BIS OXFORD ECONOMICS

CONSTRUCTION LABOUR COST ESCALATION FORECASTS TO FY2026

ADDENDUM - PREPARED BY BIS OXFORD ECONOMICS FOR AUSNET SERVICES

OCTOBER 2020

BIS Oxford Economics

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

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1. SUMMARY

This report has been prepared for the purposes of AusNet Services' 2022-2026 Transmission Revenue Reset and is to be read as an **Addendum** to the 'main' report prepared by BIS Oxford Economics for the Victorian Electricity Distribution Businesses ('the DBs'), titled 'Labour Cost Escalation Forecasts to FY26' (October 2020). The main report provided forecasts and a report on expected real labour escalators relevant to the Victorian electricity distribution industry from 2020/21 to 2025/26 (FY21 to FY26). Forecasts for wage escalation will be used by the DBs to develop the real price changes over its upcoming regulatory period, which, in turn, will be used by the business to construct its operating and capital expenditure forecasts. In main report, two sets of forecasts were provided:

1. **Internal** electricity network-related labour cost escalation – represented by forecasts of the Electricity, Gas, Water and Waste Services (EGWWS or 'utilities') wage price index (WPI) for Victoria (with the Australian equivalent WPI provided for comparison).
2. **General** labour cost escalation, represented by the total state or All Industries WPI for Victoria.

This Addendum report covers a third area of labour escalation, which is particularly relevant to electricity transmission businesses, namely:

3. **External** contractor labour cost escalation, represented by the Construction WPI for Victoria.

This Addendum report relies on the same analysis and assumptions as outlined in the main report, in terms of the Australian and Victorian macro-economic forecasts, the CPI and the overall wage (i.e. All Industries) forecasts, which underpin the construction wage forecasts for Australia and Victoria.

Over the 5-year period from FY22 to FY26 inclusive (AusNet Service's next regulatory period) both the Australian and Victorian Construction WPI is forecast to average 2.2% in nominal terms. In real terms, the Victorian Construction WPI is forecast to average 0.3% p.a. over the five years to FY26.

Note that these forecasts include the impact of the proposed increases to Superannuation Guarantee (SG) over the forecast period. We anticipate that the Construction WPI will be, on average, -0.32% lower each year, than if the SG increases did not proceed. RBA research shows that employees tend to receive lower wages due to the imposition of a SG increase. In effect the employees 'trade off' some of their wage increase (which they would have received in the absence of the SG increase) for the extra superannuation. This means that, although the 'statutory' incidence of the higher superannuation contributions are borne by employers, over time a proportion of these higher SG costs are passed from employers to employees via lower wage growth. Section 1.1 includes a discussion of SG increases, how they apply to the WPI and the assumptions underpinning the impacts on the WPI forecasts in this document.

Our research has shown that construction activity (i.e. work done in the sector) normally has a strong influence on **construction wages**, although changes in wages tend to lag construction (in work done terms) by around one to two years. Hence, our construction wage forecasts are based on BIS Oxford Economics forecasts of construction activity by state (which includes residential and non-residential building, plus engineering construction) as well as predicted movements in the construction wages at the national level. Forecasts of overall construction activity in Australia are shown graphically in the chart below.

Construction wages at the national level have weakened dramatically since 2011/12 and are well below the robust increases during the construction boom of the latter half of last decade. While collective agreements in the sector have maintained their relative high increases over the past 4 years

Table A.1 Summary Table – Labour Cost Escalation Forecasts for Victoria and Australia – including Impact of Proposed Superannuation Guarantee Increases (financial years)

(per cent change, year ended June)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	5 yr Avg (f)
	Actuals					Forecasts	Next Regulatory Period					
NOMINAL PRICE CHANGES												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria (a)	**3.3**	**2.9**	**2.8**	**3.0**	**3.3**	**2.2**	**2.1**	**2.4**	**2.8**	**3.0**	**3.0**	**2.7**
EGWWS WPI - Australia (b)	2.4	2.2	2.0	2.8	2.7	1.9	1.9	2.2	2.7	2.9	2.9	2.5
2. General Wages												
Victoria WPI (c)	**2.3**	**1.9**	**2.3**	**2.6**	**2.4**	**0.9**	**1.2**	**1.7**	**2.2**	**2.5**	**2.5**	**2.0**
Australia All Industries - WPI (b)	2.1	2.0	2.1	2.3	2.1	1.1	1.4	1.8	2.3	2.5	2.5	2.1
3. External Contractor Labour Cost Escalation												
Construction WPI - Victoria (d)	**2.5**	**2.8**	**1.8**	**2.4**	**2.2**	**0.8**	**1.2**	**1.7**	**2.3**	**2.9**	**2.9**	**2.2**
Construction WPI - Australia (b)	1.6	1.7	1.9	1.9	1.5	0.7	1.3	1.8	2.4	2.8	2.9	2.2
Construction AWOTE - Australia (b)												
Consumer Price Index (headline) (d)	1.4	1.7	1.9	1.6	1.3	1.5	1.3	1.8	2.2	2.2	2.2	1.9
REAL PRICE CHANGES (e)												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria	**1.9**	**1.2**	**0.9**	**1.4**	**1.9**	**0.8**	**0.8**	**0.6**	**0.6**	**0.9**	**0.9**	**0.8**
EGWWS WPI - Australia	1.0	0.5	0.0	1.1	1.3	0.4	0.6	0.4	0.5	0.8	0.7	0.6
2. General Wages												
Victoria WPI	**1.0**	**0.2**	**0.4**	**1.0**	**1.1**	**-0.6**	**-0.1**	**-0.1**	**0.1**	**0.4**	**0.3**	**0.1**
Australia All Industries - WPI (b)	0.7	0.2	0.1	0.7	0.8	-0.3	0.0	0.0	0.1	0.3	0.3	0.2
3. External Contractor Labour Cost Escalation												
Construction WPI - Victoria	**1.1**	**1.1**	**-0.1**	**0.7**	**0.9**	**-0.7**	**-0.1**	**-0.1**	**0.1**	**0.7**	**0.8**	**0.3**
Construction WPI - Australia	0.2	0.0	-0.1	0.2	0.2	-0.8	0.0	0.0	0.2	0.6	0.7	0.3
Construction AWOTE - Australia												

Sources: BIS Oxford Economics, ABS

(a) Electricity, Gas, Water and Waste Services (EGWWS) for Wage Price Index (WPI) for Victoria
(b) Australian sector wage forecasts provided for comparison.
(c) Victoria WPI is total or 'All Industries' wage movements.
(d) Inflation forecasts are RBA forecasts for the next 2 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on mid-point of RBA inflation target, but overall forecasts are calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 10 years. This methodology has been adopted by the AER in its recent revenue decisions
(e) Average Annual Growth Rate for 2021/22 to 2025/26 inclusive ie for the next regulatory period.
(f) Real price changes are calculated by deducting the inflation rate from nominal price changes.

– between 3% and 6% – wages growth in the individual agreements segment have been very weak. Construction employees in the individual agreements segment account for around 61% of construction employees, dominating the method of pay-setting within the sector. Wages growth has slowly improved in WPI terms from their lows of 2016, despite weaker engineering construction activity. The improvement in wages growth stalled in FY19 and into FY20 due to the decline in overall construction activity.

However, the current downturn in activity and considerable uncertainty due to the coronavirus will now reverse the recent improvements. This will see construction wages growth weaken further over FY21, before slowly improving from FY22 as construction activity rebounds. We expect some deferred increases from 2020 will be provided in 2021, which will boost wages growth in FY22. In AWOTE terms, we believe the volatility over the period FY18 to FY21 is due to significant compositional effects - in FY19 some higher paid engineering workers losing their jobs, while lower paid dwelling building workers retained their jobs, pushing down the AWOTE measure, with the opposite occurring over FY20 and pushing up AWOTE (see Table 1.2).

Although we expect the overall labour market to weaken further over the next year, we subsequently expect an acceleration of employment growth through FY23, which will outpace population and labour force growth and see the unemployment rate drop back appreciably. Hence, we expect to again witness the re-emergence of skilled labour shortages and competition for scarce labour, particularly from the mining, manufacturing and utilities (Electricity, Gas, Water and Waste Services) sectors, which will push up wage demands in the construction sector. Mining investment is now picking up and

is forecast to see significant increases over the next 3 years to FY24, before easing. Meanwhile, we expect similar strong growth coming through in the Construction sector, which, after a short-term set-back due to COVID-19, we expect to see a synchronised upswing across all segments of the overall construction sector (residential construction, 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 (see figure 1.2).

Australian construction wages are expected to pick up over FY23 and strengthen appreciably over FY24 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and skills shortages begin to manifest.

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 intakes of new graduates in the trades stream in particular not increasing fast enough to replace retiring workers, with the overall numbers in some trades actually falling (and continuing to fall in the short- to medium-term). Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration has been suspended. When it does return, it is likely to be a slower ramp-up than will be required in terms of skills shortages – there is usually a lag between the identification of specific skills shortages and the immigration rates need to fill those shortages - meaning that the skill shortages will persist and won't be quickly and easily solved by migration, despite an apparent bounce-back in immigration numbers.

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 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 FY24 to FY26 period.

In Victoria, the state's construction sector has recorded higher growth (in overall work done terms) than the national average since FY15 inclusive. This has resulted in higher construction WPI outcomes in 5 out of the past 6 years, FY18 being the exception. Not only did higher growth in construction activity drive higher wages growth, but much higher EBA outcomes in Victoria's construction sector also contributed significantly to the comparatively higher wages growth in the state over the past few years.

Recently, the ABS wage data showed that the Victorian construction WPI recorded zero growth in the June quarter 2020, but this was a better outcome than the Australian construction WPI, which fell -0.5% in the June quarter, which was the first quarterly decline since the inception of the WPI in 1997. However, we are now forecasting Victoria's overall construction activity to suffer sharp declines over FY21 and FY22, with a small decline in FY24 – with a much worse performance than the national average in those years. We are then forecasting a relatively strong recovery over FY24 and FY25 to outstrip the national average, before weakening in FY26. This will see Victoria's construction WPI growth lag the national average over FY22 to FY24, before slightly outpacing the national increases in FY25 and FY26. Higher construction sector EBAs in the state (compared to the national average) will help limit the comparative weakness in overall construction WPI growth over the next 2-3 years, with EBAs approved over the past 1 to 3 years being 0.5% to 0.6% higher than the national average.

Overall, our forecast is for the Victorian construction WPI to average 2.2% over the five-year period from FY22 to FY26 inclusive – with the growth in real wages forecast to average 0.3% over the same period. Note that these wage forecasts for the Construction WPI include the impacts of the SG

increase. In the construction industry sector, we estimate the impacts will be -0.32% for each year of the SG increase. See section 1.1 below for the assumptions underpinning this estimate.

Figure 1.1 Wage Price Index - Australia All Industries, Electricity, Gas, Water and Waste Services and Construction (includes SG increases impacts)

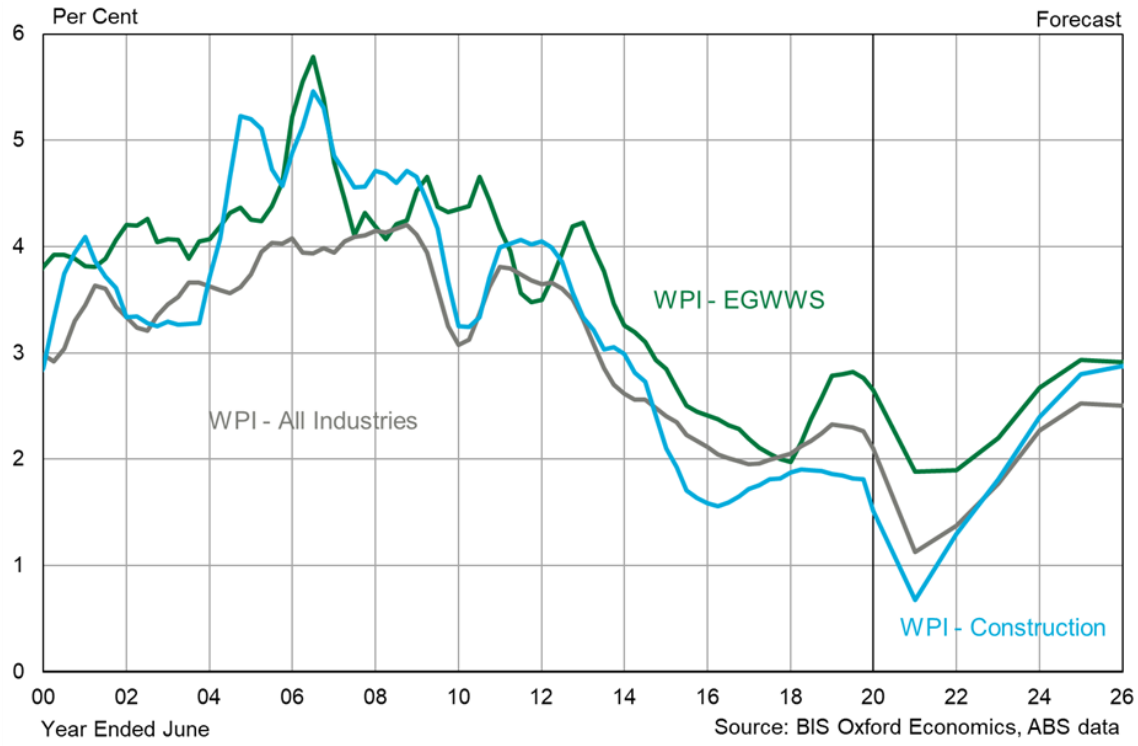
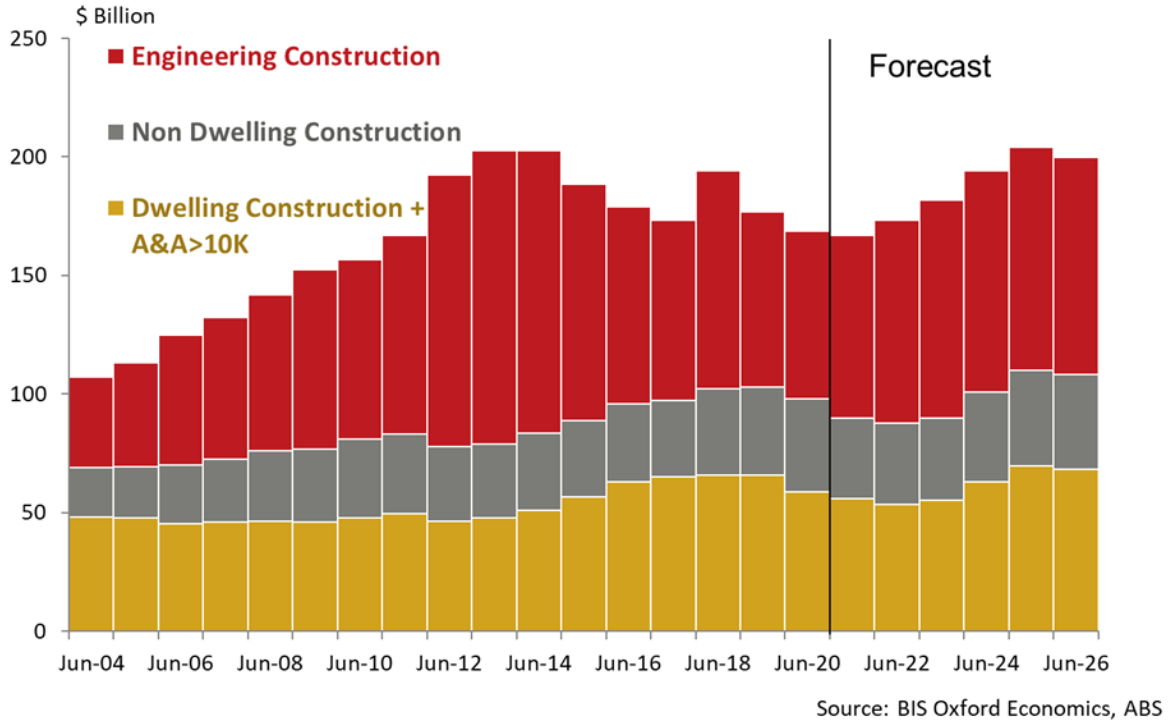


Figure 1.2 Australia – Construction Activity (real work done)



1.1 SUPERANNUATION GUARANTEE INCREASES & THEIR IMPACT ON LABOUR COSTS

In light of the proposed increases to the Superannuation Guarantee, BIS Oxford Economics researched the treatment of superannuation contributions in regard to how the ABS measures labour costs. The Superannuation Guarantee is proposed to increase from the current 9.5% over the forecast period, rising 0.5% in July each year from July 2021 to 12% in July 2025.

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

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

The superannuation guarantee (SG) as it is currently legislated, has the contributions from employers increasing from the current 9.5% by 0.5% on 1st July each year from 2021 to 1st July 2025. This means that it will increase in each of the 5 years of the next regulatory period of the Victorian electricity distributors.

As discussed above, the SG increases are not included in the wage price index, but will impact the quantum of the WPI increases in each year from FY22 to FY26 (i.e. 2021/22 to 2025/26). This is based on the notion that a proportion of the costs associated with SG increases will be ultimately borne by employees, via lower wage growth than would be the case if there was no SG increase. The Reserve Bank of Australia has estimated that around 80% of the increase in non-cash benefits, such as superannuation, are passed on to employees in the form of lower wage increases. This is referred to as the 'economic incidence' of the SG increase, whereas the 'statutory incidence' of the whole 0.5% annual SG increase falls on the employers. However, the proportion of the cost borne by employees would differ according to the form of pay-setting method and other intrinsic factors. Those employees who have their pay rises set under collective bargaining **and** who belong to a strong union with considerable industrial power are expected to ultimately receive a much higher proportion of their pay increase than those who receive their pay increase via the annual minimum wage increase (set by the Fair Work Commission) and those employees on 'individual arrangements'.

In terms of overall wage costs, the DBs need to add the full 0.5% for the SG increases each year 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).

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

1. The key underlying assumption assumes that around 80% of the economic incidence of the Superannuation Guarantee (SG) increases are passed on to employees, with employers only paying for 20% of the cost of the SG increases. This is in line with RBA research. This applies to the All Industries wages. This means that All Industries WPI growth is equivalent to 80%

less than it would be in the 'alternative' case, where no SG increase occurred. In the context of a 0.5% increase each year, the impact on All Industries WPI is -0.4%.

2. The impact on employees is assumed to be evenly spread in each year, rather than unevenly spread over time. This implies wages are negotiated prior to the SG increase and spread evenly over the whole year - i.e. the impact is the same on the two half-year periods (with regard to the half-year forecasts). We acknowledge this is a simplified assumption, given that often the economic incidence is not spread evenly across years, with the ultimate impacts going beyond the period of SG increases.
3. The incidence of the SG increase differs across the three different segments of pay methods. Those 13.1% of employees (full-time adults) who receive their annual pay rise via the Minimum wage case by the Fair Work Commission are assumed to receive 80% less, with those who receive payments via individual arrangements also receiving 80% less. At the All Industries level, it assumed that the average of the 38.4% of employees who rely on collective bargaining also receive 80% less. However, this %age for those on collective bargains or EBAs will markedly differ across industry sectors.
4. For employees in the EGWWs sector, the base assumption is that those 64.6% of employees on EBAs will receive 50% less, with employers paying the other 50%. **This is a conservative assumption** - given the strength of the unions covering the EGWWS sector, it is likely that EBAs will not be reduced by as much as 50% to cover the increase in the SG. Overall, the impact on the whole EGWWS WPI will be -0.3% for each of the 5 years from FY22 to FY26 inclusive.
5. Indeed, in the **Construction** sector, we are assuming that the discount to wages negotiated by the construction unions covering that industry will be only 25% - half that of EGWWS sector. Overall, the impact on the whole Construction WPI will be -0.32% for each of the 5 years from FY22 to FY26 inclusive.

1.2 ALTERNATIVE SCENARIO – SUPERANNUATION GUARANTEE INCREASES ARE DEFERRED &/OR EMPLOYERS PAY FOR ALL OF THE SG INCREASE

The scenario which the AER has effectively adopted is to assume that the SG increases as currently legislated proceed under the proposed timetable of increases, i.e. the first 0.5% increases the minimum superannuation guarantee occurs on 1st July starting 1 July 2021 and is increased 0.5% each 1 July until 1st July 2025 inclusive. This is effectively the 'base' scenario which is presented in this document and the associated forecasts on which the Victorian DBs have based their submissions to the AER.

However, there is a plausible 'alternative' scenario, whereby the proposed SG increases are again deferred. There is a reasonably high probability that the proposed increases in the Superannuation Guarantee Charge (SGC) will again be deferred, as they were in the second half of last decade. BISOE believes there will be considerable pressure from businesses, state and local governments to push out the 'legislated' start of the SGC increases at least 3 years, to say July 2024, given the impacts of COVID-19 on the economy and their perceived ability to pay. It should be remembered that the Commonwealth government decided to defer the original timetable of the SGC increases (then due to occur from the second half of the 2010s) because of the perceived weakness of the economy in 2014/15. The economy is much, much weaker now. However, as there is considerable uncertainty surrounding both the actual timing and quantum of the SGC increases, in the forecasts in the table below, we have assumed that the SG increases are pushed out beyond FY26.

The forecasts in the table below can also be used if a DNSP proposes to effectively pay for all of the SG increases and does not 'discount' wage increases (i.e. pass on the cost of the SG increase to employees).

Table A.2 Alternative Scenario: SG Increases are Deferred beyond FY26 – Labour Cost Escalation Forecasts: Victoria & Australia, Financial Years

(per cent change, year average, year ended June)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	5 yr Avg (f)
	Actuals					Forecasts	Next Regulatory Period					
NOMINAL PRICE CHANGES												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria (a)	**3.3**	**2.9**	**2.8**	**3.0**	**3.3**	**2.2**	**2.4**	**2.7**	**3.1**	**3.3**	**3.3**	**3.0**
EGWWS WPI - Australia (b)	2.4	2.2	2.0	2.8	2.7	1.9	2.2	2.5	3.0	3.2	3.2	2.8
EGWWS AWOTE - Australia (b)	3.5	4.3	2.3	1.3	2.9	2.3	2.5	2.7	3.1	3.4	3.5	3.0
2. General Wages												
Victoria WPI (c)	**2.3**	**1.9**	**2.3**	**2.6**	**2.4**	**0.9**	**1.6**	**2.1**	**2.6**	**2.9**	**2.9**	**2.4**
Australia All Industries - WPI (b)	2.1	2.0	2.1	2.3	2.1	1.1	1.8	2.2	2.7	2.9	2.9	2.5
Australia All Industries - AWOTE (b)	1.9	2.0	2.4	2.7	3.9	3.4	2.0	2.5	3.0	3.2	3.4	2.8
3. External Contractor Labour Cost Escalation												
Construction WPI - Victoria (d)	**2.5**	**2.8**	**1.8**	**2.4**	**2.2**	**0.8**	**1.5**	**2.0**	**2.6**	**3.2**	**3.3**	**2.5**
Construction WPI - Australia (b)	1.6	1.7	1.9	1.9	1.5	0.7	1.6	2.1	2.7	3.1	3.2	2.6
Construction AWOTE - Australia (b)	1.4	2.2	1.0	-0.6	7.2	3.6	2.4	2.5	3.2	3.4	3.4	3.0
Consumer Price Index (headline) (d)	1.4	1.7	1.9	1.6	1.3	1.5	1.3	1.8	2.2	2.2	2.2	1.9
REAL PRICE CHANGES (e)												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria	**1.9**	**1.2**	**0.9**	**1.4**	**1.9**	**0.8**	**1.1**	**0.9**	**0.9**	**1.2**	**1.2**	**1.1**
EGWWS WPI - Australia	1.0	0.5	0.0	1.1	1.3	0.4	0.9	0.7	0.8	1.1	1.0	0.9
EGWWS AWOTE - Australia	2.2	2.6	0.4	-0.3	1.6	0.8	1.2	0.9	1.0	1.2	1.3	1.1
2. General Wages												
Victoria LPI	**1.0**	**0.2**	**0.4**	**1.0**	**1.1**	**-0.6**	**0.3**	**0.3**	**0.5**	**0.8**	**0.7**	**0.5**
Australia All Industries - WPI (b)	0.7	0.2	0.1	0.7	0.8	-0.3	0.4	0.4	0.5	0.7	0.7	0.6
Australia All Industries - AWOTE (b)	0.5	0.3	0.5	1.0	2.5	2.0	0.7	0.7	0.9	1.0	1.2	0.9
3. External Contractor Labour Cost Escalation												
Construction WPI - Victoria	**1.1**	**1.1**	**-0.1**	**0.7**	**0.9**	**-0.7**	**0.2**	**0.2**	**0.4**	**1.0**	**1.1**	**0.6**
Construction WPI - Australia	0.2	0.0	-0.1	0.2	0.2	-0.8	0.3	0.4	0.5	0.9	1.0	0.6
Construction AWOTE - Australia	0.0	0.5	-0.9	-2.2	5.9	2.2	1.1	0.7	1.0	1.2	1.3	1.1

Sources: BIS Oxford Economics, ABS

(a) Electricity, Gas, Water and Waste Services (EGWWS) for Wage Price Index (WPI) for Victoria
(b) Australian sector wage forecasts provided for comparison. AWOTE is average weekly ordinary time earnings for full itme adult persons, where overtime payments are excluded but bonus payments are included

(c) Victoria WPI is total or 'All Industries' wage movements.

(d) Inflation forecasts are RBA forecasts for the next 2 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on mid-point of RBA inflation target, but overall forecasts are calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 10 years. This methodology has been adopted by the AER in its recent revenue decisions
(e) Average Annual Growth Rate for 2021/22 to 2025/26 inclusive ie for the next regulatory period.
(f) Real price changes are calculated by deducting the inflation rate from nominal price changes.

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October 2020

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

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1. EXECUTIVE SUMMARY

In August 2020, BIS Oxford Economics was engaged by the Victorian Electricity Distribution Businesses ('the DBs') to provide forecasts and a report on expected real labour escalators relevant to the Victorian electricity distribution industry from 2020/21 to 2025/26 (FY21 to FY26). Forecasts for wage escalation will be used by the DBs to develop the real price changes over its upcoming regulatory period, which, in turn, will be used by the business to construct its operating and capital expenditure forecasts.

Three sets of forecasts are provided:

1. **Internal** electricity network-related labour cost escalation – represented by forecasts of the Electricity, Gas, Water and Waste Services (EGWWS or 'utilities') wage price index (WPI) for Victoria (with the Australian equivalent WPI provided for comparison).
2. **External** contractor labour cost escalation, represented by the Construction WPI for Victoria.
3. **General** labour cost escalation, represented by the total state or All Industries WPI for Victoria.

Over the next six years to FY26 inclusive, the Electricity, Gas, Water and Waste Services (EGWWS) WPI in Australia is forecast to average 2.4% p.a., 0.5% above the Australian All Industries average. Over the 5-year period from FY22 to FY26 inclusive (the DB's next regulatory period) the Australian EGWWS WPI is forecast to average 2.5%, 0.4% above the All Industries average. This in line with (or slightly below) the historical difference vis-à-vis the All Industries average. For Victoria, we are forecasting the EGWWS WPI to outpace the Australian EGWWS average, with 2.7% p.a. forecast for the 5-year period to FY26 inclusive. In real terms, the Victorian EGWWS WPI is forecast to average 0.8% p.a. over the five years to FY26.

Note that these forecasts include the impact of the proposed increases to Superannuation Guarantee (SG) over the forecast period. We anticipate that the EGWWS WPI will be, on average, -0.3% lower each year, than if the SG increases did not proceed. RBA research shows that employees tend to receive lower wages due to the imposition of a SG increase. In effect the employees 'trade off' some their wage increase (which they would have received in the absence of the SG increase) for the extra superannuation. This means that although the 'statutory' incidence of the higher superannuation contributions are borne by employers, over time a proportion of these higher SG costs are passed from employers to employees via lower wage growth. Section 4.4 includes a discussion of SG increases, how they apply to the WPI (and other wage measures) and the assumptions underpinning the impacts of the WPI forecasts in this document. Excluding the -0.3% annual impact of the SG increases, the forecast real growth in EGWWS WPI would be similar to the 1.1% p.a. averaged over the past decade. A key reason why we are forecasting Victoria's EGWWS wages growth to continue to outpace the Australian EGWWS WPI average is that we expect a continuation of the higher enterprise bargaining agreements outcomes in Victoria's utilities industry, which have been apparent over recent years.

During the current COVID-19 crisis, the EGWWS sector has fared much better than just about all other sectors, along with the Mining, Finance and Insurance sectors. Surveys have shown that employment and wages have hardly suffered since the start of the crisis in February/March 2020. Indeed, recent ABS data showed the EGWWS sector actually increased employment in the 3 months to May 2020 – by +24.5% compared to February levels (in seasonally adjusted terms) for Australia, although some of this increase was unwound over the 3 months to August (when employment slipped back -8.6%). This shows a healthy level of ongoing labour demand in what is an essential service. Meanwhile, EGWWS WPI growth in the June quarter was 0.6% in quarterly % change terms (q/q) – in

original terms (i.e. not seasonally adjusted) – to be 2.5% higher than the June quarter 2019, i.e. year-on-year (y/y), well above the All Industries average of 0% q/q (original terms) and 1.8%y/y.

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 weak pace as the labour market tightens and labour productivity growth builds from around FY23.
- demand for skilled labour will pick up and strengthen with the rising levels of utilities investment from FY24 to FY26. This will also be a key driver of wages later in the period.
- 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 is now occurring 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.

Although we expect the overall labour market to weaken further over the next year, we subsequently expect an acceleration of employment growth through FY23, which will outpace population and labour force growth and see the unemployment rate drop back appreciably. Hence, we expect to again witness the re-emergence of skilled labour shortages and competition for scarce labour particularly from the mining and construction sectors, which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 3 years to FY24, before easing. Meanwhile, there is similar strong growth coming through in in the Construction sector, which, after a short-term set-back due to COVID-19, we expect to see a synchronised upswing 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.

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 addressed within the next 5 years. Added to this is that skilled immigration has been suspended. When it does return, it is likely to be a slower ramp-up than is required in terms of skills shortages – there is usually a lag between the identification of specific skills shortages and the immigration rates need to fill those shortages - meaning that the skill shortages will persist and won't be quickly and easily solved by migration, despite an apparent bounce-back in immigration numbers.

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 FY24 to FY26 period.

Widespread wage freezes and very modest wage increases will see **All Industries WPI** growth weaken over FY21. Some upside is expected to come from an increase in the National Minimum Wage (NMW), which was awarded by the Fair Work Commission at its Annual Wage Review in June 2020 – to be paid to workers in different industry sectors on a staggered timetable over 2020/21. Given the current circumstances, the FWC only awarded a 1.75% increase – down from the 3.1% to 3.5% increases of the past 3 years, but which the FWC deemed prudent to provide the poorer paid workers with an adequate wage. 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. Furthermore, some industries that are less affected by the COVID-19 impacts (including EGWWS) will also receive some pay rises over FY21. Overall, our forecast is for the All Industries WPI to increase by 1.1% in FY21.

As the economy and employment rebounds through FY22, growth in the All Industries WPI is also expected to exhibit a modest recovery, rising to 1.8%. Part of the rebound will be driven by deferred pay increases from 2020 and early 2021. We also expect a higher increase in the NMW in July 2021 to underpin higher increases. As the economy continues to strengthen over FY23 to FY25, we expect to see a marked improvement in the labour market, with labour demand increasing and the unemployment rate falling to around 5% by early FY25. We expect to see skill shortages manifest in some areas of the economy. The tightening labour market will see wage pressures increase, and the All industries WPI is forecast to gradually rise to a peak of 2.5% in FY25 and FY26.

Growth in total or 'All Industries' wages at the state level usually depends on the relative strength of the state economy and labour markets, compared to the national average. Over the past six years, the Victorian All Industries state average WPI growth has usually been 0.2% to 0.3% above the national average, in line with the relatively stronger economic growth, compared to the national average over FY14 to FY19. However, Victoria's SFD growth slipped below the national average in FY20 and we estimate GSP growth was also weaker (although employment growth was mostly stronger in FY20). The stage 4 lockdown in the state in the June 2020 quarter saw the All Industries WPI fall 0.1% (in original terms), which was -0.1% below the national average. In FY21 we expect Victoria's economic growth to be materially weaker than the national average, due to the extended lockdowns of large parts of Victoria in the September and December quarters. This will see the state All Industries WPI increase by 0.9%, -0.2% below the national average. Although we are predicting an improvement in the state economy over FY22 and FY23, we still expect economic growth to lag the national average in those years. Thereafter, we are forecasting economic growth to match or slightly exceed the national average over FY24 to FY26. Accordingly, the Victorian All Industries WPI is forecast to lag the national average over FY22 to FY24, and then match the national average over FY25 and FY26.

In the five years to FY26, we are forecasting the total state (All Industries) WPI in Victoria to average 2.0% in nominal terms, slightly below the national average of 2.1%. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.1% (see Summary Table in the Executive Summary), which, if you exclude the -0.4% impact of the SG increases, is slightly weaker than historical averages for Victoria.

Note that these wage forecasts for the All industries wages include the impacts of the SG increase. At the All Industries level, we estimate the impacts will be -0.4% for each year of the SG increase. See section 4.4 for the assumptions underpinning this estimate.

Table 1.1 Summary Table – Labour Cost Escalation Forecasts for Victoria and Australia – including Impact of Proposed Superannuation Guarantee Increases (financial years)

(per cent change, year ended June)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	5 yr Avg (f)
	Actuals					Forecasts	Next Regulatory Period					
NOMINAL PRICE CHANGES												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria (a)	**3.3**	**2.9**	**2.8**	**3.0**	**3.3**	**2.2**	**2.1**	**2.4**	**2.8**	**3.0**	**3.0**	**2.7**
EGWWS WPI - Australia (b)	2.4	2.2	2.0	2.8	2.7	1.9	1.9	2.2	2.7	2.9	2.9	2.5
2. External Contractor Labour Cost Escalation												
Construction WPI - Victoria (d)	**2.5**	**2.8**	**1.8**	**2.4**	**2.2**	**0.8**	**1.2**	**1.7**	**2.3**	**2.9**	**2.9**	**2.2**
Construction WPI - Australia (b)	1.6	1.7	1.9	1.9	1.5	0.7	1.3	1.8	2.4	2.8	2.9	2.2
3. General Wages												
Victoria WPI (c)	**2.3**	**1.9**	**2.3**	**2.6**	**2.4**	**0.9**	**1.2**	**1.7**	**2.2**	**2.5**	**2.5**	**2.0**
Australia All Industries - WPI (b)	2.1	2.0	2.1	2.3	2.1	1.1	1.4	1.8	2.3	2.5	2.5	2.1
Consumer Price Index (headline) (d)	1.4	1.7	1.9	1.6	1.3	1.5	1.3	1.8	2.2	2.2	2.2	1.9
REAL PRICE CHANGES (e)												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria	**1.9**	**1.2**	**0.9**	**1.4**	**1.9**	**0.8**	**0.8**	**0.6**	**0.6**	**0.9**	**0.9**	**0.8**
EGWWS WPI - Australia	1.0	0.5	0.0	1.1	1.3	0.4	0.6	0.4	0.5	0.8	0.7	0.6
2. External Contractor Labour Cost Escalation												
Construction WPI - Victoria	**1.1**	**1.1**	**-0.1**	**0.7**	**0.9**	**-0.7**	**-0.1**	**-0.1**	**0.1**	**0.7**	**0.8**	**0.3**
Construction WPI - Australia	0.2	0.0	-0.1	0.2	0.2	-0.8	0.0	0.0	0.2	0.6	0.7	0.3
3. General Wages												
Victoria WPI	**1.0**	**0.2**	**0.4**	**1.0**	**1.1**	**-0.6**	**-0.1**	**-0.1**	**0.1**	**0.4**	**0.3**	**0.1**
Australia All Industries - WPI (b)	0.7	0.2	0.1	0.7	0.8	-0.3	0.0	0.0	0.1	0.3	0.3	0.2

Sources: BIS Oxford Economics, ABS

(a) Electricity, Gas, Water and Waste Services (EGWWS) for Wage Price Index (WPI) for Victoria
(b) Australian sector wage forecasts provided for comparison. AWOTE is average weekly ordinary time earnings for full itme adult persons, where overtime payments are excluded but bonus payments are included
(c) Victoria WPI is total or 'All Industries' wage movements.
(d) Inflation forecasts are RBA forecasts for the next 2 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on mid-point of RBA inflation target, but overall forecasts are calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 10 years. This methodology has been adopted by the AER in its recent revenue decisions
(e) Average Annual Growth Rate for 2021/22 to 2025/26 inclusive ie for the next regulatory period.
(f) Real price changes are calculated by deducting the inflation rate from nominal price changes.

Our research has shown that construction activity (i.e. work done in the sector) normally has a strong influence on **construction wages**, although changes in wages tend to lag construction (in work done terms) by around one to two years. Hence, our construction 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.

The improvement in construction wages growth stalled in FY19 and into FY20 due to the decline in overall construction activity. However, the current downturn in activity and considerable uncertainty due to the coronavirus will now reverse the recent improvements. This will see construction wages growth weaken further over FY21, before slowly improving from FY22 as construction activity rebounds. We expect some deferred increases from 2020 will be provided in 2021, which will boost wages growth in FY22.

Australian construction wages are expected to pick up over FY23 and strengthen appreciably over FY24 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and skills shortages begin to manifest. The increases in construction activity from FY22 will be driven by the recovery in residential building activity which is expected to rise out of its trough from FY23, while higher levels of non-dwelling building and rising engineering construction will also underpin higher

wages. Engineering construction 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). Declines in construction activity over FY26 to FY27, coupled with a general weakening across overall labour markets will then cause construction wages growth to ease in FY27.

In Victoria, the state's construction sector has recorded higher growth (in overall work done terms) than the national average since FY15 inclusive. This has resulted in higher construction WPI outcomes in 5 out of the past 6 years, FY18 being the exception. Not only did higher growth in construction activity drive higher wages growth, but much higher EBA outcomes in Victoria's construction sector also contributed significantly to the comparatively higher wages growth in the state over the past few years.

Recently, the ABS wage data showed that the Victorian construction WPI recorded zero growth in the June quarter 2020, but this was a better outcome than the Australian construction WPI, which fell -0.5% in the June quarter, which was the first quarterly decline since the inception of the WPI in 1997. However, we are now forecasting Victoria's overall construction activity to suffer sharp declines over FY21 and FY22, with a small decline in FY24 – with a much worse performance than the national average in those years. We are then forecasting a relatively strong recovery over FY24 and FY25 to outstrip the national average, before weakening in FY26. This will see Victoria's construction WPI growth lag the national average over FY22 to FY24, before slightly outpacing the national increases in FY25 and FY26. Higher construction sector EBAs in the state (compared to the national average) will help limit the comparative weakness in overall construction WPI growth over the next 2-3 years, with EBAs approved over the past 1 to 3 years being 0.5% to 0.6% higher than the national average.

Overall, our forecast is for the Victorian construction WPI to average 2.2% over the five-year period from FY22 to FY26 inclusive – with the growth in real wages forecast to average 0.3% over the same period. Note that these wage forecasts for the Construction WPI include the impacts of the SG increase. In the construction industry sector, we estimate the impacts will be -0.3% for each year of the SG increase. See section 4.4 for the assumptions underpinning this estimate.

2. INTRODUCTION

In August 2020, BIS Oxford Economics was engaged by the Victorian Electricity Distribution Businesses ('the DBs') to provide forecasts and a report on expected real labour escalators relevant to the Victorian electricity distribution industry from 2020/21 to 2025/26 (FY21 to FY26). Forecasts of wages will be used by the DBs to estimate their real price growth in order to develop their operating and capital expenditure forecasts. This, in turn, will be included in the DB's next regulatory proposal to be submitted to the Australian Energy Regulator (AER). Although the DB's next revenue proposal covers the five-year period from 2021/22 to 2025/26 (inclusive), BIS Oxford Economics has provided six-year forecasts covering financial years 2020/21 to 2025/26 to allow for escalation over the full outlook period. Forecasts of both nominal and real cost growth are provided. The wage forecasts in this report were finalised on 15th September 2020.

The Australian Bureau of Statistics is the primary data source for the consumer price index, wages, employment, real gross value added and investment (including engineering construction) data, and for a range of other economic variables. The data used in the projections is the latest available as at early September 2020 and includes the June quarter 2020 WPI data release. Other inflation and interest rate data were sourced from the Reserve Bank of Australia.

Forecasts of the economic variables in this report were mostly sourced from BIS Oxford Economics reports, including *Australian Macro Service, Long Term Forecasts: 2020 – 2034, Engineering Construction in Australia 2020-2034* and *Building in Australia 2020-2034*, 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 costs, including numerical forecasts presented in a summary table.

Section 3 provides a macroeconomic outlook for Australia and Victoria. 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, which has a material influence on wages.

Section 4 discusses BIS Oxford Economics' national and total Victoria state wage ('All Industries') and CPI projections and discusses the use of the Reserve Bank of Australia forecasts of the Consumer Price Index (CPI) for the deflation of nominal wages. Note 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 terms. Section 4.4 also has a section which discusses the impact of the Superannuation Guarantee (SG) increases on the wage price index (WPI) and the assumptions that underpin the WPI forecasts in this report in terms of the impacts across different sectors. In section 4.4, we present the forecasts for an alternative scenario – where the SG increases are deferred – which sees higher WPI outcomes.

Sections 5 provides the forecasts and rationale of the wage projections for the Electricity, Gas, Water and Waste Services (EGWSS) and Construction sectors for both Australia and Victoria, as measured by the Wage Price Index (WPI). These wage forecasts will cover internal and external labour escalation and include the impacts of the SG increase.

Appendices include an explanation of different wage measures.

3. MACROECONOMIC OUTLOOK

3.1 AUSTRALIA MACROECONOMIC FORECASTS

Coronavirus pandemic has created major global socioeconomic disruptions & uncertainty

COVID-19, the disease caused by SARS-CoV-2, was first identified in Wuhan (China) in December 2019 and was recognised as an international pandemic by the World Health Organisation on 11 March 2020. The pandemic has led to major global socioeconomic disruptions, including national lockdowns, and has driven governments and central banks to rollout major stimulus packages. The unprecedented nature of both the pandemic and the response, and the speed at which governments and individuals are reacting, create a higher than normal level of uncertainty to the forecasts in this report. At the beginning of 2020, the Australian outlook had an expectation that economic conditions would gradually improve, but the COVID-19 outbreak and associated policy responses to limit its spread have caused a drastic re-evaluation of the outlook.

Deep Recession in 2020

The Australian economy is currently in recession. GDP shrank by 0.3% in the March quarter 2020, and COVID-19 related restrictions have seen a much larger contraction in Q2. Australia recorded its largest quarterly fall in output on record in Q2, with GDP contracting by 7%. As expected, household consumption led the decline, subtracting 6.7% pts from growth in the quarter. The weakness was concentrated in services (down 17.6% q/q), which have borne the brunt of trading and travel restrictions; goods purchases fell only 2.8% q/q. Business and dwelling investment also dropped back, and the outlook for these components is very weak. We expect GDP to fall 3.4% in 2020, before recovering to grow by a modest 2.4% in 2021.

While there are some bright spots in retail spending, these are more than offset by the curtailing of spending on many services, including travel and recreational activities. The housing market was already in the midst of a construction downturn, and the coronavirus will delay any recovery. Business investment is expected to take a large step down, with the uncertainty around the outlook and the strain placed on business revenue leading to the deferral or cancellation of capital expenditure. The mining sector is expected to remain relatively well insulated, but the sharp fall in coal, oil and natural gas prices is likely to lead to several new projects being put on hold. Public demand will continue to support growth, as will net exports; the relative strength in commodity shipments will see exports remain more resilient than imports.

The path of recovery is contingent on health outcomes but will be slow. The broader economic recovery was evident in July, with employment and hours worked rising further. Paradoxically, the unemployment rate rose to 7.5%, but this reflects a transition of workers from not in the labour force to looking for work. The situation in Victoria will be a drag on labour demand indicators; all other states and territories are recording increases in payrolls. Overall, we continue to expect that the recovery in the labour market will be slow and bumpy. The Victorian State Government has outlined a path out of their strict Stage Four lockdown. While some relaxation of restrictions have occurred through September and October, trading restrictions will still be quite severe through October, with a more substantive easing expected in November.

Moreover, when restrictions are eventually relaxed, it will be done gradually to ensure community safety, which will slow the speed of the recovery. We are assuming that most of the restrictions will be lifted by the end Q4, 2020. A further key assumption is that a successful vaccine to COVID-19 is likely to be widely available around Q2/Q3 in 2021 – based on recent reports which suggests a

development timeline of 12-18 months - and this will allow the lifting of restrictions and aid the normalisation of travel and trade.

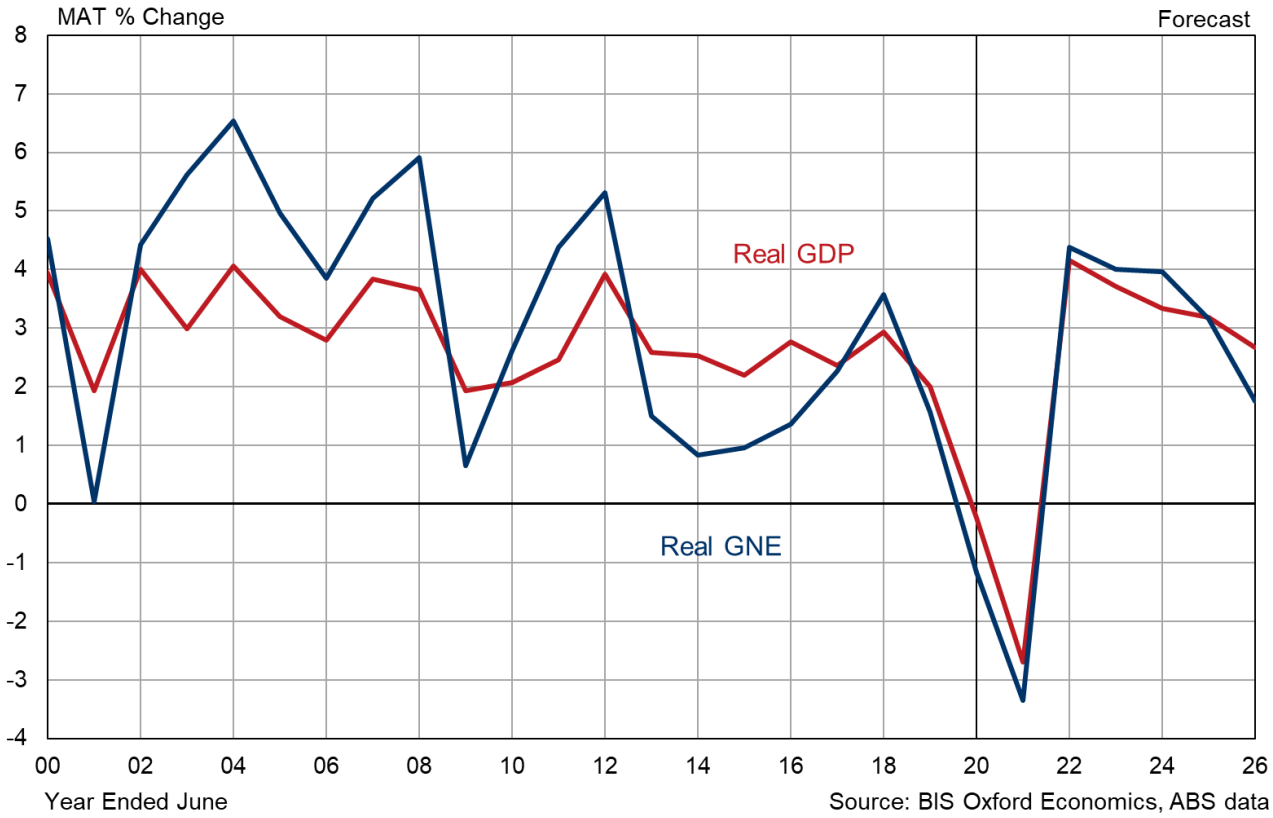
While the government have announced substantial support to help firms stay in business and maintain employment, softening the blow for those affected, there has still been a massive dislocation of labour in H1 2020, concentrated in casual employees and consumer-facing service sectors. Rising unemployment will weigh heavily on household consumption. The sharp reduction in household consumption and service exports will have flow-on effects on business investment.

Overall, in terms of financial years, Australian GDP declined -0.2% % in FY20 and is forecast to contract a further -2.7% in FY21, before recovering to 4.2% in FY22.

Discretionary consumption expenditure has plummeted

Household spending will be one of the primary channels through which GDP is affected. Some components of retail spending have seen increases – most notably sales at supermarkets. But this spending has either come at the expense of other retail categories (such as cafes, restaurants & take away food), or represents a pull forward of future spending as cautious households stock up on groceries. The largest hit to consumption has been to discretionary goods and services purchases, such as travel and other recreation activities. Moreover, in such an uncertain environment, discretionary goods purchases are likely to be deferred; for instance, vehicle sales have fallen sharply. Household consumption is now expected to contract sharply in FY21 (by -6.7%) - following the -2.6% decline in FY20 - before recovering over 2021, with a 5.8% rebound in FY22 (in year-average terms).

Figure 3.1 Australia Key Indicators



Government and RBA policies will support household income and employment

The Federal and State Governments have announced a number of stimulus packages, that are collectively valued at around 11% of GDP. The first two packages were aimed at shoring up business investment and cash flow and supporting displaced workers. For households, a range of additional payments for those already receiving government benefits have been announced to assist cash flow.

The first stimulus package included a one-off $750 payment to pensioners, Newstart recipients, family tax beneficiaries and other social security recipients. As the growing scale of the pandemic became obvious, these measures were bolstered in a second package. An additional $750 payment will be given to a slightly narrower set of recipients, while a range of social security payments will be increased by $550 a fortnight for a six-month period.

The most substantial measure is the Federal JobKeeper program (the third package), which is expected to provide support payments to employers for up to 6 million workers (45% of total employment). This program will provide wage subsidies to firms for full- and part-time workers, as well as casual employees with a tenure greater than 12 months. Payments are roughly equal to the minimum wage and must go to the employees in full. The program has been designed to support household income and keep workers and firms attached through the crisis, to enable a relatively rapid recovery in activity once restrictions can be lifted. Further, it will mitigate the expected increase in the unemployment rate. Nevertheless, with many casual workers and temporary visa holders not currently covered, we expect unemployment numbers to jump to over 1 million, resulting in the unemployment rate peaking at below 9% in Q4 2020, as JobKeeper is wound back.

Monetary policy has also moved to provide support, but its effectiveness in dealing with the simultaneous supply and demand shocks is limited. The cash rate has been cut to its lower bound (0.25%), and the RBA has commenced asset purchases in an effort to target borrowing rates at a three-year horizon - government bond purchases have commenced, targeting a 3-year treasury bond yield of 0.25%. The aim is to lower risk-free rates along the yield curve, lowering corporate borrowing costs (which are closely related to the 3-year yield). Further, they have established relatively generous term funding for banks, with further incentives to extend this credit to businesses, in particular, small- and medium sized enterprises. The RBA's response to the crisis has focused on providing ample liquidity to the banking system, with the explicit aim of providing cheap credit to business. Thus far, signs of market dysfunction have been limited.

In terms of household income, the lift in social security payments and other government stimulus payments to households will help prevent very large falls in household income, while lower interest payments and lower income taxes will see household disposable income cushioned to some extent over FY20 and FY21. Thereafter, household disposable income will experience slow growth during the subsequent recovery as wage rises will lag the recovery, as taxes rise and as interest payments on household debt rise in the absence of further interest rate cuts.

The **2020-21 Federal budget** was brought down in October, deploying a wide array of additional spending, tax cuts, and other supports to kick start the economy's recovery from the COVID-19 pandemic. Higher spending plans and lower revenue will see the deficit reach 11% of GDP in FY21. And with no tax rises scheduled, the Treasury are projecting that the government will not return to surplus before the end of the decade. Notwithstanding the pulling-forward of infrastructure projects and the announcement of road maintenance projects, there were few large spending announcements. Rather, the government is aiming to bolster business investment and hiring through a large increase in asset write-offs, wage subsidies for young workers and other tax relief measures. For households, legislated personal income tax cuts will be fast-tracked, but there was no change to social assistance policies; the economy will still face challenges when income support payments are tapered off in H1 2021.

Dwelling investment will suffer

Dwelling investment fell by 6.8% in Q2, and the current downswing still has much further to run. The government's Homebuilder stimulus package will work to offset this a little, but we expect dwelling investment will be a substantial drag on growth in both 2020 and 2021. Stimulus measures have helped some lead indicators for the building sector move back into positive territory. House and land sales have reacted strongly to the HomeBuilder program and other state level incentives, while home improvement indicators have also improved. Against this backdrop and ongoing uncertainty around inward overseas migration, the outlook for residential construction activity is extremely challenging, with further declines in approvals and work done expected. Residential construction is still expected to be a drag on growth in 2020, but the size of the headwind will be small relative to the other shocks faced by the economy.

Another headwind for business investment, although upside for Public demand

Business investment will also take a large step down, with the uncertainty around the outlook and the strain placed on business revenue leading to the deferral or cancellation of capital expenditure. However, the mining sector is expected to remain relatively insulated from this shock, although there are expected to be deferrals of coal, oil and LNG investments. The Federal Government's stimulus packages have aimed to assist businesses with cash flow and have made borrowing conditions significantly cheaper. Moreover, business investment has been incentivised through increased asset deductions. These measures will aid the speed of the eventual recovery. However, investment will be a low priority for most firms in the near term, and after declining by -2% in FY20 we expect business investment will fall a further 8% in FY21, before a modest pick-up ensues in FY22. Instant asset write-off concessions announced in the 2020-21 Budget will help shore up business investment; firms will be able to deduct the entire value of machinery & equipment and intellectual property investments made before June 2022.

The Federal Government stimulus announcements to date have centred around transfers to businesses and households. However, working to offset the pronounced weakness in private demand, public demand made a large, positive contribution to growth in Q2 (0.6% pts). Government consumption increased by 2.9% q/q, to be 7.5% higher than a year ago. The ongoing rollout of the NDIS continues to provide strong, underlying demand, while more recently, expenditure related to COVID-19 testing, treatment, containment and other support has boosted growth. Government investment surprised to the upside in Q2, increasing by 1%. The near-term outlook has been upgraded in recent quarters, with a number of infrastructure projects either brought-forward or fast-tracked in order to support economic activity. We expect the boost to growth from public demand will wane as the acute phase of the pandemic passes but expect it to remain positive through 2020 and 2021.

COVID-19 outbreak has plunged the world into a recession

The global economy was showing signs of stabilisation toward the end of 2019. But the coronavirus outbreak has seen a number of advanced and emerging economies plunged into recession. Most notably, the US is headed for recession in 2020 despite aggressive fiscal and monetary policy responses. Oxford Economics is forecasting a -4% contraction for the US economy in 2020. Similarly, in the Eurozone, restrictions on movement of citizens has seen large falls in consumer spending, business investment and industrial activity, and severe recessions are expected in 2020 in most countries. Trade disruptions will also weigh on growth and considerable increases in unemployment rates are expected, which will constrain the economic recovery over 2021 and 2022.

The Chinese economy is a little ahead of others in the process toward recovery. Industrial activity is recovering and this is underpinning commodity demand. GDP growth is forecast grow by 2.5% in 2020, weighed down by lingering domestic weakness and softer global demand, but rebound to 7.9%

in 2021. Neighbouring Asian economies will also slow markedly due to industry shutdowns, with supply chain disruption further complicating the path toward recovery. Coupled with the ongoing global demand shock, a dispute between OPEC nations (most notably Saudi Arabia) and Russia over production limits has seen oil prices plunge. While this will aid the path to recovery for net oil importers, higher-cost producers elsewhere, such as the US, will be adversely affected.

Overall, global GDP growth is forecast to contract by -4.1% in calendar 2020 (in US$ terms) – worse than the -1.1% in 2009 in the aftermath of the GFC. But a relatively sharp recovery is expected in 2021, as restrictions are eased, with global GDP growth predicted to be 5.2%. Dissemination of a successful vaccine to COVID-19 is likely sometime in 2021, and this will aid the normalisation of travel and trade and boost the global recovery.

Beyond the near-term disruptions, we expect global growth will gradually decelerate and return to its trend pace of around 3% by 2025. Australia's trading partner growth (weighted by export proportions) is forecast to grow at a faster pace over the next 5-20 years, 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.

Table 3.1 Australia – Key Economic Indicators, Financial Years

Year Ended June										Forecasts					
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total New Private Investment (+)	**15.0**	**4.5**	**-0.8**	**-2.8**	**-5.3**	**-1.8**	**3.6**	**-1.9**	**-3.7**	**-7.6**	**2.6**	**6.3**	**9.2**	**5.7**	**0.6**
New Public Investment (+)	**-6.0**	**-4.6**	**-5.0**	**-7.6**	**8.1**	**8.5**	**11.5**	**3.4**	**2.6**	**6.0**	**8.4**	**3.1**	**-0.2**	**-1.5**	**-3.9**
Gross National Expenditure (GNE)	**5.3**	**1.5**	**0.8**	**1.0**	**1.4**	**2.3**	**3.6**	**1.6**	**-1.2**	**-3.4**	**4.4**	**4.0**	**4.0**	**3.2**	**1.8**
GDP	**3.9**	**2.6**	**2.5**	**2.2**	**2.8**	**2.4**	**2.9**	**2.0**	**-0.2**	**-2.7**	**4.2**	**3.7**	**3.3**	**3.2**	**2.7**
Inflation and Wages															
CPI (Yr Avg) - RBA forecasts (*)	2.3	2.3	2.7	1.7	1.4	1.7	1.9	1.6	1.3	1.5	1.3	1.8	2.2	2.2	2.2
Wage Price Index (Jun on Jun)(**)	3.7	2.9	2.6	2.3	2.1	1.9	2.1	2.4	1.7	1.2	1.5	1.9	2.5	2.5	2.5
Wage Price Index (Yr Avg)(**)	3.6	3.3	2.6	2.4	2.1	2.0	2.1	2.3	2.1	1.1	1.4	1.8	2.3	2.5	2.5
Average Weekly Earnings (Yr Avg)(^)	4.3	4.6	3.0	2.4	1.9	2.0	2.4	2.7	3.9	3.4	1.6	2.1	2.6	2.8	3.0
Employment															
– Employment Growth (Yr Avg)	1.2	1.3	0.5	1.2	2.3	1.5	3.0	2.4	0.4	-3.1	2.6	3.4	2.9	2.2	1.8
– Employment Growth (May/May)	1.8	0.9	0.5	2.0	1.9	2.1	2.6	2.8	-5.7	2.8	3.5	3.1	2.7	2.0	1.5
– Unemployment Rate (May) (%)	5.2	5.6	5.9	5.9	5.7	5.6	5.4	5.2	7.1	8.6	7.1	5.9	5.1	4.9	5.1
Labour Productivity Growth															
– Total	2.7	1.3	2.0	1.0	0.5	0.8	-0.1	-0.4	-0.7	0.4	1.5	0.3	0.4	0.9	0.9

Source: BIS Oxford Economics and ABS

+Expenditure on new assets (or construction work done). Excludes sales (or purchases) of second hand assets.
*Headline CPI forecasts based on Reserve Bank of Australia's current forecasts to June 2022 quarter. Beyond this, we've used the arithmetic mean of the next 3 years and then the mid-point of the Reserve Bank's 2 to 3 per cent inflation target range after 2022.
** Based on Ordinary Time Hourly Rates of Pay Excluding Bonuses. Includes Impact of SG increases.
^ Average Weekly Ordinary Time Earnings for Full-Time Adult Persons. Includes impact of SG increase.

Net exports positive in the near term

Overall, net exports are expected to make a strong, positive contribution to GDP growth over the next two years, with import volumes expected to fall much more than export volumes. Commodity demand, although declining, is still expected to be reasonably firm, with the gradual normalisation of industrial activity in China putting a floor under commodity shipments. Rural exports will also bounce back over FY21 with the end of the drought in the eastern states boosting grain, other crops and dairy exports. Meanwhile, with Gross National Expenditure (i.e. domestic demand and stock changes) having fallen -1.2% in FY20 and forecast to decline -3.4% in FY21, merchandise imports will fall significantly.

Imports only account for around 12% of food and beverages retailing - the strongest sector of consumer spending – while the import shares of discretionary consumer goods and business equipment spending range from 43% to over 80%, and these categories of domestic spending will fall the most, with a commensurate fall in imports.

Services trade will fall markedly, with tourism and education exports severely curtailed. Australian outbound travel will all but stop in Q2, weighing heavily on services imports. However, services exports will fare better than services imports. Education exports were worth $37.6 billion in FY19, or almost 39% of overall services exports (compared to only $461m for outbound education import 'debits'). Although still impacted, education exports will suffer less and recover quicker than 'tourism' flows – partly because of online teaching and partly because many overseas students returned before travel restrictions. On the other hand, tourism exports (including 'business travel') were worth $25.3 bn in FY19 (26% of overall services exports), compared to $50.6 billion for outbound services 'imports' – which accounted for almost 50% of overall services imports. As such, the import side of services will suffer far more than the export side in the near-term. And even after travel restrictions are lifted, tourism flows are unlikely to recover back to their previous levels for a number of years, keeping services debits relatively weaker than services exports.

GDP to lift in FY22 and remain buoyant over FY23 and FY24.

Assuming trade and travel restrictions are lifted through FY21, with a 'return to normalisation' aided by the widespread dissemination of a vaccine over the second half of 2021, we expect economic growth to bounce back in FY22, both in Australia and overseas. However, an early return to the previous path or levels previously expected (pre-coronavirus) is unlikely. Nevertheless, we expect household spending to bounce back strongly as pent-up demand is released and as employment growth recovers markedly. However, employment levels are not expected to return to the pre-coronavirus levels until mid-2022, and this will restrain consumer spending somewhat. Housing and business investment are also forecast to lift over FY23 and FY24 as deferred investment is undertaken. However, some sectors, such as hotel construction and other tourism-related investment, will take longer to recover. Meanwhile, public investment is expected to strengthen as a large pipeline of transport infrastructure and social and institutional buildings projects come through, although government recurrent expenditure is expected to weaken over the medium term.

Overall, we are forecasting GNE to increase by 4.7% in FY22 – although this bounceback depends crucially on the bounceback in household spending (the largest component of GNE/GDP) - and around 4% over FY23 and FY24, before easing to (a still healthy) 3.2% in FY25. GDP is forecast to rise 4.4% in FY22, with net exports detracting from growth as a sharp lift in imports outpaces a healthy increase in exports. GDP is then forecast to increase 3.7% in FY23, 3.3% in FY24 and 3.2% in FY25.

Inflation and interest rates to remain low over the next 3 years, before gradually rising

A lack of inflation and continuing slack in the labour market is expected to keep the RBA on hold for a long time, with the cash rate forecast to remain at 0.25% until late-2023, before rising to 1.25% by early 2025 as wages and CPI inflation rise back toward historical averages, and the unemployment rate falls toward 5%. Meanwhile, the 1% rise in the cash rate in Australia means the benchmark housing variable rate will rise to 5.1% by late 2024, which will be enough to slow consumer spending and impact housing and business investment over FY25 and FY26, with annual GDP growth easing to around 2.8% in FY26.

3.2 VICTORIA ECONOMIC FORECAST

After outperforming the national economy in recent years, Victoria is set to experience a larger-than-average fall in output through the coronavirus downturn. The more severe experience of the

pandemic has severely restricted activity over the last 5 months, with the state recording the steepest fall and weakest recovery in retail turnover in April and May. This has been compounded by the re-imposition of lockdown measures on metropolitan Melbourne and the closure of the NSW-VIC border to combat the latest outbreak. The extended lockdown will continue to impact the state economy during the second half of calendar 2020, particularly on household spending and many businesses that rely on consumer services.

Moving through H2 2020, the state's manufacturing sector will also be impacted by significant supply chain disruptions and weak external demand. Construction activity is expected to fall back as businesses put investment projects on hold and developers wait for clarity around overseas migration before undertaking major residential projects. But relative to NSW, the HomeBuilder stimulus should provide more support, as lower property prices will mean more projects qualify for the grant.

We expect the state's economy to recover through 2021 as social distancing restrictions are gradually unwound. But with limits on travel likely to remain in place for some time, it will be FY22 (and beyond) before activity returns to 'normal'. In the long run we still expect the state to outperform the national average, but the gap is projected to narrow. Victoria's economy has been partially driven by rapid expansions in higher education and the tourism sector more broadly, and we expect there to be some long-term loss of output in these areas as a result of the pandemic. Nevertheless, assuming a successful vaccine is developed by H2 2021, the lifting of restrictions will provide a significant boost to these sectors over the FY22 to FY25 period and to Victoria's GSP generally.

Since the start of the pandemic, almost 190,000 jobs have been lost and the unemployment rate rose to 7.5% in May, its highest rate since October 2014, before easing back to 7.1% in August 2020. A further increase is expected once the JobSeeker requirement to search for work is reintroduced, followed by a gradual recovery. As in the recent past, healthcare, financial services and professional services will drive employment growth over the medium term, but the strongest recoveries will be seen in hospitality, personal services and entertainment, which have seen the largest falls.

State Final Demand (SFD) fell -8.5% in the June 2020 quarter, which was a much worse outcome than the national decline of -7.4%. SFD is forecast to decline -6.3% in FY21, driven by the steep decline in household spending and business investment and a moderate fall in dwelling investment, with the strong increase in public demand only partially offsetting the private sector declines. GSP is forecast to decline -4.9% - the worst of the states – with the declines in manufacturing goods and services exports (both international and interstate) adding to the weakness. Over FY22 and FY23, a recovery in SFD and GSP is forecast, although growth will underperform the national average. In absolute volume terms, SFD and GSP are not expected to get back to the pre-COVID 2019 levels until sometime in 2023.

A strong recovery in residential building in FY24, accompanied by further growth in business investment is then expected to underpin stronger growth in employment, SFD and GSP, which is expected to stretch into FY2025, with growth outpacing the national average in those two years. Economic growth in the state economy is then predicted to ease in FY26, in line with the national economy. A weakening in both business and public investment at that time will act as a drag on the state economy.

Table 3.2 Key Indicators – Victoria

						Forecast					
Year Ended June	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Victoria											
Total Construction Activity(*)	8.9	7.3	14.7	5.0	0.6	-9.7	-5.3	-1.9	10.5	7.2	-1.4
State Final Demand	4.4	4.1	5.3	3.6	-1.0	-6.3	3.5	3.2	4.5	3.6	1.9
Gross State Product (GSP)(**)	**3.4**	**4.1**	**3.4**	**3.0**	**-0.2**	**-4.9**	**3.1**	**2.8**	**3.4**	**3.3**	**2.8**
Employment Growth (Year Avg)	2.7	4.0	2.8	3.4	1.2	-3.7	3.1	3.0	2.9	2.4	1.9
Australia											
Total Construction Activity(*)	-5.0	-3.2	12.1	-9.0	-4.3	-1.5	2.6	4.7	6.5	4.5	-1.6
Australian Domestic Demand	1.4	2.2	3.5	1.8	-0.8	-3.8	4.2	4.0	4.0	3.2	1.8
Gross Domestic Product (GDP)	2.8	2.4	2.9	2.0	-0.2	-2.7	4.2	3.7	3.3	3.2	2.7
Employment Growth (Year Avg)	2.3	1.5	3.0	2.4	0.4	-3.1	2.6	3.4	2.9	2.2	1.8

Source: BIS Oxford Economics and ABS

* Total construction work done in constant 2017/18 prices as per the ABS Building Activity and Engineering Construction Activity
Total construction is the sum of new dwelling building (includes alterations and additions activity greater than $10,000), new non-building activity and new engineering construction.

** GSP is an estimate in FY2020

4. WAGES AND INFLATION OUTLOOK

4.1 CPI OUTLOOK

Limited Inflationary Pressures in Recent years, with Deflation in the June quarter 2020

Consumer price inflation has been subdued for the past five years, with annual (through-the-year) headline CPI inflation ranging between 1.0% and 2.1%; averaging 1.7%. Meanwhile, underlying inflation fell below the Reserve Bank's target 2-3% band in March 2016 and has stayed there.

Over the past year, the CPI rose from a low of 1.3% in the March quarter 2019 to 2.2% in the March quarter 2020. However, the upward momentum in price and wage inflation over 2019/early 2020 has effectively been reversed by the current economic slump. The CPI declined sharply in the June quarter 2020, falling -1.9% in the quarter (q/q) and -0.3% through the year (i.e. compared to June quarter 2019) – this deflation is a rare phenomenon in Australia.

Driving the CPI down in the June quarter was substantial declines in fuel prices, with the slump in global oil prices over January to May collectively slicing around 0.9% off the headline rate in the March and June quarters 2020 (with the 19% fall in fuel prices slicing off -0.7% in the June quarter alone). The CPI was also brought down in the June quarter by temporary measures enacted by the government to soften the impact of the COVID restrictions on households, with the price of childcare plunging -95% and pre-school and primary education declining -3.7%. Rents fell -1.3% as the government and banks acted to defer rents for many tenants, while urban transport fares fell -2.0% and medical and hospital services declined -0.3% (they normally increase by around 4% each June quarter). Some other services also saw weakness in price growth. On the other hand, food and some tradeable goods prices increased, buoyed by healthy demand, drought and high global meat prices and by the depreciation of the A$ over the past 2 years pushing up the prices of imports and overseas holidays and travel. The A$ has declined from US78 cents in December 2017 (and US72cents in December 2018) to an average of US66 cents in the March and June quarters, 2020.

Recession to mute price and wage inflation over next 2-3 years

The recent upward momentum in price and wage inflation is expected to be reversed by the current economic slump. The sharp increase in unemployment coupled with many firms struggling to generate near-term cashflow will keep wage growth weak and put further downward pressure on headline inflation. Subdued consumer demand and restrictions on some activities will also weigh on prices. In addition, increases in residential property rents (which constitute 7% of the CPI basket), are likely to stay low over short-to-medium term, until currently oversupplied markets become more balanced. Meanwhile, costs related to 'new dwelling purchases by owner occupiers' (which constitutes 7.9% of the CPI basket) will similarly be constrained, until property markets and building costs recover.

Nevertheless, we expect a bounce-back in headline CPI inflation in the September quarter as a number of the measures which drove down inflation in the June quarter are effectively reversed. Fuel prices are also expected to bounce-back in the September quarter, with global oil prices having lifted from the lows averaging US$18/barrel (Brent crude oil price) in the month of April to US$45/brl in late August 2020. Also putting upward pressure on the headline rate will be further planned increases in tobacco excise duty. Tobacco excise duties are legislated to increase by 12.5% each year on September 1 of each year from 2017 through to September 1, 2020. This, combined with the bi-annual indexation of the tobacco excise to average weekly ordinary time earnings and aligning the tax treatment of roll your own tobacco and cigarettes, will add significantly to headline CPI – around 0.25% points to the annual rate.

Food prices are also expected to continue adding to inflation in the near term. The drought, higher food import prices (from the lower $A) and strong demand at supermarkets have combined to push up food prices by 4.1% over the past year, reversing a key factor which has muted prices over recent years – food accounts for over 10% of CPI basket (excluding meals out and takeaway food). Food inflation averaged close to 3% p.a. over the past two decades but had been very weak over the past five years (averaging only 1.2% p.a.), 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 pick up over the medium term as global oversupply dissipates.

But overall, inflation will remain below the RBA's target range for some time. Headline CPI inflation averaged 1.3% in FY20 and our forecasts (and those from the Reserve bank) predict headline inflation to average between 1.0% to 1.5% over FY21 and FY22, before picking up to 1.8% in FY23. Meanwhile, underlying (or core) inflation – which excludes the extreme price movements, such as the 'usual' petrol price volatility - is expected to move lower in the near-term, averaging 1.5% in FY20 and 1.0% in FY21 (following the 1.4% in FY20), before gradually picking up in line with the headline rate.

Underlying and headline CPI inflation are subsequently expected to gradually pick up over FY23 to FY25 as economic growth increases, profits, employment and wage growth strengthen, the unemployment rate declines and inflationary pressures re-build. Wages growth will accelerate as the unemployment rate declines back toward and below 6%, which is expected to occur in the second half of 2023, with the rate expected to edge close to 5% during FY25. The recovery in the global economy will also see global inflationary pressures rebuild and manufacturing costs and prices increase over the medium to longer-term. The rise in the A$ toward US77 cents in FY25 will provide some offsetting pressures between FY23 and FY25, but fuel prices will add to the CPI. Global oil prices are projected to increase over the next 5 years, with Brent crude oil price forecast to gradually rise from around US$44/barrel in the (current) September quarter 2020 (and US$29/brl in the June quarter) to US$70/brl by early 2025 (note that this price is still lower than the recent high of over US$75/brl in September quarter 2018). Although the gradual rise in the A$ back toward US$0.77 over the same period will partially mute some of the increase in local fuel prices, the near trebling of oil prices will add to the CPI over the next few years.

Overall, underlying inflation is forecast to rise to 2.3% in FY24 and 2.4% in FY25. Headline CPI inflation is forecast to increase slightly faster largely due to fuel prices. The expected softening in the economy around mid-decade will see price and wage pressures weaken over FY26 and FY27, with the CPI pushing back below 2.3%, before again rising to 2.5% over the latter years of the 2020s.

CPI inflation projected to average close to 2.5% over the 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 constitutes around one-third of the CPI basket, is forecast to increase by an average of around 1.0% - 1.5% per annum contributing around 0.4% to annual inflation. Limited movements in the A$, steady (but subdued) increases in global manufacturing costs and some commodity and food price increases underpin this projection.
- Non-tradeables inflation (comprising the remaining two-thirds of the basket) is assumed to increase by around 2.5% to 3% per annum contributing roughly 2% to headline inflation. The main driver of this is the projected acceleration in wage growth.

4.1.1 RBA CPI Forecasts are Used to Calculate Real Wages

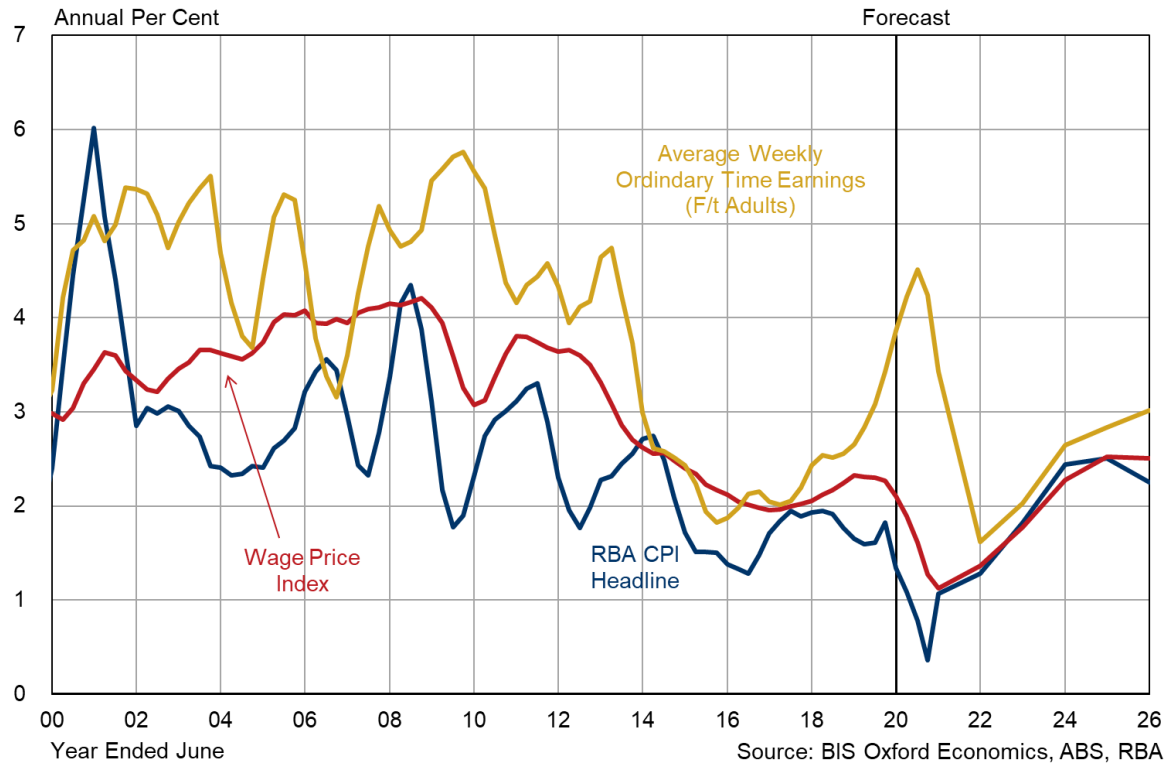
To calculate real wage increases, we deflate nominal wages growth by deducting expected inflation over a 10-year period, using the CPI forecasts from the Reserve Bank of Australia (RBA). The RBA's August 2020 'Statement on Monetary Policy' forecast the headline CPI rate at "1¼ per cent" in the December quarter 2020 and 3 per cent in the June quarter 2021 – giving an average of 1.5% for FY21. The RBA then forecasts headline CPI to ease to 1% in December 2021 and pick up slightly to at 1.25% in the June 2022 quarter (giving a year average of 1.3% for FY22), before rising to 1.5% in the December quarter 2022. Assuming a further rise over calendar 2023 to the mid-point of the RBA's target range by December 2023, this implies a year-average CPI rate of 1.8% for FY23.

Expected inflation for the next 10 years is derived by using the geometric mean of RBA forecasts for the next three years, with the 2.5% mid-point of the RBA's inflation target band (i.e. 2 to 3%) used for the remaining 7 years – to give an average of 2.2% for FY24 to FY27. This methodology has been adopted by the AER (Australian Energy Regulator) in their recent revenue decisions. For example, see Transgrid Draft Determination 2018-23, Attachment 3, page 142. Overall, this methodology yields a CPI average of 1.9% over the five years from FY22 to FY26.

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.

Fig. 4.1 Australia: Wages and Prices (includes SG Increases Impact)



Low wages growth over recent years

Wages growth has slowed markedly over the past 5 years, primarily due to weaker demand for labour, caused by both cyclical and structural factors. Among the underlying structural changes causing this unspectacular wage growth are increasing market flexibility and casualisation of the work force (what is commonly coined the 'gig-economy'), falling union membership, slower productivity growth and the effects of lower inflation expectations.

Low wages growth is both a product of and key cause of low underlying inflation. Low wages are keeping business costs down and thus muting upward price pressures, while a significant section of pay deals are being 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 declined in recent years, as a result of falling rates of unionisation and increasing casualisation. In addition, the relatively high underemployment rate suggested spare capacity in the labour market. The high underutilisation rate – the sum of unemployment and underemployment – reflects considerable slack in the labour market, which limits the bargaining power of workers and reduces pressure on wages.

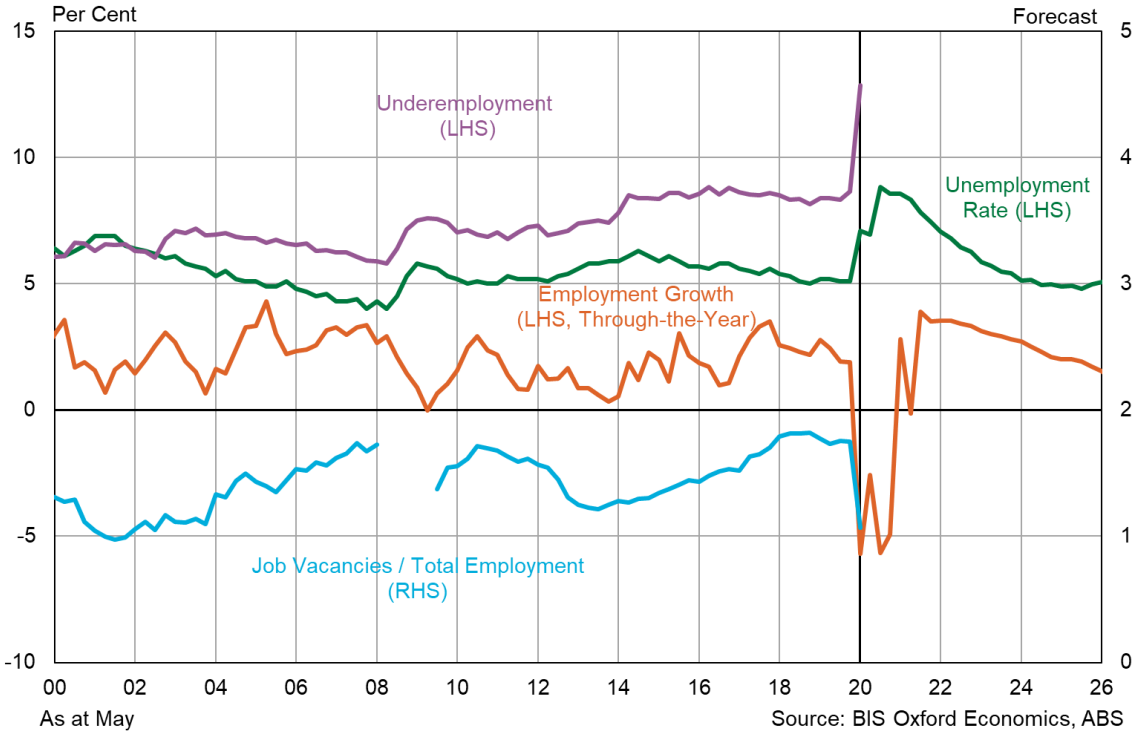
Wages growth to remain weak over next 2 years, before rising

Wages growth in terms of the wage price index (WPI) and average weekly earnings measures had been showing signs of improvement over 2018-2019, although the improvement in WPI appeared to have stalled in the second half of calendar 2019 and the March quarter 2020 at 2.2% in terms of annual increases. These increases may have been helped by higher increases in the minimum wage decisions and collective bargaining outcomes over the past 3 years, with increases in the dominant 'individual arrangements' segment also improving.

However, the impact of COVID-19 pandemic has seen employment plummet and dramatically lift the unemployment and underemployment rates. This has reversed the nascent improvement in wages that had been building. There has been a severe dislocation in labour markets around the country. While conditions have recovered a little, employment is 530,000 below its February level, and the unemployment rate has risen to 7.5%. Yet these numbers still hide the full extent of the devastation. Until now, recipients of JobSeeker have not had to look for work, and as a result many of the people who have lost their jobs have officially exited the labour force – once these people re-enter the labour force the unemployment rate will increase further. While the government's JobKeeper program has been very effective at keeping people in their job there is a large cohort of employees working zero hours, which is boosting the underemployment rate. The government has announced JobKeeper will extend through Q1 2021, albeit at a tapered and tiered rate from Q4 2020.

The sharp deterioration in economic conditions over the June quarter saw the All Industries WPI rise only 0.2% in the June quarter (seasonally adjusted, or 0% in original terms), with the annual rate of increase sliding to 1.8% (June 2020 compared to June quarter 2019), while the average for FY20 slowed to 2.1%. Widespread wage freezes and very modest wage increases will see WPI growth weaken over FY21. AWOTE (average weekly ordinary time earnings – for full time adults) is also likely to show weaker growth, but compositional effects in these measures may mask the true picture. The National Accounts average earnings measure is more likely to reflect the actual fall in overall wage incomes and take-home pay, as this will take account the lower hours worked, more so than the WPI, which is an index based on a basket of different occupations, but does not take account of average earnings per week. Appendix A has a discussion of the various wage measures.

Fig. 4.2 Australia: Employment and Unemployment



Some upside is expected to come from an increase in the National Minimum Wage (NMW), which was awarded by the Fair Work Commission at its Annual Wage Review in June 2020 – to be paid to workers in different industry sectors on a staggered timetable over 2020/21. Given the current circumstances, the FWC only awarded a 1.75% increase – down from the 3.1% to 3.5% increases of the past 3 years, but which the FWC deemed prudent to provide the poorer paid workers with an adequate wage. 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. Furthermore, some industries that are less affected by the COVID-19 impacts will also receive some pay rises over FY21. Overall, our forecast is for the All Industries WPI to increase by 1.1% in FY21.

As the economy and employment rebounds through FY22, growth in the All Industries WPI is also expected to exhibit a modest recovery, rising to 1.4%. Part of the rebound will be driven by deferred pay increases from 2020 and early 2021. We also expect a higher increase in the NMW in July 2021 to underpin higher increases. As the economy continues to strengthen over FY23 to FY25, we expect to see a marked improvement in the labour market, with labour demand increasing and the unemployment rate falling to around 5% by early FY25. We expect to see skill shortages manifest in some areas of the economy. The tightening labour market will see wage pressures increase, and the All industries WPI is forecast to gradually rise to a peak of 2.5% in FY25 and FY26.

Forecasts for All industries wages are detailed in Table 4.1. Overall, using RBA CPI forecasts, real (inflation-adjusted) WPI growth for the Australian All Industries WPI is forecast to average 0.1% per annum over the 6 years from FY21 to FY26 inclusive – one of the lowest rates of increase for such an extended period - while for the DB's regulatory period from FY22 to FY26, the average real WPI increase is forecast to average 0.2%. This forecast includes the -0.4% impact on the All Industries

WPI (see section 4.4 for key assumptions underpinning this impact). Excluding the SG Increase impact, this rate of real increase would be in line with the past decade.

Table 4.1 Wages and Prices Growth – Australia

Year Ended June	Average Weekly Ordinary Time Earnings[1]			Wage Price Index (All Industries)			Official Headline CPI [2]	
	Nominal $/week	%CH	Real AWOTE %CH	Nominal Index	%CH	Real WPI %CH	Index	%CH
2002	847	5.4	2.5	76.7	3.3	0.5	75.7	2.9
2003	890	5.0	2.0	79.3	3.5	0.5	78.0	3.0
2004	932	4.7	2.3	82.2	3.6	1.2	79.9	2.4
2005	973	4.4	2.0	85.3	3.7	1.3	81.8	2.4
2006	1,018	4.6	1.4	88.7	4.1	0.9	84.4	3.2
2007	1,054	3.6	0.6	92.2	3.9	1.0	86.9	3.0
2008	1,106	4.9	1.6	96.1	4.1	0.8	89.8	3.4
2009	1,166	5.5	2.3	100.0	4.1	1.0	92.6	3.1
2010	1,231	5.6	3.2	103.1	3.1	0.8	94.8	2.3
2011	1,283	4.2	1.0	107.0	3.8	0.7	97.7	3.1
2012	1,338	4.3	2.0	110.9	3.6	1.3	100.0	2.3
2013	1,400	4.6	2.4	114.6	3.3	1.0	102.3	2.3
2014	1,442	3.0	0.3	117.6	2.6	-0.1	105.0	2.7
2015	1,477	2.4	0.7	120.4	2.4	0.7	106.8	1.7
2016	1,505	1.9	0.5	123.0	2.1	0.7	108.3	1.4
2017	1,536	2.0	0.3	125.4	2.0	0.2	110.2	1.7
2018	1,573	2.4	0.5	127.9	2.1	0.1	112.3	1.9
2019	1,615	2.7	1.0	130.9	2.3	0.7	114.1	1.6
2020	1,677	3.9	2.5	133.7	2.1	0.8	115.7	1.3
Forecasts								
2021	1,735	3.4	2.0	135.2	1.1	-0.3	117.3	1.5
2022	1,763	1.6	0.3	137.0	1.4	0.0	118.9	1.3
2023	1,798	2.0	0.3	139.4	1.8	0.0	121.0	1.8
2024	1,846	2.6	0.5	142.6	2.3	0.1	123.6	2.2
2025	1,898	2.8	0.7	146.2	2.5	0.3	126.3	2.2
2026	1,956	3.0	0.8	149.9	2.5	0.3	129.1	2.2
Compound Annual Growth Rates ([3])								
2001-2010	4.8		2.0	3.7		0.9	2.8	
2010-2020	3.1		1.1	2.6		0.6	2.0	
2020-2026	2.6		0.7	1.9		0.1	1.8	
2021-2026	2.4		0.5	2.1		0.2	1.9	

Source: BIS Oxford Economics, ABS

(1) Average Weekly Ordinary Time Earnings for full-time adults. Data is year ended May (available only mid month of quarter).

(2) Headline CPI forecasts based on Reserve Bank of Australia's current forecasts to June 2022 quarter. Beyond this, we've used the arithmetic mean the next 2 years and then mid-point of the Reserve Bank's 2 to 3 per cent inflation target range after 2022.

(3) CAGR (Compound Annual Growth Rates) for 2021-2026 is the average annual growth for 2021/22 to 2025/26 inclusive (ie next regulatory period).

4.3 VICTORIA ALL INDUSTRIES WAGE OUTLOOK

The 'all industries' WPI for Victoria is used to escalate 'general wages'. Growth in total or 'All Industries' wages at the state level usually depends on the relative strength of the state economy and labour markets, compared to the national average.

Over the past six years, the Victorian All Industries state average WPI growth has been 0.2% to 0.3% above the national average, except for FY17 when it matched the national average. This above-average performance was in line with the relatively stronger economic growth, compared to the national average, over FY14 to FY19, particularly in regard to state final demand (SFD) and Gross State Product (GSP) has been close to slightly stronger than the national average (except FY19).

However, Victoria's SFD growth slipped below the national average in FY20 and we estimate GSP growth was also weaker (although employment growth was mostly stronger in FY20). The stage 4 lockdown in the state in the June 2020 quarter saw the All Industries WPI fall 0.1% (in original terms), which was -0.1% below the national average. In FY21 we expect Victoria's economic growth to be materially weaker than the national average, due to the extended lockdowns of large parts of Victoria in the September and December quarters. This will see the state All Industries WPI increase by 0.9%, -0.2% below the national average. Although we are predicting an improvement in the state economy over FY22 and FY23, we still expect economic growth to lag the national average in those years. Thereafter, we are forecasting economic growth to match or slightly exceed the national average over FY24 to FY26. Accordingly, the Victorian all industries WPI is forecast to lag the national average over FY22 to FY24, and then match the national average over FY25 and FY26.

In the five years to FY26, we are forecasting the total state (all industries) WPI in Victoria to average 2.0% in nominal terms, slightly below the national average. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.1% (see Summary Table 1.1 in the Executive Summary). This forecast includes the -0.4% impact on the All Industries WPI (see section 4.4 for key assumptions underpinning this impact). Excluding the impact of the SG Increase, the 5-year average would be slightly weaker than historical averages for Victoria.

4.4 SUPERANNUATION GUARANTEE INCREASES & THEIR IMPACT ON LABOUR COSTS

In light of the proposed increases to the Superannuation Guarantee, BIS Oxford Economics researched the treatment of superannuation contributions in regard to how the ABS measures labour costs. The Superannuation Guarantee is proposed to increase from the current 9.5% in the early-to-mid 2020s, rising 0.5% in July each year from July 2021 to 12% in July 2025.

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

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

"The following are specifically excluded from ordinary time payments:

- Employer contributions to superannuation funds"[1]

Six other types of irregular payments are also listed as being excluded from ordinary time earnings, such as severance, termination and redundancy payments; leave loading; etc.

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

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

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

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

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

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

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

1. Employer contributions to superannuation
2. Workers' compensation
3. Annual leave and Public holidays
4. Payroll tax

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

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

As for **Average Weekly Earnings** (AWE), earnings in this context are "broadly defined as current and regular payments in cash to employees for work done" (ABS 2018). Through to 2007, AWE excluded amounts salary sacrificed and this is now considered as a form of wages and salaries in cash. In this

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

context we can conclude, similarly with WPI, that AWE does not include superannuation contributions and will not measure any changes to the Superannuation Guarantee.

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

The superannuation guarantee (SG) as it is currently legislated, has the contributions from employers increasing from the current 9.5% by 0.5% on 1st July each year from 2021 to 1st July 2025. This means that it will increase in each of the 5 years of the next regulatory period of the Victorian electricity distributors.

As discussed above, the SG increases are not included in the wage price index, but will impact the quantum of the WPI increases in each year from FY22 to FY26 (i.e. 2021/22 to 2025/26). This is based on the notion that a proportion of the costs associated with SG increases will be ultimately borne by employees, via lower wage growth than would be the case if there was no SG increase. The Reserve Bank of Australia has estimated that around 80% of the increase in non-cash benefits, such as superannuation, are passed on to employees in the form of lower wage increases. This is referred to as the 'economic incidence' of the SG increase, whereas the 'statutory incidence' of the whole 0.5% annual SG increase falls on the employers. However, the proportion of the cost borne by employees would differ according to the form of pay-setting method and other intrinsic factors. Those employees who have their pay rises set under collective bargaining **and** who belong to a strong union with considerable industrial power are expected to ultimately receive a much higher proportion of their pay increase than those who receive their pay increase via the annual minimum wage increase (set by the Fair Work Commission) and those employees on 'individual arrangements'.

In terms of overall wage costs, the DBs need to add the full 0.5% for the SG increases each year 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).

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

1. The key underlying assumption assumes that around 80% of the economic incidence of the Superannuation Guarantee (SG) increases are passed on to employees, with employers only paying for 20% of the cost of the SG increases. This is in line with RBA research. This applies to the All Industries wages. This means that All Industries WPI growth is equivalent to 80% less than it would be in the 'alternative' case, where no SG increase occurred. In the context of a 0.5% increase each year, the impact on All Industries WPI is -0.4%.
2. The impact on employees is assumed to be evenly spread in each year, rather than unevenly spread over time. This implies wages are negotiated prior to the SG increase and spread evenly over the whole year - i.e. the impact is the same on the two half-year periods (with regard to the half-year forecasts). We acknowledge this is a simplified assumption, given that often the economic incidence is not spread evenly across years, with the ultimate impacts going beyond the period of SG increases.
3. The incidence of the SG increase differs across the three different segments of pay methods. Those 13.1% of employees (full-time adults) who receive their annual pay rise via the Minimum wage case by the Fair Work Commission are assumed to receive 80% less, with those who receive payments via individual arrangements also receiving 80% less. At the All

Industries level, it assumed that the average of the 38.4% of employees who rely on collective bargaining also receive 80% less. However, this %age for those on collective bargains or EBAs will markedly differ across industry sectors.

4. For employees in the EGWWs sector, the base assumption is that those 64.6% of employees on EBAs will receive 50% less, with employers paying the other 50%. **This is a conservative assumption** - given the strength of the unions covering the EGWWS sector, it is likely that EBAs will not be reduced by as much as 50% to cover the increase in the SG. Overall, the impact on the whole EGWWS WPI will be -0.3% for each of the 5 years from FY22 to FY26 inclusive.
5. Indeed, in the Construction sector, we are assuming that the discount to wages negotiated by the construction unions covering that industry will be only 25% - half that of EGWWS sector. Overall, the impact on the whole Construction WPI will be -0.32% for each of the 5 years from FY22 to FY26 inclusive.

4.5 ALTERNATIVE SCENARIO – SUPERANNUATION GUARANTEE INCREASES ARE DEFERRED

The scenario which the AER has effectively adopted is to assume that the SG increases as currently legislated proceed under the proposed timetable of increases, i.e. the first 0.5% increases the minimum superannuation guarantee occurs on 1st July starting 1 July 2021 and is increased 0.5% each 1 July until 1st July 2025 inclusive. This is effectively the 'base' scenario which is presented in this document and the associated forecasts on which the Victorian DBs have based their submissions to the AER.

However, there is a plausible 'alternative' scenario, whereby the proposed SG increases are again deferred. There is a reasonably high probability that the proposed increases in the Superannuation Guarantee Charge (SGC) will again be deferred, as they were in the second half of last decade. BISOE believes there will be considerable pressure from businesses, state and local governments to push out the 'legislated' start of the SGC increases at least 3 years, to say July 2024, given the impacts of COVID-19 on the economy and their perceived ability to pay. It should be remembered that the Commonwealth government decided to defer the original timetable of the SGC increases (then due to occur from the second half of the 2010s) because of the perceived weakness of the economy in 2014/15. The economy is much, much weaker now. However, as there is considerable uncertainty surrounding both the actual timing and quantum of the SGC increases, in the forecasts in the table below, we have assumed that the SG increases are pushed out beyond FY26.

Table 4.2 Alternative Scenario: SG Increases are Deferred beyond FY26 – Labour Cost Escalation Forecasts: Victoria & Australia, Financial Years

(per cent change, year average, year ended June)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	5 yr Avg (f)
	Actuals					Forecasts	Next Regulatory Period					
NOMINAL PRICE CHANGES												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria (a)	**3.3**	**2.9**	**2.8**	**3.0**	**3.3**	**2.2**	**2.4**	**2.7**	**3.1**	**3.3**	**3.3**	**3.0**
EGWWS WPI - Australia (b)	2.4	2.2	2.0	2.8	2.7	1.9	2.2	2.5	3.0	3.2	3.2	2.8
EGWWS AWOTE - Australia (b)	3.5	4.3	2.3	1.3	2.9	2.3	2.5	2.7	3.1	3.4	3.5	3.0
2. External Contractor Labour Cost Escalation												
Construction WPI - Victoria (d)	**2.5**	**2.8**	**1.8**	**2.4**	**2.2**	**0.8**	**1.5**	**2.0**	**2.6**	**3.2**	**3.3**	**2.5**
Construction WPI - Australia (b)	1.6	1.7	1.9	1.9	1.5	0.7	1.6	2.1	2.7	3.1	3.2	2.6
Construction AWOTE - Australia (b)	1.4	2.2	1.0	-0.6	7.2	3.6	2.4	2.5	3.2	3.4	3.4	3.0
3. General Wages												
Victoria WPI (c)	**2.3**	**1.9**	**2.3**	**2.6**	**2.4**	**0.9**	**1.6**	**2.1**	**2.6**	**2.9**	**2.9**	**2.4**
Australia All Industries - WPI (b)	2.1	2.0	2.1	2.3	2.1	1.1	1.8	2.2	2.7	2.9	2.9	2.5
Australia All Industries - AWOTE (b)	1.9	2.0	2.4	2.7	3.9	3.4	2.0	2.5	3.0	3.2	3.4	2.8
Consumer Price Index (headline) (d)	1.4	1.7	1.9	1.6	1.3	1.5	1.3	1.8	2.2	2.2	2.2	1.9
REAL PRICE CHANGES (e)												
1. Internal Electricity Network-Related Labour												
EGWWS WPI - Victoria	**1.9**	**1.2**	**0.9**	**1.4**	**1.9**	**0.8**	**1.1**	**0.9**	**0.9**	**1.2**	**1.2**	**1.1**
EGWWS WPI - Australia	1.0	0.5	0.0	1.1	1.3	0.4	0.9	0.7	0.8	1.1	1.0	0.9
EGWWS AWOTE - Australia	2.2	2.6	0.4	-0.3	1.6	0.8	1.2	0.9	1.0	1.2	1.3	1.1
2. External Contractor Labour Cost Escalation												
Construction WPI - Victoria	**1.1**	**1.1**	**-0.1**	**0.7**	**0.9**	**-0.7**	**0.2**	**0.2**	**0.4**	**1.0**	**1.1**	**0.6**
Construction WPI - Australia	0.2	0.0	-0.1	0.2	0.2	-0.8	0.3	0.4	0.5	0.9	1.0	0.6
Construction AWOTE - Australia	0.0	0.5	-0.9	-2.2	5.9	2.2	1.1	0.7	1.0	1.2	1.3	1.1
3. General Wages												
Victoria LPI	**1.0**	**0.2**	**0.4**	**1.0**	**1.1**	**-0.6**	**0.3**	**0.3**	**0.5**	**0.8**	**0.7**	**0.5**
Australia All Industries - WPI (b)	0.7	0.2	0.1	0.7	0.8	-0.3	0.4	0.4	0.5	0.7	0.7	0.6
Australia All Industries - AWOTE (b)	0.5	0.3	0.5	1.0	2.5	2.0	0.7	0.7	0.9	1.0	1.2	0.9

Sources: BIS Oxford Economics, ABS

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

(b) Australian sector wage forecasts provided for comparison. AWOTE is average weekly ordinary time earnings for full itme adult persons, where overtime payments are excluded but bonus payments are included

(c) Victoria WPI is total or 'All Industries' wage movements.

(d) Inflation forecasts are RBA forecasts for the next 2 years from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on mid-point of RBA inflation target, but overall forecasts are calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 10 years. This methodology has been adopted by the AER in its recent revenue decisions

(e) Average Annual Growth Rate for 2021/22 to 2025/26 inclusive ie for the next regulatory period.

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

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

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

The WPI (wage price index) for the EGWWS (Electricity, Gas, Water & Waste Services or "Utilities") sector in Victoria is used as the measure the DB's internal 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 the DB'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 the DB'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. If they are included in the capex, they should be excluded from the opex in order to avoid double counting of costs.

BISOE chose to use the Wage Price Index (WPI) as the key measure of 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 a 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.

5.2 NATIONAL EGWWS WPI FORECASTS

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

The EGWWS wage price index 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 past 6 years, 0.3% higher than the 2.2% national average.

Over the next six years to FY26 inclusive, the EGWWS WPI in Australia is forecast to average 2.4% p.a., 0.5% above the All Industries average. Over the 5-year period from FY22 to FY26 inclusive (the DB's next regulatory period) the EGWWS WPI for Australia is forecast to average 2.5% – 0.4% above the All industries average. This slightly below the historical difference vis-à-vis the All Industries average. In real terms, the Australian EGWWS WPI is forecast to average 0.6% p.a. over the five years to FY26. Note that these forecasts include the impact of the SG increase, which is expected to see the EGWWS WPI be -0.3% lower than if the SG increase did not proceed on the current

proposed timetable. Excluding the SG increase impact, the overall average would be 0.9%, which would be a bit lower than the 1.0% p.a. averaged over the past decade.

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

Year Ended June	Average Weekly Ordinary Time Earnings (1)						Wage Price Index (2)					
	All Industries			Electricity, Gas, Water and Waste Services			All Industries			Electricity, Gas, Water and Waste Services		
	Nominal $/week	%CH	Real AWOTE %CH	Nominal $/week	%CH	Real AWOTE %CH	Nominal Index	%CH	Real WPI %CH	Nominal Index	%CH	Real WPI %CH
2002	847	5.4	2.5	981	6.8	3.9	76.7	3.3	0.5	73.8	4.2	1.4
2003	890	5.0	2.0	1,001	2.1	-0.9	79.3	3.5	0.5	76.8	4.1	1.1
2004	932	4.7	2.3	1,057	5.5	3.1	82.2	3.6	1.2	79.9	4.1	1.7
2005	973	4.4	2.0	1,091	3.2	0.8	85.3	3.7	1.3	83.3	4.3	1.8
2006	1 018	4.6	1.4	1,111	1.9	-1.3	88.7	4.1	0.9	87.6	5.2	2.0
2007	1 054	3.6	0.6	1,152	3.7	0.7	92.2	3.9	1.0	91.8	4.8	1.8
2008	1 106	4.9	1.6	1,183	2.7	-0.7	96.1	4.1	0.8	95.7	4.2	0.8
2009	1 166	5.5	2.3	1,255	6.1	3.0	100.0	4.1	1.0	100.0	4.5	1.4
2010	1 231	5.6	3.2	1,351	7.6	5.3	103.1	3.1	0.8	104.4	4.3	2.0
2011	1 283	4.2	1.0	1,474	9.1	6.0	107.0	3.8	0.7	108.7	4.2	1.1
2012	1 338	4.3	2.0	1,510	2.5	0.1	110.9	3.6	1.3	112.5	3.5	1.2
2013	1 400	4.6	2.4	1,602	6.1	3.9	114.6	3.3	1.0	117.3	4.2	1.9
2014	1 442	3.0	0.3	1,635	2.0	-0.7	117.6	2.6	-0.1	121.1	3.2	0.4
2015	1 477	2.4	0.7	1,646	0.7	-1.0	120.4	2.4	0.7	124.5	2.8	1.1
2016	1 505	1.9	0.5	1,704	3.5	2.2	123.0	2.1	0.7	127.5	2.4	1.0
2017	1 536	2.0	0.3	1,777	4.3	2.6	125.4	2.0	0.2	130.3	2.2	0.5
2018	1 573	2.4	0.5	1,818	2.3	0.4	127.9	2.1	0.1	132.9	2.0	0.0
2019	1 615	2.7	1.0	1,842	1.3	-0.3	130.9	2.3	0.7	136.6	2.8	1.1
2020	1 677	3.9	2.5	1,896	2.9	1.6	133.7	2.1	0.8	140.2	2.7	1.3
Forecasts												
2021	1 735	3.4	2.0	1,940	2.3	0.8	135.2	1.1	-0.3	142.9	1.9	0.4
2022	1 763	1.6	0.3	1,982	2.2	0.9	137.0	1.4	0.0	145.6	1.9	0.6
2023	1 798	2.0	0.3	2,029	2.4	0.6	139.4	1.8	0.0	148.8	2.2	0.4
2024	1 846	2.6	0.5	2,087	2.8	0.7	142.6	2.3	0.1	152.8	2.7	0.5
2025	1 898	2.8	0.7	2,151	3.1	0.9	146.2	2.5	0.3	157.2	2.9	0.8
2026	1 956	3.0	0.8	2,220	3.2	1.0	149.9	2.5	0.3	161.8	2.9	0.7
Compound Annual Growth Rates (3)												
2001-2010	4.8		2.0	4.4		1.5	3.7		0.9	4.4		1.6
2010-2020	3.1		1.1	3.4		1.4	2.6		0.6	3.0		1.0
2020-2026	2.6		0.7	2.7		0.8	1.9		0.1	2.4		0.6
2021-2026	2.4		0.5	2.7		0.8	2.1		0.2	2.5		0.6

Source: BIS Oxford Economics, ABS

(1) Earnings per person for full-time adults. Data is year ended May (available only in November and May).

(2) Ordinary time hours excluding bonuses.

(3) CAGR (Compound Annual Growth Rates) for 2022-2027 is the average annual growth for 2022/23 to 2026/27 inclusive i.e. next regulatory 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 total wage costs — expressed in Average Weekly Ordinary Time Earnings (AWOTE) — BIS Oxford Economics expects EGWWS AWOTE to average 2.7% per annum over the five years to FY26 (including the -0.3% SG increase impact), 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 up skilling of the existing workforce, which will see a commensurate movement by much of the workforce into higher grades (i.e. on higher pay), resulting in higher earnings per employee.

During the current COVID-19 crisis, the EGWWS sector has fared much better than just about all other sectors, along with the Mining, Finance and Insurance sectors. Surveys have shown that employment and wages growth have hardly suffered over recent months. Indeed, recent ABS data showed the EGWWS sector actually increased employment in the 3 months to May 2020 – by +24.5% compared to February levels (in seasonally adjusted terms) for Australia, although some of this increase was unwound over the 3 months to August (when employment slipped back -8.6%).This shows a healthy level of ongoing labour demand in what is an essential service. Meanwhile, Australian EGWWS WPI growth in the June quarter was 0.6% q/q in original terms (2.5% y/y), well above the All industries average of 0% q/q in original terms (1.8%y/y).

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

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

In addition, the electricity, gas and water sector is a largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors. Further, the overall national average tends to be dragged down by the lower wage and lower skilled sectors such as the Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns (such as the current COVID-19 inspired downturn) impacting on wages growth in particular. The EGWWS sector is not impacted in the same way due to its obligation to provide essential services and the need to retain skilled labour.

Strong union presence in the utilities industry and higher collective agreements outcomes pushes utilities wages above the All Industry 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 3.0%, compared to 2.6% for the All Industries average.

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

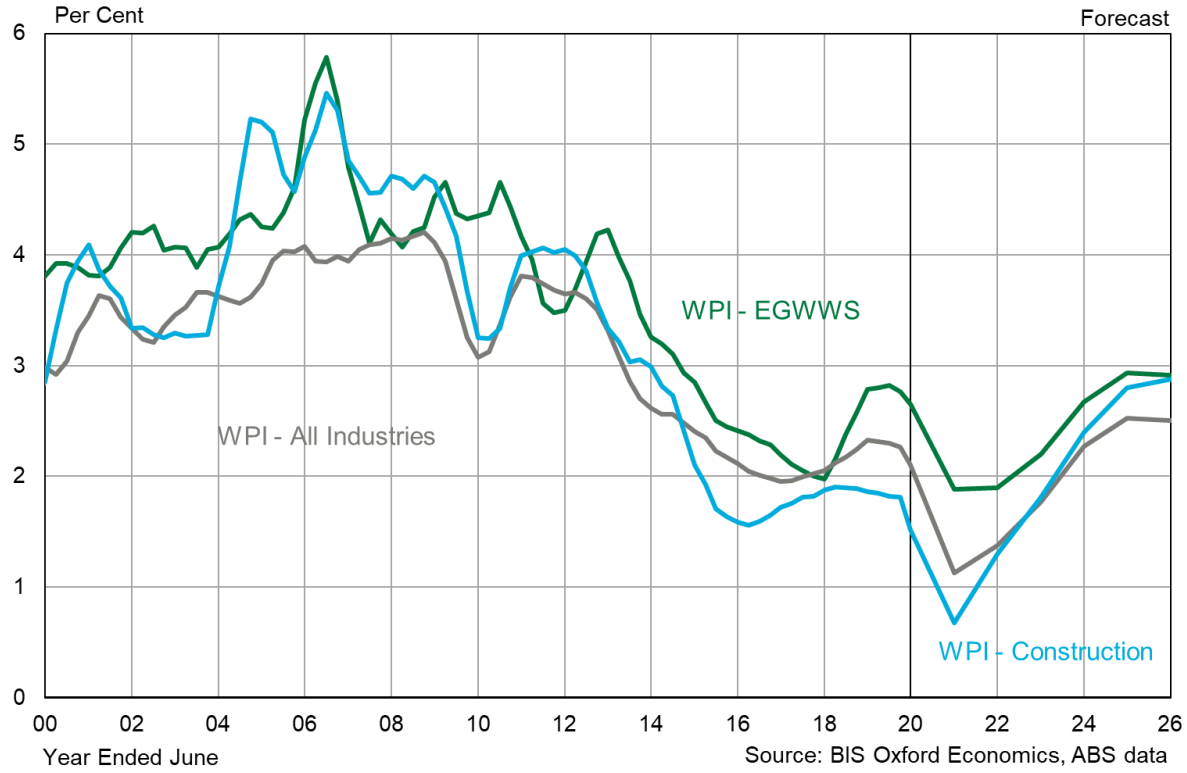
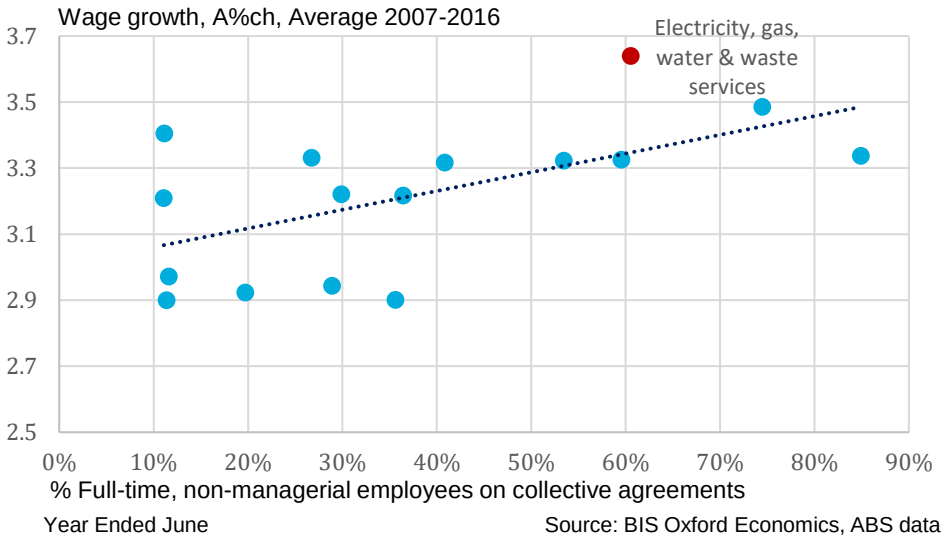


Figure 5.2 Average wage growth and unionisation rates by industry, 2007-2016



BIS Oxford Economics analysis shows collective agreements in the EGWWS sector have been 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 the forecast period (this excludes SG increase impacts), which 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.

We expect EBA outcomes to be weaker over the next 2-3 years compared to the last 5 years, when EBAs averaged around 2.9%. EBAs are expected to average around 2.5% over the next two years but remain above inflation and the 'All Industries' average, given that the demand for skilled labour remains strong and particularly given the recent high enterprise agreement outcomes in the construction sector. This 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 stronger relationship with utilities engineering construction rather than utilities output.

Wage increases under Individual agreements and EBAs will strengthen from FY24 due to 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.

Wage growth from individual agreements is estimated to have slowed appreciably over the three years to FY18, although we believe there were compositional effects that negatively impacted the estimation for this segment. Nevertheless, some of this reflected the general weakness in the economy and the full-time labour market at that time. However, we estimate that wage increases in the individual agreements segment rebounded in FY19 to around 2.7% and remained strong through most of FY20 as skilled labour shortages began to manifest. Indeed, vacancies data from the ABS earlier this year rveealed a marked increase in job vacancies in the utilities sector over the three years to February 2020, with vacancies also lifting significantly in the Mining and Construction sectors over the past two years, until COVID-19 impacted the Construction sector. Skilled labour pressures have been building over the past 2-3 years: an August 2018 survey by the Australian Industry Group found that 3 in 4 employers reported an increasing shortage of technicians and trade workers and employees with STEM skills. These are essential workers in the utilities sector.

Although we expect the overall labour market to weaken further over the next year, we subsequently expect an acceleration of employment growth through FY23, which will outpace population and labour force growth and see the unemployment rate drop back appreciably. Hence, we expect to again witness the re-emergence of skilled labour shortages and competition for scarce labour, particularly from the mining and construction sectors, which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 3 years

to FY24, before easing (see figure 5.3). Meanwhile, we expect similar strong growth coming through in the Construction sector, which, after a short-term set-back due to COVID-19, we expect to see a synchronised upswing across all segments of the overall construction sector (residential construction, 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 (see figure 5.4).

Figure 5.3 Australia – Mining Investment

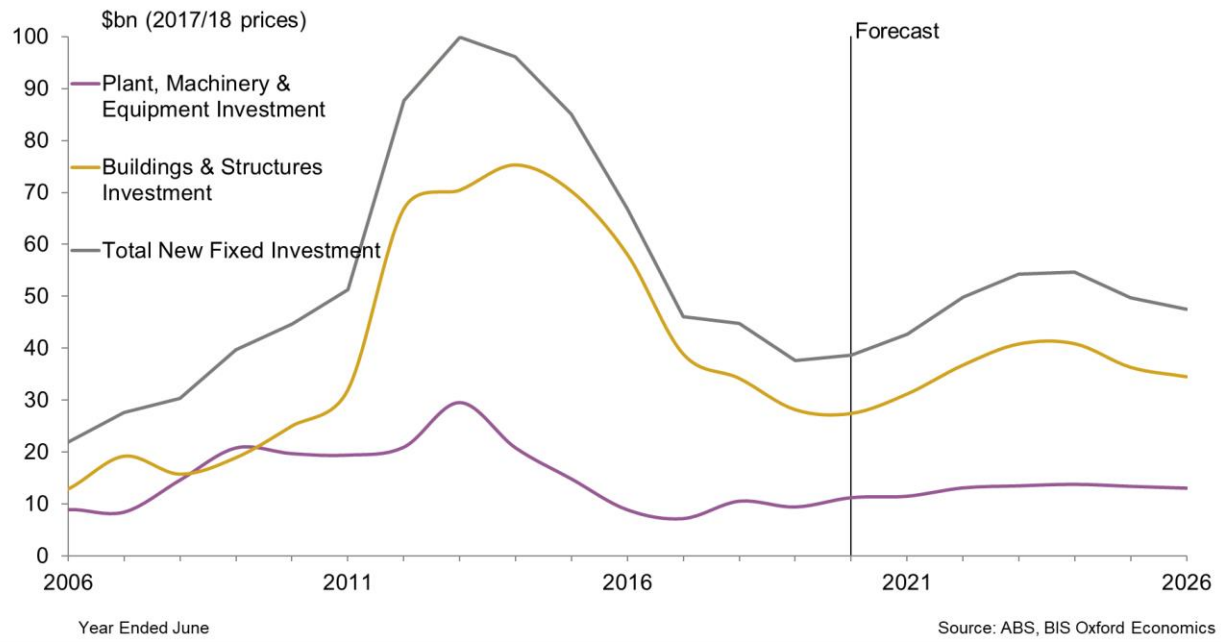
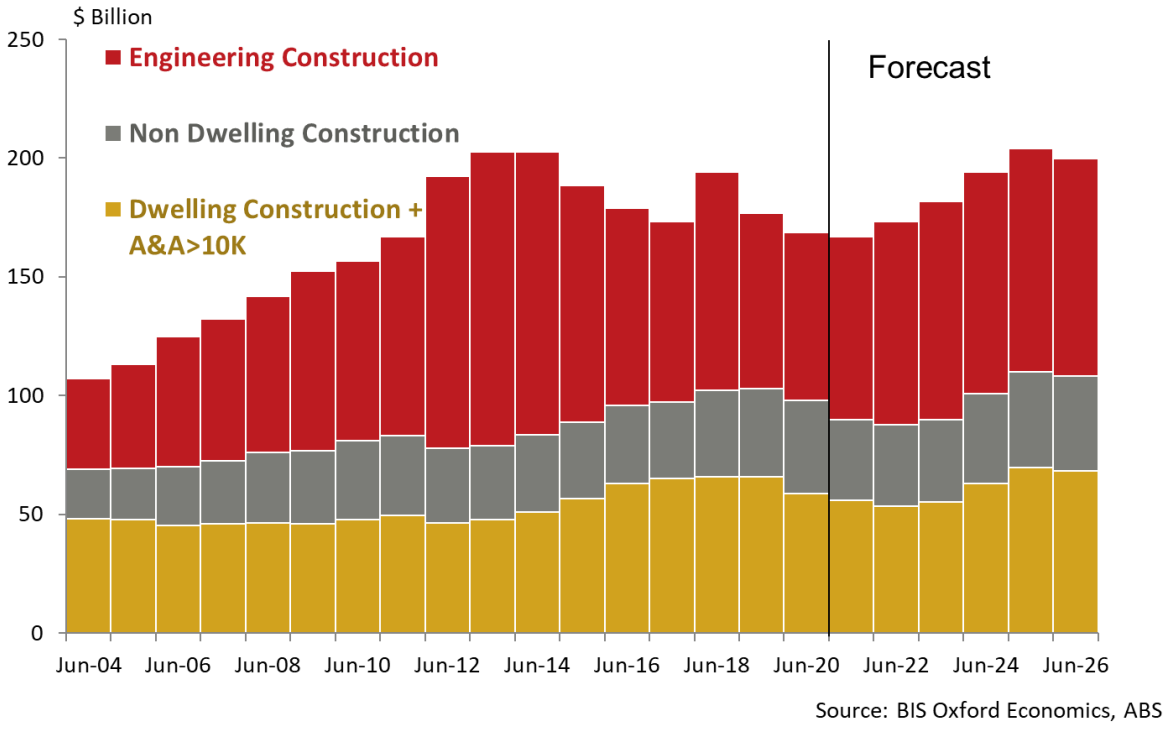


Figure 5.4 Australia – Construction Activity (real work done)



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 intakes of new graduates in the trades stream in particular not increasing fast enough to replace retiring workers, with the overall numbers in some trades actually falling (and continuing to fall in the short- to medium-term). Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration has been suspended. When it does return, it is likely to be a slower ramp-up than will be required in terms of skills shortages – there is usually a lag between the identification of specific skills shortages and the immigration rates need to fill those shortages - meaning that the skill shortages will persist and won't be quickly and easily solved by migration, despite an apparent bounce-back in immigration numbers.

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 FY24 to FY26 period.

Total EGWWS wages growth understates wages growth in the Electricity sub-sector.

Related to the above point, we also believe the overall wage growth forecasts for the total EGWWS sector (presented in the accompanying tables) will understate wages growth in the electricity sub-sector, particularly as the labour market tightens for workers with higher skills. Independent studies have shown that the electricity and gas sub-sectors have a larger number of specialised roles, such as electrical engineers, structural engineers, electricians and gas fitters – who have skills that are transferable across other industries such as mining, construction and manufacturing, and are often in high demand.

On the other hand, the water supply, sewerage and drainage services and waste collection, treatment and disposal services sub-sectors have a higher proportion of non-specialised occupations with lower skill levels, e.g. truck drivers, forklift drivers (Source: Victorian Department of Education and Early Childhood Development, Victorian Electricity and Gas Industry Skills & Training Needs 2013; Victorian Waste and Waste Services Skills & Training Needs 2013. May 2014). With the supply of lower skilled workers growing relatively quickly, wage increases for this group are subdued compared to higher skilled workers.

This is supported by Industry wage data from the ABS, which shows that average wage levels in the electricity sub-sector are over 50% higher than employees in the waste services sub-sector; and 40% higher than those in the water and sewerage sub-sector. In effect, the overall EGWWS average wage level is dragged down by the water and (particularly) waste sub-sectors. Therefore, it is likely that future labour escalation rates for electricity and gas workers will exceed those of other workers in the overall EGWWS sector.

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 Victoria (see figure 5.7). High productivity levels and commensurate skill levels are the key reasons

why wage levels are much higher in the utilities sector than most other industries (in terms of average weekly earnings measures – see table 5.1).

Figure 5.5 Australia – Utilities Employment, Output and Investment

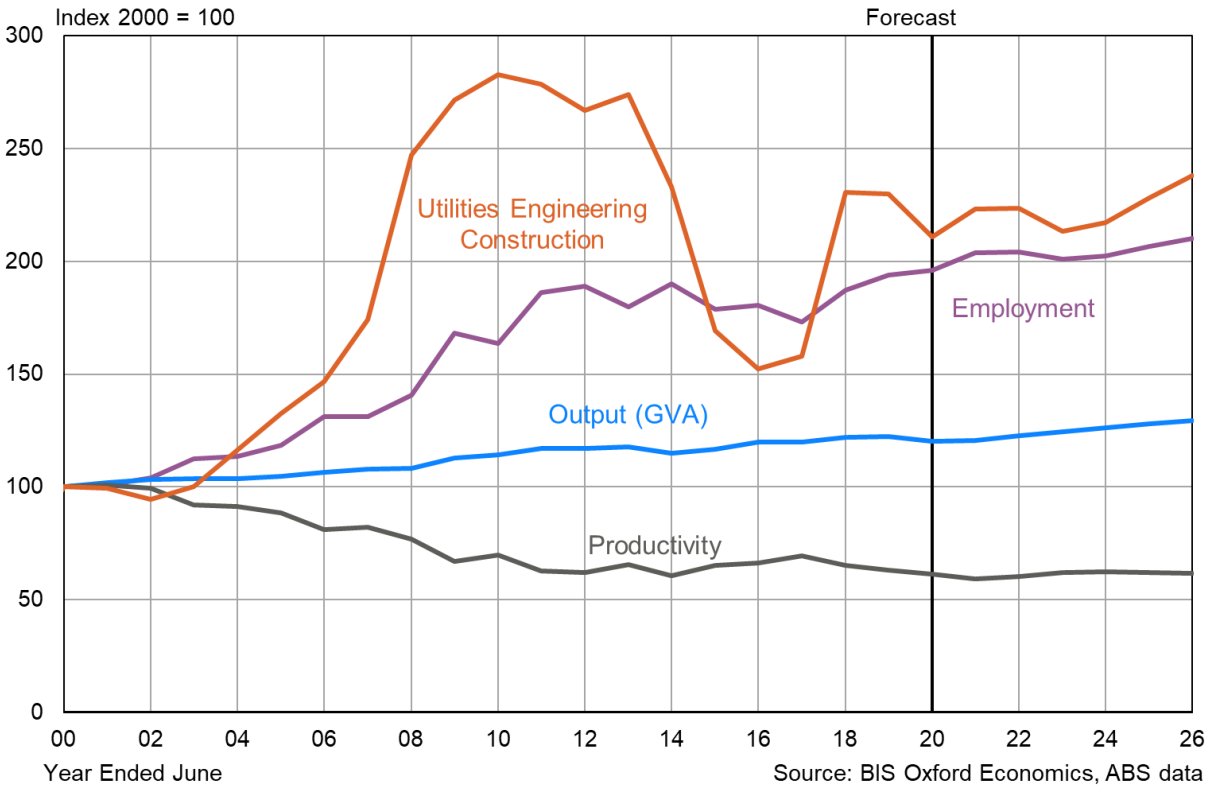
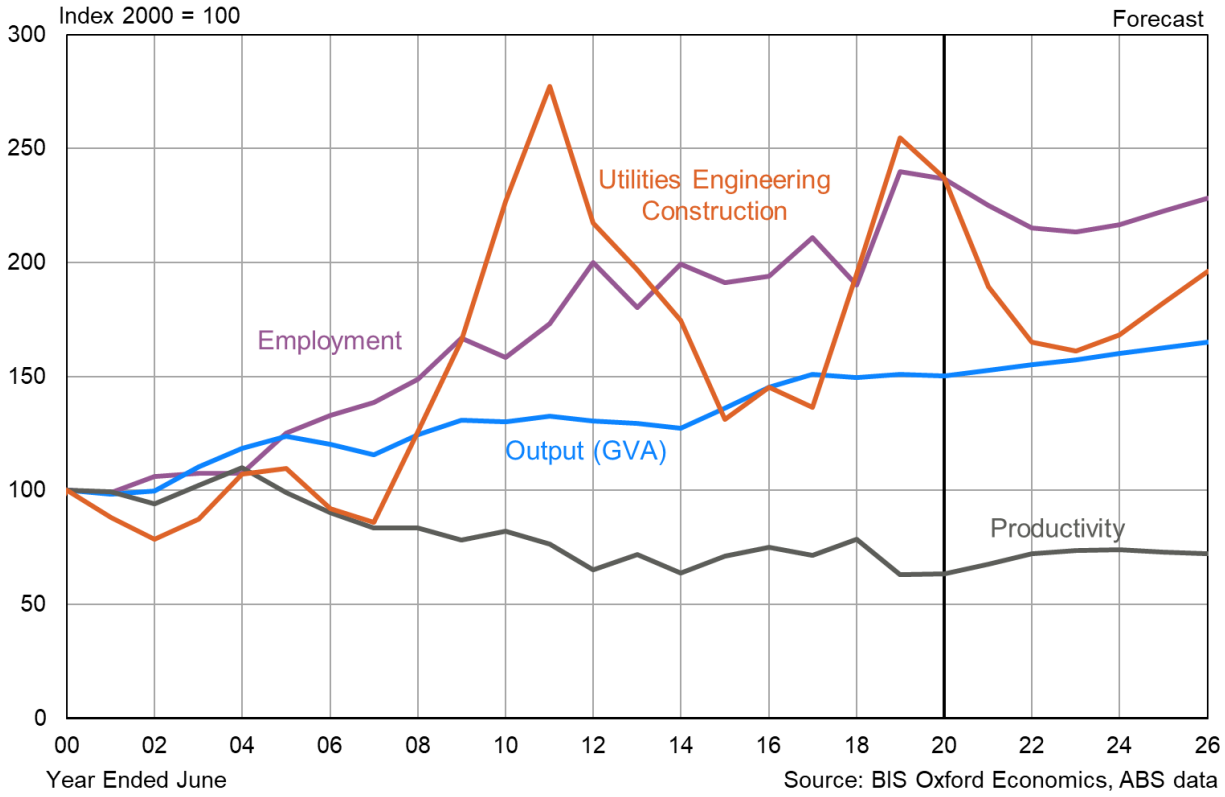


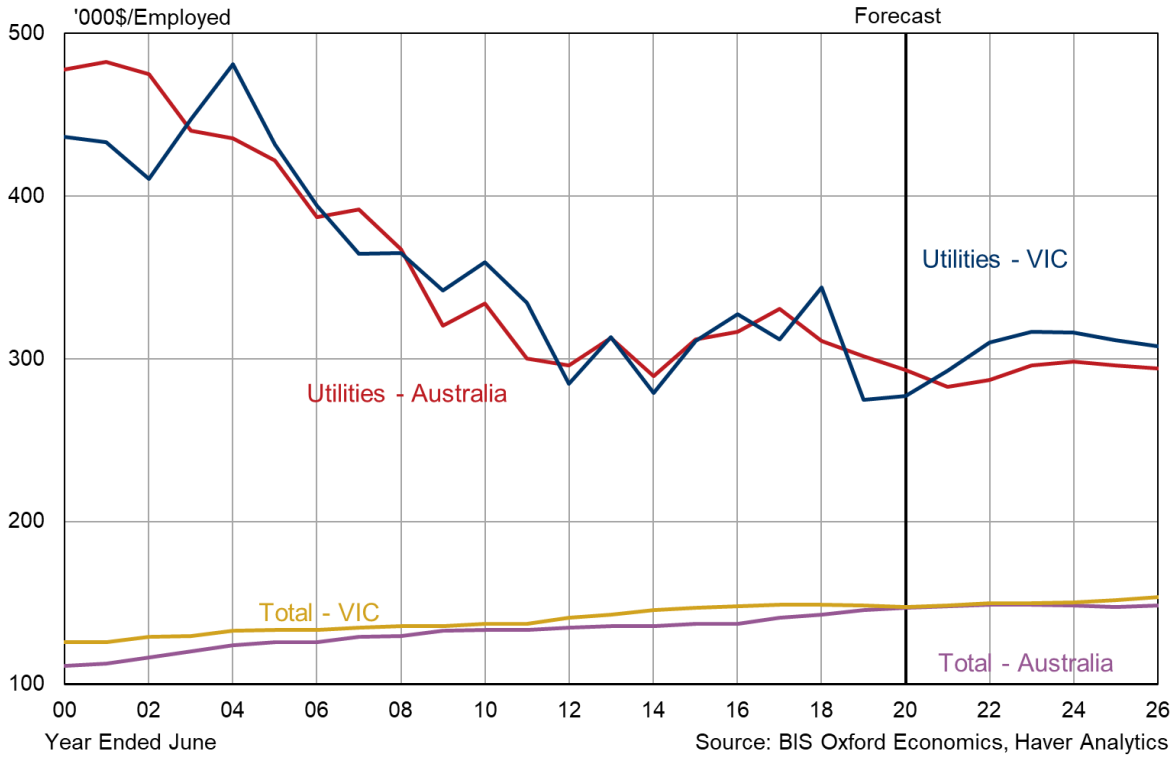
Figure 5.6 Victoria – Utilities Employment, Output and Investment



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 Victoria (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.

Figure 5.7 Utilities Productivity in Australia and Victoria



5.2.1 Victoria's Utilities Wages Outlook

We expect that growth in the Victorian EGWWS WPI will continue to be higher than the Australian EGWWS WPI over the next six years. This continues the comparative outperformance that has occurred over the past 6 years, when the Victorian EGWWS WPI was 0.6% higher, on average over FY15 to FY20 – although it should be noted that the very low outcomes in NSW over FY16 to FY18 dragged down the national average in those years.

We expect Victoria to outperform the national average mainly due to higher outcomes in recent EBAs, compared to the national average. Data from the Department of Employment and Industrial Relations (now part of the Commonwealth Attorney-General's Department) shows that enterprise agreements approved in the Victorian EGWWS sector were 0.3% to 0.4% above the national average over the past 1 to 3 years. With these agreements running for over 3 years (on average), this suggests that EBA wage increases in the dominant EBA segment will continue to outstrip the national average over the short to medium term. The actual outcomes in the Victorian EBAs (i.e. 'current' agreements) were 0.4% higher than the national average in calendar 2019 and even higher in the previous 2 years. We expect little impact from the COVID inspired restrictions, although there may be some impacts on the 'individual arrangements' segment, but this will mainly occur in the waste services sub-sector.

In addition, strong increases in utilities-related engineering construction in the state over FY24 to FY26 will also add to wage pressures further out, at the same time as wage pressures from the construction and mining sectors will be acute.

Over the next 6 years to FY26 Victoria's EGWWS WPI growth is forecast to average 2.6% per annum. In the 5 years to FY2026 – the DB's next regulatory period – Victoria's EGWWS WPI growth is forecast to average 2.7% per annum – or 0.8% in real terms – which will be 0.2% above the national EGWWS average. This WPI forecast includes the SG Increase impacts of -0.3% in each of the 5 years from FY22 to FY26 inclusive. The Victorian forecasts are detailed in table 5.2.

5.3 CONSTRUCTION WAGES

Our research has shown that construction activity (i.e. work done in the sector) normally has a strong influence on construction wages, although changes in wages tend to lag construction (in work done terms) by around one to two years. Hence, our wage forecasts are based on BIS Oxford Economics forecasts of construction activity by state (which includes residential and non-residential building, plus engineering construction) as well as predicted movements in the construction wages at the national level. Forecasts of overall construction activity in Australia are shown graphically in the previous section.

Construction wages at the national level have weakened dramatically since 2011/12 and are well below the robust increases during the construction boom of the latter half of last decade. While collective agreements in the sector have maintained their relative high increases over the past 4 years – between 3% and 6% – wages growth in the individual agreements segment have been very weak. Construction employees in the individual agreements segment account for around 61% of construction employees, dominating the method of pay-setting within the sector. Wages growth has slowly improved in WPI terms from their lows of 2016, despite weaker engineering construction activity. The improvement in wages growth stalled in FY19 and into FY20 due to the decline in overall construction activity.

However, the current downturn in activity and considerable uncertainty due to the coronavirus will now reverse the recent improvements. This will see construction wages growth weaken further over FY21, before slowly improving from FY22 as construction activity rebounds. We expect some deferred increases from 2020 will be provided in 2021, which will boost wages growth in FY22. In AWOTE terms, we believe the volatility over the period FY18 to FY21 is due to significant compositional effects - in FY19 some higher paid engineering workers losing their jobs, while lower paid dwelling building workers retained their jobs, pushing down the AWOTE measure, with the opposite occurring over FY20 and pushing up AWOTE.

Australian construction wages are expected to pick up over FY23 and strengthen appreciably over FY24 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and skills shortages begin to manifest. The increases in construction activity from FY22 will be driven by the recovery in residential building activity which is expected to rise out of its trough from FY23, while higher levels of non-dwelling building and rising engineering construction will also underpin higher wages. Declines in construction activity over FY26 to FY27, coupled with a general weakening across overall labour markets will then cause construction wages growth to ease in FY27.

Table 5.2 Victoria: Electricity, Gas, Water & Waste Services and Construction Wages

Year Ended June	EGWWS Wage Price Index			Construction Wage Price Index		
	Victoria			Victoria		
	Nominal Index	%CH	Real growth %CH (a)	Nominal Index	%CH	Real growth %CH (a)
2009	100.0			100.0		
2010	103.3	3.3	1.0	105.2	5.2	2.8
2011	107.3	3.8	0.7	110.6	5.1	2.0
2012	111.5	4.0	1.7	114.4	3.5	1.2
2013	116.4	4.4	2.1	118.4	3.5	1.2
2014	120.9	3.9	1.2	123.2	4.1	1.4
2015	125.1	3.5	1.8	126.9	3.0	1.3
2016	129.2	3.3	1.9	130.1	2.5	1.1
2017	133.0	2.9	1.2	133.7	2.8	1.1
2018	136.7	2.8	0.9	136.2	1.8	-0.1
2019	140.8	3.0	1.4	139.4	2.4	0.7
2020	145.4	3.3	1.9	142.5	2.2	0.9
Forecasts						
2021	148.6	2.2	0.8	143.7	0.8	-0.7
2022	151.8	2.1	0.8	145.4	1.2	-0.1
2023	155.4	2.4	0.6	147.8	1.7	-0.1
2024	159.8	2.8	0.6	151.2	2.3	0.1
2025	164.6	3.0	0.9	155.6	2.9	0.7
2026	169.6	3.0	0.9	160.1	2.9	0.8
	Compound Annual Growth Rates					
2010-2020	3.5		1.5	3.1		1.1
2020-2026	2.6		0.8	2.0		0.1
2021-2026	2.7		0.8	2.2		0.3

Source: BIS Oxford Economics, ABS

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

In **Victoria**, the state's construction sector has recorded higher growth (in overall work done terms) than the national average since FY15 inclusive. This has resulted in higher construction WPI outcomes in 5 out of the past 6 years, FY18 being the exception. Not only did higher growth in construction activity drive higher wages growth, but much higher EBA outcomes in Victoria's construction sector also contributed significantly to the comparatively higher wages growth in the state over the past few years.

Recently, the ABS wage data showed that the construction WPI recorded zero growth in the June quarter 2020, but this was a better outcome than the Australian construction WPI, which fell -0.5% in the June quarter, which was the first quarterly decline since the inception of the WPI in 1997. However, we are now forecasting Victoria's overall construction activity to suffer sharp declines over FY21, FY22 and FY23 – with a much worse performance than the national average in those years. We are then forecasting a relatively strong recovery over FY24 and FY25 to outstrip the national

average, before weakening in FY26. This will see Victoria's construction WPI growth lag the national average over FY22 to FY24, before slightly outpacing the national increases in FY25 and FY26. Higher construction sector EBAs in the state (compared to the national average) will limit the comparative weakness in overall construction WPI growth over the next 2-3 years, with EBAs approved over the past 1 to 3 years 0.5% to 0.6% higher than the national average.

Overall, our forecast is for the Victorian construction WPI to average 2.2% over the five-year period from FY22 to FY26 inclusive – with the growth in real wages forecast to average 0.3% over the same period (see Table 5.2). This WPI forecast includes the impact from SG increases of -0.32% on the construction WPI in each of the five year period to FY26.

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 relates 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 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 2019, the minimum wage was increased by 3.1%. This followed rises of 3.5%, 3.3% and 2.4% respectively in July 1 of 2018, 2017 and 2016. 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 top-down macroeconomic modelling methodology becomes more relevant beyond the next 2-3 years.

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