Appendix 1.7: BIS Oxford Economics: Electricity-related labour escalation forecasts to 2028/29

Regulatory proposal for the ACT electricity distribution network 2024–29

OXFORD ECONOMICS

ELECTRICITY-RELATED LABOUR ESCALATION FORECASTS TO 2028/29

PREPARED BY BIS OXFORD ECONOMICS FOR EVOENERGY

FINAL REPORT

NOVEMBER 2022

BIS Oxford Economics

Effective March 1 2017, UK-headquartered **Oxford Economics** acquired a controlling stake in **BIS Shrapnel** which had been in continuous operation since July 1, 1964 as a completely independent Australian owned firm providing industry research, analysis and forecasting services. The new organisation is now known as **BIS Oxford Economics**.

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November 2022

The modelling and results presented here are based on information provided by third parties, upon which BIS Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

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1. EXECUTIVE SUMMARY

In response to the Terms of Reference (TOR): 'Provision of Real Cost Escalation Calculations and Advice', BIS Oxford Economics (BISOE) has prepared a discrete set of labour price indices relevant to electricity transmission and distribution networks in Australia and the Australian Capital Territory (ACT). We understand these forecasts will be used by Evoenergy to develop their operating and capital expenditure forecasts. These forecasts, in turn, will be included in Evoenergy's next revenue reset submissions to the Australian Energy Regulator (AER), with the next reset period covering the five years from 2024/25 to 2028/29 inclusive.

For **electricity network-related labour**, BIS Oxford Economics 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 3.5% per annum over the seven-year period from 2022/23 to 2028/29. For the five-year reset period from 2024/25 to 2028/29, the average increase in the Australian EGWWS WPI is forecast to be 3.5%. In real terms, the national EGWWS WPI is forecast to average 0.9% p.a. over the five years to 2028/29 (see Table 1 below).

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, -0.1% lower in each of the relevant five years, than if the SG increases did not proceed. The Reserve Bank of Australia (RBA) has quoted research from the Grattan Institute that found that employees tend to receive lower wages due to the imposition of a SG increase. In effect some of the employees' wage increase (which they would have received in the absence of the SG increase) is replaced with the extra superannuation contribution. This means that although the 'statutory' incidence of the higher superannuation contributions is borne by employers, over time a proportion of these higher SG costs are passed from employers to employees via lower wage growth (i.e. known as the 'economic incidence').

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. Excluding the -0.1% annual economic incidence impact of the SG increases in the EGWWS sector, the forecast real growth in Australian EGWWS WPI would be 1.0% over the five-year regulatory period to 2028/29, similar to the 1.0% p.a. averaged over the decade to 2019/20.

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 3.2% 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 -0.24% in each of the five years to 2025/26, which is higher than the -0.1% impact on EGWWS wages.

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 strengthen from the current subdued pace as the labour market tightens, especially from 2022/23 with the unemployment rate now under 4% and expected to remain below 4% over the next three years.
- demand for skilled labour will strengthen with the high levels of utilities investment from 2021/22 to 2028/29, with overall utilities investment levels expected to gradually increase and remain elevated over the next seven years. BIS Oxford Economics forecasts that electricity-related engineering construction will be 48% higher in 2028/29 compared to 2020/21 levels, including a 25% increase over 2024/25 to 2028/29. 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.

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 0.6% lower than the All Industries average. BISOE believes this will be a short-lived aberration and that the EGWWS WPI will rebound strongly over the next year to again outpace the national average. Driving this will be much higher EBAs negotiated in an environment of very high inflation and a very tight labour market, particularly for the types of skilled labour that dominate in the sector.

A key element adding to wage pressures in 2021/22 and over 2022/23 is the rapid tightening in the national labour market that is now apparent. Employment as at July 2022 was well above pre-COVID levels, with the unemployment rate at 3.4% and labour force participation rates at record levels. A key to the outcomes has been little growth in the pool of available labour. The cessation of international migration to Australia since March 2020 has seen population growth plummet to just 0.2% in the year to June 2021, while the working age population (above 15 years old) has 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 pushing lower and job vacancies well above pre-COVID levels, wage pressures are building.

As the economy continues to remain resilient over 2022/23 to 2024/25, we expect to see sustained tightness in the labour market, with labour demand increasing and the unemployment rate remaining around 3.5% to 4% over 2022/23 to 2024/25. Skill shortages, which have already emerged, are expected to broaden and worsen in many areas of the economy. The tightening labour market will see wage pressures increase, and the All industries WPI is forecast to increase to 3.4% in 2023/24 and remain there over 2024/25 and 2025/26, before easing over the subsequent two years as the economy cools and the unemployment rate rises back above 4%.

Hence, we expect to see the continuation of critical skilled labour shortages and competition for scarce labour, which are now emerging - particularly from the mining and construction sectors - which

will push up wage demands in the utilities sector. Mining investment is now picking up and we expect to see significant increases over the next 2 years to 2023/24 and remain at elevated levels until the end of the decade. Meanwhile, there is similar strong growth coming through 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 2021/22 to 2024/25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels. With regard to utilities investment, BIS Oxford Economics forecasts steady increases over the next seven years, with electricity-related engineering construction projected to be 48% higher in real terms in 2028/29 compared to 2020/21 levels, including a 25% increase over 2024/25 to 2028/29.

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. BIS Oxford Economics research shows this is being 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 fully addressed within the next five years. Added to this is that skilled immigration is recently returning after being suspended since early 2020. Although now resumed, it is likely to be a slow ramp-up, meaning that the skill shortages will persist and will not be easily or quickly solved by migration.

Table 1. Summary – Labour Cost Escalation Forecasts: ACT & 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 - Australian Capital Territory (a)	**2.3**	**2.2**	**2.8**	**2.7**	**1.9**	**1.5**	**2.9**	**3.5**	**3.6**	**3.5**	**3.3**	**3.1**	**3.4**	**3.4**
EGWWS WPI - Australia (b)	2.2	2.0	2.8	2.7	1.8	1.5	3.1	3.6	3.8	3.7	3.4	3.1	3.4	3.5
Contractor Labour Cost Escalation														
Construction WPI - Australian Capital Territory (c)	**1.3**	**1.4**	**1.8**	**1.3**	**1.3**	**2.4**	**3.2**	**3.6**	**3.7**	**3.7**	**3.4**	**3.0**	**3.3**	**3.4**
Construction WPI - Australia (b)	1.7	1.9	1.9	1.5	1.3	2.6	3.6	3.8	3.9	3.8	3.5	3.0	3.4	3.5
All Industries Wages														
All Industries WPI - Australian Capital Territory	**1.8**	**2.0**	**2.1**	**2.3**	**1.4**	**2.5**	**2.8**	**3.3**	**3.3**	**3.2**	**3.3**	**3.0**	**3.1**	**3.2**
All Industries WPI - Australia (d)	2.0	2.1	2.3	2.1	1.5	2.4	2.9	3.4	3.4	3.3	3.2	2.9	3.1	3.2
Consumer Price Index (headline) (e)	1.7	1.9	1.6	1.3	1.6	4.4	7.0	4.2	2.6	2.6	2.6	2.6	2.6	**2.6**
Real Wage Changes (g)														
Electricity Network-Related Labour														
EGWWS WPI - Australian Capital Territory (a)	**0.6**	**0.2**	**1.2**	**1.3**	**0.2**	**-3.0**	**-4.1**	**-0.7**	**1.1**	**0.9**	**0.8**	**0.5**	**0.8**	**0.8**
EGWWS WPI - Australia (b)	0.5	0.0	1.1	1.3	0.2	-2.9	-4.0	-0.6	1.2	1.1	0.9	0.6	0.9	0.9
Contractor Labour Cost Escalation														
Construction WPI - Australian Capital Territory (c)	**-0.4**	**-0.6**	**0.1**	**-0.1**	**-0.3**	**-2.0**	**-3.8**	**-0.6**	**1.2**	**1.1**	**0.8**	**0.4**	**0.8**	**0.9**
Construction WPI - Australia (b)	0.0	-0.1	0.2	0.2	-0.3	-1.8	-3.5	-0.4	1.3	1.2	0.9	0.5	0.8	1.0
All Industries Wages														
All Industries WPI - Australian Capital Territory	**0.1**	**0.0**	**0.4**	**0.9**	**-0.2**	**-2.0**	**-4.3**	**-0.9**	**0.7**	**0.6**	**0.7**	**0.4**	**0.5**	**0.6**
All Industries WPI - Australia (d)	0.2	0.1	0.7	0.8	-0.1	-2.1	-4.1	-0.8	0.9	0.7	0.7	0.3	0.6	0.6

Source: ABS, RBA, BIS Oxford Economics

(a) Electricity, Gas, Water and Waste Services (EGWWS) Wage Price Index (WPI) for Australian Capital Territory.
(b) Australian sector wage forecasts provided for comparison
(c) Construction Sector Wage Price Index (WPI) for Australian Capital Territory.
(d) Australian All Industries WPI provided for comparison.
(e) Inflation forecasts are RBA forecasts for the next 2 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 next 5 years or to the end of the regulatory period, with years 3,4 and 5 CPI equal to the calculated 5-year geometric mean. This methodology is the position adopted by the AER in its Final position paper "Regulatory treatment of inflation" of December 2020.
(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.

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 spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration to attract and retain staff. Accordingly, we expect wages under both individual arrangements and collective agreements to increase markedly over the 2022/23 to 2025/26 period.

Wages in the ACT utilities sector are forecast to lift in 2022/23 to 2.9% (from an estimated 1.5% in 2021/22), as a new round of EBAs are negotiated and non-EBA wages pick up due to higher inflation and the tightening labour market in the ACT and NSW. Thereafter, wages in the ACT utilities sector are expected to move in line with – but remain slightly lower than - the national utilities sector average through most of the forecast and regulatory period (see table). This is due to relatively weaker growth in utilities construction and overall construction in the ACT, compared to other states.

Nevertheless, there is expected to be strong and sustained growth in utilities-related construction over the forecast period, which will drive strong wage pressures in the utilities sector in the Territory. Meanwhile, total construction activity in the ACT is forecast to lift 20% over the next two years, before dropping back over 2024/25 to 2026/27 and again rising strongly to the end of the decade. In addition, there will be strong wage pressures emanating from NSW, also due to high and increasing levels of utilities and overall construction activity.

ACT EGWWS WPI growth is forecast to average 3.5% per annum in nominal terms over the five years to 2028/29 inclusive (i.e., over Evoenergy's next regulatory period) – or 0.8% in real (inflation-adjusted) terms (see Table 1). This WPI forecast includes the SG Increase impacts of -0.1% in the years from 2022/23 to 2025/26.

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 **Construction WPI** to average 3.5% over the five-year reset period to 2028/29 – or 1.0% per annum on average in real (inflation-adjusted) terms (see Table 1). 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 impacts of the SG increase over 2021/22 to 2025/26 (i.e., covering the first two years of Evoenergy's next regulatory period). In the construction industry sector, we estimate the economic incidence impacts will be -0.21% for each year of the SG increase.

The Australian Construction WPI growth in 2020/21 (in year average terms) was 1.3%, down from 1.5% in 2019/20, but recovered strongly to 2.6% in 2021/22. Australian and most states' construction wages are expected to pick up over 2022/23 and strengthen appreciably over 2023/24 to 2025/26, particularly as construction activity levels surpass the previous highs of FY18 and skills shortages manifest and worsen. The increases in construction activity from 2021/22 will be driven by higher levels of residential and non-dwelling building and particularly by strong increases in engineering construction, boosted by a new wave of mining investment and a plethora of publicly funded transport infrastructure projects (particularly in NSW and the other eastern states). The stronger activity will underpin higher wages due to strong labour demand and expected widespread skill shortages in the construction industry. We then expect wage growth to ease over 2026/27 and 2027/28 as construction activity falls back, before wage growth again picks up in 2028/29 in line with stronger construction activity.

Our forecast is for the **ACT Construction WPI** to be slightly weaker than the national average over the five-year reset period, averaging 3.4% p.a – or 0.9% p.a. in real terms (see Table 1). The growth in ACT construction activity is expected to lag the national average growth over most of the forecast period (except 2022/23, when ACT dwelling activity lifts) – but still be quite strong as strong growth comes through in ACT transport and utilities infrastructure projects and non-dwelling building activity remain elevated.

2. INTRODUCTION

In response to the Terms of Reference (TOR): 'Provision of Real Cost Escalation Calculations and Advice', BIS Oxford Economics (BISOE) has prepared a discrete set of labour, materials and land price indices relevant to electricity transmission and distribution networks in Australia and the Australian Capital Territory (ACT or the 'Territory'). We understand these forecasts will be used by Evoenergy to develop their operating and capital expenditure forecasts. These forecasts, in turn, will be included in Evoenergy's next revenue reset submissions to the Australian Energy Regulator (AER), with the next reset period covering the five years 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 September 2022.

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 and includes the June 2022 quarter Consumer Price Index, Wage Price Index and Producer Price Indices 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 BIS Oxford Economics reports, including *Australian Macro Service*, *Long Term Forecasts: 2022 – 2036, Engineering Construction in Australia 2022-2036* and *Building in Australia 2022-2036*, along with other unpublished forecasts and from BIS Oxford Economics internal research and modelling.

The previous Summary section presents an overview of the outlook for the labour and other input 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 ACT. 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 ACT, as measured by the Wage Price Index (WPI).

3. MACROECONOMIC OUTLOOK

3.1 AUSTRALIA MACROECONOMIC FORECASTS

Australian economy has rebounded from COVID-19, but now slowing as constraints emerge

In 2019/20, real Gross Domestic Product (GDP) was virtually flat – due to COVID-related impacts in the first half of calendar 2020. Australian domestic demand then increased by 2.6% in 2020/21, with the huge bounce-back in both farm and non-farm stocks pushing the growth in Gross National Expenditure (GNE) to 3.3%. However, with net exports detracting -1.6% from growth, GDP rose 1.6% in 2020/21. In 2021/22, a further strengthening in domestic demand to 5.1% - despite disruptions from further lockdowns and then severe flooding in the eastern states – lifted GDP growth to 3.9%, with net exports again detracting -1.6% from growth.

GDP growth in the recent June quarter (Q2) was in line with our expectations at 0.9% q/q. Growth in the quarter was driven by household consumption growth, while net exports also contributed strongly. Investment outcomes were underwhelming in Q2. Public and machinery and equipment investment increased, while private, construction-related investment fell, due both to rain, flooding and capacity constraints. There is a strong pipeline of work to be done in both dwellings and non-residential construction. But capacity constraints due to labour and materials shortages are delaying the realisation of this investment by extending construction times.

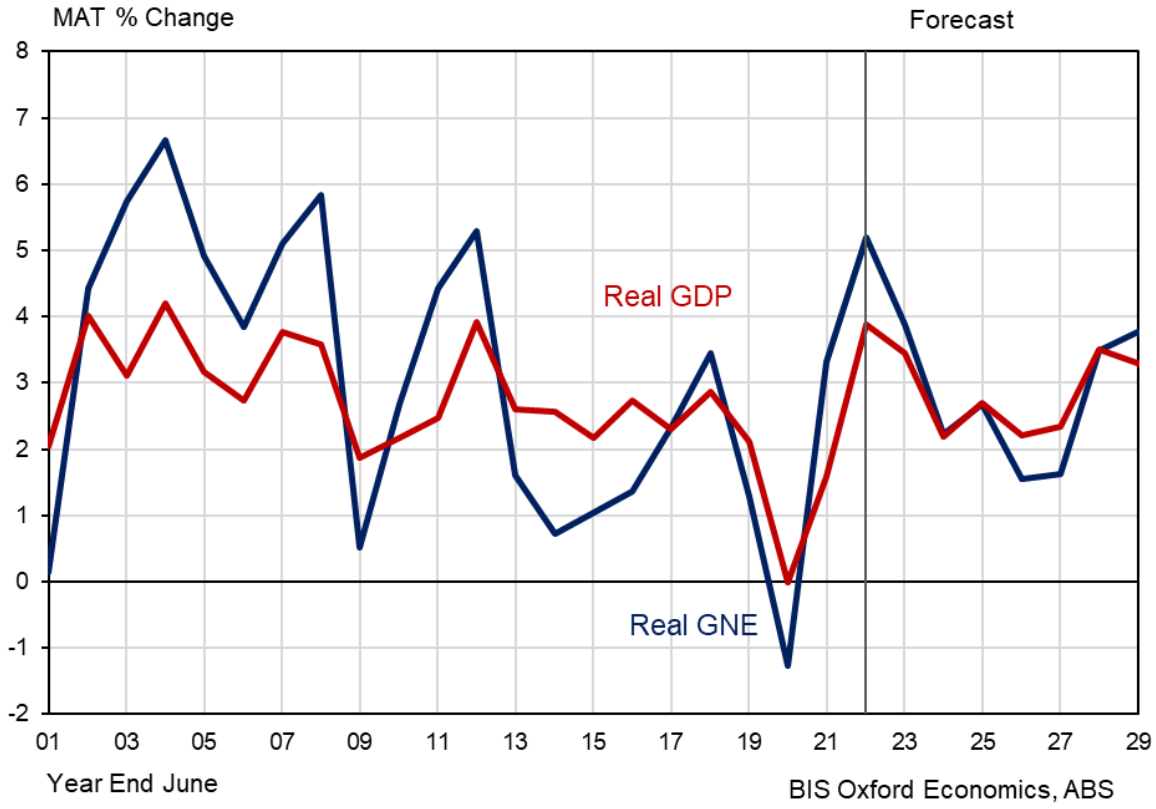
Further, the higher-cost environment is threatening the viability of future projects. Mining investment picked over 2020/21 and 2021/22. With prices for a number of commodities expected to remain at healthy levels over the medium term and strong demand for renewable energy-related minerals (such as Lithium), we expect further investments to get underway and mining investment to continue to rise and remain strong well into the middle of the decade. Overall, new business investment increased 5% in 2021/22 and is expected to grow by around 7% and 9% in 2022/23 and 2023/24 respectively, 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.

Consumption growth was strong once again in June quarter 2022 (Q2) at 2.2% q/q. Jobs growth and rising wages have supported income growth, while a sharp fall in the savings rate indicates that households are fuelling spending out of accumulated savings. Q2 was free from Covid restrictions, and spending on travel and hospitality benefitted accordingly. We expect there will be a further pivot in consumption from goods to services, although catch-up growth in services components will slow from here. Further, household budgets will face greater pressure from brisk inflation in essential spending components (food and energy), while higher interest rates will restrain spending by households with mortgages. Nevertheless, the fundamentals for growth remain encouraging. Strong employment growth and a tight labour market will support income growth, while there is still scope for the savings rate to fall further. The strength in the labour market and stronger migration flows will put a floor under conditions over the second half of 2022. However, cost-of-living pressures are squeezing real incomes, and inflation concerns are prompting higher interest rates.

Strong employment growth over the first half of 2022 has seen the unemployment rate fall to a 40-year low of 3.4% in July, while underemployment has plummeted. There is still a large cohort of workers forced to take sick leave or isolate due to Covid each month, which is constraining growth in hours worked. With the labour market likely beyond capacity and the participation rate at a historically high level, jobs growth is expected to slow. With demand indicators firm, notwithstanding job ads plateauing over the past few months, we expect a recovery in wage growth over 2022 and 2023. The large 5.2% increase in the minimum wage on July 1 will underpin a lift in wage growth over 2022/23.

Fiscal policy is now moving from supportive to tightening. Nevertheless, public infrastructure spending is set to remain strong over the short-to-medium term as there is a large pipeline of transport and other projects to complete, which were brought forward as part of the COVID response. In addition, dwelling building also remains elevated due to direct grants for individuals to put towards dwelling construction or major alterations and additions (the HomeBuilder program) which have spurred activity. The 2022/23 budget delivered a considerable upgrade to the fiscal outlook; Treasury projections for the budget deficit in 2021/22 and 2022/23 have been upgraded to 3.5% and 3.4% of GDP, respectively. The strong performance of the labour market has boosted government revenue and lowered welfare payments, while the recent spike in commodity prices has also contributed to the upgrade in forecast revenue. The budget announced a temporary cut to the fuel excise, which will lower CPI inflation in Q2, before a reversion in Q4 of 2022/23. Low- and middle-income earners, along with welfare recipients, have received one-off 'cost-of-living' payments. To the extent these transfers add to demand (and are not saved), they may add to inflationary pressures over the second half of 2022, which are already mounting.

Figure 3.1 Australia – Basic Economic Indicators



Monetary policy settings are in the process of moving from ‘extremely accommodative’ to a more ‘normal’ setting. The RBA started its rate hiking phase in May 2022, with the cash rate now at 2.6% (October 2022) in response to the stronger outlook for energy prices and higher domestic inflationary pressures. More increases are possible in the near term, although the Bank may pause as it awaits the reaction to the rises over 2022. It is important to note that with many mortgages on fixed rates (which were fixed when rates were low), some impacts will stretch well into late 2023. As noted by the RBA, inflation pressures at present are primarily being caused by global and domestic supply disruptions, which are expected to abate over 2023. Higher interest rates will do little to cool inflation caused by negative supply shocks, but the recent and upcoming rate rises are about trying to control inflation expectations and signal the RBA’s tolerance for an inflation overshoot is limited. The Bank

sees the labour market recovery as sufficiently well entrenched that it can withstand higher interest rates. The RBA also wants to move away from "emergency" low rates as quickly as possible before taking pause to assess the data.

Global Economic Outlook

The near-term outlook for global growth continues to deteriorate. The recent escalation of both formal and informal sanctions against Russia, further supply chain problems, and more upside inflation surprises continue to weigh on global economic growth. Our baseline forecast for global GDP growth is 3.1% this year and 1.8% in 2023, before picking up to over 3% in 2024 and 2025. Global CPI inflation is now expected to average over 7% this year. Much of the increase reflects higher energy and food inflation triggered mainly by the war in Ukraine. But the prospect of further long-lasting supply chain disruptions and more upside surprises have prompted upward revisions to core inflation in some major economies, including the US and eurozone.

Despite the upward revisions to our near-term CPI forecasts, we still expect inflation to ease markedly over the next year. While energy and food prices may remain high over the coming quarters, the annual inflation rate should fall back sharply as we move into 2023, helping to lower the headline rate of inflation. In addition, the squeeze on households' real incomes from high inflation and tighter monetary and fiscal policies should exacerbate any downward forces on core inflation from an eventual easing of supply chain pressures. Nonetheless, the prospect of even higher inflation over the next few quarters means that we expect many central banks will continue to push ahead with more rate hikes in the near term, including the US Federal Reserve. US GDP growth is expected to slow to 1.7% in 2022 and decline by -0.5% in 2023, before recovering to 1.6% in 2024 and 2.2% in 2025. Coupled with higher energy prices and disruptions to energy supplies in Europe, Europe GDP slows to 3.1% in 2022 and 0% in 2023, before picking up to 2.3% in 2024.

Meanwhile, greater disruption in the near term – especially in China where a zero-tolerance approach to COVID-19 continues to be pursued – points to slower normalisation of supply-chain pressures and potentially a slower transition of consumer spending from goods back to services. China has stuck to its zero-tolerance approach to Covid, with widespread lockdowns weighing on consumption and, with headwinds from the real estate sector persisting, we forecast GDP growth will slow to 3.1% in 2022 (from 8.1% in 2021), before rebounding to over 4% in 2023 and 2024, and then 5.3% in 2025.

High and rising US interest rates and increased uncertainty has seen a broad-based appreciation of the US dollar. After averaging around US$0.72 in the March and June quarters, the Australian dollar has fallen sharply to around US$0.65. Our outlook is for the AUD to remain weak over 2022 and 2023, before appreciating gradually alongside further monetary tightening in Australia in the medium term, to near US$0.80 by mid-decade, before easing back to the long-term average of US$0.75.

Beyond the near-term disruptions, we expect global growth will return to its trend pace of around 3.3% by mid-decade, 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.

GDP to remain buoyant in 2022/23, with growth moderating over 2023/24 and 2024/25

Although the pace of growth will ease through 2022/23, growth is coming off a high base and is not expected to slow sharply. Australian domestic demand is forecast to slow from 5.1% in 2021/22 to 4.1% in 2022/23, with a much slower accumulation of inventories and falls in farm stocks pushing growth in GNE to 3.9%. Growth in dwelling, business and public investment is expected to pick up as bottlenecks ease. Meanwhile, private consumption expenditure holds up as households spend heavily on services, funded by the increased savings accumulated over the past year or so and the strong

labour market. Net exports are expected to provide less of a drag as tourism and education boost exports, partially offset by faster growth in imports. GDP growth is forecast to be 3.9% in 2022/23, although there is more downside risk to this outlook from a number of factors.

Housing and business investment are expected to ease over 2023/24 and 2024/25 as the government incentives finish or are reduced. However, we expect further moderate growth in business investment in 2023/24 and 2024/25 as deferred investment is undertaken, although some sectors, such as hotel construction and other tourism-related investment, will take longer to recover. Meanwhile, public investment is expected to peak in 2023/24, but remain at elevated levels in 2024/25, as a large pipeline of transport infrastructure and social and institutional building projects come through. Meanwhile, government recurrent expenditure is expected to weaken sharply as the boost from the NDIS and vaccine roll-outs finish and governments attempt budget repair. With employment growth expected to slow as investment eases and because of labour constraints, household consumption expenditure growth will also ease over 2023/24 and 2024/25, 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 considerable uncertainty around these tax cuts.

The war in Ukraine has raised export and import prices substantially and has delivered a brief, but sharp, spike up in the terms of trade. Trade volumes will be a mixed bag. Mining exports have been capped by capacity, and largely haven't been able to respond quickly to higher prices, but we expect mining export volumes to pick up over the next 2-3 years as new capacity comes onstream. Rural exports bounced back over calendar 2021 and will remain strong over 2021/22 and 2022/23 with bumper seasons in the eastern states boosting grain, other crops and dairy exports. With manufacturing exports now recovering, overall merchandise export volumes will continue to strengthen over 2022/23, before moderating. Import demand will be stronger over 2022 and into 2023, in line with the improvement in domestic demand. But higher prices may still dull some of this demand, while supply disruptions will make growth in merchandise volumes sporadic and patchy.

Large increase in both service credits and debits are expected over 2022/23 and 2023/24, before moderating in 2024/25. 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, or almost 39% of overall services exports (compared to only $461m for outbound education import 'debits'). Although still impacted, education exports should recover quicker than 'tourism' flows – partly because of online teaching 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 near term. 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 accounted for almost 50% of overall services imports. We expect a slower ramp-up in outbound tourism (compared to inbound tourism), even after travel restrictions are lifted, with tourism flows unlikely to recover back to their previous levels for a couple of years. The forecasts assume that the tourism and education credits (inbound) will recover back to pre-COVID levels by mid-2024, while outbound tourism debits will not get back to 2018 peaks until late 2024.

With the initial rebound from the pandemic likely to be over by late 2022, the pace of growth will naturally slow, with the interest rate rises of 2022 expected to bite over the next year or so. Overall, we are forecasting both GDP and GNE to ease to 2.2% in FY24 and 2.7% in FY25, with net exports neutral.

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

Annual headline inflation jumped to 6.1% (y/y) in the June quarter 2022, while underlying inflation lifted from 2.6% (December quarter 2021) to 4.6%. Transitory components continue to drive headline inflation, including high fuel prices. However, with upward price pressure emerging from supply chain

disruption, it is now apparent that inflationary pressures are broadening, with CPI to peak at over 7% during the second half of 2022, before subsequently easing. The rise in inflationary pressures has seen the RBA lift the cash rate by 2.5% since May to 2.6% in October. The RBA may raise rates again in the near-term, but we expect a pause in rises in 2023 and into 2024.

However, large tax cuts expected in July 2024 is expected to see a further lift in rates to 3.4% (potentially higher) over 2024/25, as the RBA attempts to curtail the extra demand pressures from the tax cuts, particularly while inflationary pressures are still present with the unemployment rate below 4%. Meanwhile, the 3+% rise in the cash rate in Australia means the benchmark housing variable rate will rise toward 7.7% by early 2025, which will be enough to slow consumer spending and impact housing and business investment over 2025/26 and 2026/27. With government capital spending falling at that time and recurrent spending still constrained, the end result will see annual GDP growth easing to around 2.2% over those two years.

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 (+)	**-2.0**	**3.7**	**-2.7**	**-3.3**	**2.5**	**5.4**	**3.9**	**5.0**	**1.6**	**-1.7**	**0.1**	**6.6**	**6.9**
New Public Investment (+)	**8.6**	**11.2**	**4.8**	**0.5**	**5.7**	**7.1**	**7.2**	**4.0**	**-0.6**	**-2.8**	**-2.4**	**1.1**	**3.7**
Gross National Expenditure (GNE)	**2.3**	**3.5**	**1.3**	**-1.3**	**3.3**	**5.2**	**3.9**	**2.2**	**2.7**	**1.5**	**1.6**	**3.5**	**3.8**
GDP	**2.3**	**2.9**	**2.1**	**0.0**	**1.6**	**3.9**	**3.4**	**2.2**	**2.7**	**2.2**	**2.3**	**3.5**	**3.3**
Inflation and Wages													
CPI (Yr Avg) - RBA forecasts (*)	1.7	1.9	1.6	1.3	1.6	4.4	7.0	4.2	2.6	2.6	2.6	2.6	2.6
Wage Price Index (Yr Avg)(**)	2.0	2.1	2.3	2.1	1.5	2.4	2.9	3.4	3.4	3.3	3.2	2.9	3.1
Average Weekly Earnings (Yr Avg)(^)	2.0	2.4	2.7	3.9	2.7	1.9	3.2	3.9	3.9	3.7	3.7	3.2	3.5
Employment													
– Employment Growth (Yr Avg)	1.5	3.0	2.4	0.5	0.6	3.2	3.1	2.0	1.8	1.6	0.8	1.6	2.2
– Employment Growth (May/May)	2.1	2.6	2.8	-5.6	8.3	3.0	2.0	1.9	1.8	1.3	0.9	2.0	2.1
– Unemployment Rate (May) (%)	5.5	5.4	5.2	7.0	5.1	3.9	3.6	3.7	4.0	4.1	4.3	4.0	3.8
Labour Productivity Growth													
– Total	0.8	-0.2	-0.2	-0.5	1.0	0.7	0.4	0.2	0.8	0.6	1.5	1.8	1.1
– Non-farm	0.6	0.0	0.0	-0.3	0.5	0.2	0.4	0.4	0.9	0.6	1.5	1.9	1.1

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.

^ Average Weekly Ordinary Time Earnings for Full-Time Adult Persons. Includes impact of Superannuation Guarantee increases.

The tightening of monetary policy will precipitate an overall slowing of economic growth in the mid-2020s. But 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 3.5% in 2027/28, before subsequently easing back.

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 ACT ECONOMY

Home to the vast majority of the Australian Public Service, the Australian Capital Territory's economy is based around service delivery and public administration. Government expenditure dominates the economy of the ACT, unlike the other states (except the Northern Territory). In 2021/22, government recurrent spending and public investment constituted 55% of State Final Demand (SFD) – compared to the more usual figure of around 28% for other states. Many other sectors are indirectly tied to the public sector, such as professional services, which has seen large increases in output (GVA - Gross Value Added) and employment over recent years, although this may have been linked to the NDIS rollout. Over the past decade, there has also been an apparent increase in the Territory's 'self-sufficiency', as evidenced by the faster growth in Gross State Product (GSP) output compared to SFD.

Although the territory hasn't been immune to the economic impact of the coronavirus pandemic, the dramatic increase in government support for the economy and vaccine rollout has resulted in SFD, GSP and employment continuing to increase healthily, underpinned by strong increases in Government consumption (recurrent) expenditure (GCE). Nevertheless, the pandemic's impact was felt, particularly in the consumer services and hospitality sectors. Offsetting this was lower net international imports which contributed to GSP. Although the ACT's international services exports declined over 2019/20 and 2020/21 (mostly education and tourism), this was more than offset by the larger decline in international services imports due to the virtual cessation of travel. In 2019/20 and 2020/21, GSP increased by 3.7% and 2.8%, while SFD increased by around 3% in both years, with both measures well above the national average, as occurred in the previous four years.

In 2021/22, SFD increased 2.9% (well under the national growth of 5.1% in domestic demand), while GSP is estimated to have slowed to 2.5%, largely due to the sharp rebound in outbound tourism (import debits) detracting from growth. SFD was also heavily impacted by the -0.1% decline in household spending, due to the lockdowns in the second half of 2021. A sharp decline in dwelling construction and slower growth in GCE (to 3.7% from 4.7% in 2020/21) also constrained SFD.

The ACT labour market bounced back quickly from the initial COVID-19 shock, with employment exceeding its pre-crisis level and increasing further. But employment declined in 2021/22, although it has improved recently. The unemployment rate fell to 2.7% in August, after hovering around 3.2% since the start of the year. Government spending in response to the health crisis initially supported the local labour market, but as this unwinds and the NDIS rollout boost diminishes, government spending and employment will provide less support for the ACT economy. GCE growth is forecast to decline by -0.6% in 2022/23 and by -1.5% in 2023/24, as governments reverse the COVID-19 measures and attempt to rein in public sector employment and spending. GCE is expected to return to modest growth from 2024/25.

Conversely, strong growth in public investment is forecast for 2021/22 to 2023/24 as another round of public non-dwelling building projects, increased road construction and the second stage of the Light Rail project get underway. Business investment increased strongly in 2021/22, boosted by government initiatives, and is forecasts to grow steadily over 2022/23 and 2024/25, largely driven by further increases in non-dwelling building and equipment purchases. Very strong growth in dwelling building over 2018/19 and into 2019/20 has seen the residential market move into oversupply recently and this, combined with some COVID-19 impacts, resulted in weaker growth in 2020/21 and a sharp decline in dwelling investment in 2021/22, some of this due to delays. A strong rebound in dwelling work done is forecast for 2022/23, as delayed projects come through. We then expect a modest decline to occur over 2023/24 and then larger declines over 2024/25 and 2025/26, due to oversupply and higher interest rates. An upturn is then projected from 2027/28.

The ACT economy is expected to display its usual counter-cyclical behaviour over the next 5 years. Over 2021/22 to 2022/23, the scale of the recovery in the ACT economy will be much more subdued than other states (and the national average). This is because, firstly, the ACT economy didn't experience a steep downturn over 2019/20 and 2020/21, and secondly, the key government recurrent expenditure component is expected to decline in 2022/23 and 2023/24 and only shows moderate growth in 2021/22. Nevertheless, over the four years to 2025/26, SFD and GSP are forecast to average a respectable 1.9% and 2.1% p.a. respectively.

In 2025/26 and 2026/27, SFD, GSP and employment are expected to out-pace the relevant Australian averages, with SFD and GSP forecast to average around 2.7% over those two years, defying the national slowdown. We expect stronger growth in GCE - in response to slower national growth – to bolster overall economic growth in the Territory in those two years. Healthy growth in SFD and GSP is then projected for 2027/28 and 2028/29, although these metrics are expected to lag the equivalent national averages.

Employment growth will continue to be underpinned by population growth and a high participation rate – the second highest of the states and territories after the Northern Territory – and a sustained lower unemployment rate. The desire to reduce the large government budget deficit (due to current stimulus packages to counter the COVID-19 impacts) will also see the Commonwealth government limit its spending increases, which will keep overall growth somewhat restrained.

Table 3.2 Australian Capital Territory – Key Economic Indicators, Financial Years

							Forecast						
Year Ended June	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Australian Capital Territory													
Total Construction Activity(*)	17.4	5.0	4.1	-4.4	-7.0	1.1	13.3	4.5	-6.1	-5.1	-0.9	5.8	8.6
State Final Demand	3.2	2.7	4.6	3.1	3.0	2.9	2.4	0.7	1.9	2.5	3.0	3.4	3.1
Gross State Product (GSP**)	**3.9**	**3.9**	**4.0**	**3.7**	**2.8**	**2.5**	**2.1**	**1.5**	**2.1**	**2.5**	**3.0**	**3.2**	**2.8**
Employment Growth (Year Average)	2.8	3.4	-0.2	2.5	1.7	-2.4	2.6	1.2	1.7	2.2	2.2	1.9	1.6
Australia													
Total Construction Activity(*)	-3.3	12.2	-9.1	-3.7	-0.7	1.5	6.4	7.2	-1.1	-4.6	0.0	5.7	6.8
Australian Domestic Demand	2.3	3.4	1.5	-0.9	2.6	5.1	4.1	2.2	2.6	1.6	1.7	3.4	3.7
Gross Domestic Product (GDP)	2.3	2.9	2.1	0.0	1.6	3.9	3.4	2.2	2.7	2.2	2.3	3.5	3.3
Employment Growth (Year Average)	1.5	3.0	2.4	0.5	0.6	3.2	3.1	2.0	1.8	1.6	0.8	1.6	2.2

Source: BIS Oxford Economics and ABS

* Total construction work done in constant (real) 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 year ended June 2022

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 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 RBA's August 2022 'Statement on Monetary Policy' forecast the headline CPI rate to be 7 ¾% in the December 2022 quarter, easing to 6 ¼% in the June quarter 2023 (giving a year average of 7% for 2022/23). An easing to 4 ¼% is forecast 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 2023/24. The RBA's CPI forecast for December 2024 is 3%, after which we have the annual rate easing to its long-run rate of 2.5% by June 2024 - giving a year average CPI rate of 2.8% for 2023/24. Beyond the RBA's forecast from the SoMP, we assume the CPI averages 2.5% over the medium-to-long term.

The AER has adopted a changed methodology for calculating CPI inflation, according to the AER Final position paper "Regulatory Treatment of Inflation", released in December 2020. The main changes for the expected inflation projection are to reduce the length of the geometric average from 10 to 5 years and have a 'glide-path' from the end-point of the latest RBA forecast to the 2.5% mid-point by year 5 of the forecast period – with this 2.5% projection maintained until 2028/29. The average used for the five years from 2024/25 to 2028/29 is 2.6%.

4.2 OUTLOOK FOR CPI

Strong inflationary pressures currently, with short-term factors pushing CPI toward 7%

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 inflation fell below the Reserve Bank's target 2-3% band in March 2016 and has stayed there.

Over the past two years, the headline CPI measure has been quite erratic, with the June quarter 2020 CPI actually declining by -1.9% q/q to be down -0.3% y/y, which was largely of due to the onset of COVID-19. The price falls flowed from a combination of the sharp downturn in consumer demand, the collapse of oil prices in the June quarter, the deferral of rents, the virtual suspension of childcare fees and other education fees, the deferral of health care rises and a range of other measures to 'administrated' prices in response to the COVID-19 'shock'. The reversal of many of these influences over the subsequent five quarters and an improving economy saw the CPI move back to 3.0% y/y in the September quarter 2021. Significantly, the September quarter saw underlying (or 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. Overall, headline CPI inflation averaged 1.6% in 2020/21, following the 1.3% recorded in 2019/20.

Annual headline inflation jumped to 5.1% (y/y) in the March quarter 2022 and further to 6.1% in the June quarter 2022, while underlying inflation lifted from 2.6% (December quarter 2021) to 4.6% by the June quarter, both exceeding expectations. This saw headline CPI inflation average 4.4% in 2021/22.

Over the past four quarters, there has been a noticeable broadening of inflationary pressures across components in the CPI, which has contributed to the sharp increase in underlying inflation. Inflation is primarily being driven by transitory factors, including high fuel prices. Inflation in these components

remains strong, boosted by rising fuel prices and supply-chain disruption for imported goods. Supply-chain impacts have also caused a pickup in exchange-rate sensitive inflation. Fuel prices increased significantly in the March quarter (Q1), due to the impact on oil prices from the Ukraine war (and associated sanctions on Russian oil exports). Food prices also jumped in Q1 because of the impact on wheat and other foods prices from the Ukraine war, while the floods in eastern Australia have led to substantial rises in some food prices over the past two quarters. Although we expect oil and other commodity prices to ease through 2022, it will take some time for supply networks to completely normalise. But these pressures will abate over the second half of 2022 and in 2023, and their absence will cool headline inflation materially through 2023.

But the most material change over the past three quarters has been the increase in procyclical, or "labour-market sensitive" inflation components. These components include a range of market services, where prices are largely driven by domestic factors including labour costs. Overall wage growth remains benign for now, but as the economy reopens, the labour market tightens and spare capacity is absorbed, wage pressures will mount. With the labour market already at a point of limited spare capacity and expected to tighten even further in 2022, we expect these components will drive the inflation profile in the coming year, mitigating the fallback in inflation that will occur when supply disruptions abate and fuel prices correct. Our forecast is for the pick-up in wage growth to be a gradual process through 2022 and 2023, but the upside risks to this outlook have increased.

Another important component of procyclical inflation is the cost of constructing a new dwelling. Cost inflation in the construction sector has been escalating since the start of 2020, due to both the surge in construction work generated by the HomeBuilder subsidy, and materials and labour shortages caused by this additional demand, which have been exacerbated by supply bottlenecks and workplace restrictions. Until the past few quarters, subsidy payments had helped out-of-pocket costs for consumers, keeping a lid on CPI inflation. But with these payments tapering off, CPI inflation in the dwelling construction and house purchase component has started to move more in line with cost pressures, rising 20.3% y/y over the year to June 2022. Our view is that construction cost inflation will slow in the coming quarters but, over the next year, it will remain at a fast pace relative to its history.

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

With further high quarterly outcomes expected in the September and December quarters, we expect headline CPI to push above 7% y/y, with headline CPI inflation in 2022/23 to average 6.4%. The RBA forecast is higher at 7% for 2022/23. Supply-side pressures have further to run and will continue to drive headline inflation during 2022. Demand-driven inflation emerging through the year will fill some of the gap that will be left when supply-related cost pressures diminish, despite RBA attempts to 'cool' strong demand with higher interest rates. Moreover, the tightening labour market - with the unemployment rate currently around 3.5% and expected to stay there for the next 2-3 years - will contribute to wage pressures. Although y/y (or through-the-year) growth will go close to 7% in the second half of 2022, a combination of lower oil prices and a marked easing of supply pressures should see lower CPI outcomes in the first half of 2023 and over 2023/24.

Nevertheless, some structural factors may also add to inflation over the medium term, such as a return to higher rental and food inflation. Rents constitute over 6% of the CPI while food accounts for over 10% of the CPI basket (excluding around 6% for meals out and takeaway food). 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 recent 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.

Underlying and headline CPI inflation are subsequently expected to remain elevated over 2023/24 to 2025/26 as economic growth, profits and employment remains buoyant, and wage growth strengthens. Wages growth will accelerate as the unemployment rate stays below 4% over 2022/23 to 2025/26. Although global inflationary pressures will ease over the next year, they will remain elevated, contributing to higher manufacturing costs and prices over the medium term. The rise in the A$ toward US80 cents in 2025 will provide some offsetting pressures between 2023/24 and 2025/26.

Overall, BISOE forecasts headline CPI inflation to be 3.4% in 2023/24, 2.5% in 2024/25 and 2.6% in 2025/26. The expected softening in the economy around mid-decade will see price and wage pressures weaken, with the CPI to ease back to around 2.4% over 2026/27, before picking up from 2027/28 and rising to 2.5% over the latter years of the 2020s (see figure 4.1). Our forecasts, on average, are similar to current RBA forecasts.

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 wage 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.

Low wages growth over

Wages growth has been relatively weak over the past nine years to 2021/22, primarily due to weaker demand for labour, caused by both cyclical and structural factors. A key cyclical factor was the end of the mining investment boom. Among the underlying structural changes causing this unspectacular wage growth are increasing market flexibility and casualisation of the workforce (what is commonly coined the 'gig-economy'), falling union membership, slower productivity growth and the effects of lower inflation expectations. Low wage growth is both a product of and key cause of low underlying inflation. Low wages helped keep business costs down and thus mute 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. In addition, the relatively high underemployment rate suggested spare capacity in the labour market. The high underutilisation rate – the sum of unemployment and underemployment – reflected considerable slack in the labour market, which limits the bargaining power of workers and reduces pressure on wages.

Wage growth is now rebounding, and will lift further as the labour market tightens

Wage growth in terms of the wage price index (WPI) and average weekly earnings measures had been showing signs of improvement over the second half of 2018 to the March quarter 2020 at an average of 2.3% in terms of annual increases. However, the impact of the COVID-19 pandemic saw employment plummet and dramatically lift the unemployment and underemployment rates over the June quarter 2020. This reversed the nascent improvement in wages that had been building. Widespread wage freezes and very modest wage increases saw WPI growth weaken over 2020/21, with year average growth of 1.5% in the All Industries WPI.

As the economy and employment rebounded through 2021/22, growth in the All Industries WPI exhibited a modest recovery, rising to 2.4%. Part of the rebound was driven by deferred pay increases from 2020 and 2021 and the ending of most pay freezes. The higher increase in the National Minimum Wage (NMW) – the Fair Work Commission (FWC) awarded 2.5% effective July 2021 – also underpinned higher increases. Although only 13% of full-time workers (a much higher proportion for part-time workers) rely on the annual increase in the minimum 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). In its June 2022 decision, the FWC awarded a 5.2% increase to workers on the minimum wage, although workers on award rates will only receive a 4.6% increase (minimum $40/week increase for award rates below $870/week).

A key element adding to wage pressures in 2021/22 and over 2022/23 is the rapid tightening in the labour market that is now apparent. Employment as at July 2022 was well above pre-COVID levels, with the unemployment rate at 3.4% and labour force participation rates at record levels. A key to the outcomes has been little growth in the pool of available labour. The cessation of international migration to Australia since March 2020 has seen population growth plummet to just 0.2% in the year to June 2021, while the growth in the working age population (above 15 years old) has 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 pushing lower and job vacancies well above pre-COVID levels, wage pressures are building.

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 enterprise agreements – covering 38% of the full-time workforce – run for an average of 2-3 years. These agreements averaged 2.6% over the four years to June 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 both high CPI inflation and because of widespread skilled labour shortages. Of the other 49% of workers on individual agreements, those 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 of employees 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 in recent years.

Fig. 4.1 Australia: Wages and Prices

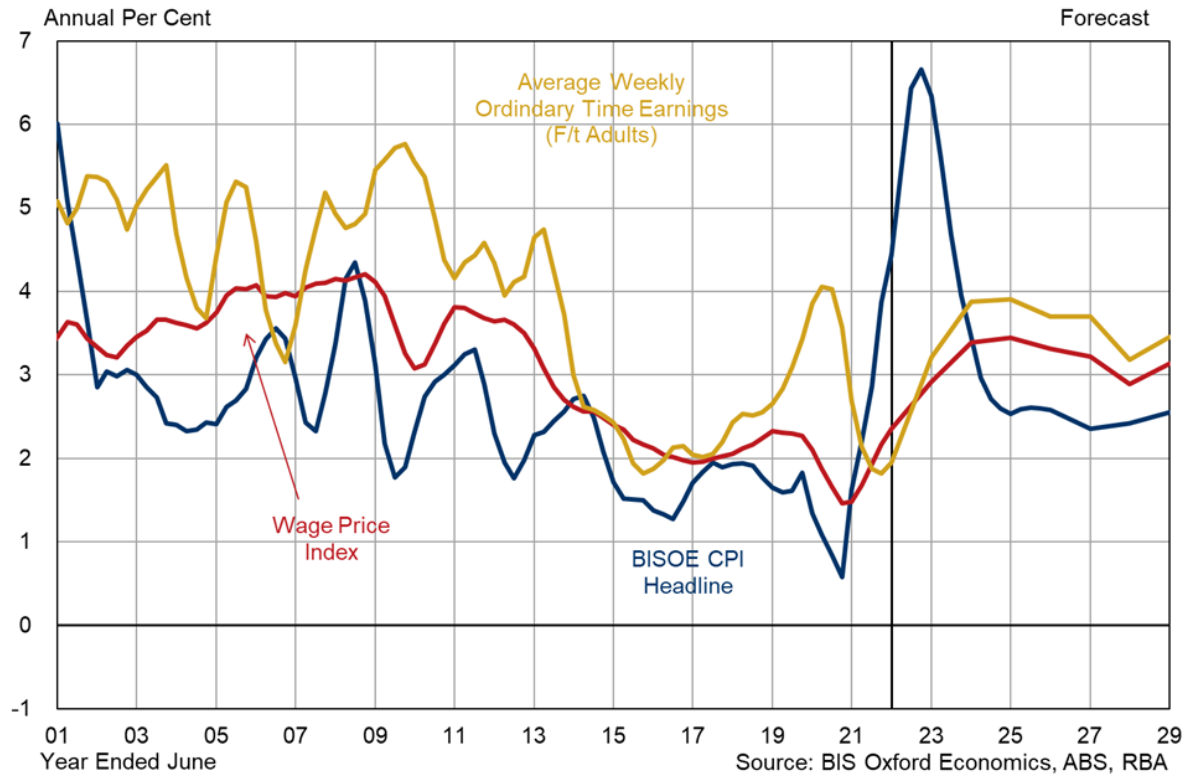
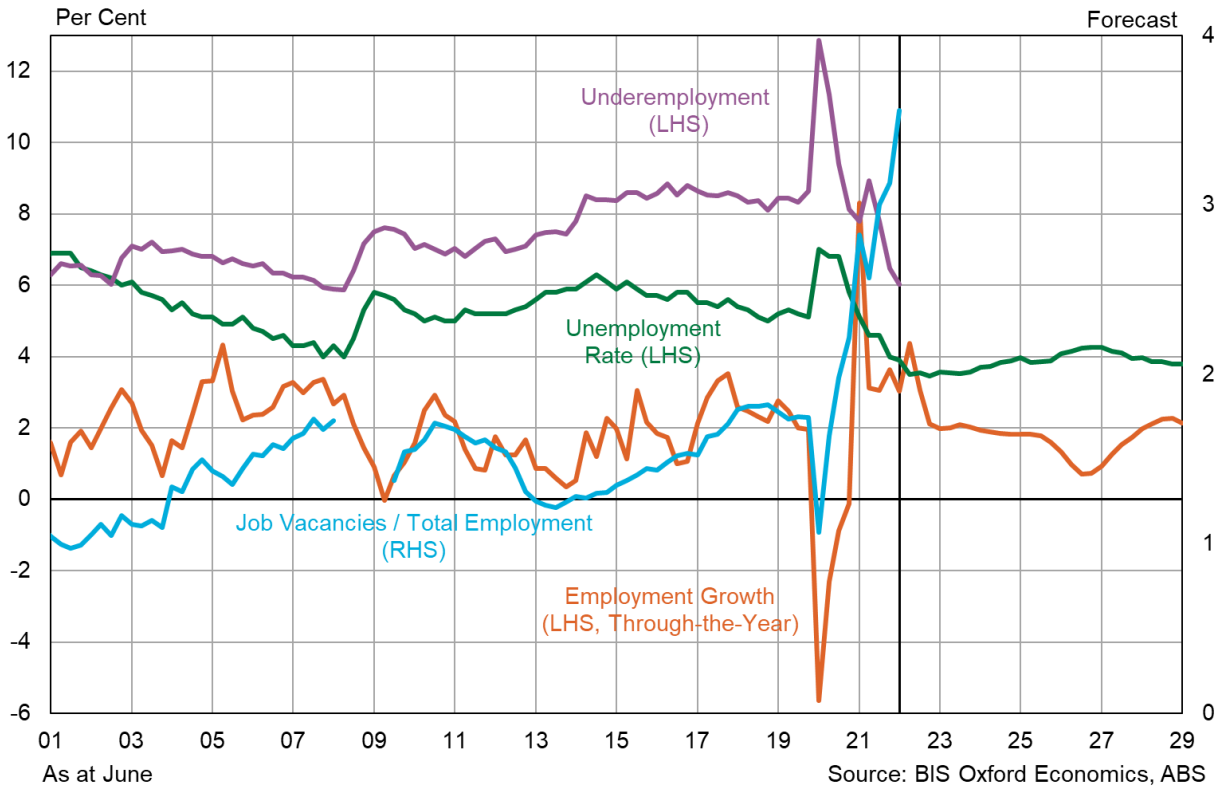


Fig. 4.2 Australia: Employment and Unemployment



As the economy continues to remain resilient over 2022/23 to 2024/25, we expect to see sustained tightness in the labour market, with labour demand increasing and the unemployment rate remaining between 3.5% to 4% over 2022/23 to 2024/25. Skill shortages, which have already emerged, are expected to broaden and worsen in many areas of the economy. The tightening labour market will see wage pressures increase, and the All industries WPI is forecast to increase to 3.4% in 2023/24 and remain there over 2024/25 and 2025/26, before easing over the subsequent two years as the economy cools and the unemployment rate rises back above 4%.

Forecasts for All Industries wages are detailed in Table 5.1 and the Summary table in the Executive Summary. Overall, using RBA CPI forecasts, real (inflation-adjusted) WPI growth for the Australian All Industries WPI is forecast to decline in 2022/23 and 2023/24 as high CPI inflation out-paces WPI growth (as occurred in 2021/22). Thereafter, with WPI growth strengthening 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 0.6%.

4.4 AUSTRALIAN CAPITAL TERRITORY 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 five years to 2018/19, the ACT All Industries state average WPI growth was much weaker than the national average, averaging -0.3% lower than the national average. This is despite economic growth largely out-pacing growth in the national economy, in terms of state final demand (SFD) and Gross State Product (GSP), for most of those five years - and despite the ACT having a lower unemployment rate than the national average. Lower wage growth in the dominant public sector in the ACT was partly responsible for the relatively lower wage growth, with ACT public sector wages averaging around -0.2% lower than the ACT All Industries average. In June 2020, ABS data estimated the public sector workforce was around 43% of total ACT employment. However, in 2019/20, the All Industries WPI in the ACT outpaced the national average, increasing to 2.3% compared to 2.1% for the national average. In 2020/21, with the ACT All Industries WPI increased by 1.4% compared to the 1.5% for the national average, with widespread pay freezes in the Commonwealth public service pushing wages growth down. In 2021/22, the ACT All industries WPI was slightly higher than the national average, with a rebound in public sector wages helping.

Over the 2022/23 to 2028/29 period, we expect the ACT all industries WPI to continue to track the movements in the Australian average, but with the ACT average slightly below the national average. The lower wage growth in the ACT vis-à-vis the national average is in line with the growth differentials between the ACT and the Australian economy, although lower wage growth in the ACT public sector will continue to keep overall wages growth relatively muted. Conversely in 2026/27 and 2027/28, we expect slightly higher growth than the national average, due to stronger economic growth in the ACT over 2025/26 and 2026/27.

In the five years to 2028/29, we are forecasting the total state (All Industries) WPI in the ACT to average 3.2% in nominal terms, close to the national average. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.6% (see Summary Table).

5. INDUSTRY WAGE FORECASTS - UTILITIES & CONSTRUCTION: AUSTRALIA & ACT

5.1 NATIONAL & ACT 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 2.4% over the past nine years from 2013/14 to 2021/22 inclusive, 0.2% higher than the 2.2% national average.

Over the next seven years to 2028/29 inclusive, the EGWWS WPI at the Australian level is forecast to average 3.5% p.a., 0.3% above the All Industries WPI average. Over the 5-year period from 2023/24 to 2027/28 inclusive (Evoenergy's next regulatory period), the Australian EGWWS WPI is forecast to average 3.5%, which will be 0.3% above the All Industries average. In real terms, the Australian EGWWS WPI is forecast to average 0.9% p.a. over the five years to 2028/29. 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 -0.1% lower over 2022/23 to 2025/26 than if the SG increase did not proceed. Excluding the SG increase impact (i.e., the economic incidence), the overall real average would be 1.0%, which is around the 1.0% p.a. averaged over decade to 2019/20. In terms of the historical difference vis-à-vis the All Industries WPI average over the past decade, excluding the economic incidence impacts of the SG increase (which is assumed to be 0.14% higher for the All Industries WPI), the difference would be 0.2%. This is lower than the 0.4% difference of the past decade (see Table 5.1).

BIS Oxford Economics 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) — BIS Oxford Economics expects EGWWS AWOTE to average 3.8% 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 0.6% lower than the All Industries average. BISOE believes this will be a short-lived aberration and that the EGWWS WPI will rebound strongly over the next year to again outpace the national average. Driving this will be much higher EBAs negotiated in an environment of very 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	Nominal $/week	%CH	Real AWOTE %CH	Nominal Index	%CH	Real WPI %CH	Nominal Index	%CH	Real WPI %CH
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	1 505	1.9	0.5	1,704	3.5	2.2	123.0	2.1	0.7	127.5	2.4	1.0
2017	1 536	2.0	0.3	1,777	4.3	2.6	125.4	2.0	0.2	130.3	2.2	0.5
2018	1 573	2.4	0.5	1,818	2.3	0.4	127.9	2.1	0.1	132.9	2.0	0.0
2019	1 615	2.7	1.0	1,842	1.3	-0.3	130.9	2.3	0.7	136.6	2.8	1.1
2020	1 677	3.9	2.5	1,896	2.9	1.6	133.7	2.1	0.8	140.2	2.7	1.3
2021	1 722	2.7	1.1	1,927	1.6	0.0	135.6	1.5	-0.1	142.7	1.8	0.2
2022	1 756	1.9	-2.5	1,979	2.7	-1.7	138.8	2.4	-2.1	144.9	1.5	-2.9
Forecasts												
2023	1 812	3.2	-3.8	2,074	4.8	-2.3	142.9	2.9	-4.1	149.4	3.1	-4.0
2024	1 883	3.9	-0.3	2,160	4.1	-0.1	147.7	3.4	-0.8	154.8	3.6	-0.6
2025	1 956	3.9	1.3	2,251	4.2	1.6	152.8	3.4	0.9	160.7	3.8	1.2
2026	2 028	3.7	1.1	2 339	3.9	1.4	157.9	3.3	0.7	166.6	3.7	1.1
2027	2 103	3.7	1.1	2 426	3.7	1.2	163.0	3.2	0.7	172.3	3.4	0.9
2028	2 170	3.2	0.6	2 508	3.4	0.8	167.7	2.9	0.3	177.7	3.1	0.6
2029	2 245	3.5	0.9	2 600	3.7	1.1	172.9	3.1	0.6	183.9	3.4	0.9
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
2022-2029	3.6		0.1	4.0		0.5	3.2		-0.2	3.5		0.0
2024-2029	3.6		1.0	3.8		1.2	3.2		0.6	3.5		0.9

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.

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 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.

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.

Collective bargaining dominates the pay setting arrangements in the utilities sector, while the relative absence of workers relying on (often) low-increase awards (set in the National Wage Case) means the overall average level of total utilities wages (in A$ terms) will generally be higher than the All Industries average. Over the outlook period, we expect collective agreements in the EGWWs sector to achieve average increases of 3.7%.

BIS Oxford Economics analysis shows collective agreements in the EGWWS sector averaged 1.5% higher than CPI inflation over the 15 years to 2019/2014 (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, BIS Oxford Economics 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.

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

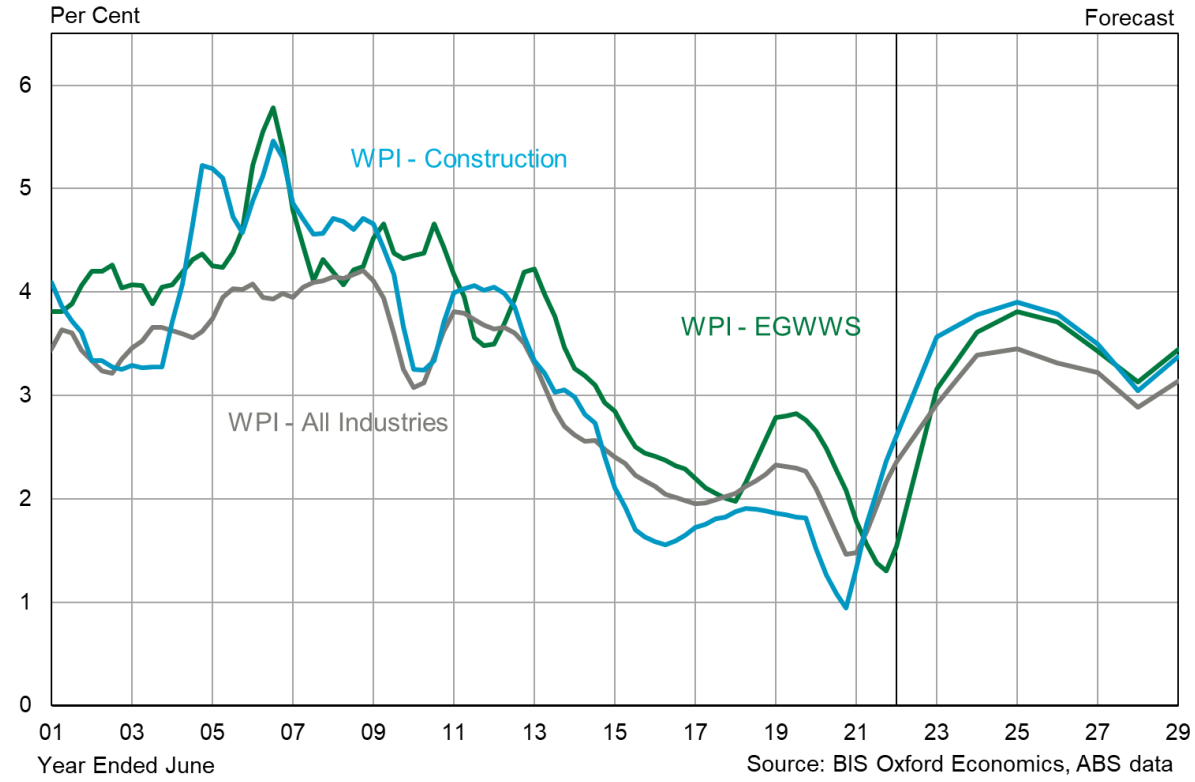
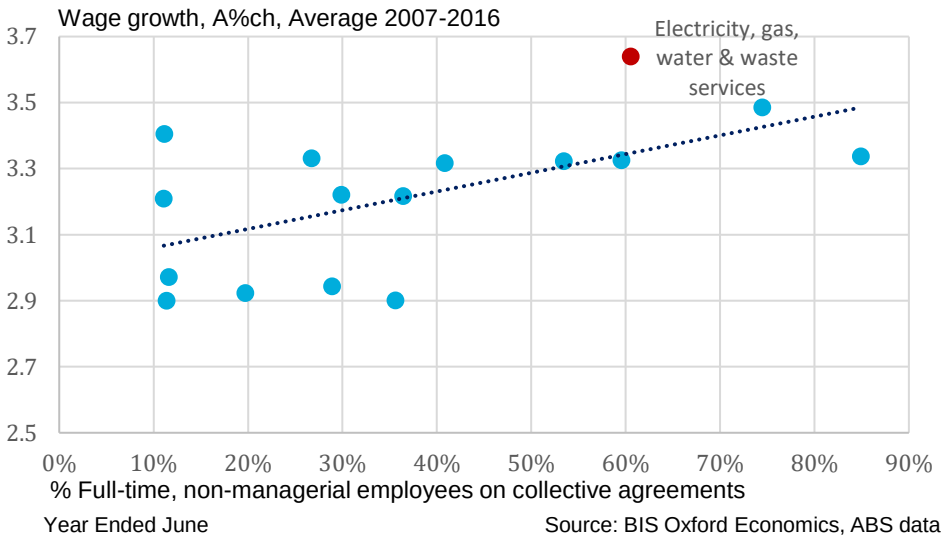


Figure 5.2 Average wage growth and unionisation rates by industry, 2007-2016



However, EBA outcomes were weaker over 2020/21 and remained subdued in 2021/22, compared to the five years to 2019/20, when EBAs averaged around 2.9%. EBAs in the EGWWS industry have been dragged down by an extremely low agreement in Western Australia in the June 2021 quarter and a relatively low agreement in NSW in the September quarter, which will have a short-term impact

as both sets of agreements run for less than two years. We expect the next rounds of EBAs negotiated in the sector to rise strongly over the next 2-3 years, due to a number of factors:

- CPI inflation will remain high (averaging over 6% in 2022/23 and over 4% in 2023/24),
- 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.

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 3-4 years, with the unemployment rate to remain around 3.5%, despite a slowing in employment growth from over 3% in 2022/23 to around 2% over 2023/24 and 2024/25. We expect population and labour force growth to largely match employment growth, with further small increases in the participation rate. Hence, we expect to see the continuation of critical skilled labour shortages and competition for scarce labour, which are now emerging - 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 2023/24 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 2021/22 to 2024/25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels (see figure 5.4). With regard to utilities investment, BIS Oxford Economics is forecasting steady increases over the next 7 years, with electricity-related engineering construction projected to be 48% higher in 2028/29 compared to 2020/21 levels, including a 25% increase over 2024/25 to 2028/29 (see chart 5.5).

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. BIS Oxford Economics 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 is now only just returning after being suspended since early 2020. Although now resumed, it is likely to be a slow ramp-up, meaning that the skill shortages will persist and won't be easily or quickly solved by migration.

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, so we expect wages under both individual arrangements and collective agreements to increase markedly over the 2022/23 to 2025/26 period.

Figure 5.3 Australia – Mining Investment

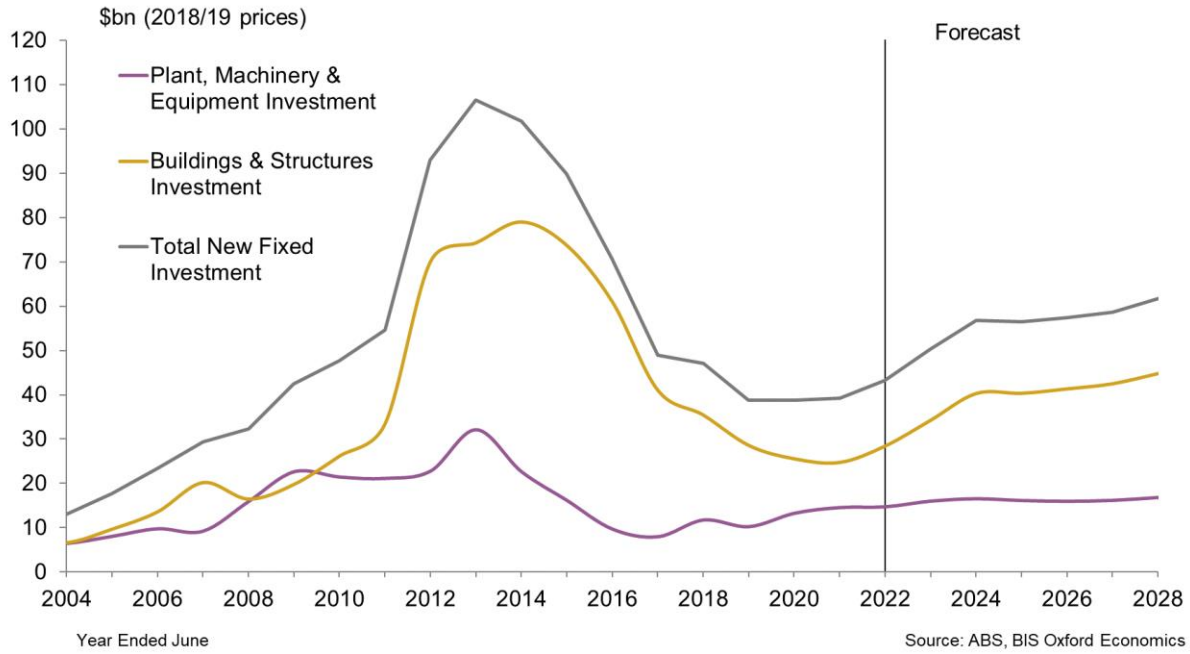
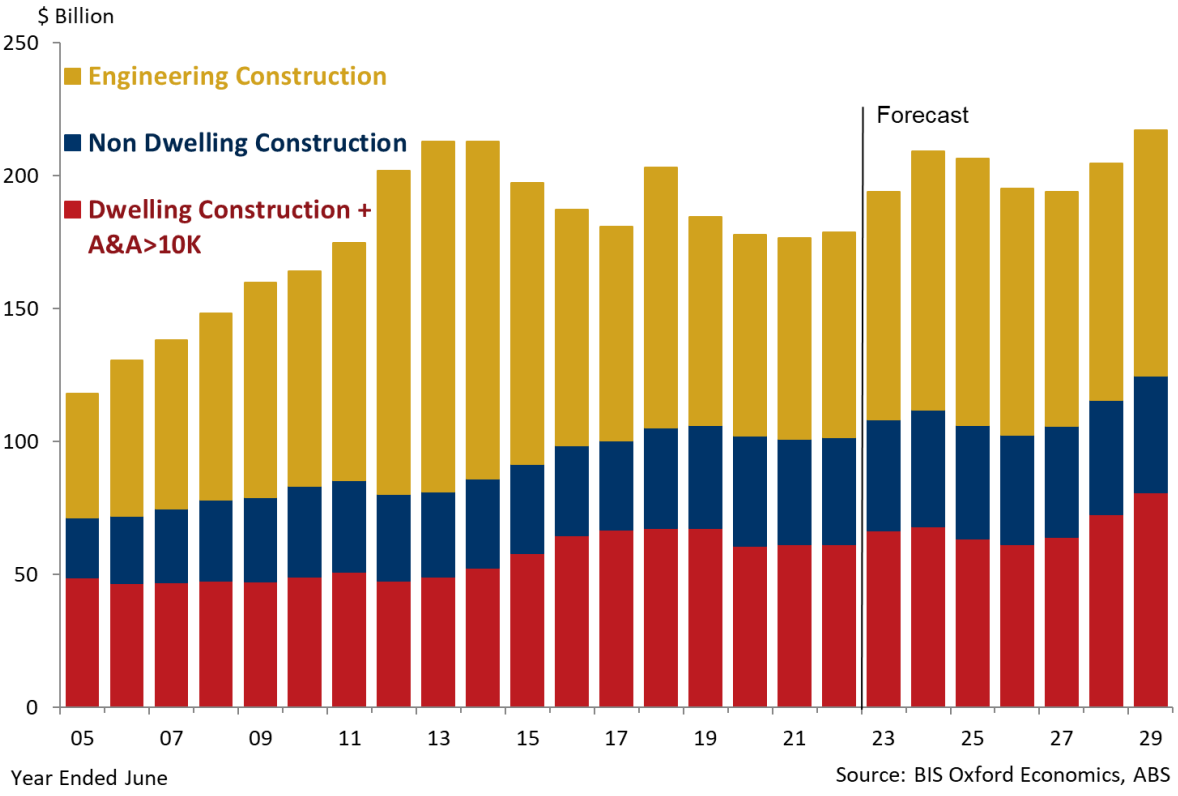


Figure 5.4 Australia – Construction Activity (real work done)



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 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 the Australian Capital Territory

The ABS does not provide WPI data for the Utilities sector in ACT, providing state utilities data only for NSW, Victoria and Queensland (the latter since early 2019). These three states collectively account for around 77% of total Australian utilities employment, with South Australia accounting for 7% and Western Australia 11%. Historical data and forecasts of WPI for the EGWWS sector in the ACT are therefore based on national EGWWS WPI forecasts, as well as movements in the 'unknown residual' for the utilities WPI and differences in outcomes in collective bargaining in the ACT compared to the national average for the utilities sector.

ACT EGWWS WPI growth is estimated to have declined sharply over 2020/21 to 1.9% (in nominal terms), from an estimated 2.7% in 2019/20 - due to the impact of the COVID-19 outbreak on wages – easing further to 1.5% in 2021/22, with lower EBA outcomes (compared to the national average) contributing to slightly weaker WPI growth. A lift in 2022/23 to 2.9% is expected, as a new round of EBAs are negotiated and non-EBA wages pick up due to higher inflation and the tightening labour market in the ACT and NSW. Thereafter, wages in the ACT utilities sector are expected to move in line with – but remain slightly lower than - the national utilities sector average through most of the forecast and regulatory period (see table 1 in the Executive Summary). This is due to relatively weaker growth in utilities construction and overall construction in the ACT, compared to other states.

Nevertheless, as chart 5.6 shows, there is expected to be strong and sustained growth in utilities-related construction over the forecast period, which will drive strong wage pressures in the utilities sector in the Territory. Meanwhile, total construction activity in the ACT is forecast to lift 20% over the next two years, before dropping back over 2024/25 to 2026/27 and again rising strongly to the end of the decade. In addition, there will be strong wage pressures emanating from NSW, also due to high and increasing levels of utilities and overall construction activity.

ACT EGWWS WPI growth is forecast to average 3.5% per annum in nominal terms over the five years to 2028/29 inclusive (i.e., over Evoenergy's next regulatory period) – or 0.8% in real (inflation-adjusted) terms (see Table 1). This WPI forecast includes the SG Increase impacts of -0.1% in each of the years from 2021/22 to 2025/26 inclusive.

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

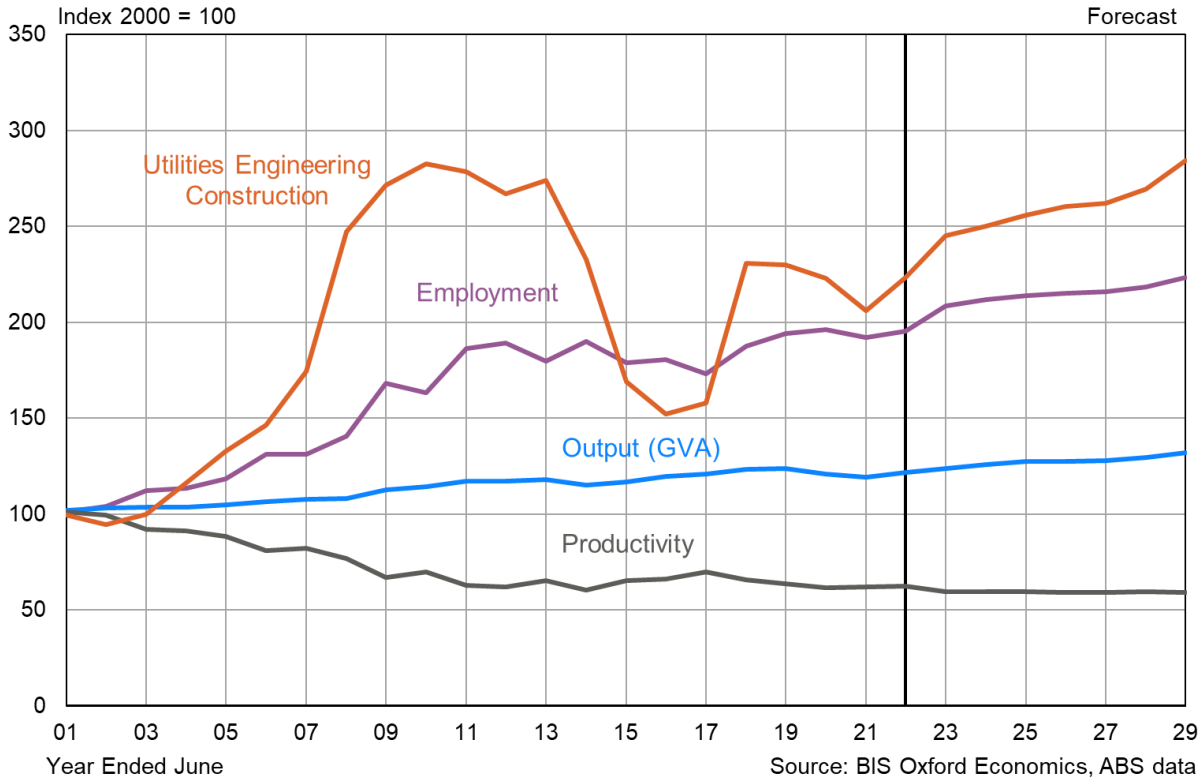


Figure 5.6 Australian Capital Territory – Utilities Employment, Output, Investment & Productivity

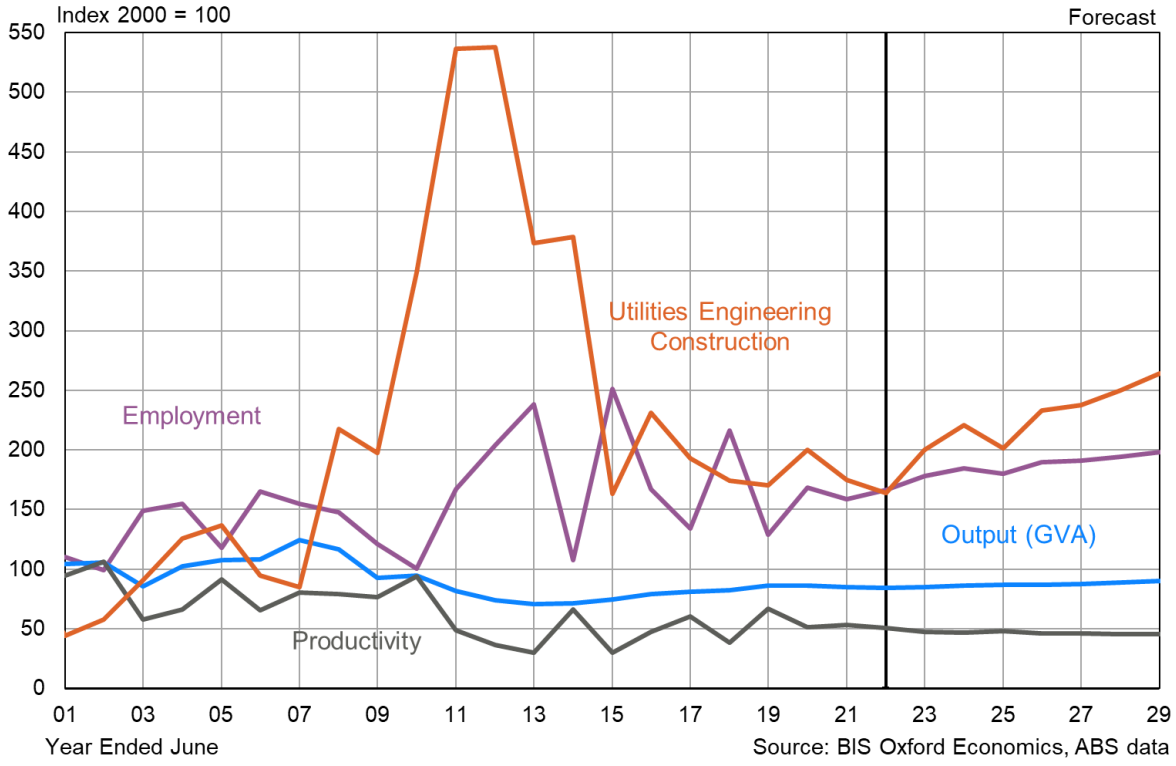
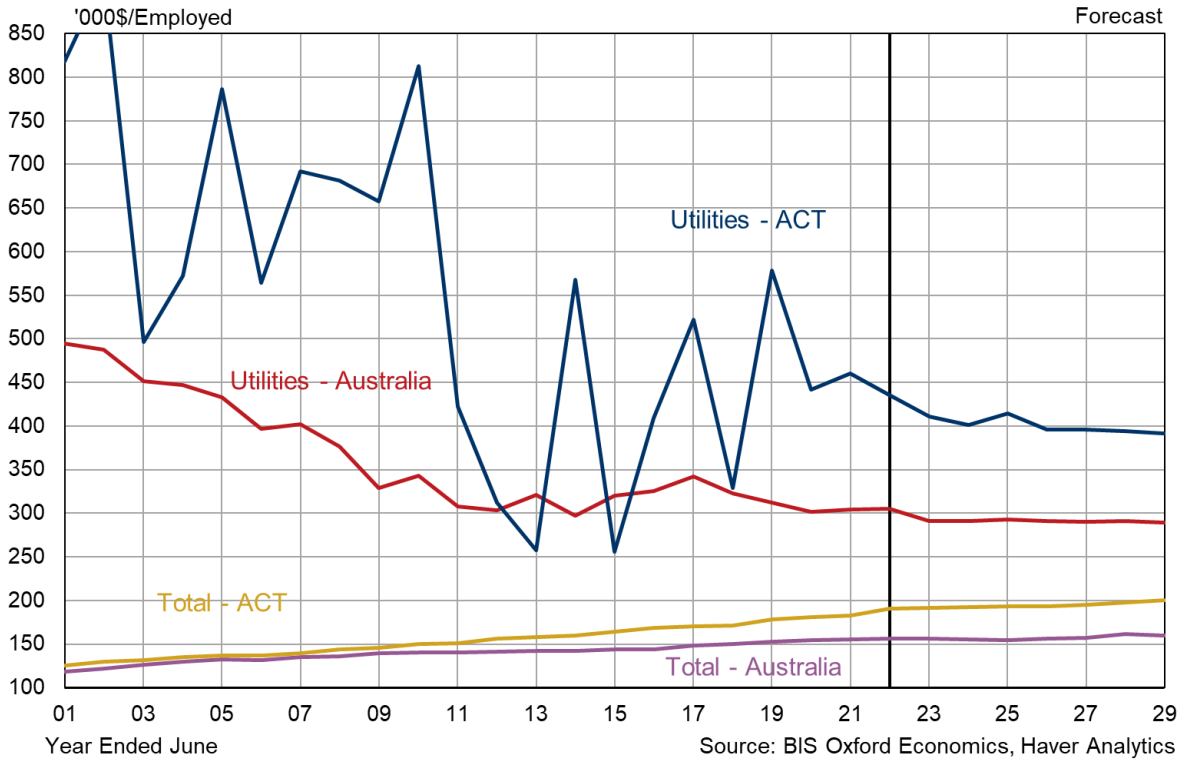


Figure 5.7 Utilities Productivity in Australia and the Australian Capital Territory



5.2 CONSTRUCTION WAGES IN AUSTRALIA AND THE AUSTRALIAN CAPITAL TERRITORY

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 ACT'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 BIS Oxford Economics 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 are shown in figure 5.4. The Construction sector wage forecasts for Australia and the ACT are set out in Table 1.

Note that, similar to the EGWWS WPI in the ACT, the ABS does not provide WPI data for the Construction sector in the ACT, providing state construction WPI data only for NSW, Victoria, Queensland, South Australia and Western Australia. These three states collectively account for over 96% of total Australian construction employment. Historical data and forecasts of WPI for the construction sector in the ACT is therefore based on national construction WPI forecasts, as well as movements in the 'unknown residual' for the WPI and differences in outcomes in collective bargaining in the ACT compared to the national average for the construction sector.

Our forecast is for the Australian Construction WPI to average 3.6% over the seven-year period to 2028/29 at the national level. Over the five years from 2024/25 to 2028/29 inclusive (Evoenergy's next regulatory period), Australian Construction WPI growth is forecast to average 3.5% p.a. – or 1.0% per annum on average in real (inflation adjusted) terms. The ACT Construction WPI is forecast to be

slightly weaker, averaging 3.4% p.a – 0.9% p.a. in real terms (see Table 1). 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 the construction industry sector, we estimate the economic incidence impacts will be -0.21% for each year of the SG increase. See section 5.3 for the assumptions underpinning this estimate.

Construction wages at the national and ACT 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 4 years – between 3% and 5% – wages growth in the individual agreements segment has 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, with the Australian Construction WPI declining by -0.5% (q/q) in the June quarter 2020 (the first decline since the WPI's inception in 1997). It then rebounded over the subsequent four quarters (over 2020/21), with the Australian Construction WPI growth recording 1.3% in 2020/21 (in year average terms) and strengthening further to 2.6% in 2021/22.

Construction wages are forecast to keep improving from 2022/23 as construction activity increases. Australian construction wages are expected to strengthen appreciably over 2022/23 to 2025/26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 (in 2024 - see figure 5.4) and serious skills shortages begin to manifest. The increases in construction activity from 2021/22 will be driven by the strong recovery in residential building activity, while higher levels of non-dwelling building and rising engineering construction will also underpin higher wages due to strong labour demand and expected widespread skill shortages in the construction industry. Engineering construction will be 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 ACT construction activity is expected to lag the national average growth over most of the forecast period (except 2022/23, when ACT dwelling activity lifts) – but still be quite strong as strong growth comes through in ACT transport and utilities infrastructure projects and non-dwelling building activity remain elevated.

5.3 SUPERANNUATION GUARANTEE INCREASES & THEIR IMPACT ON LABOUR COSTS

In light of the current increases to the Superannuation Guarantee, BIS Oxford Economics 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

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

(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.

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.

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

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 Evoenergy (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 will 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.

However, 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

[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

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 49% of the economic incidence of the Superannuation Guarantee (SG) increases are passed on to employees, with employers only paying for the remaining 51% of the cost of the SG increases. This applies to the All Industries wages. This is in line with RBA assumptions, but with adjustments 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 49% less than it would be in the '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 -0.24%.
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 70% less, with those who receive payments via individual arrangements receiving 55% less. At the All Industries level, it assumed that the average of the 38.4% of employees who rely on collective bargaining receive 34% 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 9.5%, providing added scope to not increase the superannuation rate but pay full wage increases. Overall, the impact on the whole EGWWS WPI will be -0.1% for each of the years from 2022/23 to 2025/26 inclusive.
5. 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%. Overall, the impact on the whole Construction WPI will be -0.21% for each of the years from 2022/23 to 2025/26.

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

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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