



BIS OXFORD
ECONOMICS

LABOUR ESCALATION COSTS – BASSLINK: FORECASTS TO 2029/30

**PREPARED BY BIS OXFORD ECONOMICS
FOR APA**

FINAL REPORT – MAY 2023

BIS Oxford Economics

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May 2023

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1. EXECUTIVE SUMMARY

BIS Oxford Economics was engaged by APA Group to prepare forecasts of a discrete set of labour escalation price indices, relevant to operation of APA's Basslink infrastructure from 2022/23 to 2029/30. We understand these forecasts will be used by APA to develop their operating expenditure forecasts over the forecast period. These forecasts, in turn, will be included APA's regulatory submission to the Australian Energy Regulator (AER) with the regulatory period covering the five-year period from 2025/26 to 2029/30 (FY26 to FY30) inclusive.

The labour escalation forecasts incorporate the latest data and macro-economic forecasts as at mid-May 2023, including the March quarter 2023 releases of the Consumer Price Index (CPI) and Wage Price Index (WPI), plus the Reserve Bank of Australia (RBA) forecasts for the CPI and WPI contained in the RBA May 2023 'Statement of Monetary Policy'.

For **electricity network related labour**, BIS Oxford Economics forecasts that total wage costs for the Victorian and Tasmanian Electricity, Gas, Water and Waste Services (EGWWS or 'Utilities') sector — expressed in Wage Price Index (WPI) terms — will average 3.7% per annum over the five-year period from FY26 to FY30 inclusive, equal to the Australian EGWWS WPI average of 3.7% over the same period. In real (inflation-adjusted) terms, the EGWWS WPI is forecast to average 1.1% p.a. over the five years to FY30 (see Table 1.1 below).

Note that the wage price index measure does not include the Superannuation Guarantee charge (SGC). As the SGC is in effect a labour 'on-cost', in terms of escalating wage costs over the forecast period, **the full annual 0.5% for the SGC therefore needs to be added to the forecast increases in the WPI** for each of the years from FY23 to FY26.

Over the forecast period, the Australian, Victorian and Tasmanian EGWWS WPI growth is expected to push above and remain higher than the All Industries WPI average, with both the state and national All Industries WPI forecast to average 3.4% over the five years to FY30. This means that the Australian EGWWS WPI is expected to be 0.3% higher than the All Industries average, which is slightly lower than the 0.4% historical difference of the decade to FY21.

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 largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors
- strong union presence in the utilities sector will ensure outcomes for collective agreements, which cover 65% of the workforce, remain above the wage increases for the national 'all industry' average. In addition, with the higher proportion of employees on EBAs, compared to the national average (38%), and EBAs wage rises normally higher than individual agreements, 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 modest pace as the labour market remains tight, especially from FY23 with the unemployment rate now around 3.5% and expected to remain below 4% over the next 2-3 years.
- demand for skilled labour will remain high and strengthen with the high levels of utilities investment from FY22 to FY30 (and beyond), which are well above the levels of the past two decades. BIS Oxford Economics is forecasting electricity-related engineering construction to be 29% higher in FY30 compared to FY22 levels. This will also be a key driver of utilities wages going forward.

- 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 impacting on wages growth in particular, 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.

EGWWS wages growth is invariably higher than the national average but in FY22, annual growth in the EGWWS WPI (1.5%) slipped below the All Industries average (2.4%) for only the second time in the past two decades. We believe 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. EBAs in the September quarter 2022 picked up to 3% and jumped to 3.6% in the December quarter (latest data). We expect the next rounds of EBAs negotiated in the sector to rise strongly over the next 2-3 years, due to several factors: CPI inflation will remain high (averaging over 7% in FY23 and 4.4% in FY24); the demand for skilled labour remains strong; and the recent high enterprise agreement outcomes in the construction and manufacturing sectors will influence negotiations in the EGWWS sector, as some skills can be transferable.

Table 1.1 Summary – Labour Cost Escalation Forecasts: Victoria, Tasmania & Australia
(per cent change, year average, year ended June)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Average 2026-30 (g)
	Actuals					Forecasts			Next Revenue Determination Period					
Nominal Wage Changes														
Electricity, Gas, Water and Waste Services WPI - Victoria (a)	2.8	3.0	3.3	2.1	1.6	2.8	3.9	4.0	3.9	3.6	3.5	3.7	3.8	3.7
Electricity, Gas, Water and Waste Services WPI - Tasmania (a)	1.8	2.6	2.7	2.1	2.0	3.9	4.1	4.0	3.9	3.6	3.4	3.7	3.8	3.7
Electricity, Gas, Water and Waste Services WPI - Australia (b)	2.0	2.8	2.7	1.8	1.5	3.6	4.1	4.1	3.9	3.6	3.4	3.7	3.8	3.7
Construction WPI - Victoria (c)	1.8	2.4	2.2	1.0	3.2	3.4	4.1	4.0	3.8	3.5	3.4	3.7	3.9	3.7
Construction WPI - Tasmania (c)	1.6	1.7	1.5	1.3	2.6	3.6	4.0	3.9	3.9	3.6	3.4	3.6	3.9	3.7
Construction WPI - Australia (b)	1.9	1.9	1.5	1.3	2.6	3.7	4.2	4.1	3.9	3.5	3.4	3.7	3.9	3.7
All Industries WPI - Victoria (d)	2.3	2.6	2.4	1.4	2.4	3.4	3.9	3.7	3.5	3.3	3.2	3.5	3.7	3.4
All Industries WPI - Tasmania (d)	2.4	2.4	2.4	1.9	2.9	3.8	3.9	3.7	3.6	3.3	3.1	3.5	3.6	3.4
All Industries WPI - Australia (b)	2.1	2.3	2.1	1.5	2.4	3.5	4.0	3.8	3.6	3.3	3.2	3.5	3.7	3.4
Consumer Price Index (headline) (e)	1.9	1.6	1.3	1.6	4.4	7.1	4.4	3.1	2.6	2.5	2.5	2.5	2.5	2.5
Real Wage Changes (f)														
Electricity, Gas, Water and Waste Services WPI - Victoria (a)	0.9	1.4	1.9	0.5	-2.8	-4.3	-0.4	0.9	1.3	1.1	1.0	1.2	1.3	1.2
Electricity, Gas, Water and Waste Services WPI - Tasmania (a)	-0.1	1.0	1.4	0.5	-2.4	-3.2	-0.3	0.9	1.3	1.1	0.9	1.2	1.3	1.2
Electricity, Gas, Water and Waste Services WPI - Australia (b)	0.0	1.1	1.3	0.2	-2.9	-3.5	-0.3	0.9	1.3	1.1	0.9	1.2	1.3	1.2
Construction WPI - Victoria (c)	-0.1	0.7	0.9	-0.7	-1.2	-3.7	-0.2	0.8	1.2	1.0	0.9	1.2	1.4	1.1
Construction WPI - Tasmania (c)	-0.4	0.1	0.1	-0.4	-1.9	-3.5	-0.4	0.8	1.3	1.1	0.9	1.1	1.4	1.1
Construction WPI - Australia (b)	-0.1	0.2	0.2	-0.3	-1.8	-3.4	-0.1	0.9	1.3	1.0	0.9	1.2	1.4	1.2
All Industries WPI - Victoria (d)	0.4	1.0	1.1	-0.2	-2.1	-3.7	-0.5	0.6	0.9	0.8	0.7	1.0	1.2	0.9
All Industries WPI - Tasmania (d)	0.4	0.8	1.1	0.2	-1.6	-3.3	-0.4	0.6	1.0	0.8	0.6	1.0	1.1	0.9
All Industries WPI - Australia (b)	0.1	0.7	0.8	-0.1	-2.1	-3.6	-0.4	0.7	1.0	0.8	0.7	1.0	1.2	0.9

Source: ABS, RBA, BIS Oxford Economics

(a) Electricity, Gas, Water and Waste Services (EGWWS) Wage Price Index (WPI) for Vic and Tas

(b) Australian sector wage forecasts provided for comparison

(c) Construction Sector Wage Price Index (WPI) for Vic and Tas

(d) Australian, Vic and Tas All Industries WPI provided for comparison.

(e) Inflation forecasts are RBA forecasts for the next 2-3 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on the mid-point of RBA inflation target (2.5%).

(f) Real price changes are calculated by deducting the inflation rate from nominal price changes.

(g) Average Annual Growth Rate for 2025/26 to 2029/30 inclusive, ie for next regulatory period.

Following the covid-inspired slump in wages in FY20 and FY21, wages growth picked up over FY22, with the All Industries wage price index (WPI) increasing to 2.4% in FY22 (from 1.5% in FY21). A

further acceleration in wages growth is now apparent in FY23 – with 3.5% expected - and we expect wages growth to strengthen over FY24 and FY25, before easing over FY26 to FY28.

A key element adding to wage pressures in FY22 and over FY23 has been the rapid tightening in the national labour market that is now apparent. Employment growth has bounced back strongly over the past two years – increasing by 3.3% in FY22 and an expected 3.9% in FY23 – which pushed the unemployment rate down to around 3.5%, while labour force participation rates rose to record levels. A key to the outcomes over FY22 was little growth in the pool of available labour. The cessation of international migration to Australia since March 2020 saw population growth plummet to just 0.2% in the year to June 2021, while the working age population (above 15 years old) increased by only 50,000 (+0.2%) over FY21 and 206,000 in FY22, compared to over 330,000 persons in FY19 and in the year to March 2020. Growth in the labour force has been facilitated by a marked increase in the labour force participation rate to record levels. However, there is now little scope to raise the participation rate further and, with the underemployment rate at historical lows and job vacancies well above pre-COVID levels, wage pressures are building.

The economy is expected to remain resilient over the short-to-medium term and, although BISOE's economic growth (GDP) forecasts are for modest weakening over FY23 and FY24, we still expect the labour market to remain tight, with labour demand increasing and the unemployment rate remaining around 3.5% to 4% over FY23 to FY25. Businesses and public sector organisations are still experiencing extreme difficulties finding suitable workers. Skill shortages, which have already emerged and broadened into many areas of the economy, will remain acute. The acute tightness of the labour market will see heightened wage pressures continue. However, wages will be slower to pick up compared to the inflation rate, due to lags in the transmission of wage increases, particularly in the enterprise bargaining segment, where the duration of agreements runs for 2-3 years.

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, manufacturing 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 3 years to FY25 and remain at elevated levels to 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 FY23 to FY25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels (excluding oil and gas construction). 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 29% higher in FY30 compared to FY22 levels. However, given the need for much greater amounts of transmission and distribution investment, let alone renewables generation, these projections could be considered conservative – there is a significant upside risk to the quantum of electricity-related investment required.

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 some numbers 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 5 years. Added to this is that skilled immigration only fully returned in the first half of 2022, after being suspended since early 2020. Although now resumed, the backlog of skilled labour shortages will be slow to fill, meaning that the skill shortages will persist for at least the next 2-3 years.

With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to attract and retain staff and we expect wages under both individual arrangements and collective agreements to increase markedly over the FY23 to FY26 period.

Wages in the Victorian and Tasmanian utilities sectors are expected to move in line with the national utilities sector average over the next 7 years from FY24 (see table 1.1).

Given service providers outsourced labour is mostly supplied by firms in the construction industry, we proxy SAPN's **external labour cost escalation** by wages growth (as measured by the WPI) in the South Australian 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.

Construction wages are forecast to keep improving from FY23 as construction activity increases. Australian construction wages are expected to strengthen appreciably over FY23 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 and serious skills shortages manifest and worsen. The increases in construction activity from FY22 will be driven initially by sustained residential building activity over FY23 – with a large backlog of work still to be done – before falling back, while high levels of non-dwelling building and rising engineering construction will also underpin higher wages due to strong labour demand and continued 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).

Our forecast is for the Australian Construction WPI to average 3.7% over the five years from FY26 to FY30 inclusive (APA's next regulatory period), Australian Construction WPI growth is forecast to average 3.7% p.a. – or 1.1% per annum on average in real (inflation adjusted) terms. Both Victorian and Tasmanian Construction wages are also forecast to average 3.7%, or 1.1% 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.

2. INTRODUCTION, DATA & LAYOUT

BIS Oxford Economics was engaged by APA to provide price forecasts of labour, commodity and materials that are relevant to the Victorian and Tasmanian electricity transmission and distribution industry for the period 2025/26 to 2029/30 (FY26 to FY30). Forecasts for wage and material cost escalation will be used by APA to develop their operating and capital expenditure forecasts. The forecasts in this report were finalised in late May 2023.

The Australian Bureau of Statistics is the primary data source for the consumer price index, wages, employment, real gross value added and investment (including engineering construction) data, and for a range of other economic variables. The data used in the projections is the latest available as at mid May 2023 and includes March quarter 2023 Consumer Price Index (CPI) and Wage Price Index (WPI), RBA May 2023 'Statement of Monetary Policy' and the December quarter 2022 National Accounts data releases. Other inflation and interest rate data were sourced from the Reserve Bank of Australia.

Forecasts of the economic variables in this report were mostly sourced from BIS Oxford Economics reports, including the *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 input costs including numerical forecasts which are presented in the summary table.

Section 3 provides a macroeconomic and construction outlook for Australia, Victoria and Tasmania. 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 CPI for the deflation of nominal wages. Forecasts of the All Industries WPI are also provided in chapter 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, Victoria and Tasmania, as measured by the WPI.

Appendices include an explanation of different wage measures and wage models.

3. MACROECONOMIC AND CONSTRUCTION OUTLOOK

3.1 AUSTRALIA MACROECONOMIC FORECASTS

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

Real Gross Domestic Product (GDP) has recovered well from the COVID-related slump in 2020, posting growth of 2.2% and 3.7% over FY21 and FY22 respectively, with Gross National Expenditure (GNE - domestic demand plus change in stocks) experiencing faster growth of 3% and 5% respectively in those years. Solid growth of 3.5% is expected for GNE in FY23, with GDP growth slightly lower at 3.1%, due to another negative contribution from net exports.

GDP growth is slowing, falling back to 0.5% q/q in the December quarter 2022, with through-the year (y/y) 2.7%, compared to 5.9% in the September quarter 2022. Domestic demand was flat, with GNE declining -0.5% q/q due to the sharp fall in non-farm stocks. Net exports made a very large 1.1ppt contribution to GDP growth. Import growth is still patchy, and will be subdued as domestic demand growth moderates, while the recovery in services exports is running ahead of our expectation. Consumption growth has fallen away, while investment spending remains patchy, with falls across all major categories in the December quarter.

Consumers face a tougher outlook. Household consumption increased by 0.3% q/q in Q4 2022, with discretionary and essential spending growing at about the same pace. Growth in spending on discretionary items has slowed sharply, with the post-pandemic bounce now largely exhausted. Tourism-related spending continued to recover in the December quarter, albeit at a much slower pace than previously. Other discretionary spending components fell, illustrative of the budget pressures faced by most households. The savings rate has now fallen to its pre-pandemic level, meaning the scope for households to fund consumption growth by saving less is very limited. The tight labour market and rising wage growth will support incomes. Higher interest rates and price inflation will curb spending growth further in the next few quarters. But we don't anticipate a complete collapse in growth as the labour market is still extremely tight, which will support income growth and cushion the decline in the savings rate. Additionally, the ongoing recovery in net overseas migration will place a floor under growth prospects for 2023.

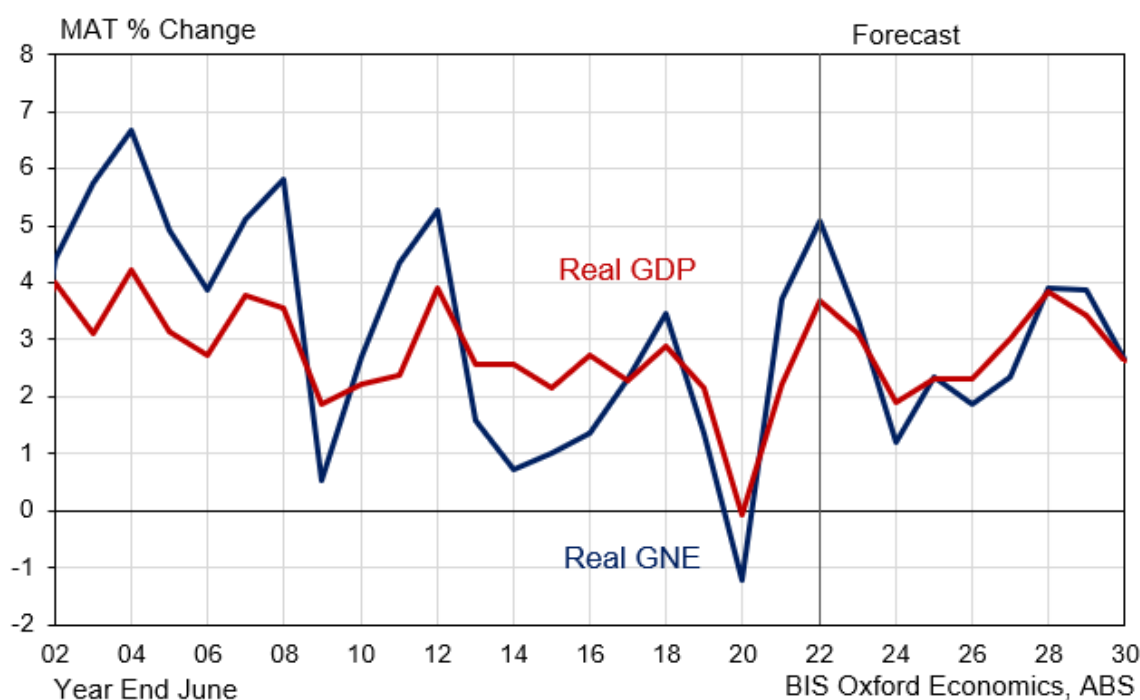
Dwelling investment fell slightly in the December quarter 2022. Renovation activity was particularly weak due to the completion of HomeBuilder related works, while new construction was more upbeat. There is still a substantial backlog of work to be done, but the realisation of these projects remains constrained by stretched capacity. The slowdown in housing markets contributed to a sharp 2.1% drop in ownership transfer costs and this component will stay subdued as we expect turnover to remain depressed.

Business and public investment are expected to bounce back in the March quarter and continue to increase over the medium term, with a backlog of work and the need for projects in some categories of non-residential building and infrastructure, especially electricity. 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. Nevertheless, the higher cost environment is threatening the viability of some future projects. Mining investment picked up over FY21 and FY22, and into FY23. With prices for a number of commodities expected to remain at healthy levels over the medium term and strong demand for renewable energy related minerals, we expect further investments to get underway and mining investment to continue to rise and remain strong well into the middle of the decade. Overall, new business investment increased 6% in FY22

and is expected to grow by around 5% and 6% in FY23 and FY24 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.

Net exports are expected to make a positive contribution to growth over FY24 and FY25, after a small negative in FY23. Export demand appears resilient despite slowing global momentum as commodity volumes have been steady, while rural exports increased sharply last year, and will continue to increase after bumper crops over recent years have boosted farm stocks. Domestic demand growth is slowing in Australia, which will weigh on imports, and cooling global price pressures will cause import prices to fall this year. The earlier-than-expected return of students from China has lifted our outlook for services exports in 2023.

Fig 2.1 Australia – Basic Economic Indicators



The labour market continues to track strongly. This strength is the best insurance the economy has against a drastic collapse in growth. But it is adding to inflationary pressures in the economy. The recent stress in the US and Swiss banking sectors adds a downside risk to the outlook. But the Australian economy is well insulated from these developments, and the local banking sector is on much surer footing. At the margin, financial conditions may tighten a little and the Australian dollar will face downward pressure while risk aversion stays high. The other main negative influence on economic growth in the near-term is the progressive tightening of fiscal policy, which will see government consumption expenditure wound back. However, the tax cuts slated for July 2024 represent a reversal of this tightening stance and also represent an upside risk to inflation.

Employment increased by 0.4% q/q in the March quarter 2023 – a very strong result considering the tightness of the market entering the year. Faster population growth has facilitated further jobs growth. Labour demand remains very strong and with the unemployment rate historically low (3.5%) and labour force participation rates near record highs, there is limited scope for labour supply to increase to meet this demand. While the labour market continues to track in such a strong position, there will continue to be upward pressure on wage growth. The large 5.2% increase in the minimum wage on July 1, 2022, has underpinned a lift in wage growth over FY23, and with another large minimum and

award wage increase likely in July 2023 and other wage pressures increasing, wages growth will pick up further in FY24.

After rate hikes at 10 consecutive meetings, the RBA finally paused its hiking cycle in April, but then added another 0.25% increase in May. Price growth has peaked, and while the resolution of supply-side issues will relieve some of the inflation, it's the breadth and persistence of core inflation pressures that are causing most of the bank's concerns. The pickup in wage growth and emergence of strong demand pressures in rental markets pose upside risk to the inflation outlook. Inflation remains uncomfortably high, and the very tight position of both labour and rental markets means there is lots of scope for an upside surprise to core inflation. It's possible there may be another one or two rate hikes in the near-term. There is also an elevated risk that the tax cuts of July 2024 may induce another one or two rate hikes, particularly if core inflation has not been markedly reduced by early 2024.

Global Economic Outlook

Our baseline forecast for global GDP growth is 1.9% in calendar 2023, 2.3% for FY23 and a weak 1.6% in FY24, following 3.1% in calendar 2022 (and 4.6% in FY22). Growth is then predicted to improve to 3% in FY25 and 3.3% in FY26. Although economic data continue to paint a relatively downbeat picture, it doesn't suggest that economies are entering a deeper slump. Indeed, given the raft of adverse shocks last year, the world, and Europe in particular, seemingly ended last year in a resilient fashion. We expect the trough in quarter-on-quarter world growth occurred in Q4 last year (when it was 0.3%) but believe growth will still remain weak through 2023. Nevertheless, the recent resilience in the economic data, easing headline inflation, and the mild European winter (reducing risk the need for energy rationing) all provide upside risks for advanced economy forecasts for this year. However, the recent stress in the US and Swiss banking sectors presents a downside risk. The US, Canada and most of Europe will go close to/or will experience recession this year.

Offsetting the weakness of advanced economies will be strong Chinese GDP growth, forecast to increase 5% in calendar 2023 (after 3% in 2022), 4.3% in FY23, 4.4% in FY24, 4.8% in FY25 and 5.4% in FY26, before easing thereafter. The ending of the country's zero-Covid policy has prompted us to lift growth expectations in the short and medium terms. The stronger outlook for China will also improve the outlook in the rest of Asia. Overall, we think that the balance of risks is now less tilted to the downside and believe that the risks of a substantial global economic slump have diminished over the past four months.

High and rising US interest rates and increased uncertainty has seen a broad-based appreciation of the US dollar since late 2021, which has pushed down the value of the Australian dollar to around US\$0.68 since mid-2022. Our outlook is for the AUD to remain weak over 2023 and 2024, before appreciating gradually to US\$0.75 by mid-decade as US interest rates fall faster than Australian rates, before easing back to an average of US\$0.73 over the second half of the decade.

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

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

Australian domestic demand is forecast to slow from an estimated 3.5% in FY23 to 1.2% in FY24, with a partial rebound to 2.4% in FY25. Net exports are expected to provide a positive contribution over the next two years, as tourism and education boost exports, with GDP growth forecast to be 1.9% in

FY24 and 2.3% in FY25, although there is more downside risk to this outlook from a number of factors.

Housing investment is expected to decline over FY24 and FY25 as the current backlog of work is finished and high interest rates impact new dwelling construction. On the other hand, we expect further moderate growth in business investment in FY24 and FY25 as deferred investment is undertaken, although some sectors, such as hotel construction and other tourism-related investment, will take longer to recover. Private sector engineering construction will remain buoyant due to higher levels of electricity and telecommunications infrastructure and higher levels of mining investment, particularly oil and gas. Meanwhile, public investment is expected to peak in FY24, but remain at elevated levels in FY25, as a large pipeline of transport infrastructure and social and institutional buildings projects come through. Meanwhile, government recurrent expenditure is expected to weaken sharply as governments attempt budget repair. With employment growth expected to slow as investment and government spending eases, household consumption expenditure growth will also slow sharply over FY24, with higher inflation and higher interest rates also weighing on spending. Tax cuts slated for July 2024 will boost spending in FY25, although there is still some uncertainty around these tax cuts.

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

Large increase in both service credits and debits are expected over FY23 and FY24, before moderating in FY25. This will have different implications for the all-important tourism and education services trade and related industry sectors. Education exports were worth \$37.6 billion in FY19, or almost 39% of overall services exports (compared to only \$461m for outbound education import 'debits'). Education exports are now recovering, helped by the earlier-than-expected return of Chinese students and partly because there is a large backlog of visas already for overseas students. We also expect inbound tourism 'exports' to recover well in the medium-term, aided by a low A\$. Tourism exports (including 'business travel') were worth \$25.3 bn in FY19 (26% of overall services exports), compared to \$50.6 billion for outbound services 'imports' – which then accounted for almost 50% of overall services debits. We expect a slower ramp-up in outbound tourism (compared to inbound tourism), with tourism flows unlikely to recover back to their previous levels for a couple of years. The forecasts assume that the tourism and education credits (inbound) will recover back to pre-COVID levels by early-2024, while outbound tourism debits will not get back to 2018 peaks until FY26.

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

Annual headline inflation jumped to 7.8% (y/y) in the December quarter 2022, while underlying inflation lifted to 6.4%, before the headline rate fell back to 7.0% in the March quarter 2023. Although we think the inflation peak has passed, the rise and broadening of inflationary pressures has seen the RBA lift the cash rate by 3.5% since May 2022 to 3.6% in March 2023, with standard variable housing rates now over 8%. 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 likely to see a further lift in rates to 4.1% (potentially higher) over the second half of 2024, as the RBA attempts to curtail the extra demand pressures from the tax cuts, with elevated inflationary pressures still expected to be present with unemployment rate at or just below 4%. Meanwhile, the 3+% rise in the cash rate in Australia means the benchmark housing variable rate will rise toward 8.5% by late-2024, which will be

enough to slow consumer spending and impact housing and business investment over FY25 and particularly FY26. With government capital spending falling at that time and recurrent spending still constrained, the end result will see annual domestic demand growth falling below 2% in FY26 and remaining subdued in FY27. GDP growth will also be soft.

Interest rate cuts are expected over FY26 and FY27 in response to the weakening in the economy and because we expect inflation to be comfortably back in the RBA target range of 2%-3%. The large rate cuts will precipitate a very strong rebound in dwelling construction – by mid-decade there will be a very large undersupply of housing, with pent-up demand waiting to be unleashed. The current undersupply is only being exacerbated by high immigration and under-building. As consumers and businesses re-adjust to the ‘normalcy’ of higher interest rates – although at much lower levels than the 2000s and 2010s – investment and consumer spending will return to long term trend (or potential) rates of growth over the second half of the 2020s with an initial rebound in GDP growth to 3.8% in FY28, 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 VICTORIAN ECONOMY

After outperforming the national economy in 6 years to 2019 inclusive, Victoria experienced a larger-than-average fall in output through the coronavirus downturn, due to the more severe experience of the pandemic which severely restricted activity over 2020 and 2021. The successful vaccination rollout and covid restriction and disruptions easing significantly then led to a strong rebound in economic activity, with State Final Demand (SFD) and Gross State Product (GSP) increasing 7% and 5.6% respectively in FY22.

Over FY23, the recovery momentum has waned, but has remained healthy. SFD increased by a modest 0.2% (q/q) in Q4 (December quarter 2022), making for a soft second half to 2022. The momentum that building momentum after the disruption of the Omicron wave has dissipated rather quickly. Household consumption growth boosted growth (0.4% q/q), driven by spending on food, transport, and hospitality services. A pickup in machinery & equipment expenditure was the only bright spot in the investment components. Dwelling investment fell by 1.4% q/q, while non-residential construction was 3.2% lower in Q4 2022. The construction industry is still struggling against capacity constraints, delaying the realisation of work to be done into investment. Public demand boosted SFD in the quarter, with a sharp rise in current consumption more than offsetting a decline in investment works. Meanwhile, GSP was boosted by the return of international tourists and students over FY23, adding to solid growth in domestic demand, with SFD and GSP expected to be 3.5% and 3.1% respectively.

The unemployment rate is still historically low, averaging 3.8% over the past four months. Employment growth has continued to tick up, with the state adding 73,700 jobs in the March 2023 quarter (+2.1% q/q), despite the very tight labour market and participation rate at record levels. Softer economic momentum and tighter policy settings will test the resilience of the labour market over the next 2-3 years, but we expect Victoria's unemployment rate too remain under 4% over the remainder of FY23 and FY24, before pushing over 4% from FY25.

Economic growth is forecast to weaken sharply in FY24, before improving but remaining weak over FY25 and FY26, due to weaker dwelling, business and public investment, with overall SFD and GSP

growth lagging the national economy. Growth will then begin to build from 2027 due to a strong upturn in construction, with Victoria subsequently showing above-average growth to the end of the decade.

Table 3.1 Victoria – Key Economic Indicators, Financial Years

Year Ended June						Forecast							
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Victoria													
Total Construction Activity(*)	15.3	4.6	1.9	-5.0	4.2	1.1	-3.1	-6.0	-3.5	4.6	5.2	6.3	1.7
State Final Demand	5.0	3.3	-1.0	1.0	7.1	3.5	0.3	2.0	1.8	2.6	3.7	3.8	2.8
Gross State Product (GSP)	3.4	3.1	0.1	-0.3	5.6	3.1	0.6	1.9	2.1	3.4	3.9	3.6	2.6
Employment Growth (Year Avg)	2.4	3.0	0.8	-1.5	3.9	3.7	2.3	1.3	0.9	1.4	2.0	2.4	1.9
Australia													
Total Construction Activity(*)	12.2	-9.1	-3.7	-0.7	1.5	4.6	2.6	-1.3	-1.0	2.9	7.5	6.9	1.6
Australian Domestic Demand	3.4	1.6	-0.8	3.0	5.0	3.5	1.2	2.5	2.0	2.3	3.9	3.8	2.6
Gross Domestic Product (GDP)	2.9	2.2	-0.1	2.2	3.7	3.2	1.8	2.5	2.3	3.0	3.8	3.4	2.6
Employment Growth (Year Avg)	3.0	2.3	0.5	0.5	3.3	3.9	2.0	1.7	1.1	1.0	1.8	2.3	1.8

Source: BIS Oxford Economics and ABS

* Total construction work done in constant 2019/20 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.

In the long run we still expect the state to again outperform the national average, but by less than was evident pre-COVID - Victoria's economy had been partially driven by rapid expansions in higher education and tourism, and there will be permanent losses in these areas. Offsetting this will be the return of relatively stronger population growth, with Victoria's population growth expected to again outpace the national average from FY23 by around 0.2% p.a. This will provide an added boost to consumer, housing and infrastructure demand over the medium-to-long run.

3.3 OUTLOOK FOR TASMANIAN ECONOMY

Tasmania's State Final Demand (SFD) was flat in the December quarter 2022, following a strong 1.6% increase in the September quarter, but overall growth has slowed over the past year. Nevertheless, this has followed strong growth over the past two years. Tasmania's SFD increased by a healthy 5.7% in FY22, following the 5.5% rise in FY21. Gross State Product (GSP) increased by 4.3% in FY22, after the 5% rebound in FY21 from the FY20 COVID recession.

As Tasmania is highly exposed to transport costs, it has struggled with higher fuel costs and the removal of this headwind will support exports this year. Demand for the island's high value produce should improve as trade tensions with China (a major export market) abate. The weaker A\$ will also provide some support.

Tasmania's post-coronavirus recovery relied heavily on government support, with the withdrawal of very easy fiscal settings posing a headwind to growth, particularly in FY23 and FY24. Slower growth household spending and falling dwelling investment will also act as drags on SFD growth in the near-term. Dwelling investment is expected to decline -9% in FY23 and, although a backlog of work is expected to limit the decline in activity in FY24, further declines are forecast for FY25 and FY26. Partially offsetting these weaknesses will be solid growth in public and business investment over the next 2-3 years, particularly FY25 and FY26. Merchandise goods export volumes bounced back in FY22 but are expected to decline again in FY23, before growth resumes from FY24. Overall exports of goods and services expected to be boosted over the next 2-3 years by the full return of international and interstate tourism, providing an important boost to overall output (GSP) in the state.

Table 3.2 Tasmania – Key Economic Indicators, Financial Years

Year Ended June						Forecast							
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Tasmania													
Total Construction Activity(*)	-0.6	15.4	0.3	1.1	5.7	-1.9	1.7	4.0	4.1	-2.4	5.9	4.6	0.9
State Final Demand	5.0	4.6	-0.4	5.5	5.7	1.1	0.9	2.7	2.1	1.4	3.2	2.8	1.9
Gross State Product (GSP)	3.6	3.7	0.3	5.0	4.3	1.3	1.6	2.6	1.9	2.0	3.3	2.7	1.6
Employment Growth (Year Avg)	4.7	1.7	2.8	2.4	3.0	2.7	1.8	1.2	0.8	0.6	1.2	1.2	0.8
Australia													
Total Construction Activity(*)	12.2	-9.1	-3.7	-0.7	1.5	4.6	2.6	-1.3	-1.0	2.9	7.5	6.9	6.9
Australian Domestic Demand	3.4	1.6	-0.8	3.0	5.0	3.5	1.2	2.5	2.0	2.3	3.9	3.8	2.6
Gross Domestic Product (GDP)	2.9	2.2	-0.1	2.2	3.7	3.2	1.8	2.5	2.3	3.0	3.8	3.4	2.6
Employment Growth (Year Avg)	3.0	2.3	0.5	0.5	3.3	3.9	2.0	1.7	1.1	1.0	1.8	2.3	1.8

Source: BIS Oxford Economics and ABS

* Total construction work done in constant prices as per the ABS Building Activity and Engineering Construction Activity

Total construction is the sum of new dwelling building (includes alterations and additions activity greater than \$10,000), new non-building activity and new engineering construction.

Overall, SFD is expected to slow sharply in FY23 to 1.1% and remain weak at 0.9% in FY24, with high interest rates impacting household spending and dwelling investment. Meanwhile, the decline in merchandise exports in FY23 will constrain GSP to 1.3%, with stronger growth in exports pushing GSP up to 1.6% in FY24. The expected improvement in investment and household spending over FY25 and FY26 is expected to underpin better growth over those years, before the completion of some major projects sees weaker growth in SFD in FY27. Stronger growth is subsequently forecast to resume in FY28 and FY29, led by a strong upturn in dwelling investment – with a worsening undersupply of housing and lower interest rates from 2025 initiating the next dwelling construction boom. The improvement in the state economy will also see another round of business investment over the latter part of the decade, which will also contribute to economic and employment growth.

Employment has tracked higher over the past year, albeit in fits and spurts. This has been facilitated by a lift in the participation rate to record highs of around 63% and a small improvement in population inflows. Tasmania's participation rate is structurally lower than the rest of the country (by around 3-4% lower) due to the relatively older population. Significantly, Tasmania's unemployment rate has fallen to historically lows below 4%, after averaging 4.4% in FY22, and is now just above the national average. We expect low unemployment rates of under or around 4% to be maintained over the next 2-3 years, due to modest growth in employment matched by modest population growth. The strength of employment will underpin moderate household spending and overall SFD and GSP.

Lower population growth over the next few years will act to constrain household demand and longer term demand for infrastructure and housing. Population growth was very strong over FY17 to FY20, averaging 2.2% p.a. – 0.6% above the national average, which was quite contrary to historical 'norms' of Tasmanian population growth lagging the national average. Population growth has picked up from the lows of the past two years and is expected to average 1.1% in FY23 and FY24, before growth gradually eases to 0.8% by FY30 – with Tasmania's population growth projected to lag the national average by around -0.6% over the forecast period.

4. WAGES AND INFLATION OUTLOOK

4.1 CPI OUTLOOK

Current strong inflationary pressures will be slow to abate

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

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

Another important component of procyclical inflation since mid-2021 has been the cost of constructing a new dwelling (which constitute 8.6% of the CPI basket'). Cost inflation in the construction sector has been escalating since late 2020, due to both the surge in construction work generated by the HomeBuilder subsidy, and materials and labour shortages caused by this additional demand and exacerbated by supply bottlenecks and workplace restrictions. The house purchase component increased 20.7% y/y over the year to September 2022, before easing in the December 2020 and March 2023 quarters. Construction cost inflation will slow further in the coming quarters, but over the next year it will still remain high relative to its history.

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

Although we expect oil and other commodity prices to ease further through 2023, it will take some time for supply networks to completely normalise. But most of these supply-side pressures will abate over 2023, and their absence will cool headline inflation materially through 2023. Demand-driven inflation will be slow to abate over the year, despite RBA attempts to 'cool' strong demand with higher interest rates. Moreover, the tightening labour market - with the unemployment rate currently around 3.5% and expected to stay there for the next 2-3 years - will contribute to wage pressures, which have so far contributed little to the above-average CPI inflation, apart from construction costs. Overall, headline CPI inflation averaged 4.4% in FY22, (following 1.6% in FY21) and it is forecast to average 7.3% in FY23, with annual price growth easing back to 7.0% in the March quarter and a further easing expected in June quarter.

However, some structural factors will add to inflation over the short-to-medium term, such as household energy costs and a return to higher rental and food inflation. Rents constitute around 6% of the CPI while food accounts for over 10% of CPI basket (excluding around 7% for meals out and takeaway food). Rental price growth rose to 4% (y/y) in the December quarter 2022 and further to 4.9% in the March quarter 2023. Given the extreme tightness in rental markets currently, the CPI measure of rents is expected to increase markedly over the next 2-3 years as existing rental contracts roll over to new, much higher rents. Another factor driving inflation over the next 2-3 years will be further sharp increases in electricity and gas prices (which constitute 3.2% of CPI).

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

Underlying and headline CPI inflation are expected to remain somewhat elevated over FY24 to FY26 as the supply and demand pressures slowly abate and employment remain buoyant, and wage growth strengthens. Wages growth will accelerate as the unemployment rate is expected to remain below 4% over FY23 to FY26. 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 US77 cents in 2025 will provide some offsetting pressures between FY24 and FY26.

Overall, BISOE forecasts headline CPI inflation to be 4.5% in FY24, 3.1% in FY25 and 2.7% in FY26. The expected softening in the economy around mid-decade will see price and wage pressures weaken, with the CPI to ease back to around 2.5% over FY27, where it is expected to sit over the latter years of the 2020s (see figure 4.1). Our forecasts, on average, are a bit lower than February RBA forecasts over FY23 to FY26 (see section 4.1.1 below).

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

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

- Tradeables inflation, which currently constitutes around one-third of the CPI basket, is forecast to increase by an average of around 1% to 2% per annum contributing around 0.5% to annual inflation. Limited movements in the A\$, steady (but subdued) increases in global manufacturing costs and some commodity price increases underpin this projection.
- Non-tradeables inflation comprises the remaining two-thirds of the basket, but this proportion is increasing due to the move toward services and higher price inflation (than tradeables). It is assumed to increase by around 2.5-3% per annum, contributing around 2% to headline inflation. This is weaker than the 3.7% average achieved from 2001 to 2015 when relatively high wage inflation, lower than average productivity growth to 2009 and also large rises in utilities prices pushed non-tradeables inflation to well outside of the RBA's 2 to 3% target range. We expect higher wages growth in the longer term and lower long-term productivity will also contribute to the maintenance of relatively high non-tradeables inflation.

4.1.1 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 involves using the official near-term CPI forecasts from the Reserve Bank of Australia (RBA) and a longer-term average based on the 2.5% mid-point of the RBA's inflation target band (i.e. 2 to 3%).

The RBA's May 2023 'Statement on Monetary Policy' forecast the headline CPI rate to be 6¼ % in the June quarter 2023 - giving a year average of 7.1% for FY23. An easing to 4½ % is forecast for the December quarter 2023 and then to 3 ½ % in the June quarter 2024 – giving a year average CPI rate of 4.4% for FY24. The RBA's CPI forecast for December 2024 is 3 ¼ % and 3% by June 2025 - giving a year average CPI rate of 3.1% for FY25. Beyond the RBA's forecast from the SoMP, we assume the CPI averages 2.5% over the medium-to-long term.

4.2 NATIONAL WAGES

The key determinants of nominal wages growth are consumer price inflation, productivity, the relative tightness of the labour market (i.e. the demand for labour compared to the supply of labour), and compositional (structural) changes in the labour market following the end of the mining investment boom around 2013. The low wage growth of the 2014-21 period was both a product of and key contributor of low underlying inflation. Low wages helped keep business costs down and thus 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, possibly to around 4%.

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

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

A key element adding to wage pressures in FY22 and over FY23 has been the rapid tightening in the national labour market that is now apparent. Employment growth has bounced back strongly over the past two years – increasing by 3.3% in FY22 and an expected 3.9% in FY23 – which pushed the unemployment rate down to around 3.5%, while labour force participation rates rose to record levels. A key to the outcomes over FY22 was little growth in the pool of available labour. The cessation of international migration to Australia since March 2020 saw population growth plummet to just 0.2% in the year to June 2021, while the working age population (above 15 years old) increased by only 50,000 (+0.2%) over FY21 and 206,000 in FY22, compared to over 330,000 persons in FY19 and in the year to March 2020. Growth in the labour force has been facilitated by a marked increase in the labour force participation rate to record levels. However, there is now little scope to raise the participation rate further and, with the underemployment rate at historical lows and job vacancies well above pre-COVID levels, wage pressures are building.

Fig. 4.1 Australia: Wages and Prices

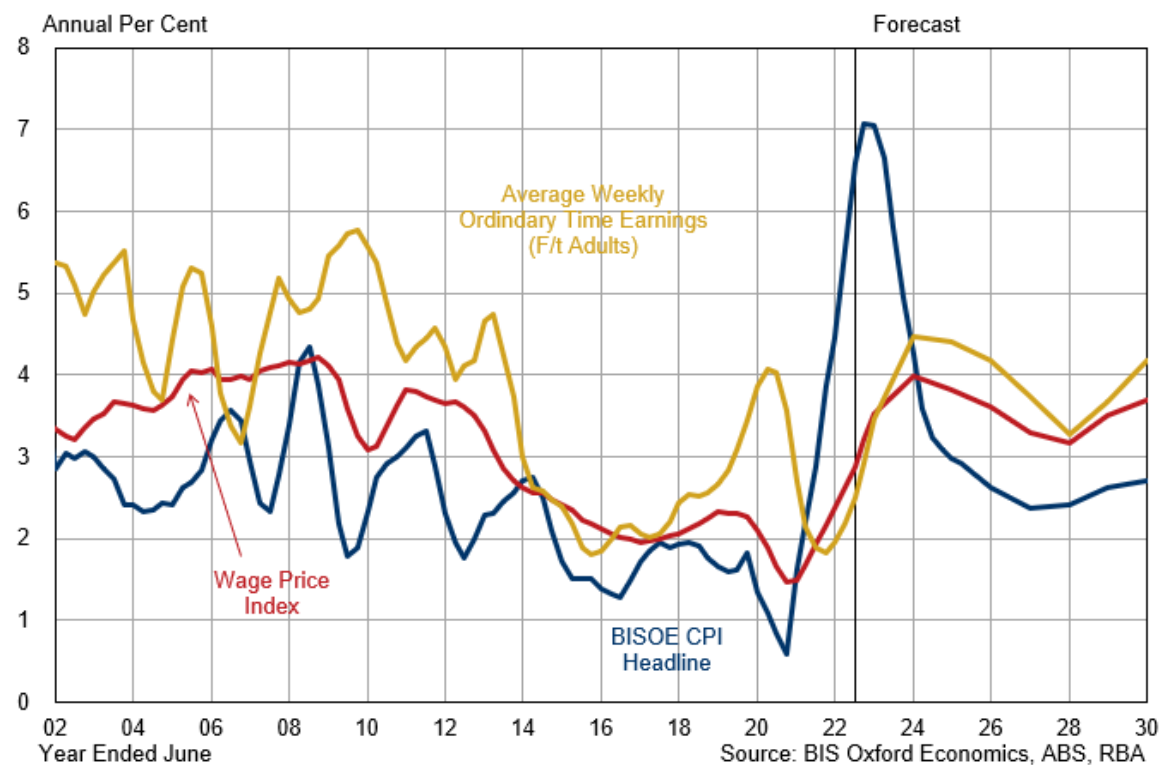
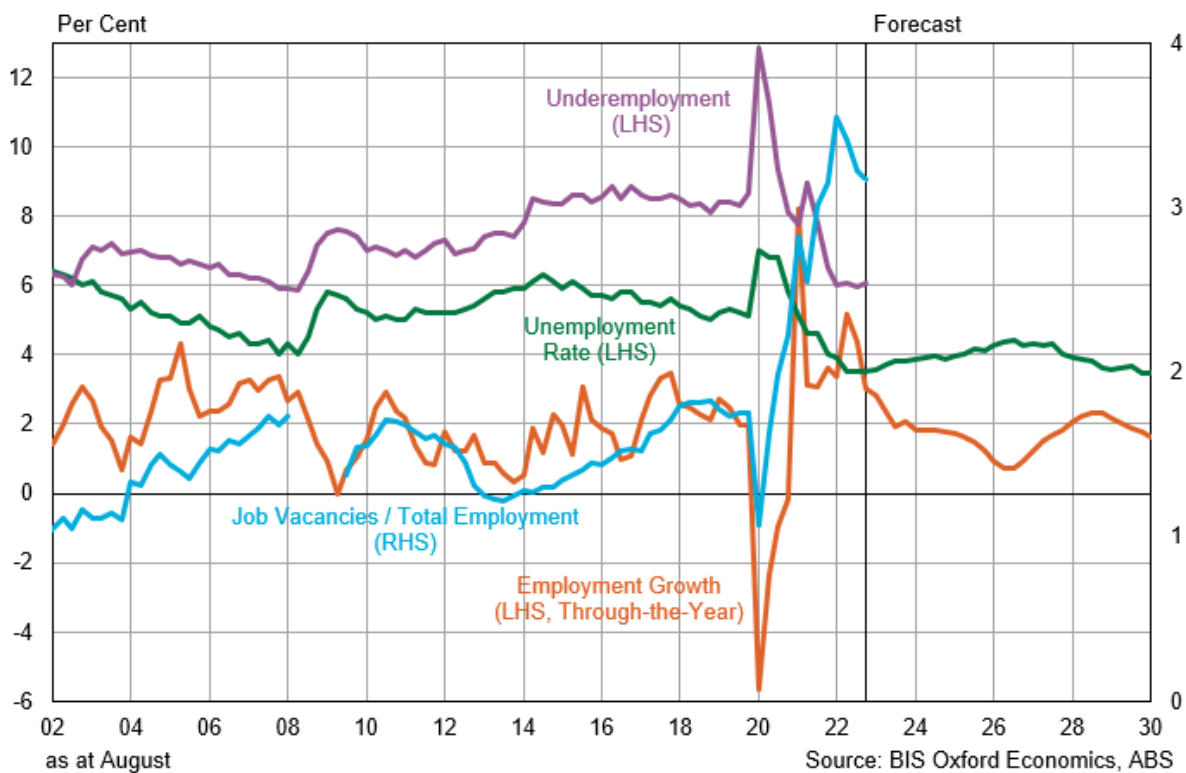


Fig. 4.2 Australia: Employment and Unemployment



The economy is expected to remain resilient over the short-to-medium term and, although BISOE's economic growth (GDP) forecasts are for modest weakening over FY23 and FY24, we still expect the labour market to remain tight, with labour demand increasing and the unemployment rate remaining around 3.5% to 4% over FY23 to FY25. A key metric in the chart above is figure 4.2 above is the ratio of job vacancies-to-total employment, which, although off the mid 2022 peaks, is still very high – despite a huge influx of overseas migration over the past year. Businesses and public sector organisations are still experiencing extreme difficulties finding suitable workers. Skill shortages, which have already emerged and broadened into many areas of the economy, will remain acute. The acute tightness of the labour market will see heightened wage pressures continue. However, wages will be slower to pick up compared to the inflation rate, due to lags in the transmission of wage increases, particularly in the enterprise bargaining segment, where the duration of agreements runs for 2-3 years.

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

A key element of this decision was the very high CPI inflation rate of 5.1% in the March quarter 2022 (which was then the latest available quarter). Given that CPI inflation has moved higher – 7% in the March quarter 2023 - it is likely that the minimum and award increases provided by the FWC will remain high for the next 1-3 years, particularly given the support for higher wages from the new Federal Labor government (which the previous government did not support). Although only 13% of full-time workers (a much higher proportion for part-time workers) rely on the annual increase in the minimum wage as their primary wage-payment mechanism, a significant proportion of workers are also indirectly influenced by the NMW increase, as it usually flows onto industry awards, with the Fair Work Commission estimating its decisions will affect more than 2.7 million workers (around 20% of the workforce). Accordingly, these FWC decisions will also influence the strength of wage increases given to those who receive their wages via 'individual arrangements' pay setting arrangements, as a significant proportion of wage increases given under individual arrangements are based on awards. Recent inflation outcomes, inflationary expectations and the tightness of the labour market are also key influences in the setting of wage increases under individual arrangements.

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

Forecasts for All industries wages are detailed in the Summary table in the Executive Summary. The Australian All industries WPI is forecast to increase to 4.0% in FY24 and remain elevated at 3.8% over FY25, before easing over the subsequent 3 years as the economy cools and the unemployment rate rises back above 4%. Stronger wage growth is then expected to resume over FY29 as stronger economic and employment growth returns from 2028. Overall, using RBA CPI forecasts, real (inflation-adjusted) WPI growth for the Australian All Industries WPI is forecast to decline in FY23 and FY24 as high CPI inflation out-paces WPI growth (as occurred in FY22). Thereafter, with WPI growth remaining relatively high and CPI inflation easing, there will be positive growth in real wages from FY25 to FY30. Over the five-year period from FY26 to FY30 inclusive, the real rate of increase is forecast to average 0.9% p.a., which will be on par with the 0.9% average of the decade to FY2011 inclusive and higher than the 0.5% of the decade to FY21.

The Victorian and Tasmanian All Industries WPI are expected to largely track over the national All Industries WPI over the forecast period, with minor year-by-year differences related to the relative strength of the respective state economic growth and labour markets. Over the five years to FY30 the Victorian and Tasmanian All Industries WPI are forecast to average 3.4% in nominal terms and 0.9% in real terms – the same as the national average.

5. INDUSTRY WAGES - UTILITIES & CONSTRUCTION: AUSTRALIA, VICTORIA & TASMANIA

5.1 CHOICE OF THE WAGE PRICE INDEX AS THE MEASURE OF LABOUR COSTS

The WPI for the EGWWS (Electricity, Gas, Water & Waste Services or 'Utilities') sector in Victoria and Tasmania is used as a proxy for all of APA's electricity network related labour costs. Network labour costs includes all internal labour (i.e. all head office staff including professional and admin employees plus field employees) as well as any external labour hired to provide field services such as 'asset management' services. Businesses providing these field services are usually classified to the utilities sector. Hence, including their labour costs as part of APA's opex 'network' labour and escalating it with the WPI for the state utilities sector will be consistent with the AER's framework. That being said, some of APA's internal staff may be involved in project delivery such as replacement and/or augmentation capital projects. Their labour cost can be included in the capex calculations.

BISOE chose to use the Wage Price Index (WPI) as the key measure of growth in APA's internal labour costs for the forecasts of Electricity, Gas, Water and Waste Services. The key motivations for this are:

(a) Greater data availability: the EGWWS WPI is available at the national level and for the key states (NSW, Victoria and Queensland), both on quarterly and annual basis. Average Weekly Earnings (AWE) and Average Weekly Ordinary Time (AWOTE) are not available by industry by state, and at the national level are only published every 6 months; and

(b) The Australian Energy Regulator (AER) prefers the WPI as it has less volatility than AWOTE and is a better measure of underlying trends.

In terms of overall wage costs, **the full 0.5% for the SG increases each year should be added to the forecast WPI increases each year** 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 AER in their Superannuation Guarantee paper, that "...taking into account the uncertainty regarding how individual NSPs will respond to changes in the minimum superannuation guarantee, it is recommended that the full 0.5 percentage point annual increase to the superannuation guarantee be added to forecast WPI growth" (page 5 of DAE impact of *Changes to the Superannuation Guarantee on Forecast Labour Price Growth*, July 2020).

5.2 NATIONAL, VICTORIAN & TASMANIAN EGWWS WPI FORECASTS

Utilities wage growth is forecast to continue to outpace the national 'all industries' average over the forecast period.

The national (Australia-wide) EGWWS WPI growth has consistently been above the national (All Industries) average since the index's inception in 1997 and averaged 0.6% higher over the past two decades (see Table 5.1 and Fig 5.1). Over these two decades, the average growth in the real (inflation adjusted) WPI was 1.3%. Since the collapse in wages growth following the end of the mining boom, the EGWWS WPI has continued to outpace the All Industries average, increasing by an average of 2.5% over the 8 years to FY21 inclusive, 0.4% higher than the 2.1% national average.

Over the 5-year period from FY26 to FY30 inclusive - APA's next regulatory period - the Australian EGWWS WPI is forecast to average 3.7%, which will be 0.3% above the All Industries average. In real terms, the Australian EGWWS WPI is forecast to average 1.2% p.a. over the five years to FY30. Note that these forecasts include the impact of the SG increase, which is expected to see the EGWWS WPI be -0.04% lower over FY23 to FY26 than if the SG increase did not proceed. The overall real average of 1.2% is a bit above the 0.9% p.a. averaged over decade to FY21, but below the 1.5% average of the decade to FY21. In terms of the historical difference vis-à-vis the All Industries WPI average, the difference is slightly below the 0.4% difference of the decade to FY21.

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
2005	973	4.4	2.0	1,091	3.2	0.8	85.3	3.7	1.3	83.3	4.3	1.8
2006	1 018	4.6	1.4	1,111	1.9	-1.3	88.7	4.1	0.9	87.6	5.2	2.0
2007	1 054	3.6	0.6	1,152	3.7	0.7	92.2	3.9	1.0	91.8	4.8	1.8
2008	1 106	4.9	1.6	1,183	2.7	-0.7	96.1	4.1	0.8	95.7	4.2	0.8
2009	1 166	5.5	2.3	1,255	6.1	3.0	100.0	4.1	1.0	100.0	4.5	1.4
2010	1 231	5.6	3.2	1,351	7.6	5.3	103.1	3.1	0.8	104.4	4.3	2.0
2011	1 283	4.2	1.0	1,474	9.1	6.0	107.0	3.8	0.7	108.7	4.2	1.1
2012	1 338	4.3	2.0	1,510	2.5	0.1	110.9	3.6	1.3	112.5	3.5	1.2
2013	1 400	4.6	2.4	1,602	6.1	3.9	114.6	3.3	1.0	117.3	4.2	1.9
2014	1 442	3.0	0.3	1,635	2.0	-0.7	117.6	2.6	-0.1	121.1	3.2	0.4
2015	1 477	2.4	0.7	1,646	0.7	-1.0	120.4	2.4	0.7	124.5	2.8	1.1
2016	1 504	1.9	0.5	1,704	3.5	2.2	123.0	2.1	0.7	127.5	2.4	1.0
2017	1 535	2.0	0.3	1,777	4.3	2.6	125.4	2.0	0.2	130.3	2.2	0.5
2018	1 572	2.4	0.5	1,818	2.3	0.4	127.9	2.1	0.1	132.9	2.0	0.0
2019	1 614	2.7	1.0	1,842	1.3	-0.3	130.9	2.3	0.7	136.6	2.8	1.1
2020	1 676	3.9	2.5	1,896	2.9	1.6	133.7	2.1	0.8	140.2	2.7	1.3
2021	1 721	2.7	1.1	1,927	1.6	0.0	135.6	1.5	-0.1	142.7	1.8	0.2
2022	1 755	1.9	-2.5	1,979	2.7	-1.7	138.8	2.4	-2.1	144.9	1.5	-2.9
Forecasts												
2023	1 816	3.5	-3.6	2,070	4.6	-2.5	143.7	3.5	-3.6	150.1	3.6	-3.5
2024	1 897	4.5	0.1	2,163	4.5	0.1	149.4	4.0	-0.4	156.2	4.1	-0.3
2025	1 980	4.4	1.3	2,262	4.6	1.4	155.1	3.8	0.7	162.6	4.1	0.9
2026	2 063	4.2	1.5	2 358	4.2	1.6	160.7	3.6	1.0	168.9	3.9	1.3
2027	2 139	3.7	1.2	2 448	3.8	1.3	166.0	3.3	0.8	175.0	3.6	1.1
2028	2 209	3.3	0.8	2 536	3.6	1.1	171.3	3.2	0.7	181.0	3.4	0.9
2029	2 290	3.7	1.2	2 634	3.9	1.4	177.3	3.5	1.0	187.6	3.7	1.2
2030	2 386	4.2	1.7	2 741	4.1	1.6	183.8	3.7	1.2	194.8	3.8	1.3
Compound Annual Growth Rates ⁽³⁾												
2001-2011	4.8		1.9	4.8		2.0	3.7		0.9	4.4		1.5
2011-2021	3.0		1.1	2.7		0.9	2.4		0.5	2.8		0.9
2022-2030	3.9		0.5	4.2		0.7	3.6		0.2	3.8		0.3
2025-2030	3.8		1.3	3.9		1.4	3.4		0.9	3.7		1.2

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 2025-2030 is the average annual growth for 2025/26 to 2029/30 inclusive
i.e. next Revenue Determination period.

BIS Oxford Economics regards the WPI to be a measure of the *underlying* wages growth in the utilities sector for total Australia. In terms of total wage costs — expressed in Average Weekly Ordinary Time Earnings (AWOTE) — BIS Oxford Economics expects EGWWS AWOTE to average 3.9% per annum over the six years to FY30, 0.2% 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 slower growth in employment numbers over the next decade, it is likely that there will be overall upskilling 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 FY20 and FY21. However, in FY22, annual growth in the EGWWS WPI (1.5%) slipped below the All Industries average (2.4%) for only the second time in the past two decades. We believe 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.

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. This is set to continue over the next decade (see figures 5.3, 5.4 and 5.5).

In addition, the electricity, gas and water sector is a largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors. Further, the overall national average tends to be dragged down by the lower wage and lower skilled sectors such as the Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns (such as the recent COVID-19 inspired downturn) impacting on wages growth in those sectors. 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 3.8%.

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

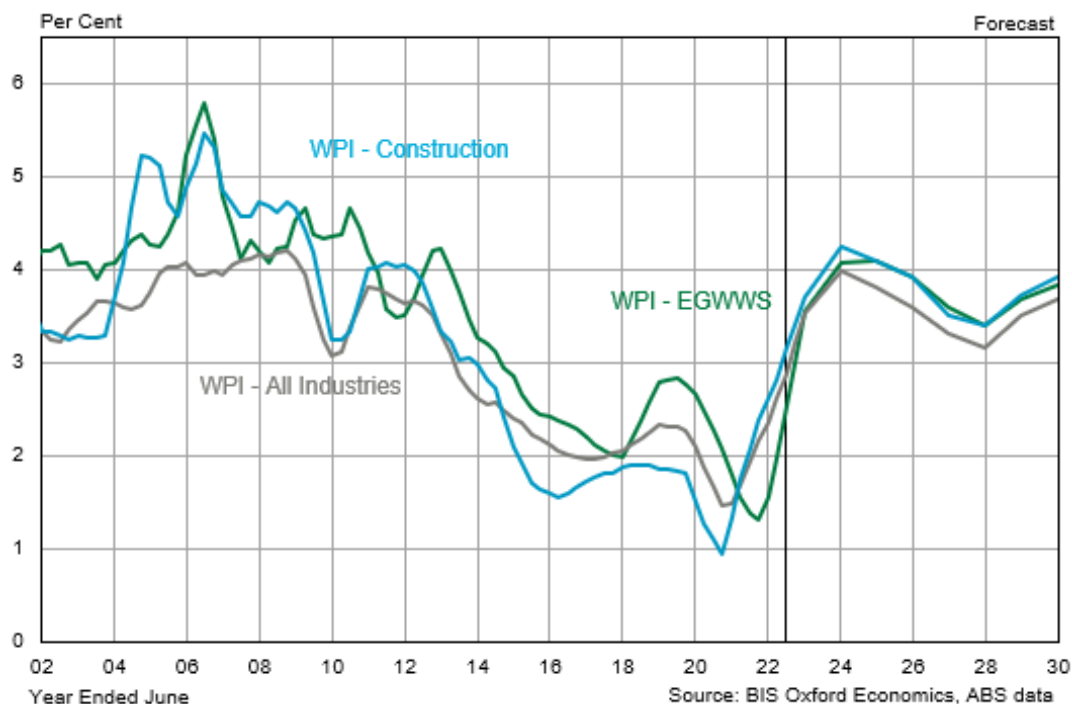
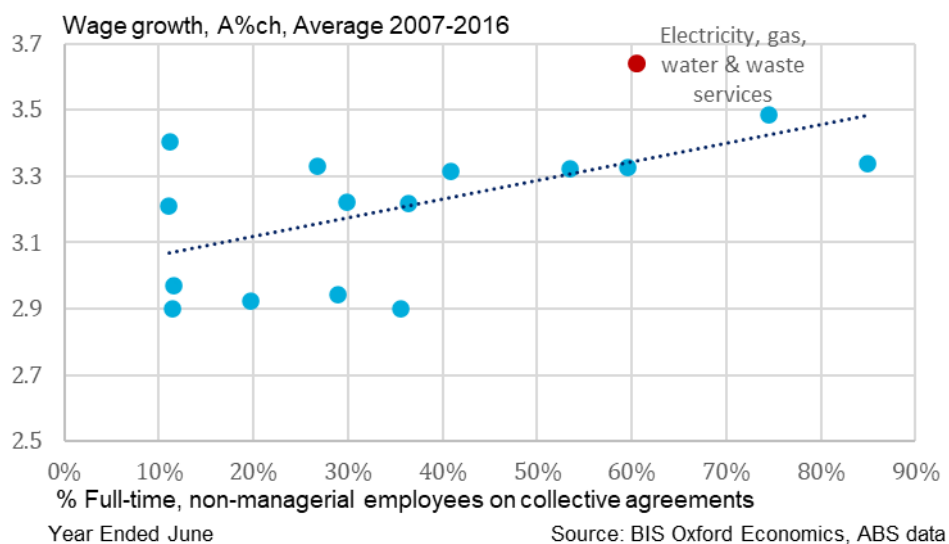


Figure 5.2 Average wage growth and unionisation rates by industry, 2007-2016



BIS Oxford Economics analysis shows collective agreements in the EGWWS sector were on average around 1.5% higher than CPI inflation over the 15 years to FY2014 (excluding the effects of GST)

introduction in 2000/01). In the six years to FY20, 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 1.1% above the 'official' CPI over FY26-30, 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.

However, EBA outcomes were weaker over FY21 and have remain subdued in FY22, compared to the 5 years to FY20, 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 2 years. EBAs in the September quarter 2022 picked up to 3% and jumped to 3.6% in the December quarter (latest data). We expect the next rounds of EBAs negotiated in the sector to rise strongly over the next 2-3 years, due to several factors: CPI inflation will remain high (averaging over 7% in FY23 and around 4.4% in FY24); 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.

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

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

The overall labour market is expected remain very tight over the next 2-3 years, with the unemployment rate to remain between 3.5% to 4%, despite a slowing in employment growth from 3.9% in FY23 to around 2% over FY24 and 1.7% in FY25. 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 FY25 and continue increasing to the end of the decade (see figure 5.3). 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 FY23 to FY25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels – excluding oil and gas, where a significant proportion of the 'work done' measure is large imported components assembled on-site (see figure 5.4).

Figure 5.3 Australia – Mining Investment

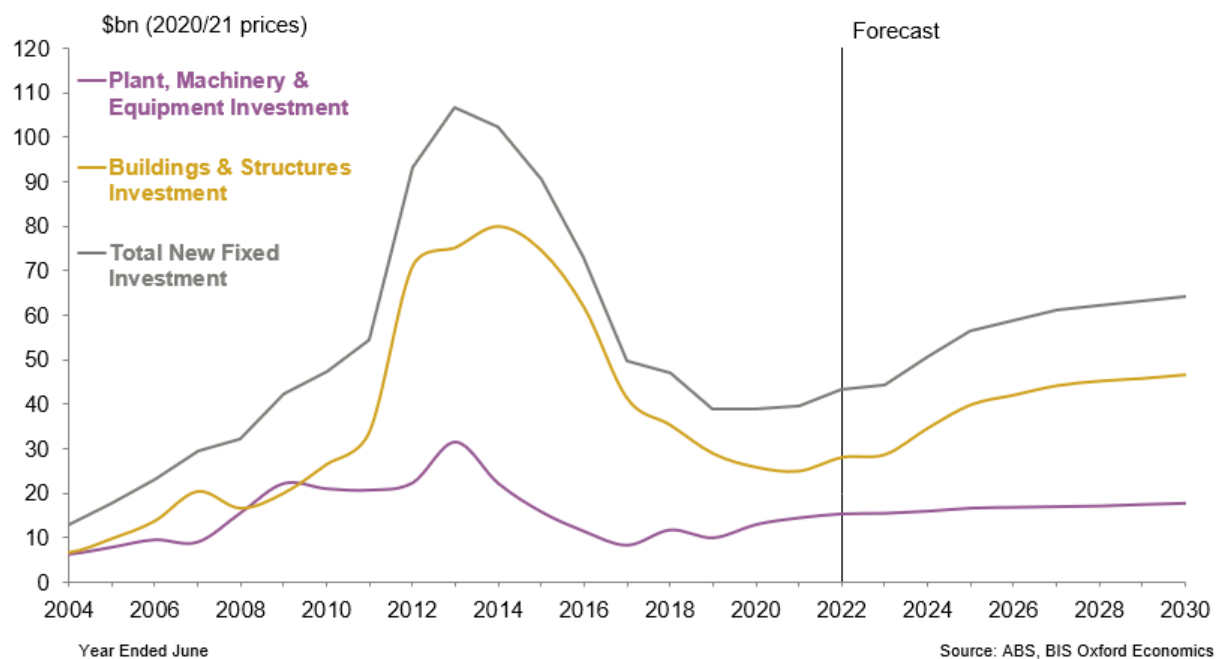
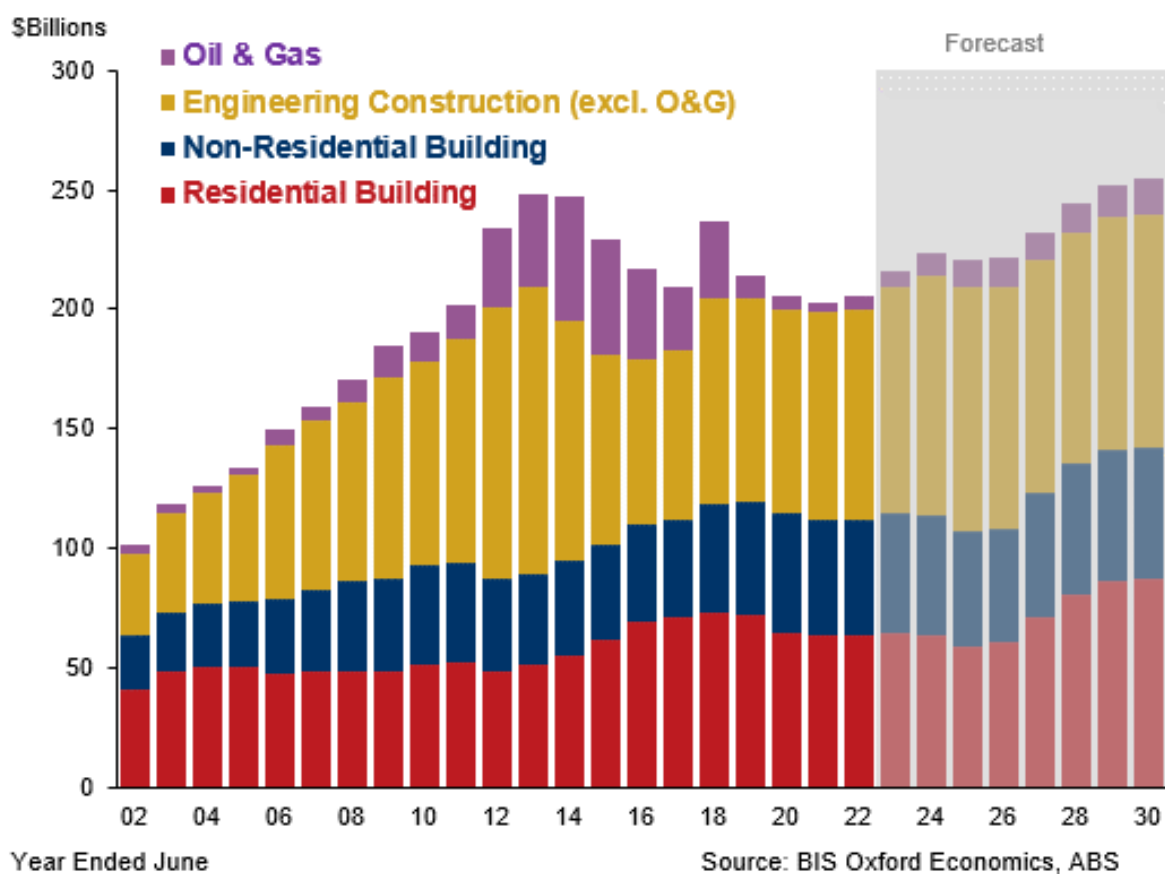


Figure 5.4 Australia – Construction Activity (real work done)



With regard to utilities investment, BIS Oxford Economics is forecasting steady increases over the next 8 years, with electricity-related engineering construction projected to be 29% higher in FY30 compared to FY22 levels (see chart 5.5). However, given the need for much greater amounts of transmission and distribution investment, let alone renewables generation, these projections could be considered conservative – there is a significant upside risk to the quantum of electricity-related investment required.

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 some numbers 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 5 years. Added to this is that skilled immigration only fully returned in the first half of 2022, after being suspended since early 2020. Although now resumed, the backlog of skilled labour shortages will be slow to fill, meaning that the skill shortages will persist for at least the next 2 years.

With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to attract and retain staff and we expect wages under both individual arrangements and collective agreements to increase markedly over the FY23 to FY26 period.

EGWWS sector has high levels of productivity, compared to the national average, 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 NSW (see figure 5.8). 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 New South Wales (see figure 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 the 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 and undertake capital works to cater for population and economic growth and for capital replacement or enhancement.

5.2.1 Outlook for Utilities Wages Growth in Victoria & Tasmania

Wages in the Victorian and Tasmanian utilities sectors are expected to move in line with the national utilities sector average over the next 7 years from FY24 (see table 1.1). Wages in the **Victorian**

utilities sector are expected to move in line with the national utilities sector average over APA Group's upcoming regulatory period (see Table 1.1). In the near-term, the Victorian EGWWS WPI is expected to be somewhat lower than the national EGWWS WPI in FY23, due to a surprisingly weak quarterly increase in the June quarter 2022 and March 2023 quarter. Slightly weaker EBAs in Victoria than the national EBA average recently are also expected to see Victorian utilities wages track below the national WPI outcomes over FY24 and FY25. Subsequently, strong increases in utilities engineering construction in Victoria (see figure 5.6) will see Victorian utilities WPI growth keep pace with the national EGWWS average over the forecast period.

The ABS does not provide WPI data for the Utilities sector in **Tasmania**, 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%. Tasmania only accounts for less than 3% of total Australian utilities employment. Historical data and forecasts of WPI for the EGWWS sector in Tasmania 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 Tasmania compared to the national average for the utilities sector.

Wages in the Tasmanian utilities sector are expected to move in line with the national utilities sector average over APA Group's upcoming regulatory period (see table 1). Over the past two years, we estimate that utilities WPI growth in Tasmania outpaced the national average, largely due to much stronger growth in enterprise bargaining agreements outcomes, compared to the national utilities EBA average. However, with the recent narrowing of this differential of Tasmania vis-à-vis the national average in terms of 'approved' agreements, we expect the 'current agreements' differential to also narrow and for the Tasmanian utilities WPI to track the national average.

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

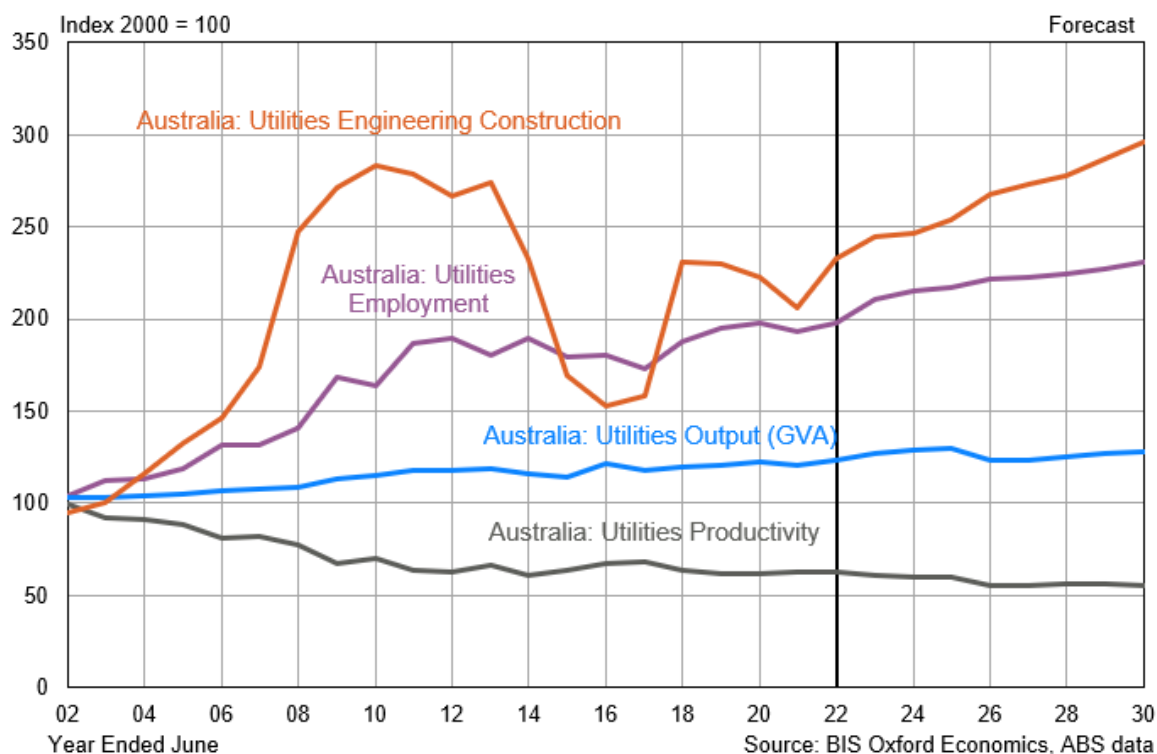


Figure 5.6 Victoria – Utilities Employment, Output, Investment & Productivity

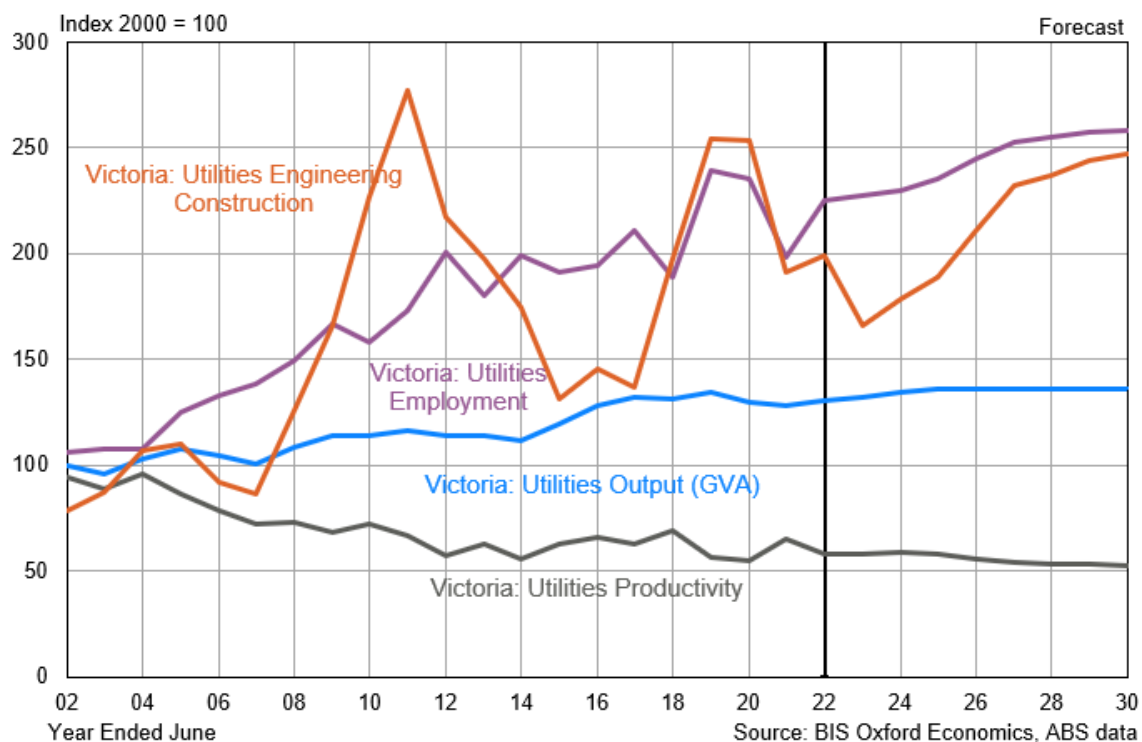


Figure 5.7 Tasmania – Utilities Employment, Output, Investment & Productivity

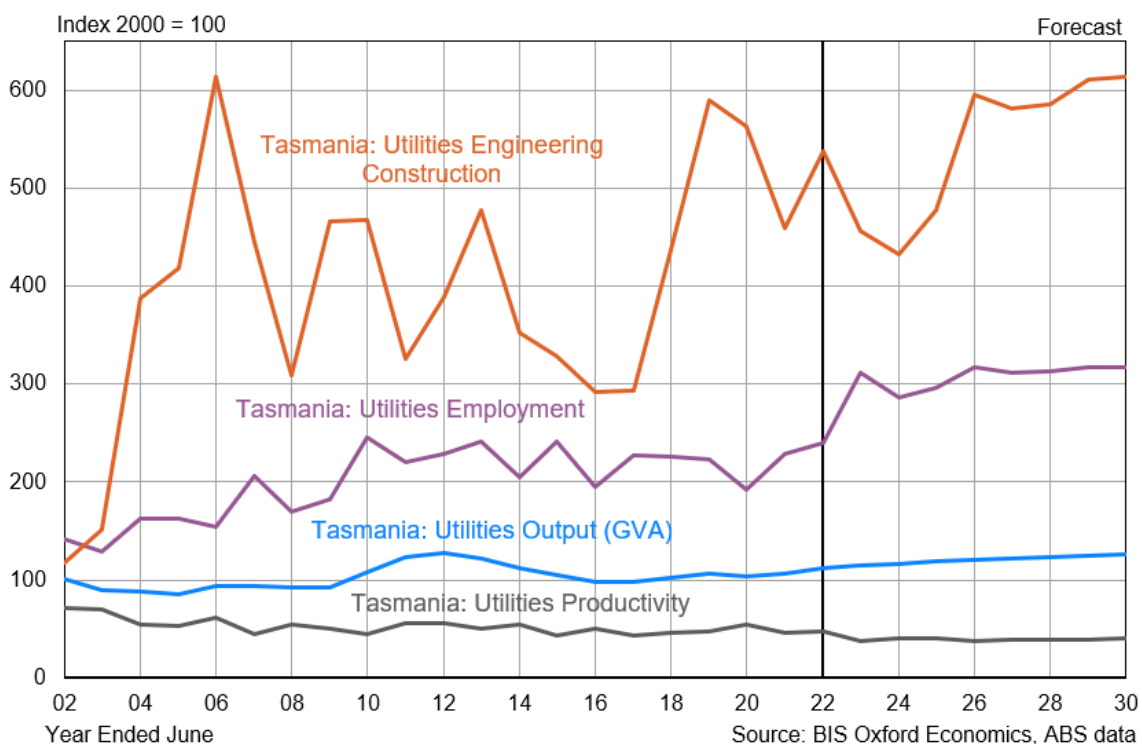
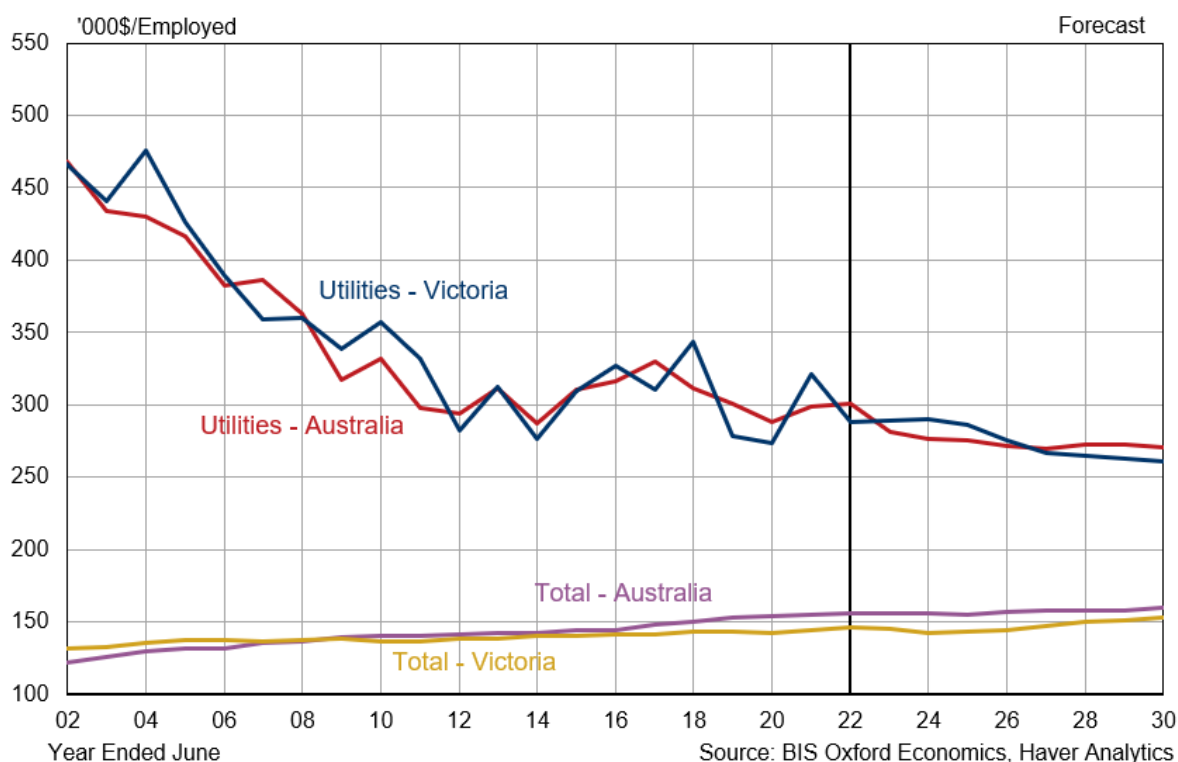


Figure 5.8 Utilities Productivity in Australia and Victoria



5.3 CONSTRUCTION WAGES

Given service providers outsourced labour is mostly supplied by firms in the construction industry, we proxy APAs' external labour cost escalation by wages growth (as measured by the WPI) in the Victorian and Tasmanian construction sectors. 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.

Our forecast is for the Australian Construction WPI to average 3.7% over the five years from FY26 to FY30 inclusive (APA's next regulatory period), Australian Construction WPI growth is forecast to average 3.7% p.a. – or 1.1% per annum on average in real (inflation adjusted) terms. Both Victorian and Tasmanian Construction wages are also forecast to average 3.7%, or 1.1% 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 -0.07% for each year of the SG increase (FY23 to FY26 forecasts).

Construction wages are forecast to keep improving from FY23 as construction activity increases (see figure 5.4). Australian construction wages are expected to strengthen appreciably over FY23 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 and serious skills shortages manifest and worsen. The increases in construction activity from FY22 will be driven initially by sustained residential building activity over FY23 – with a large backlog of work still to be done – before falling back, while high levels of non-dwelling building and rising engineering construction will also underpin higher wages due to strong labour demand and continued 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 Australian Construction WPI growth recovered over FY22 to 2.6% (in year average terms) from 1.3% in FY21. **Victorian Construction WPI** growth was well above the national average in FY22, at 3.2%, 0.6% higher than the national average. Higher construction sector EBAs in the state (compared to the national average) helped drive this result. EBAs approved over the past 1 to 3 years have averaged 0.3% higher than the national average. However, despite the higher construction EBAs, we expect Victorian construction WPI growth to lag the national average in FY23, due to surprisingly weak quarterly outcomes recently. We are forecasting Victoria's overall construction activity to show moderate growth over FY23 to FY24, which will see the level of Victorian construction activity push above previous peaks in FY23. However, given that the growth in activity in the state will lag the national average over FY21 to FY26, we are forecasting Victoria's construction WPI growth lag the national average over FY24 to FY26, before matching the national increases over FY27 to FY30, as Victoria's construction activity shows similar growth.

Tasmania's Construction WPI growth is forecast to drop below the national average over FY23 to FY25, largely due to much weaker EBAs recently. However, wages growth in the other segments will hold up well, due to further growth in Tasmanian construction activity over the next 2-3 years, pushing well above recent record levels. Total activity then eases back over FY27 as a number of major projects are finished around mid-decade and dwelling building activity weakens, before solid growth returns in over FY28 to FY30.

APPENDIX 1: 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.

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 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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