflation over the short-to-medium term, such as household energy costs and a return to higher rental and food inflation. Rents constitute around 6% of the CPI while food accounts for over 10% of CPI basket (excluding around 7% for meals out and takeaway food). Rental price growth rose to 4% (y/y) in the December quarter 2022 and further to 6.7% in the June quarter 2023. Given the extreme tightness in rental markets currently, the CPI measure of rents is expected to increase markedly over the next 2-3 years as existing rental contracts roll over to new, much higher rents. Another factor driving inflation over the next 2-3 years will be further sharp increases in electricity and gas prices (which constitute 3.2% of CPI).

Food inflation had averaged around 2.8% p.a. over the 25 years to 2014 but had been very weak over the five years to FY19 (averaging only 1.1% p.a.), which was a key factor which muted prices over those years. This was due to intense competition between the major supermarkets and falling or weak global agricultural prices. The supermarkets cannot keep cutting prices (and either their own margins or suppliers' margins), while world agricultural prices will remain elevated over the medium term, now the previous global oversupply has dissipated. So while we expect food inflation to ease back from the 10% rises of 2022, food prices are unlikely to track back to the sub-2% of the 2015-2019 period.

Underlying and headline CPI inflation are expected to remain somewhat elevated over FY24 to FY26 as the supply and demand pressures slowly abate and employment remain bouyant, and wage growth strengthens. Wages growth will accelerate as the unemployment rate is expected to remain below 4% over FY23 to FY25. Although global inflationary pressures will ease over the next year, they will remain elevated, contributing to higher manufacturing costs and prices over the near term. The sharp decline in the exchange rate from around US$0.72 in the first half of 2022 to below US$0.65 recently will also add to inflationary pressures in the near term. Conversely, we expect the A$ to appreciate toward US75 cents over the next two years, which will provide some offsetting pressures between FY24 and FY26.

Overall, OEA forecasts headline CPI inflation to be 4.4% in FY24, 3% in FY25 and 2.6% in FY26. The expected softening in the economy around mid-decade will see price and wage pressures weaken, with the CPI to ease back to around 2.5% over FY27, where it is expected to sit over the latter years of the 2020s (see figure 4.1). Our forecasts, on average, are similar to the May RBA forecasts over FY23 to FY26 (see section 4.1.1 below).

CPI inflation projected to average close to 2.5% over the medium-to-long term

Headline CPI inflation is expected to sit close to the mid-point of the RBA's 2-3% target band in the long run based on the following:

- Tradeables inflation, which currently constitutes around one-third of the CPI basket, is forecast to increase by an average of around 1% to 2% per annum contributing around 0.5% to annual inflation. Limited movements in the A$, steady (but subdued) increases in global manufacturing costs and some commodity price increases underpin this projection.

- Non-tradeables inflation comprises the remaining two-thirds of the basket, but this proportion is increasing due to the move toward services and higher price inflation (than tradeables). It is assumed to increase by around 2.5-3% per annum, contributing around 2% to headline inflation. This is weaker than the 3.7% average achieved from 2001 to 2015 when relatively high wage inflation, lower than average productivity growth to 2009 and also large rises in utilities prices pushed non-tradeables inflation to well outside of the RBA's 2 to 3% target range. We expect higher wages growth in the longer term and lower long-term productivity will also contribute to the maintenance of relatively high non-tradeables inflation.

4.3 NATIONAL ALL INDUSTRIES WAGES

The key determinants of nominal wages growth are consumer price inflation, productivity, the relative tightness of the labour market (i.e., the demand for labour compared to the supply of labour), and compositional (structural) changes in the labour market following the end of the mining investment boom. The low wage growth of the 2014-21 period was both a product of and key contributor of low underlying inflation. Low wages helped keep business costs down and thus muted upward price pressures, while a significant section of pay deals are set in line with CPI inflation – especially for employees on awards. The unemployment rate and underemployment rate are key indicators of the amount of slack in the labour market. The unemployment rate was just above 5% over the two years to the March quarter 2020, before the COVID impacts. Historically this rate was seen as close to the NAIRU, (the Non-Accelerating Inflationary Rate of Unemployment or the 'natural rate of unemployment'), but our latest research suggests that the natural rate has lowered in recent years, possibly to around 4%.

Wage growth now rebounding, and will lift further as labour market remains tight

Following the covid-inspired slump in wages in FY20 and FY21, wages growth picked up over FY22, with the All Industries wage price index (WPI) increasing to 2.4% in FY22 (from 1.5% in FY21). A further acceleration in wages growth occurred in FY23 – to 3.5% - and we expect wages growth to strengthen over FY24 and FY25, before easing over FY26 to FY28.

A key element adding to wage pressures in FY22 and over FY23 was the rapid tightening in the national labour market. Employment is now well above pre-COVID levels, with the unemployment rate now (August 2023) at 3.7% and labour force participation rates at record levels. A key to the outcomes over FY22 was little growth in the pool of available labour. The cessation of international migration to Australia since March 2020 saw population growth plummet to just 0.2% in the year to June 2021, while the working age population (above 15 years old) increased by only 50,000 (+0.2%) over 2020/21 and 206,000 in 2021/22, compared to over 330,000 persons in FY19 and in the year to March 2020. Growth in the labour force has been facilitated by a marked increase in the labour force participation rate to record levels. However, there is now little scope to raise the participation rate further and, with the underemployment rate at historical lows and job vacancies well above pre-COVID levels, wage pressures will remain elevated.

Fig. 4.1 Australia: Wages and Prices

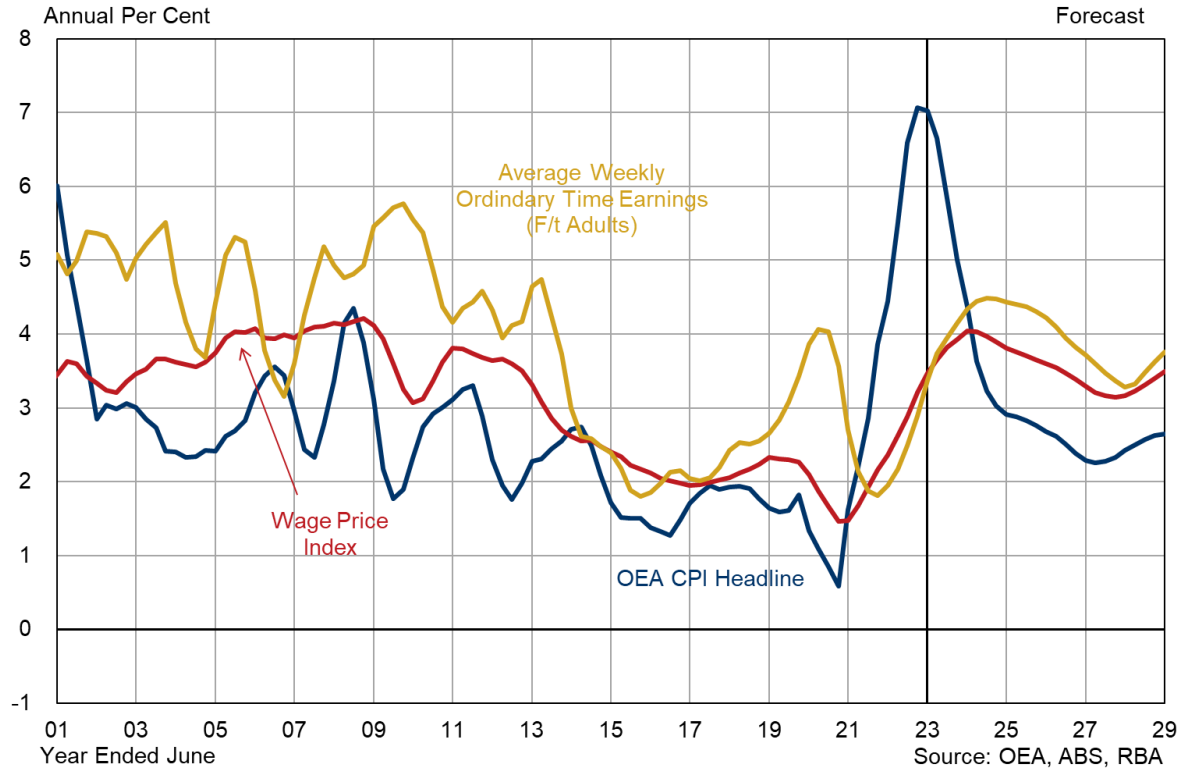
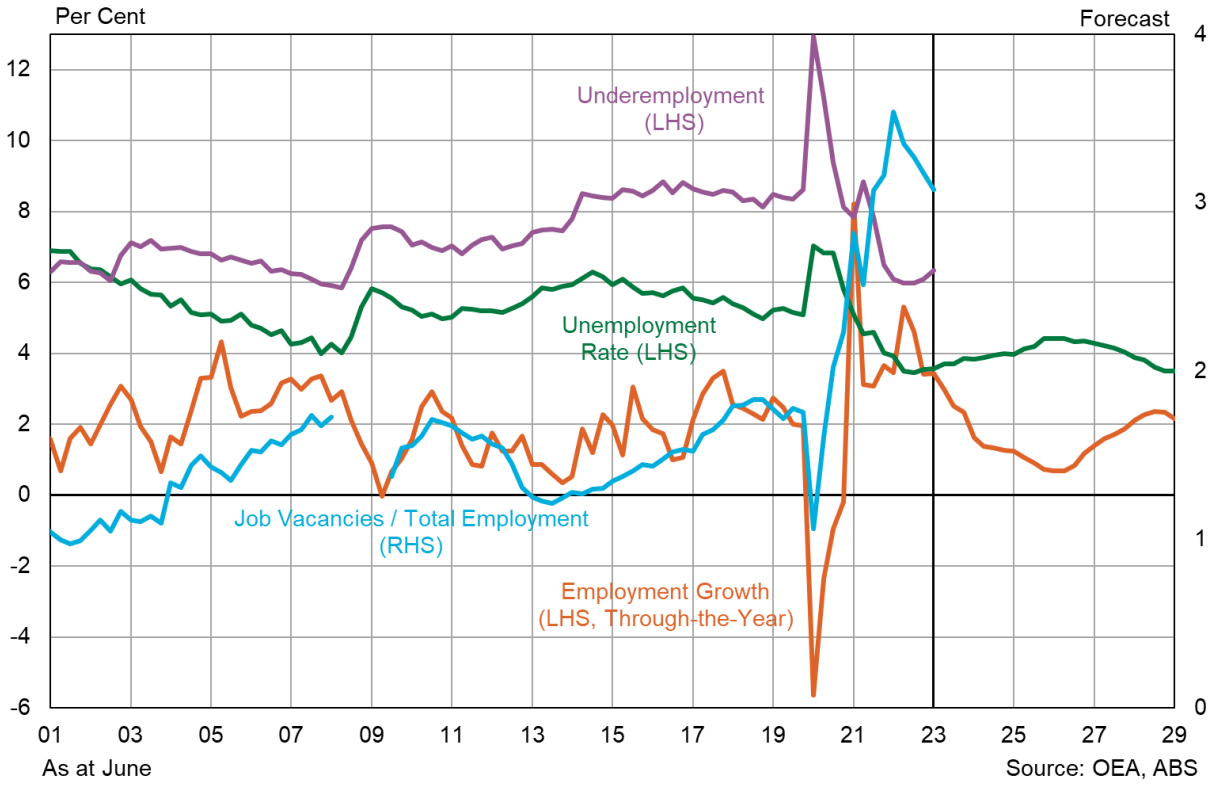


Fig. 4.2 Australia: Employment and Unemployment



The economy is expected to remain resilient over the short-to-medium term and, although OEA's economic growth (GDP) forecasts are for modest weakening over FY24 and FY25, we still expect the labour market to remain tight, with labour demand still relatively strong and the unemployment rate remaining around 3.6% to 4% over the next two years to FY25. The rise in the unemployment rate is also expected to be kept in check by falls in the participation rate, as employment growth slows. Skill shortages, which have already emerged, are expected to remain acute in many parts of the economy, although there has been some recent evidence of shortages of unskilled labour beginning to ease. The tight labour market will see wage pressures remain elevated. Wages have been slower to pick up compared to the inflation rate, due to lags in the transmission of wage increases, particularly in the enterprise bargaining segment, where the duration of agreements runs for 2-3 years.

In the short-term, our wage forecasting methodology involves an analysis of the expected future wage movements in the three main methods of setting pay – for those reliant on awards (13% of the full-time workforce), collective agreements (38% of the workforce) and those who have their pay set by individual arrangements (48%). In terms of those workers on awards who have their pay determined by the Fair Work Commission (FWC) in the annual National Minimum Wage (NMW) case, the increase given in June 2022 for the 2022/23 financial year was much higher than previous years – with the FWC awarding a 5.2% increase to workers on the minimum wage, although workers on award rates only received a 4.6% increase (minimum $40/week increase for award rates below $870/week). A key element of this decision was the very high CPI inflation rate of 5.1% in the March quarter 2022 (which was then the latest available quarter).

The June 2023 NMW decision (for the 2023/24 financial year) was even higher, driven by CPI inflation of 7% in the March quarter 2023. The Commission awarded an 8.6% in the minimum wage and an increase of 5.75% for workers on awards. This will underpin a lift in wages growth in FY24. It is likely that the minimum and award increases provided by the FWC will remain high for the next 1-2 years, particularly given the support for higher wages from the new Federal Labor government (which the previous government did not support). Although only 13% of full-time workers (a much higher proportion for part-time workers) rely on the annual increase in the minimum and award wage as their primary wage-payment mechanism, a significant proportion of workers are also indirectly influenced by the NMW increase, as it usually flows onto industry awards, with the Fair Work Commission estimating its decisions will affect more than 2.7 million workers (around 20% of the workforce). Accordingly, these FWC decisions will also influence the strength of wage increases given to those who receive their wages via 'individual arrangements' pay setting arrangements, as a significant proportion of wage increases given under individual arrangements are based on awards. Recent inflation outcomes, inflationary expectations and the tightness of the labour market are also key influences in the setting of wage increases under individual arrangements.

It is important to note that wage growth usually lags changes in the labour market, inflation and economic conditions, because of the inherent lags in wage setting mechanisms. Although wage increases related to the NMW and relevant awards are set each July, many of the enterprise agreements – covering 38% of the full-time workforce – run for an average of 2-3 years. These agreements averaged 2.6% over the five years to December 2021, having been set in an environment of low inflation and a much less tight labour market. However, as these previous (low wage increases) agreements expire, we expect the next round of agreements to be materially higher, due to ongoing high CPI inflation and because of widespread skilled labour shortages (with the unemployment rate expected to be below 4%). The latest DEWR (Department of Employment and Workplace Relations) data shows that agreements recently approved have lifted from 3.0% (average annualised wage increases – AAWI) in the December 2022 quarter to 3.7% and 3.8% in the March and June 2023 quarters. Of the other 49% of workers on individual agreements, those of who are on awards will receive an annual pay increase via the FWC increase, while others may receive an annual salary increase, but there are a significant proportion on fixed contracts running over a few years. The

bottom line is that the next round of wage rises negotiated by workers will be much higher than recent years.

Forecasts for All Industries wages are detailed in Table 5.1 and the Summary table in the Executive Summary. Our forecasts for the Australian All industries WPI is an increase to 3.9% in FY24 (from 3.5% in FY23) and remain elevated at 3.7% over FY25, before easing over the subsequent 3 years as the economy cools and the unemployment rate rises back above 4%. Overall, using RBA CPI forecasts, real (inflation-adjusted) WPI growth for the Australian All Industries WPI is forecast to decline again in 2023/24 as high CPI inflation out-paces WPI growth (as occurred in 2021/22 and 2022/23). Thereafter, with WPI growth remaining elevated and CPI inflation easing, there will be positive growth in real wages from 2024/25 to 2028/29. Over the five-year period from 2024/25 to 2028/29, the real rate of increase is forecast to be 0.8%.

4.4 NEW SOUTH WALES ALL INDUSTRIES WAGE OUTLOOK

Growth in total or 'All Industries' wages at the state level usually depends on the relative strength of the state economy and labour markets, compared to the national average. Over the past five years to 2022/23, the NSW All Industries state average WPI growth was virtually the same as the national average.

Over the next six years to 2028/29, we expect economic and employment growth in the state to lag the national average. However, the lower employment growth will basically keep pace with the growth in the working age population and labour force – which will see the state's unemployment rate to continue to be lower than or match the national average. Accordingly, this tight labour market in NSW underpins our projection that the NSW All Industries WPI will virtually match the national average over 2023/24 to 2028/29.

In the five years to 2028/29, we are forecasting the total state (All Industries) WPI in NSW to average 3.4% in nominal terms. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.7% (see Summary Table 1.1 in the Executive Summary). This forecast includes the -0.11% annual impact on the All Industries WPI in 2024/25 and 2025/26 (see section 5.3 for key assumptions underpinning this impact).

5. INDUSTRY WAGE FORECASTS - UTILITIES & CONSTRUCTION: AUSTRALIA & NEW SOUTH WALES

5.1 NATIONAL & NEW SOUTH WALES EGWWS WPI FORECASTS

Utilities wage growth is forecast to outpace the national 'All Industries' average over the forecast period, as it usually does.

The national (Australia-wide) EGWWS (Electricity, Gas, Water & Waste Services) wage price index growth has consistently been above the national (All Industries) average since the index's inception in 1997 and averaged 0.5% higher than the national average over the past two decades (see Table 5.1 and Fig 5.1). Over the two decades to 2020/21, the average growth in the real (inflation-adjusted) WPI was 1.2%. Since the collapse in wages growth following the end of the mining boom, the EGWWS WPI has continued to outpace the All Industries average, increasing by an average of 2.5% over the past decade from 2013/14 to 2022/23 inclusive, 0.2% higher than the 2.3% national average.

Over the 5-year period from 2024/25 to 2028/29 inclusive (Essential Energy's next regulatory period), the Australian EGWWS WPI is forecast to average 3.7% p.a., which will be 0.3% above the All Industries WPI average, slightly lower than the 0.4% difference of the past decade to 2019/20 (see Table 5.1). In real terms, the Australian EGWWS WPI is forecast to average 1.0% p.a. over the five years to 2028/29, which is around the 1.0% p.a. averaged over decade to 2019/20 (this excludes the COVID-19 affected period). Note that these forecasts include an adjustment for the economic incidence impact of the SG increase, which is expected to see the EGWWS WPI be -0.04% lower over 2023/24 to 2025/26 than if the SG increase did not proceed.

Oxford Economics Australia regards the WPI to be a measure of the *underlying wages growth* in the Australian utilities sector. In terms of total wage costs — expressed in Average Weekly Ordinary Time Earnings (AWOTE) — Oxford Economics Australia expects EGWWS AWOTE to average 4.0% per annum over the five years to 2028/29, 0.3% higher than the EGWWS WPI. Our AWOTE forecasts are higher due to compositional effects. Apprentices, trainees and numbers of new staff have increased markedly over recent years, across the electricity, gas and water sector generally. Given expected slower growth in employment numbers over the next decade, it is likely that there will be overall up-skilling of the existing workforce, which will see a commensurate movement by much of the workforce into higher grades (i.e. on higher pay), resulting in higher earnings per employee.

Wages growth in the EGWWS sector is invariably higher than the total Australian national (All Industries) average.

During the COVID-19 crisis, the EGWWS sector fared much better than just about all other sectors, along with the Education, Health & Social Assistance and Finance and Insurance sectors, in terms of wage increases over 2019/20 and 2020/21. However, relatively low quarterly increases of 0.1% in each of the March and June quarters 2021 resulted in annual growth in the EGWWS WPI in 2021/22 slip below the All Industries average for only the second time in the past two decades. Overall, EGWWS WPI growth was 1.5% in 2021/22, around 0.9% lower than the All Industries average. However, this proved to be a short-lived aberration, with the EGWWS WPI rebounding strongly over FY23 to match the national average of 3.5%. From FY24, we again expect the EGWWS WPI to outpace the All Industries WPI over the forecast period. Driving this will be much higher EBAs

negotiated in an environment of high inflation and a very tight labour market, particularly for the types of skilled labour that dominate in the EGWWS sector.

Table 5.1 Total Australia (All Industries) and Electricity, Gas, Water and Waste Services Average Weekly Ordinary Time Earnings and Wage Price Index (Year Average Growth)

Year Ended June	Average Weekly Ordinary Time Earnings (1)						Wage Price Index (2)					
	All Industries			Electricity, Gas, Water and Waste Services			All Industries			Electricity, Gas, Water and Waste Services		
	Nominal $/week	%CH	Real AWOTE %CH (4)	Nominal $/week	%CH	Real AWOTE %CH (4)	Nominal Index	%CH	Real WPI %CH (4)	Nominal Index	%CH	Real WPI %CH (4)
2002	847	5.4	2.5	981	6.8	3.9	76.7	3.3	0.5	73.8	4.2	1.4
2003	890	5.0	2.0	1,001	2.1	-0.9	79.3	3.5	0.5	76.8	4.1	1.1
2004	932	4.7	2.3	1,057	5.5	3.1	82.2	3.6	1.2	79.9	4.1	1.7
2005	973	4.4	2.0	1,091	3.2	0.8	85.3	3.7	1.3	83.3	4.3	1.8
2006	1 018	4.6	1.4	1,111	1.9	-1.3	88.7	4.1	0.9	87.6	5.2	2.0
2007	1 054	3.6	0.6	1,152	3.7	0.7	92.2	3.9	1.0	91.8	4.8	1.8
2008	1 106	4.9	1.6	1,183	2.7	-0.7	96.1	4.1	0.8	95.7	4.2	0.8
2009	1 166	5.5	2.3	1,255	6.1	3.0	100.0	4.1	1.0	100.0	4.5	1.4
2010	1 231	5.6	3.2	1,351	7.6	5.3	103.1	3.1	0.8	104.4	4.3	2.0
2011	1 283	4.2	1.0	1,474	9.1	6.0	107.0	3.8	0.7	108.7	4.2	1.1
2012	1 338	4.3	2.0	1,510	2.5	0.1	110.9	3.6	1.3	112.5	3.5	1.2
2013	1 400	4.6	2.4	1,602	6.1	3.9	114.6	3.3	1.0	117.3	4.2	1.9
2014	1 442	3.0	0.3	1,635	2.0	-0.7	117.6	2.6	-0.1	121.1	3.2	0.4
2015	1 477	2.4	0.7	1,646	0.7	-1.0	120.4	2.4	0.7	124.5	2.8	1.1
2016	1 504	1.9	0.5	1,704	3.5	2.2	123.0	2.1	0.7	127.5	2.4	1.0
2017	1 535	2.0	0.3	1,777	4.3	2.6	125.4	2.0	0.2	130.3	2.2	0.5
2018	1 572	2.4	0.5	1,818	2.3	0.4	127.9	2.1	0.1	132.9	2.0	0.0
2019	1 614	2.7	1.0	1,842	1.3	-0.3	130.9	2.3	0.7	136.6	2.8	1.1
2020	1 676	3.9	2.5	1,896	2.9	1.6	133.7	2.1	0.8	140.2	2.7	1.3
2021	1 721	2.7	1.1	1,927	1.6	0.0	135.6	1.5	-0.1	142.7	1.8	0.2
2022	1 755	1.9	-2.5	1,979	2.7	-1.7	138.8	2.4	-2.1	144.9	1.5	-2.9
2023	1 814	3.4	-3.6	2,109	6.6	-0.5	143.7	3.5	-3.6	150.1	3.5	-3.5
Forecasts												
2024	1 891	4.2	0.0	2,221	5.3	1.1	149.3	3.9	-0.3	156.2	4.1	-0.1
2025	1 973	4.3	1.1	2,323	4.6	1.4	154.8	3.7	0.5	162.6	4.1	0.9
2026	2 054	4.1	1.4	2 423	4.3	1.6	160.3	3.5	0.8	168.9	3.9	1.2
2027	2 131	3.7	1.2	2 516	3.8	1.3	165.5	3.3	0.8	175.0	3.6	1.1
2028	2 201	3.3	0.8	2 606	3.6	1.1	170.8	3.2	0.7	181.0	3.4	0.9
2029	2 281	3.7	1.2	2 707	3.9	1.4	176.8	3.5	1.0	187.6	3.7	1.2
Compound Annual Growth Rates (3)												
2001-2010	4.8		2.0	4.4		1.5	3.7		0.9	4.4		1.6
2010-2020	3.1		1.1	3.4		1.4	2.6		0.6	3.0		1.0
2023-2029	3.9		1.0	4.2		1.3	3.5		0.6	3.8		0.9
2024-2029	3.8		1.1	4.0		1.4	3.4		0.8	3.7		1.0

Source: BIS Oxford Economics, ABS

(1) Earnings per person for full-time adults. Data is year ended May (available only at mid-month of quarter)

(2) Wage Price Index, excluding overtime and bonuses

(3) CAGR (Compound Annual Growth Rates) for 2024-2029 is the average annual growth for 2024/25 to 2028/29 inclusive i.e. next Revenue Determination period.

(4) Annual real increases based on annual CPI for each year, not the geometric CPI average for the Revenue Determination perio

To a large extent, higher relative wages growth has been underpinned by strong capital works program in the utilities sector over the past two decades (and particularly up to 2013 - resulting in robust employment growth over the same period), strong competition from the mining and construction workers for similarly skilled labour and the powerful influence of unions in the utilities sector.

In addition, the electricity, gas and water sector is a largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other

sectors. Further, the overall national average tends to be dragged down by the lower wage and lower skilled sectors such as the Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns (such as the recent COVID-19 inspired downturn) impacting on wages growth in particular. The EGWWS sector is not impacted in the same way due to its obligation to provide essential services and the need to retain skilled labour.

Strong Union presence in the utilities industry and higher collective agreements outcomes pushes utilities wages above the All Industries average.

Collective bargaining dominates the pay setting arrangements in the utilities sector. Trade unions are typically able to negotiate higher-than-average wage outcomes for their members through collective bargaining, resulting in stronger wage growth than the all-industry average. Across the EGWWS sector, there are a number of utilities unions such as the Communications, Electrical and Plumbing Union (CEPU) and Australian Services Union (ASU), which have a history of achieving high wage outcomes for the sector. Other unions active in the sector include the Australian Workers Union (AWU).

As at May 2018, 64.6% of full-time non-managerial employees in the EGWWS industry have their wages set by collective agreements, considerably higher than the national average of 38.4%. Over the past 10 years, a higher proportion of workers on collective agreements is associated with higher wage growth, with a correlation coefficient of +0.6 (see Figure 5.2). As we expect that the EGWWS industry will continue to have higher levels of unionisation than the national average, we expect that unions in the EGWWS industry will continue to be able to negotiate for higher wages for a substantial proportion of EGWWS employees, resulting in EGWWS wages growing faster than the national average. Over the outlook period, we expect collective agreements in the EGWWs sector to achieve average annual increases of 3.7%.

OEA analysis shows collective agreements in the EGWWS sector averaged 1.5% higher than CPI inflation over the 15 years to 2013/14 (excluding the effects of GST introduction in 2000/01). In the six years to 2019/20, collective agreements were on average 1.4% above the CPI. Given the strength of unions in the sector and a still strong demand for skilled labour, collective agreements are forecast to remain around 1% above the 'official' CPI over the 2024/25 to 2028/29 regulatory period (this excludes SG increase impacts), although this is lower than previous periods.

As well as increases in CPI, increases in collective agreements under enterprise bargaining are also influenced by a combination of inflationary expectations, the recent profitability of relevant enterprises, current business conditions and the short-term economic outlook, and, as mentioned, by the industrial relations 'strength' of relevant unions. Because the average duration of agreements runs for two-to-three years, OEA bases its near-term forecasts of Enterprise Bargaining Agreement (EBA) wages on the strength of recent agreements, which have been formalised or lodged (i.e. an agreement has been reached or approved) over recent quarters.

EBA outcomes were relatively weak over FY21 and remained subdued in FY22 (averaging 2.5%), compared to the 5 years to FY20, when EBAs averaged around 2.9%. However, EBAs have picked up appreciably over the past four quarters, with the latest June 2023 data showing that approved EBAs have picked up to 4.2% (AAWI terms). We expect the next rounds of EBAs negotiated in the sector to rise further over the next 1-2 years, due to several factors:

- CPI inflation will remain high (averaging 7% in FY23, 4.2% in FY24, 3.2% in FY25),
- the demand for skilled labour remains strong, and
- the recent high enterprise agreement outcomes in the construction sector will influence negotiations in the EGWWS sector, as some skills can be transferable.

Figure 5.1 Wage Price Index - Australia All Industries, Electricity, Gas, Water & Waste Services, and Construction (includes SG increases impacts)

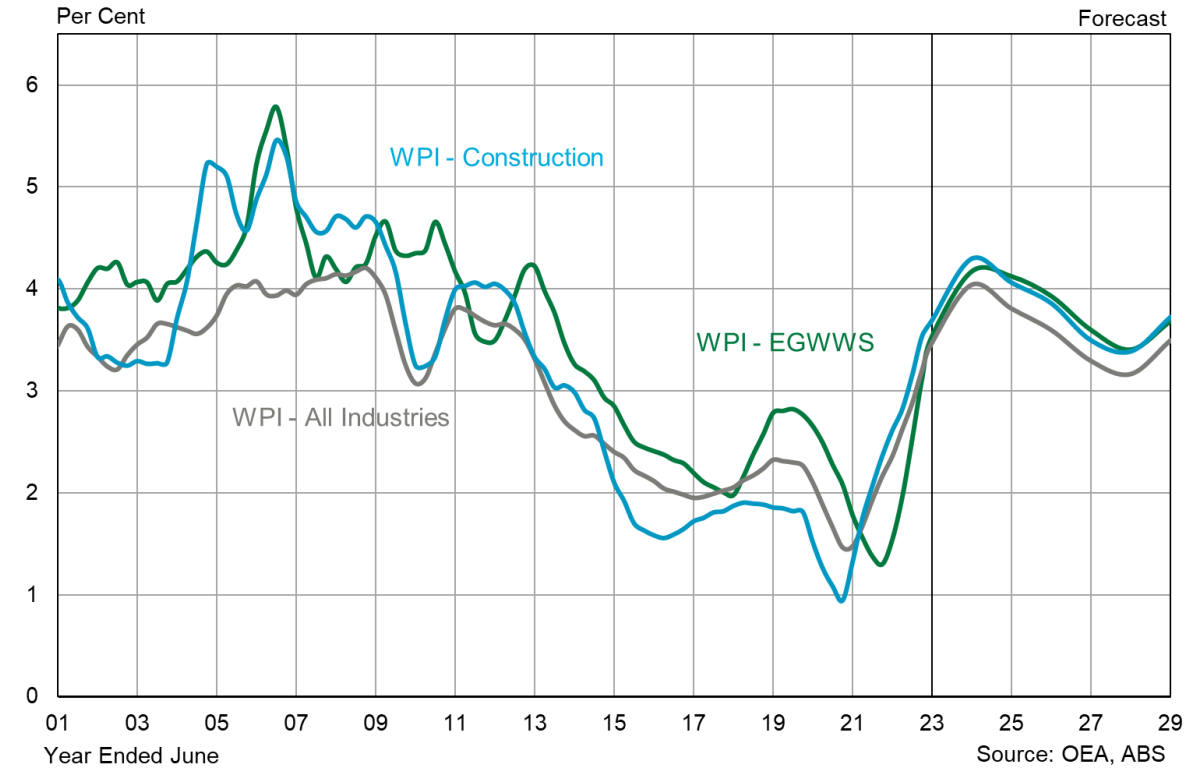
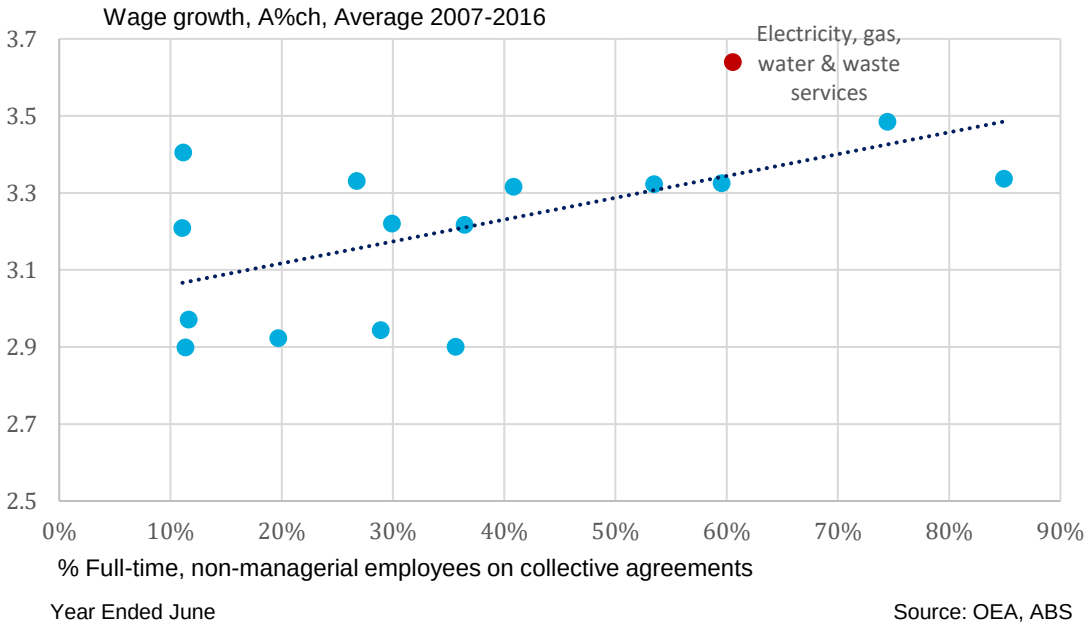


Figure 5.2 Average wage growth and unionisation rates by industry, 2007-2016



We believe investment in the sector, particularly engineering construction, has been the key driver of employment growth in the sector over the past two decades. Figures 5.5 and 5.6 illustrate this relationship, and shows employment has a much stronger relationship with utilities engineering construction rather than utilities output growth, which is expected to remain subdued.

Wage increases under Individual Agreements and EBAs will strengthen from 2023/24 due to tight supply and stronger demand for skilled labour from the Mining and Construction sectors.

Increases in individual agreements (or non-EBA wages) are primarily influenced by the strength of the labour market (especially the demand-supply balance of skilled labour), inflationary expectations, the recent profitability of relevant enterprises (which influences bonuses and incentives, etc.), current business conditions and the short-term economic outlook.

The overall labour market is expected remain very tight over the next 2 years, with the unemployment rate to remain between 3.6% to 4%, despite a slowing in employment growth from 4.3% in FY23 to 2.4% in FY24 and 1.3% in FY25. We expect population and labour force growth to largely match employment growth, with small declines in the participation rate keeping the unemployment rate low, as workers with a 'loose attachment' to the workforce drop out as labour demand eases (some to fully retire). Hence, we expect to see the continuation of critical skilled labour shortages and competition for scarce labour - particularly from the mining and construction sectors - which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 2 years to FY25 and remain at elevated levels to the end of the decade (see figure 5.3). Meanwhile, there is similar strong growth coming through in in the Construction sector, with solid increases across all segments of the overall construction sector (residential building, non-residential building and civil engineering & infrastructure construction) over FY23 to FY25, leading to strong labour demand in that sector, particularly over FY23 and FY24 when activity surpasses the 2018 levels – excluding oil and gas, where a significant proportion of the 'work done' measure is large imported components assembled on-site (see figure 5.4).

With regard to utilities investment, Oxford Economics Australia is forecasting steady increases over the next 6 years (and beyond), with electricity-related engineering construction projected to be 18% higher in FY29 compared to FY23 levels, following a 41% increase over the past two years (see chart 5.5). However, given the need for much greater amounts of transmission and distribution investment, let alone renewables generation, these projections could be considered conservative – there is a significant upside risk to the quantum of electricity-related investment required and therefore to the levels of skilled labour required.

Employers are already reporting an increasing shortage of technicians and trade workers, and employees with STEM skills. These are essential workers in the utilities sector. A key problem is that the TAFE (technical and further education) systems across the country have simply not been training enough workers. OEA research shows this is compounded by new graduates in the trades stream, in particular, not increasing fast enough to replace retiring workers, with new graduate numbers in some trades actually falling. Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration only fully returned in the first half of 2022, after being suspended since early 2020. Although now resumed, the backlog of skilled labour shortages will be slow to fill, meaning that the skill shortages will persist for at least the next 2 years.

With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to

attract and retain staff and we expect wages under both individual arrangements and collective agreements to show further strong increases over the 2023/24 to 2025/26 period.

Figure 5.3 Australia – Mining Investment

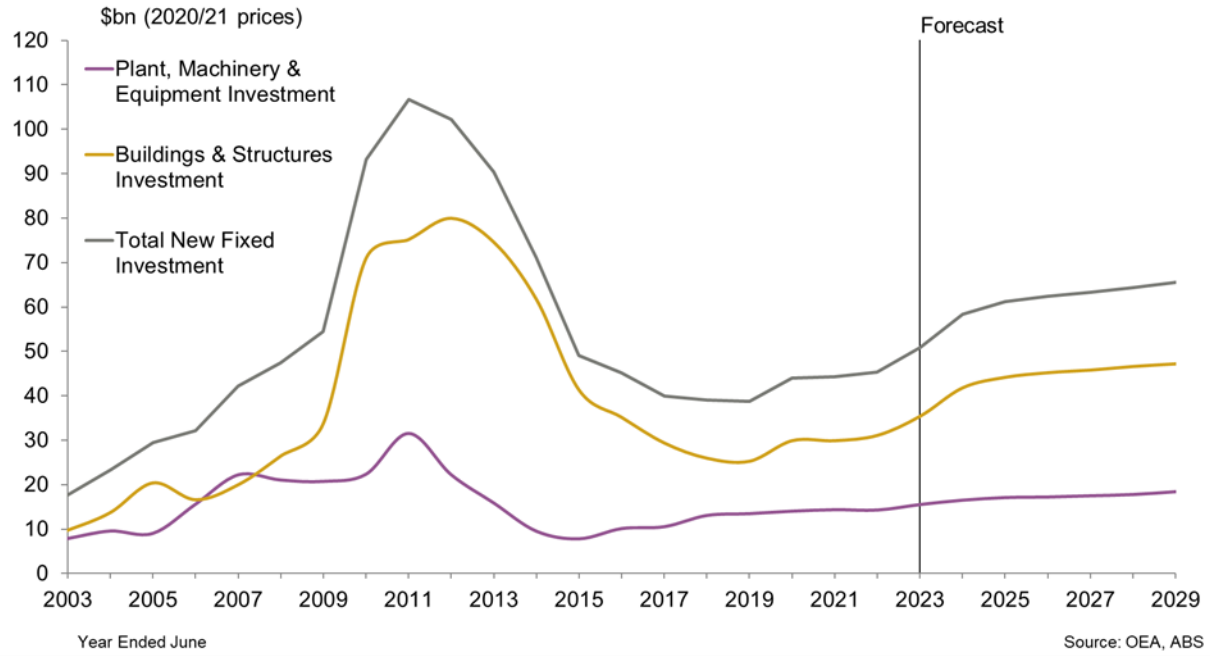
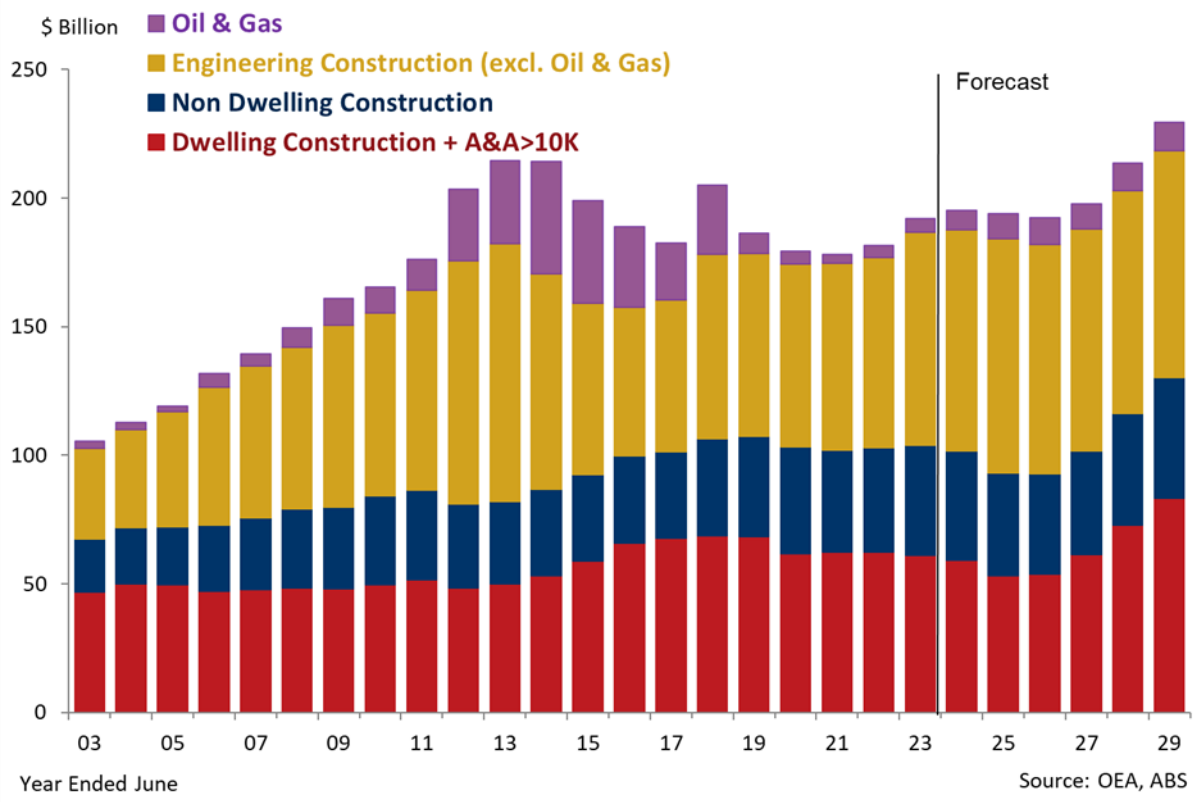


Figure 5.4 Australia – Construction Activity (real work done)



EGWWS sector has high levels of productivity, which underpins higher wages.

The EGWWS sector has one of the highest levels of sectoral productivity – as measured by real Gross Value Added (GVA) per employed person – among the 18 industry sectors, with only Mining and Finance & Insurance Services having higher productivity. Utilities' productivity is more than double the national average according to ABS data for Australia and well above the average for New South Wales (see figure 5.7). High productivity levels and commensurate skill levels are the key reasons why wage levels are much higher in the utilities sector than most other industries (in terms of average weekly earnings measures – see table 5.1).

However, over the past 18 years, the growth in productivity in the sector has not been a driver of higher wages growth in the utilities sector. Productivity suffered a steep decline over 2001 to 2014 due to a combination of strong employment growth (mainly due to rising investment, as previously discussed) and weak growth in GVA, both in Australia and NSW (see Figures 5.5 and 5.6). Meanwhile, utilities wages growth was relatively strong over this same period. In effect, there is no clear relationship between wages growth and traditional productivity measures (i.e. GVA/Employment) in the utilities sector. Low productivity is set to continue in part because GVA (output) growth is expected to remain low, with low output a function of low demand caused both by high prices and energy-saving (and water-saving) measures. However, employment levels are expected to remain relatively stable (with modest increases) due to the need to maintain a skilled workforce to ensure reliability as the industry transitions to a net zero future under federal and state government policies, as well as undertaking capital works to cater for population and economic growth and for capital replacement.

5.1.1 Outlook for utilities wages growth in New South Wales

Wages in the New South Wales utilities sector are expected to move in line with the national utilities sector average over Essential Energy's upcoming regulatory period (see tables 5.3 and 1.1). NSW utilities wages growth was weaker than the national average over the six years to 2020/21, especially during the 2016-2018 period when the NSW government was privatising the electricity networks in the state and forced wages lower as it attempted to make the networks look 'attractive' in terms of their overall cost structure. This was a 'one-off' influence on both NSW and Australian EGWWS wages growth, which has now been fully unwound. Nevertheless, relatively higher EBAs in the Victoria and Queensland utilities sectors (compared to NSW and the national average) also saw NSW utilities wages growth track lower over the 2019 to 2021 period, before reversing and pushing above the national average in 2021/22.

Recent enterprise bargaining data from the Commonwealth Employment Conditions Department (formerly the Department of Employment and Workplace Relations) shows that NSW has gradually narrowed the gap in EBAs in relation to the national average over the past three years, with the latest data (March 2023) showing currently operating AAWIs (Average Annualised Wage Increases) are the same as the national average. However, the annual averages of approved agreements have again slipped below the national average, with the NSW utilities WPI showing slower growth than the national average in 2022/23 and expected again in 2023/24. From 2024/25 we are forecasting the NSW utilities WPI to virtually match the national average.

There will be strong wage pressures in NSW, particularly due to high and increasing levels of construction activity, while the NSW utilities sector will face competition for key skilled workers from interstate utilities, construction and mining sectors. With strong competition for similarly skilled labour from the mining and construction industries, firms in the NSW utilities sector will need to raise wages to attract and retain workers. This is expected to be accompanied by record levels of utilities-related construction in the state (see figure 5.6) – boosted by Snowy Hydro II - and high levels of mining-related investment and construction activity generally (see figure 5.8).

Figure 5.5 Australia – Utilities Employment, Output, Investment & Productivity

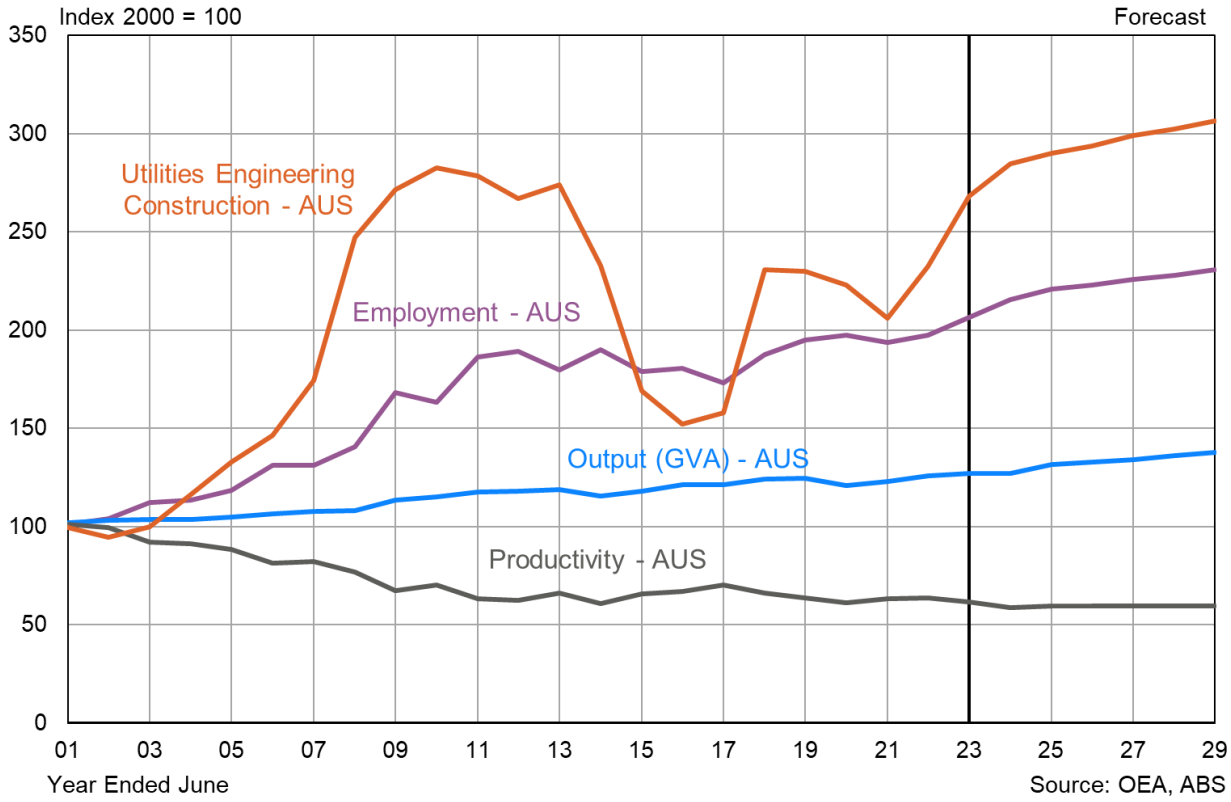


Figure 5.6 New South Wales – Utilities Employment, Output, Investment & Productivity

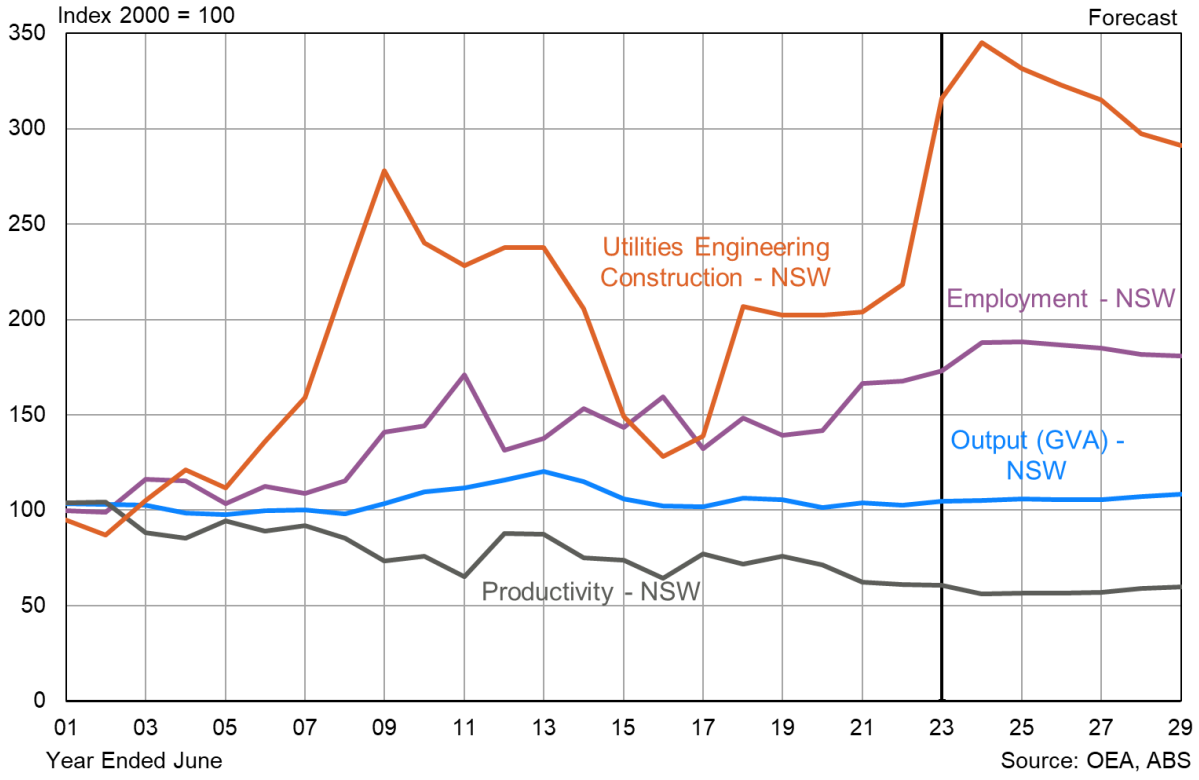
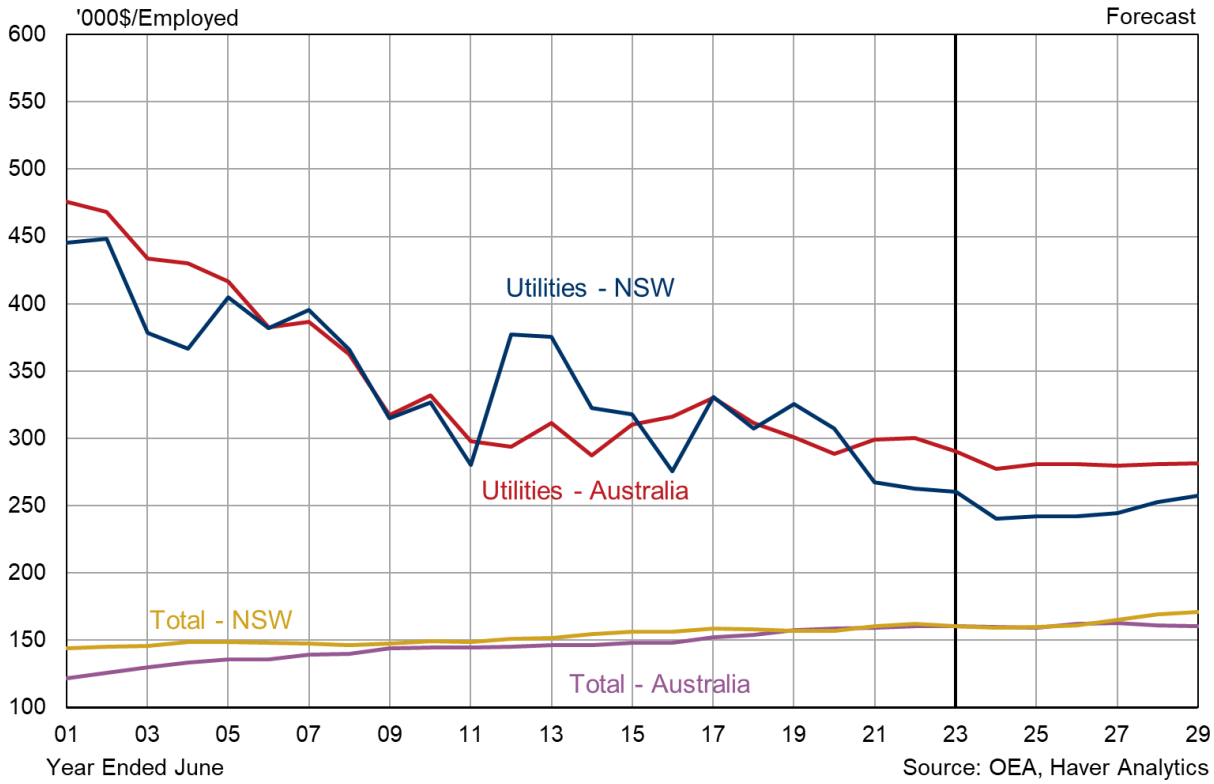


Figure 5.7 Utilities Productivity in Australia and New South Wales



The overall strengthening in the labour market, and particularly in the Construction and Mining sectors – which are key competitors to the utilities sector in terms of 'similarly' skilled workers - is expected to result in utilities WPI growth accelerating over the 2024 to 2026 period, and subsequently remain elevated over 2026/27, before easing.

New South Wales EGWWS WPI growth is forecast to average 3.7% per annum in nominal terms over the five years to 2028/29 inclusive (i.e. over Essential Energy's next regulatory period) – or 1.1% in real (inflation adjusted) terms (see Table 1.1 and Table 5.2). This WPI forecast includes the SG Increase impacts of -0.04% in each of the years 2024/25 to 2025/26 inclusive.

5.2 CONSTRUCTION WAGES IN AUSTRALIA AND NSW

This section provides forecasts of 'out-sourced' or external labour escalation where there is a significant proportion of out-sourced labour which is contracted to perform construction-type activities in the capital expenditure budget. Accordingly, we proxy external labour cost escalation by wages growth (as measured by the WPI) in the state's construction industry.

Our research has shown that construction activity (ie work done in the sector) normally has a strong influence on construction wages, although changes in wages tend to lag construction (in work done terms) by around one year. Hence, our wage forecasts are based on Oxford Economics Australia's forecasts of construction activity by state (which includes residential and non-residential building, plus engineering construction) as well as predicted movements in the construction wages at the national level. Forecasts of overall construction activity in Australia and New South Wales are detailed in figure 5.4 and 5.8. The Construction sector wage forecasts for Australia are set out in Table 1.1, while the NSW Construction WPI forecasts are set out in Tables 1 and 5.2.

Table 5.2. New South Wales: Electricity, Gas, Water & Waste Services and Construction Wage Price Indices

Year Ended June	EGWWS Wage Price Index			Construction Wage Price Index		
	New South Wales (a)			New South Wales (b)		
	Nominal Index	%CH	Real growth %CH (c)	Nominal Index	%CH	Real growth %CH (c)
2009	100.0			100.0		
2010	103.9	3.9	1.6	102.5	2.5	0.2
2011	107.6	3.5	0.4	106.7	4.1	1.0
2012	111.0	3.2	0.9	110.1	3.2	0.9
2013	115.1	3.7	1.4	113.8	3.3	1.0
2014	118.6	3.0	0.3	117.1	2.9	0.2
2015	122.1	3.0	1.3	119.6	2.1	0.4
2016	123.7	1.3	0.0	121.7	1.8	0.4
2017	125.4	1.3	-0.4	124.1	2.0	0.2
2018	127.1	1.3	-0.6	127.4	2.6	0.7
2019	130.3	2.6	0.9	129.9	2.0	0.3
2020	133.6	2.5	1.2	131.8	1.5	0.2
2021	135.7	1.6	0.0	134.6	2.1	0.5
2022	138.1	1.8	-2.7	138.4	2.8	-1.7
2023	142.3	3.0	-4.0	143.5	3.7	-3.3
Forecasts						
2024	147.9	3.9	-0.3	149.5	4.2	0.0
2025	153.9	4.1	0.9	155.4	4.0	0.7
2026	159.9	3.9	1.2	161.3	3.8	1.1
2027	165.7	3.6	1.1	166.9	3.5	1.0
2028	171.3	3.4	0.9	172.5	3.4	0.9
2029	177.6	3.7	1.2	179.0	3.7	1.2
Compound Annual Growth Rates						
2010-2020	2.5		0.5	2.6		0.5
2023-2029	3.8		0.8	3.7		0.8
2024-2029	3.7		1.1	3.7		1.0

Source: BIS Oxford Economics, ABS

(a) historical data from ABS

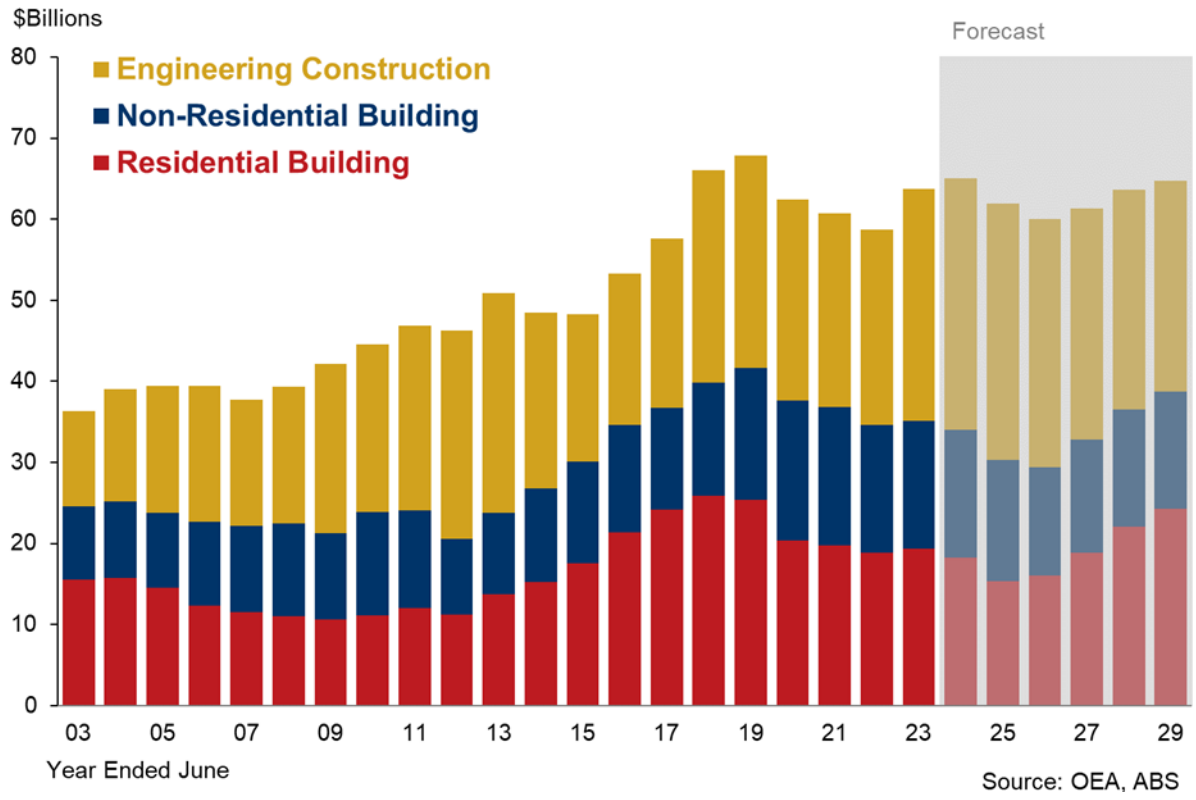
(b) historical WPI data from ABS

(c) Real price changes are calculated by deducting the inflation rate from nominal price changes, based on CPI increases for each year (not the average for the period).

Our forecast is for both the Australian and New South Wales Construction WPI to average 3.7% over the five-year period from 2024/25 to 2028/29 inclusive (Essential Energy's next regulatory period) – or 1.0% per annum on average in real (inflation adjusted) terms (see Table 1 and Table 5.3). While this is a marked improvement on the past five years, it is still well down on the 4.3% annual national average (nominal terms) of the decade to 2011/12. Note that these wage forecasts for the Construction WPI include the economic incidence impacts of the SG increase in 2024/5 and 2025/26. In the construction industry sector, we estimate the economic incidence impacts will be -0.07% for each year of the SG increase. See section 5.3 for the assumptions underpinning this estimate.

Construction wages at the national and NSW level have weakened dramatically since 2011/12 and are well below the robust increases during the construction boom. While collective agreements in the sector have maintained their relative high increases over the past 6 years – between 3.2% and 5% – wages growth in the individual agreements segment have been very weak. Construction employees in the individual agreements segment account for around 61% of construction employees, dominating the method of pay-setting within the sector. Wage growth slowly improved from their lows of 2016, despite weaker engineering construction activity (at the Australian level). The improvement in construction wages growth was effectively reversed in 2019/20 as the decline in overall construction activity and related-COVID uncertainty saw a sharp weakening in wages growth. In NSW, the Construction WPI has staged a very strong recovery since 2019/20, with 2020/21 averaging 2.1%, 2.8% in 2021/22 and 3.7% in 2022/23, with much higher enterprise bargaining outcomes in NSW pushing up NSW wages faster than the national average in 2020/21 and 2021/22.

Figure 5.8 New South Wales – Construction Activity (real work done)



Australian and NSW construction wages are expected to strengthen further over 2023/24 to 2025/26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 (in 2024 - see figure 5.4) and serious and widespread skills shortages continue, underpinning higher wages due to

strong labour demand. Although residential building activity and non-residential building activity are now coming off the boil, rising engineering construction is pushing total construction activity higher, driven by a new wave of mining investment and a plethora of publicly funded transport infrastructure projects (particularly in the eastern states of the nation).

The growth in NSW construction activity is expected to lag the national average growth over 2023/24 to 2028/29 – but still be quite strong as strong growth comes through in NSW infrastructure projects and both dwelling and non-dwelling building activity remain elevated. Despite slower growth in overall construction activity, we expect growth in NSW construction wages to closely track the national average through to 2028/29.

5.3 SUPERANNUATION GUARANTEE INCREASES & THEIR IMPACT ON LABOUR COSTS

In light of the current increases to the Superannuation Guarantee, Oxford Economics Australia researched the treatment of superannuation contributions in regard to how the ABS measures labour costs. As legislated by the Australian Government, the minimum Superannuation Guarantee is proposed to increase from the 9.5% of the early-to-mid 2020s, rising 0.5% in July each year from July 2021 to 12% in July 2025[1].

To summarise, the Superannuation Guarantee Charge (SGC) is **not** included in the regular wage measure preferred by the Australian Energy Regulator – the Wage Price Index (WPI). The SGC is in effect **a labour 'on-cost'**. In terms of escalating wage costs over the regulatory period, the SGC therefore needs to be **added** to the forecast increases in the WPI. The exception to this rule would be where an employer already pays a superannuation amount higher than the legislated minimum (currently 9.5%) - *and* chooses *not* to increase the super % until that proportion reaches the legislated minimum.

The basic WPI measures "ordinary time payments", with the broader measure – total hourly rates of pay - including only overtime payments in addition to ordinary hourly rates of pay. The ABS description of the Wage Price Index categorically states that:

"The following are specifically excluded from ordinary time payments:

- Employer contributions to superannuation funds"[2]
- Six other types of irregular payments are also listed as being excluded from ordinary time earnings, such as severance, termination and redundancy payments; leave loading; etc.

In discerning the relationship between superannuation contributions and measures of wages and earnings we must first make some distinctions in the way the ABS considers superannuation contributions. Firstly, we note that the ABS recognises three distinct categories of labour costs in-line with the International Labour Organisation (ILO) International Standard Classification of Labour Costs, and most of these components are measured by the Major Labour Cost survey (cat. 6348.0):

1. Employee earnings – made up of wages and salaries, fringe benefits and termination payments.

[1] Australian Taxation Office, https://www.ato.gov.au/Rates/Key-superannuation-rates-and-thresholds/?page=23#Super_guarantee_percentage

[2] ABS catalogue #6351.0.55.001 'Wage Price Index – Concepts, Sources and Methods, 2012', page 24.

2. Items of a social security nature that provides a future or contingent benefit to employees – made up of superannuation contributions and workers' compensation.

3. Taxes associated with employment – includes payroll tax and fringe benefits tax.

Secondly, the ABS recognises the concept of employer "on-costs", or equivalently "non-wage labour costs". These are considered additional costs employers incur beyond direct payments for work done by employees.

Employer on-costs are generally considered as involuntary outlays as they are primarily imposed by statutory requirements or under collective bargaining agreements. Employers have the obligation to pay the minimum amount of Superannuation Guarantee (SG) to employees. The Superannuation Guarantee Charge (SGC) was introduced from 1 July 1992 and increased both the coverage and minimum contribution levels.

In the September quarter 2004, the ABS expanded the scope of its Wage Cost Index (WCI), which was a predecessor of the Wage Price Index (WPI). Prior to the expanded scope, the WCI focussed exclusively on wage and salary rates. The series was renamed to the Labour Price Index (LPI), to reflect the inclusion of four separate non-wage indexes being recorded:

- Employer contributions to superannuation
- Workers' compensation
- Annual leave and Public holidays
- Payroll tax

The ABS discontinued the non-wage and labour price indexes in the September quarter 2012 and this resulted in what we now know as the WPI.

Therefore, we can categorically conclude that WPI in its current form, does not measure employer contributions to superannuation, and therefore will not be directly influenced by any changes to the Superannuation Guarantee.

As for **Average Weekly Earnings** (AWE), earnings in this context are "broadly defined as current and regular payments in cash to employees for work done" (ABS 2018). Through to 2007, AWE excluded amounts salary sacrificed and this is now considered as a form of wages and salaries in cash. In this context we can conclude, similarly with WPI, that AWE does not include superannuation contributions and will not measure any changes to the Superannuation Guarantee.

Assumptions regarding Superannuation Guarantee Increases & Their Impact on Forecasts Wage Increases and Labour Costs

The superannuation guarantee (SG) as it is currently legislated, has the contributions from employers increasing from the current 9.5% by 0.5% on 1st July each year from 2021 to 1st July 2025. This means that it will increase in each of the first two years of the next regulatory period for Essential Energy (i.e., 2024/25 and 2025/26) and should be added to the labour escalation forecast.

As discussed above, the SG increases are not included in the wage price index, but may impact the quantum of the WPI increases in each year from 2021/22 to 2025/26. This is based on the notion that a proportion of the costs associated with SG increases will be ultimately borne by employees, via lower wage growth than would be the case if there was no SG increase. In their paper for the AER on

the superannuation guarantee[3], Deloitte Access Economics (DAE) referenced a paper from the Reserve Bank of Australia (RBA), who in turn had referenced work from the Grattan Institute, regarding the pass-through of increases in the superannuation guarantee in the form of lower wages. The Grattan Institute estimated that up to 80% of the increase in non-cash benefits in the private sector, such as superannuation, are passed on to employees in the form of lower wage increases[4]. This is referred to as the 'economic incidence' of the SG increase, whereas the 'statutory incidence' of the whole 0.5% annual SG increase falls on the employers. It is interesting to note that the RBA dismissed other credible research on the incidence of the SG increase, which found that an increase in the guarantee did not affect wages. As such, there is considerable dispute regarding SGC impacts and, considering the very strong labour market and the fact that most employees now have considerable bargaining power, we believe that employers are more likely to have not discounted the majority of wages. Therefore, it is more likely that there is now only a very small impact on overall wages growth.

We also believe that the proportion of the cost borne by employees would differ according to the form of pay-setting method and other intrinsic factors. Those employees who have their pay rises set under collective bargaining **and** who belong to a strong union with considerable industrial power are expected to ultimately receive a much higher proportion of their pay increase than those who receive their pay increase via the annual minimum wage increase (set by the Fair Work Commission) and those employees on 'individual arrangements'. Furthermore, both the RBA and Deloitte Access Economics (in their paper for the AER on the superannuation guarantee – referenced in the next paragraph) have said that the economic incidence estimate is only applicable to the private sector.

In terms of overall wage costs, **the full statutory incidence of 0.5% for the SG increases each year should be added to the forecast WPI increases each year** from 2021/22 to 2025/26 inclusive for internal wages and also external wages, to arrive at the total percentage increase in labour costs. This is in line with advice from Deloitte Access Economics (DAE) to the Australian Energy Regulator in their Superannuation Guarantee paper, that "…taking into account the uncertainty regarding how individual NSPs will respond to changes in the minimum superannuation guarantee, it is recommended that the full 0.5 percentage point annual increase to the superannuation guarantee be added to forecast WPI growth"[5].

In deriving the WPI forecasts, we have made the following assumptions when applying a 'discount' to the WPI in the All Industries and specific industry WPI forecasts:

1. The key underlying assumption assumes that around 22% of the economic incidence of the Superannuation Guarantee (SG) increases are passed on to employees, with employers only paying for the remaining 78% of the cost of the SG increases. This applies to the All Industries wages. Adjustments have been made for certain industries, with the incidence much lower for employees in government-dominated industries and in sectors with stronger unions. The incidence is also assumed to be somewhat lower than previous episodes of SG increases, because of the much tighter labour market than in earlier SG increases. This means that All Industries WPI growth is equivalent to 21% less than it would be in the

[3] Deloitte Access Economics, *Impact of Changes to the Superannuation Guarantee on Forecast Labour Price Growth*, July 2020

[4] Grattan Institute, accessed from https://grattan.edu.au/wp-content/uploads/2020/02/No-free-lunch-Higher-superannuation-means-lower-wages.pdf

[5] Deloitte Access Economics, *Impact of Changes to the Superannuation Guarantee on Forecast Labour Price Growth*, July 2020, p5.

'alternative' case, where no SG increase occurred. In the context of a 0.5% increase each year, the economic incidence impact on All Industries WPI is -0.11%.

2. The impact on employees is assumed to be evenly spread in each year, rather than unevenly spread over time. This implies wages are negotiated prior to the SG increase and spread evenly over the whole year. We acknowledge this is a simplified assumption, given that often the economic incidence is not spread evenly across years, with the ultimate impacts going beyond the period of SG increases.

3. The incidence of the SG increase differs across the three different segments of pay methods. The 13.1% of employees (full-time adults) who receive their annual pay rise via the Minimum wage case by the Fair Work Commission are assumed to receive 33% less, with those who receive payments via individual arrangements receiving 25% less. At the All Industries level, it assumed that the average of the 38.4% of employees who rely on collective bargaining receive 12% less. However, this percentage for those on collective bargains or EBAs will markedly differ across industry sectors.

4. For employees in the EGWWS sector, the base assumption is that the 64.6% of employees on EBAs will receive 5% less, with employers paying the other 95%. This assumption is based on the strength of the unions covering the EGWWS sector, plus the fact that many on EBAs in the sector have a higher superannuation rate than the base rate, providing added scope to not increase the superannuation rate but pay full wage increases. Of those relying on individual arrangements, we assume that only 15% of employees' wages are discounted. Overall, the impact on the whole EGWWS WPI will be -0.04% for each of the years from 2023/24 to 2025/26 inclusive.

In the Construction sector, we are assuming that the discount on wages negotiated by the construction unions covering that industry will also be only 5%, with only 15% of those on individual arrangements having their wages discounted. Overall, the impact on the whole Construction WPI will be -0.07% for each of the years from 2022/23 to 2025/26.

6. APPENDIX: A NOTE ON DIFFERENT WAGE MEASURES & WAGE MODELS

Several different measures of wages growth are referred to in this report, each differing slightly both in terms of their construction and appropriateness for measuring different aspects of labour costs. The following provides a brief summary of the main measures, what they are used for and why. This is followed by a brief explanation of the wage modelling methodology.

The main wage measures are:

- Average Weekly Ordinary Time Earnings (AWOTE) — earnings gained from working the standard number of hours per week. It includes agreed base rates of pay, over-award payments, penalty rates and other allowances, commissions and retainers; bonuses and incentive payments (including profit share schemes), leave pay and salary payments made to directors. AWOTE excludes overtime payments, termination payments and other payments not related to the reference period. The AWOTE measures used in this report refer to full-time adult AWOTE and are sourced from the Australian Bureau of Statistics (ABS) catalogue number 6302.0, with BIS Oxford Economics forecasts.

- Average Weekly Earnings (AWE) — represents average total gross earnings (before tax) of all employees (including full-time and part-time workers). They include weekly ordinary time earnings plus over-time payments.

- The Wage Price Index (WPI) — a CPI-style measure of changes in wage and salary costs based on a weighted combination of a surveyed ‘basket’ of jobs. The WPI used in this report excludes bonuses. The WPI also excludes the effect of changes in the quality or quantity of work performed and most importantly, the compositional effects of shifts within the labour market, such as shifts between sectors and within firms. The WPI figures quoted in this report are sourced from ABS catalogue number 6345.0, with BIS Oxford Economics forecasts.

Each measure provides a slightly different gauge of labour costs. However, the main distinction between average earnings measures and the wage price index relate to the influence of compositional shifts in employment. The compositional effects include changes in the distribution of occupations within the same industry and across industries, and the distribution of employment between industries. For example, a large fall in the number of lower paid employees, or in employment in an industry with lower average wages, will increase average weekly earnings (all else being equal). While this is a true reflection of the average cost of labour to businesses, it is not necessarily the best measure of ongoing wage inflation (i.e. trends in wage-setting behaviour in the labour market). Another compositional problem with using the ‘all persons’ AWOTE is variations in the proportion of male and female employees (particularly as average female AWOTE is lower than average male AWOTE). However, in practice, the data shows only minor differences in the AWOTE growth rates between male and females (or males and all persons) — between -0.2 and +0.2 per cent — since the 1980s or basically since the equal pay legislation was enacted through the 1970s.

The wage price index was specifically designed to get around these compositional problems. It uses a weighted average of wage inflation across a range of closely specified jobs. As it measures the collective variations in wage rates made to the current occupants of the same set of specified jobs,

the WPI reflects pure price changes, and does not measure variations in quality or quantity of work performed. However, like the CPI (Consumer Price Index), the weights are fixed in a base year, so that the further away from that base and the more the composition of the labour market changes over time, the more 'out of date' the measure becomes.

Importantly, the WPI does not reflect changes in the skill levels of employees within industries or for the overall workforce and will therefore understate (or overstate) wage inflation if the overall skill levels increase (or decrease). The wage price index is also likely to understate true wage inflationary pressures as it does not capture situations where promotions are given in order to achieve a higher salary for a given individual, often to retain them in a tight labour market. Average weekly earnings would be boosted by employers promoting employees (with an associated wage increase) but promoting employees to a higher occupation category would not necessarily show up in the wage price index. However, the employer's total wages bill (and unit labour costs) would be higher.

BIS Oxford Economics Wage Growth Model

BIS Oxford Economics' model of wage determination in the short-to-medium term is based on the analysis of expected future wage movements in the three main methods of setting pay, as each discrete pay setting method has its own influences and drivers. The main pay setting categories and their key determinants are:

• Employees under awards have their pay determined by Fair Work Australia in the annual National Wage case. When determining pay increases, Fair Work Australia aim to maintain the standard of living of those employed on awards by providing a safety net of fair minimum wages. Hence, they focus on the overall performance of the domestic economy, taking into account productivity, business competitiveness, inflation and employment growth. This means that increases in the Federal Minimum Wage are usually based on recent CPI growth along with Fair Work Australia's view on short term future conditions for the Australian economy. From 1 July 2022, the minimum wage was increased by 5.2%. This followed rises of 2.5%, 1.3%, 3.5% and 3.5% respectively in previous years. At the All Industries level, 13% of all non-managerial full-time employees (data excludes those in agriculture, forestry and fishing) have their pay rises determined by this method, but only 1.5% of Electricity, Gas, Water & Waste Services' (EGWWS) employees.

• For employees under collective agreements (representing 38% of all employees; 64.5% of EGWWS), their pay is determined through enterprise bargaining, and wage increases are influenced through a combination of recent CPI, inflationary expectations, profitability levels of relevant enterprises, business conditions, and the short-term economic outlook. Workers' unions can also play a significant part in negotiations, especially unions with a good position in industrial relations through strong membership. With the average duration of these agreements currently two to three years, BIS Oxford Economics use the most recent agreements formalised in recent quarters as a basis for our near-term forecasts. Beyond that, collective agreements are based on our expectations of economic conditions.

• The remaining 48% of employees (or 33.9% of EGWWS employees) have their pay set by individual arrangements, whether it be individual contracts or some other form of salary agreement, which may include incentive-based schemes. Similar to the minimum wage and collective agreements, inflation and inflationary expectations have a strong influence on agreements, as well as the strength of the labour market. Individual arrangements are often skewed towards more skilled workers, so the balance between demand and supply in skilled labour can be an important influence.

Note that wage increases under 'individual arrangements' are calculated by deduction. Data from DEEWR (Department of Education, Employment and Workforce Relations) are used for wage increases under collective agreements.

The limitation of this methodology is that because individual arrangements are calculated as a residual, all of the compositional effects in terms of AWOTE (ie from more or less lower-paid workers being employed in the relevant year) plus all (or most) of the bonuses and incentives from those under award or collective agreements end up in the individual arrangements residual, which distorts the pay increases in this segment. However, the methodology works well for the WPI, particularly at the All Industries level, although some compositional problems occur at the sectoral level, particularly for sectors with a relatively small employment base (such as electricity, gas, water and waste services).

The 'bottom-up' approach to wage forecasting is complemented by a more formalised 'top-down' macroeconomic modelling framework – to ensure an overall macroeconomic consistency with output, employment, productivity and price variables. The wage price index is a function of the following explanatory variables:

- CPI
- unemployment rate
- labour productivity (GDP/employment)
- lagged wage (WPI) growth (to capture 'sticky' nature of wage determination in the short term).

The top-down macroeconomic modelling methodology becomes more relevant beyond the next 2-3 years.

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