



**APPENDIX H**  
*Labour Cost Escalation Forecasts to 2016/17 -  
Australia and Queensland*  
November 2010



# Labour Cost Escalation Forecasts to 2016/17 – Australia and Queensland

Prepared by BIS Shrapnel for Powerlink Queensland



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ECONOMICS

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## SUMMARY

- BIS Shrapnel was engaged by Powerlink Queensland to provide an expert opinion on the outlook for a range of labour cost escalators relevant to electricity networks in Queensland over the seven year period from 2010–11 to 2016–17. Table 1 presents a summary of the annual escalation (in year average terms) for the relevant escalators in both nominal and real terms; the latter adjusted for a CPI average of 3.1 per cent over Powerlink's next revenue reset period ie 2012–13 to 2016–17 (inclusive).
- The escalator for Powerlink's internal network-related labour – who include a range of skilled labour involved in construction, maintenance, design and operation of the electricity network — is movements in average weekly ordinary time earnings (AWOTE) for the electricity, gas and water (EGW) sector. As over 80 per cent of employees in the EGW sector receive their pay increases via collective agreements, which run for around three years, the industrial relations strength of unions in the sector and recent inflation outcomes and inflationary expectations are key influences for wages. National EGW AWOTE is forecast to ease over 2010–11 to 4.8 per cent, in a lagged response to the easing in skilled labour shortages and lower CPI inflation in 2009, which led to lower increases in the recent and current rounds of enterprise bargaining agreements (EBAs). However, EGW wages are forecast to strengthen over the three years to 2013–14 as the demand for labour in the EGW sector, construction, mining and manufacturing sectors (the latter three sectors compete with EGW for similarly skilled labour) all pick up as the economy and investment recover solidly. Overall, Australian EGW AWOTE growth is projected to average 5.1 per cent per annum over the next seven years, with Queensland matching the national average. Over the five years from 2012–13 to 2016–17, EGW AWOTE growth in Queensland is forecast to average 5.3 per cent per annum, slightly faster than the national EGW average.
- In the summary table below (and a number of other tables in this report), wage movements in terms of the labour price index (LPI) are also provided for the relevant industry sectors (and for the national, or 'all industries' average). These forecasts are provided for comparison purposes (e.g. to compare with LPI projections provided to the Australian Energy Regulator), but BIS Shrapnel believes that AWOTE is the wage measure that best reflects the increase in wage cost changes (or unit labour costs, net of productivity increases) for Powerlink as AWOTE measures both the changes in the price of grades of specific labour *and* the changes in skill levels (for which employees are promoted to higher grades, at a higher cost to the enterprise). The labour price index only measures changes in the *price* of labour, or wage rates, for specific occupations or job classifications, which are then aggregated into a measure of the collective variations in wage *rates* made to the current occupants of the *same* set of specific jobs. The LPI, therefore, reflects pure price changes, but does not capture changes in skill levels and movements across grades in an enterprise or industry.
- The escalator chosen for Powerlink's internal general labour — which includes mainly clerical/administration staff providing mainly administration and corporate services — is movements in average weekly ordinary time earnings (AWOTE) in the Business Services sector. The Business Services (BS) sector is comprised of the Professional, Scientific and Technical Services sector and Administration and Support Services sector. These two sectors comprised the bulk (over 80%) of the pre-2006 industry classification of the Property and Business Services sector. Wages growth in the BS sector slowed abruptly in 2009–10 as the global financial crisis (GFC) hit profits and the demand for labour in the sector during 2008–09. There is usually a lag of around a year in the response of wages to a weakening/strengthening of relevant economic conditions in the BS sector. Following a recovery in the overall economy and BS employment in 2009–10, BS wages growth is



forecast to pick up in 2010–11, before accelerating thereafter. With the demand for labour to strengthen over the medium term as firstly residential investment and then business investment recovers, BS wages growth is forecast to accelerate and peak in 2013–14 before easing.

- Over the next seven years, BS wages are forecast to average 5.4 per cent per annum for total Australia. Queensland BS wages growth is forecast to be weaker than the national average over 2010–11 to 2011–12 due to relatively weaker investment and economic growth in the state. After this period, Queensland BS wages growth will generally outpace the national average due to stronger economic and investment growth, largely due to another major round of resources investment. BS wages growth in Queensland is forecast to average 5.9 per cent per annum for the five-year period from 2012–13 to 2016–17 inclusive.

**Table 1: Summary – Labour Cost Escalation Forecasts**

(percent change, year average, year ended June)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	7yr Avg (f)	5 yr Avg (g)
	Actuals	Forecasts								
<b>NOMINAL PRICE CHANGES</b>										
<u>1. Internal Network-related Labour</u>										
<b>EGW AWOTE - Queensland (a)</b>	4.6	4.7	4.8	5.3	5.6	5.2	5.0	5.2	5.1	5.3
EGW LPI - Queensland (a)	4.5	4.5	4.7	5.1	5.2	4.9	5.0	4.9	4.9	5.0
EGW AWOTE - Australia (b)	7.7	4.8	4.9	5.3	5.4	5.2	5.0	5.3	5.1	5.2
EGW LPI - Australia (b)	4.4	4.5	4.7	5.1	5.1	4.8	4.6	4.9	4.8	4.9
<u>2. Internal General Labour</u>										
<b>Business Services AWOTE - Qld (c)</b>	2.3	4.2	4.2	6.2	6.4	5.6	5.1	6.2	5.4	5.9
Business Serv. AWOTE - Aust. (b)	6.1	4.6	4.3	6.1	6.2	5.4	5.1	6.1	5.4	5.8
Business Serv. LPI - Australia (b)	2.9	3.6	3.9	4.4	4.6	3.6	4.1	4.5	4.1	4.2
<u>3. External Labour</u>										
<u>(i) for Construction-related Projects</u>										
<b>Construction AWOTE - Qld (d)</b>	8.2	4.4	4.8	5.6	7.0	5.8	4.9	5.6	5.5	5.8
Construction LPI - Queensland	2.9	3.4	3.9	5.2	5.4	4.8	4.2	4.8	4.5	4.9
Construction AWOTE - Australia (b)	7.7	5.0	5.0	5.9	6.8	5.7	5.0	5.8	5.6	5.8
Construction LPI - Australia (b)	3.3	3.8	4.2	5.2	5.2	4.6	4.3	5.0	4.6	4.8
<u>(ii) for Non-construction Activities</u>										
<b>Business Services AWOTE - Qld (c)</b>	2.3	4.2	4.2	6.2	6.4	5.6	5.1	6.2	5.4	5.9
Business Serv. AWOTE - Aust. (b)	6.1	4.6	4.3	6.1	6.2	5.4	5.1	6.1	5.4	5.8
Business Serv. LPI - Australia (b)	2.9	3.6	3.9	4.4	4.6	3.6	4.1	4.5	4.1	4.2
Consumer Price Index (headline) (e)	2.3	2.7	3.0	3.4	3.2	2.6	2.9	3.2	3.0	3.1
<b>REAL PRICE CHANGES</b>										
<u>1. Internal Network-related Labour</u>										
<b>EGW AWOTE - Queensland (a)</b>	2.3	2.0	1.8	1.9	2.4	2.6	2.1	2.0	2.1	2.2
EGW LPI - Queensland (a)	2.2	1.7	1.7	1.6	2.0	2.2	2.1	1.7	1.9	1.9
EGW AWOTE - Australia (b)	5.3	2.1	1.9	1.9	2.2	2.6	2.1	2.1	2.1	2.2
EGW LPI - Australia (b)	2.1	1.8	1.7	1.7	2.0	2.1	1.8	1.7	1.8	1.9
<u>2. Internal General Labour</u>										
<b>Business Services AWOTE - Qld (c)</b>	0.0	1.5	1.2	2.8	3.2	3.0	2.2	3.0	2.4	2.8
Business Serv. AWOTE - Aust. (b)	3.8	1.8	1.3	2.7	3.1	2.8	2.2	2.9	2.4	2.7
Business Serv. LPI - Australia (b)	0.6	0.9	0.9	1.0	1.5	1.0	1.2	1.3	1.1	1.2
<u>3. External Labour</u>										
<u>(i) for Construction-related Projects</u>										
<b>Construction AWOTE - Qld (d)</b>	5.8	1.7	1.8	2.2	3.9	3.2	2.0	2.4	2.5	2.7
Construction LPI - Queensland	0.5	0.6	0.9	1.8	2.2	2.1	1.3	1.6	1.5	1.8
Construction AWOTE - Australia (b)	5.3	2.3	2.0	2.4	3.7	3.1	2.1	2.6	2.6	2.8
Construction LPI - Australia (b)	0.9	1.0	1.2	1.8	2.1	1.9	1.4	1.8	1.6	1.8
<u>(ii) for Non-construction Activities</u>										
<b>Business Services AWOTE - Qld (c)</b>	0.0	1.5	1.2	2.8	3.2	3.0	2.2	3.0	2.4	2.8
Business Serv. AWOTE - Aust. (b)	3.8	1.8	1.3	2.7	3.1	2.8	2.2	2.9	2.4	2.7
Business Serv. LPI - Australia (b)	0.6	0.9	0.9	1.0	1.5	1.0	1.2	1.3	1.1	1.2

(a) Electricity, Gas & Water (EGW) Average Weekly Ordinary Time Earnings (AWOTE) for Queensland. EGW LPI (Labour Price Index) not available by state so forecasts are based on national EGW LPI forecasts, and are provided for comparison.

(b) Australian sector wage forecasts provided for comparison.

(c) Business Services (BS) Average Weekly Ordinary Time Earnings (AWOTE) for Queensland. Movements in BS wages were used rather than wage movements for Administrative and Support Services (ASS) and Professional, Scientific and Technical Services (PSTS) because the state data for ASS and PSTS only started in June quarter 2009. The ASS and PSTS sectors are 'new' sectors under the revised 2006 ANZSIC industry classifications and comprised the bulk of the Property & Business Services sector (the 'old' classification under the previous 1993 ANZSIC).

(d) Construction Sector AWOTE for Queensland.

(e) Weighted Average of 8 Capital Cities.

(f) Average Annual Growth Rate for 2009/10 to 2016/17 inclusive.

(g) For next regulatory period. Average Annual Growth Rate for 2012/13 to 2016/17 inclusive.

- For Powerlink's external labour escalation for construction related projects, construction sector AWOTE was chosen. Construction AWOTE normally tracks or lags (by around a year) total construction activity. Currently, construction activity is being held up by public construction, with weak growth expected in 2010–11 as rising dwelling building offsets public construction activity declines. After this period, construction activity is forecast to strengthen as private non-dwelling construction joins strongly rising dwelling construction to result in solid rises in total activity over 2011–12 to 2013–14, before easing. Construction wages growth will track this cycle. Over the next seven years, construction AWOTE growth is forecast to average around 5.6 per cent per annum, with Queensland average slightly lower at 5.5 per cent per annum. Construction AWOTE growth in Queensland over the five years from 2012–13 to 2016–17 forecast to average 5.8 per cent per annum.
- In summary, the growth in overall and sectoral labour costs over the five year period from 2012–13 to 2016–17 is projected to resemble the five year period from 2004–05 to 2008–09, when growth in both AWOTE and the LPI was relatively high, both in nominal and real terms. This period was characterised by relatively strong employment growth, low unemployment (close to, or under 5%), a mining investment boom, a buoyant construction sector, a tight labour market and widespread skilled labour shortages, particularly for professions and occupations relevant to the Electricity, Gas and Water, Construction and Mining sectors. BIS Shrapnel's macroeconomic and industry sector forecasts indicate similar conditions can be expected over the next regulatory period, with competition for scarce labour pushing up wages growth in the Electricity, Gas and Water sector, and in the Mining, Construction and (to a lesser extent) Manufacturing sectors which compete for similarly skilled labour.

## 1. INTRODUCTION AND OUTLINE OF REPORT

BIS Shrapnel was engaged by Powerlink Queensland (hereinafter referred to as Powerlink) to provide an opinion on the outlook for a range of labour cost escalators at both the Australian and Queensland level. This report has been prepared in accordance with the Federal Court of Australia 'Expert Witness' guidelines. The real and nominal labour cost escalators sought by Powerlink can be grouped into:

- Internal Labour (comprising Electricity Network and General Labour escalation);
- External Labour (mainly consisting of outsourced Contractor escalation rates for both construction and non-construction related activities); and
- Competing sectors ie wage escalation for construction, mining and manufacturing sectors.

The seven year forecasts, covering the period from 2010–11 to 2016–17, will be used by Powerlink in the preparation of cost estimates for operating and capital expenditure. The latter will be included in the regulatory submission to the Australian Energy Regulator (AER) in May 2011.

The structure of this report is as follows:

- The **Summary** section presents an overview of the outlook for the labour cost escalators and a summary table.
- **Section 2** provides an overview of the macroeconomic outlook for Australia and Queensland, including a brief commentary of the logic and key drivers, plus forecasts of key economic variables.
- **Section 3** has forecasts for national CPI inflation and an outlook for national ('all industries') wages.
- **Section 4** provides a description of different wage measures and BIS Shrapnel's wage model. In this section, we also outline some deficiencies in utilising purely econometric models to predict wage inflation in the utilities sector.
- **Section 5** provides an outlook of wages growth for 'Powerlink's internal labour' which is differentiated by forecasts of wages growth for its specialist ie electricity network related labour and general labour. The escalator which BIS Shrapnel used for specialist labour is wages growth in the Electricity, Gas and Water Supply (EGW) sector for Queensland. General labour includes clerks/administration staff who provide mainly administration and corporate support services and its wage escalation is based on a weighted average of forecasts of wages in the Administrative and Support Services (ASS) and Professional, Scientific and Technical Services (PSTS) sectors (ie 'business services') for Queensland.
- **Section 6** provides an outlook for Powerlink's 'external labour' wage forecasts. For external contractors used mainly on construction and maintenance activities, wages growth in the construction sector was used as the escalation. For external labour used in non-construction activities (covering mainly business services and professional consultants), wages growth for business services was used as the escalator, ie the same as Powerlink's internal general labour escalation.
- **Section 7** provides an outlook for wages growth for the manufacturing and mining sectors — the two sectors (together with the construction sector) competing with the EGW sector for skilled labour.

## 2. MACROECONOMIC OVERVIEW — AUSTRALIA AND QUEENSLAND

### 2.1 Key Points

- The Queensland economy will exhibit a modest recovery over the next two years, from its recent weakness, and is then forecast to grow strongly over the five year period from 2012–13 to 2016–17 — Queensland Gross State Product is forecast to average 4.6 per cent per annum over this period, compared to 3.8 per cent per annum for Australian GDP.
- Key drivers of this growth in Queensland will be dwelling building (itself driven by a deficiency of dwelling stock), a mining investment boom (driven by continued strong economic growth in China and India, and later by a recovery in US and Europe), a broader pick-up in business investment, a return to higher levels of population growth and infrastructure investment to support the resources investment and population growth.
- Moderate to strong employment growth over the next few years at both the Australian and Queensland level will result in the unemployment rate falling below 4% by mid 2013, and with the national unemployment rate projected to remain at 3% to 5% over the following five years to 2016–17, capacity constraints and widespread labour shortages will be a feature of the macroeconomic environment.

### 2.2 The Australian Economy

#### 2.2.1 Current state of play

The swift implementation of the government's stimulus package, steep cuts to interest rates and the strength of Chinese demand all combined to keep Australia out of recession in 2009. These drivers will underpin solid economic growth of 3.4 per cent in 2010, but the huge stimulus spending has now peaked and will be wound back through 2010 and beyond, while interest rates will be raised toward neutral over the next year or so. Nonetheless, the recovery is well underway:

- Confidence has picked up with a run of good news.
- Businesses have raised equity to reduce gearing, now leaving them in a position to start investing again — but it will take time to flow through to real activity.
- Residential property has already rebounded and that will now flow on to construction.
- Constraints on the availability of debt are slowly easing with improved gearing and improved demand affecting perceptions of risk.

But it won't be all plain sailing for the economy:

- The household handouts have ended, leaving retail sales a little fragile — but that will improve.
- The high \$A is damaging the competitiveness and viability of domestically produced tradeables industries, particularly manufacturing, tourism and other tradeable services.
- The build-up of government debt will later transform into a period of tightening, affecting public investment.

The resilience of the labour market was the big surprise in 2009 and into 2010, with employers reducing hours and switching workers from full-time to part-time, rather than shedding previously scarce skilled workers, many of whom were attained at great difficulty and expense during the earlier labour shortage. Employment growth is expected to average 2.4 per cent over 2010. Meanwhile, labour force growth is expected to average 2.2 per cent which will see the unemployment rate average around 5.2 per cent over 2010.

Table 2.1: Australia – Key Economic Indicators, Financial Years

Year Ended June							Forecasts						
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>EXPENDITURE ON REAL GDP</b>													
<b>Consumption</b>													
– Private	4.4	2.8	4.2	4.1	0.9	2.7	3.5	4.3	3.9	2.2	3.1	4.3	4.5
– Government	3.2	2.5	3.7	3.2	2.8	4.6	4.1	2.9	2.2	2.7	3.2	3.2	3.6
<b>Private Investement</b>													
– Dwellings	-0.8	-4.3	1.9	1.3	-1.9	1.7	5.0	10.4	8.6	0.9	-3.1	6.8	7.7
– Real Estate Transfer Exp.	-16.6	2.4	-0.9	0.2	-15.6	11.1	7.6	8.1	-9.5	-5.2	11.5	5.5	-2.0
– New Non-Dwelling Building (+)	4.5	12.4	7.9	9.6	0.4	-15.1	-3.3	4.7	8.1	3.4	7.1	8.6	12.9
– New Engineering Construction (+)	15.8	31.3	17.2	9.2	17.7	1.9	1.8	6.8	12.2	9.6	1.1	-3.9	-1.9
– New Equipment (+)	15.0	15.3	3.0	19.5	0.3	-3.1	8.5	11.5	15.5	3.7	4.5	15.0	17.0
– Livestock	3.8	1.1	-20.4	-4.6	14.1	4.5	8.3	-9.4	11.0	1.5	9.0	-20.0	10.0
– Intangible Fixed Assets	7.6	8.3	15.8	15.1	6.3	7.0	8.9	10.7	15.1	6.4	6.7	11.5	15.0
– New Business Investment (+)	11.2	15.7	7.8	14.3	4.6	-2.8	5.0	8.9	13.5	5.3	4.6	9.0	12.5
<b>Total New Private Investment (+)</b>	<b>4.5</b>	<b>8.6</b>	<b>5.6</b>	<b>9.9</b>	<b>1.7</b>	<b>-1.0</b>	<b>5.2</b>	<b>9.2</b>	<b>10.9</b>	<b>3.7</b>	<b>3.2</b>	<b>8.4</b>	<b>10.8</b>
<b>New Public Investment (+)</b>	<b>11.2</b>	<b>7.9</b>	<b>4.9</b>	<b>9.6</b>	<b>10.2</b>	<b>26.6</b>	<b>0.2</b>	<b>-10.4</b>	<b>-4.4</b>	<b>1.3</b>	<b>6.9</b>	<b>4.7</b>	<b>6.3</b>
<b>Domestic Demand</b>	<b>4.7</b>	<b>4.3</b>	<b>4.5</b>	<b>5.6</b>	<b>1.8</b>	<b>3.3</b>	<b>3.8</b>	<b>4.3</b>	<b>4.9</b>	<b>2.6</b>	<b>3.3</b>	<b>5.2</b>	<b>6.1</b>
Stock Contribution (*)	0.1	-0.3	0.3	0.2	-1.0	0.6	0.2	0.0	0.0	-0.3	0.3	0.1	0.1
<b>Gross National Expenditure (GNE)</b>	<b>4.6</b>	<b>4.1</b>	<b>4.8</b>	<b>5.8</b>	<b>0.9</b>	<b>3.9</b>	<b>4.0</b>	<b>4.3</b>	<b>4.9</b>	<b>2.3</b>	<b>3.6</b>	<b>5.2</b>	<b>6.2</b>
<b>Exports</b>	<b>2.9</b>	<b>2.3</b>	<b>4.0</b>	<b>3.9</b>	<b>1.2</b>	<b>1.8</b>	<b>6.6</b>	<b>6.0</b>	<b>6.7</b>	<b>4.3</b>	<b>5.2</b>	<b>5.5</b>	<b>6.0</b>
<b>Imports</b>	<b>12.3</b>	<b>7.3</b>	<b>9.2</b>	<b>14.1</b>	<b>-2.9</b>	<b>5.4</b>	<b>8.6</b>	<b>8.8</b>	<b>11.2</b>	<b>3.2</b>	<b>3.8</b>	<b>10.7</b>	<b>12.8</b>
External Contribution (*)	-1.8	-1.0	-1.1	-2.1	0.9	-0.7	-0.4	-0.6	-1.1	0.2	0.3	-1.3	-1.8
Statistical Discrepancy (*)	0.0	0.0	0.0	0.0	-0.6	-1.0	0.2	0.4	0.0	0.2	0.1	0.2	0.1
<b>GDP</b>	<b>2.8</b>	<b>3.1</b>	<b>3.8</b>	<b>3.7</b>	<b>1.2</b>	<b>2.3</b>	<b>3.8</b>	<b>4.1</b>	<b>3.9</b>	<b>2.7</b>	<b>4.0</b>	<b>4.1</b>	<b>4.5</b>
Farm GDP	4.7	3.0	-18.0	8.1	17.8	1.1	3.9	-3.3	7.2	-3.6	5.6	-6.0	8.0
Non-Farm GDP	2.8	3.1	4.3	3.6	0.9	2.3	3.8	4.3	3.8	2.8	4.0	4.3	4.5
<b>Inflation</b>													
CPI (Yr Avg)	2.4	3.2	2.9	3.4	3.1	2.3	2.7	3.0	3.4	3.2	2.6	2.9	3.2
CPI (Jun on Jun)	2.5	4.0	2.1	4.5	1.5	3.1	2.7	3.1	3.5	2.7	2.7	3.0	3.6
Baseline (Jun on Jun)	2.3	2.5	2.7	3.6	3.6	2.8	3.1	3.0	3.5	3.0	2.7	3.0	3.6
Labour Price Index (Jun on Jun)	4.0	4.2	4.0	4.2	3.8	3.1	3.9	4.0	4.5	4.1	3.9	3.9	4.3
Labour Price Index (Yr Avg)	3.7	4.1	3.9	4.1	4.1	3.1	3.7	3.8	4.3	4.4	3.7	3.9	4.3
Average Weekly Earnings (Yr Avg)	4.4	4.6	3.6	4.9	5.5	5.6	4.5	4.2	4.9	5.5	4.9	4.8	5.3
<b>Employment</b>													
– Employment Growth (Yr Avg)	2.9	2.9	3.1	3.0	1.6	1.4	2.5	2.5	2.9	1.9	0.9	2.3	3.0
– Employment Growth (May on May) (%)	3.4	2.5	3.3	2.7	0.9	2.2	2.4	2.6	3.0	0.8	1.6	2.7	2.9
– Unemployment Rate (May) (%)	5.1	4.8	4.3	4.3	5.8	5.2	5.3	4.8	3.9	4.4	4.5	3.8	2.9
<b>Labour Productivity Growth</b>													
– Total	0.0	0.2	0.7	0.7	-0.5	0.9	1.2	1.6	1.0	0.7	3.1	1.8	1.5
– Non-farm	-0.1	0.2	1.2	0.6	-0.8	0.9	1.2	1.7	0.9	0.9	3.1	2.0	1.4
<b>Interest Rates (30 June)</b>													
– Cash Rate	5.5	5.8	6.3	7.3	3.0	4.5	4.8	5.5	6.5	5.8	4.5	nf	nf
– 90-day Bank Bill	5.7	6.0	6.4	7.8	3.3	4.9	5.0	5.7	6.7	5.7	4.6	5.8	7.9
– 10-year Govt. Bonds	5.1	5.8	6.3	6.5	5.5	5.3	5.2	5.8	6.4	5.3	5.2	6.3	6.8
– Prime Overdraft (upper rate)	9.0	9.2	9.7	11.5	8.8	10.3	10.6	11.0	11.3	10.6	9.3	nf	nf
– Housing (variable)	7.3	7.6	8.1	9.5	5.8	7.4	7.7	8.3	9.1	8.4	7.1	nf	nf
<b>Exchange Rates</b>													
– US\$ per A\$ (Yr Avg)	0.75	0.75	0.79	0.90	0.75	0.88	0.95	0.94	0.96	0.90	0.81	0.81	0.85
– US\$ per A\$ (30 June)	0.76	0.74	0.85	0.96	0.81	0.85	0.95	0.94	0.98	0.81	0.85	nf	nf
– SDRs per A\$ (30 June)	0.52	0.51	0.56	0.59	0.52	0.58	0.61	0.62	0.67	0.55	0.57	nf	nf
– Trade Weighted Index of A\$: 1970 = 1000 (30 June)	64.5	62.2	68.9	73.4	64.7	67.3	71.7	72.4	76.8	65.9	68.4	nf	nf

Source: BIS Shrapnel 'Long Term Forecasts:2010-2025', ABS

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

\*Contribution to growth in GDP

Through 2010, we expect to see the global economy begin its recovery, leading to increased demand for minerals and raw materials. However, the timing of this increased demand is uncertain, with China choosing to stockpile raw materials when prices fell. With the additional capacity that has recently been added to mining infrastructure, Australia will be in a prime position to benefit from this higher demand.

### 2.2.2 Outlook for the Australian economy

Beyond 2009–10, the medium term outlook is generally positive with strong growth expected to return in 2010–11. The driver of stronger economic growth will be a dwelling construction upswing. Over recent years, a substantial rise in the underlying demand for housing in Australia (particularly across the eastern seaboard) has led to under-building and substantial pent-up demand in housing markets, with escalating rents and very low rental vacancies common. This pent-up demand has been unleashed recently with lower interest rates and increased first home owner grants (FHOG) fuelling higher property prices (particularly in first home owner markets), and a recovery in dwelling approvals and commencements.

The dwelling upswing and recovering employment will see income growth return from 2010–11. With households cutting discretionary spending over 2008–09 and 2009–10, we expect that growing incomes will unleash a degree of pent-up demand acquired throughout these previous years where households delayed expenditure to add to their savings. Nevertheless, the initial recovery in consumer spending will be modest, given reluctance by consumers to increase debt. Household final consumption expenditure is expected to pick up through 2010–11 and subsequently record strong growth over 2011–12 and 2012–13.

The 2008–09 downturn led to a sharp drop in capacity utilisation, excess production capacity and considerable slack in labour markets, the latter manifest in the shift from full-time to part-time workers and the lower average hours worked per employee. In the initial stages of the upswing much of the increases in the output of goods and services will come from higher utilisation of spare production capacity and under-utilised labour — the latter via increased average hours worked and the conversion of part-time workers back to full-time. Some production increase will come from new capacity coming on-stream, while there will also continue to be areas of skilled labour shortages. But overall, during the upswing, the rising capacity utilisation will realise higher productivity, lower unit costs, higher profits and lower inflation.

However, because the Australian economy entered the downturn with little excess supply capacity and then experienced only a shallow downturn, it will take less time for capacity constraints to re-emerge and inflationary pressures to build up. The unemployment rate is forecast to fall below 5 per cent by early 2011, and widespread skilled labour shortages are expected to become serious during 2011–12. The labour market will tighten significantly during 2012–13, with the unemployment rate dipping below 4 per cent by early 2013 on the back of strong employment growth.

The RBA has already begun to unwind its 'emergency' expansionary monetary policy settings. It will move interest rates back towards a more neutral setting over 2010 and 2011 as the economic recovery gains sufficient traction over the next two years. Interest rates are then expected to continue to rise through 2012–13 as the RBA heads off an escalation in price pressures. Domestic demand is projected to be growing by close to 5 per cent through 2012, as strong growth in consumer demand and an upswing in business investment coincides with a further strong year of dwelling building activity.

#### **Mild downturn in 2014, but a quick rebound into a boom thereafter**

The persistence of high household debt levels means that households remain interest rate sensitive and disposable income growth will weaken through 2013. Consumer spending is also

expected to weaken and, subsequently, housing activity is forecast to enter a mild downturn as a result of affordability issues and also a lack of demand following a strong growth phase. Generalised business investment will moderate through 2013–14 in line with weakening profits, but non-dwelling construction will be largely unaffected. As excess capacity is increasingly absorbed and the hangover from the financial crisis eases, the conditions for a recovery in non-residential markets will be set and activity is expected to gain momentum from 2014–15.

We believe the Australian economy is setting up for a major boom later this decade. Resources investment will be driven by China's and India's development, while more dwellings will be needed to support high immigration levels, with a major round of non-residential building and infrastructure needed to support the former and alleviate existing bottlenecks.

## **2.3 The Queensland Economy**

### **2.3.1 Current state of play**

Prior to the global financial crisis (GFC), the Queensland economy, buoyed by exceptionally strong investment spending, had been outperforming the Australian average since 2003. Annual growth in Gross State Product (GSP) averaged 4.0 per cent over the five years from 2004–05 to 2008–09, compared to the Australian average of 2.9 per cent per annum.

The investment boom had been underpinned by the surge in resources-related capital expenditure and by the acceleration in population growth, both of which led to large increases in infrastructure and non-residential building construction, while dwelling building has been sustained after the initial surge in 2001–02 and 2002–03.

However, the Queensland economy appears to have suffered the worst impacts among the states from the GFC. Business investment, in particular, was hit hard, with real business investment in the December quarter 2009 down almost 18 per cent from the peak in December quarter 2008, with a further decline in the March quarter 2010. Dwelling investment in the state was an early casualty — due to high interest rates and the GFC impacts on consumer confidence — falling 7.6 per cent in 2008–09, although it has since rebounded sharply over the second half of 2009. A stalling in public investment through 2008–09 didn't help the overall investment picture, although it too has strengthened over 2009–10.

The end result of this overall investment decline has been weak employment growth and household consumption expenditure. Even government consumption expenditure growth — which normally outpaces the national average — has been relatively weak by Queensland standards. State final demand therefore recorded a small decline in 2009–10. Exports appear to be the only area where Queensland is doing comparatively better, although the weakness in import growth will also help add to Gross State Product.

Nevertheless, the Queensland economy appears to have recently turned the corner, with employment growing strongly over the December 2009 to May 2010 period. The worst of the GFC impacts have passed, although remnants of the GFC still remain. Government investment will underpin growth in the near term until private investment begins to recover and again take over as the key driver of growth from 2011.

Despite weaker economic growth and public sector finances, the Queensland state government has maintained its record capital works program. We expect total government investment, which grew by 12.9 per cent in 2009–10, and dwellings investment to be the key drivers of growth in the near term. However, public activity is expected to decline from record levels in 2010–11 as major projects, many of which were started pre-GFC, move towards completion and the government begins to rein in spending.

A rebound in global growth, while still fragile, has led to an improvement in the short to medium term outlook for Queensland's resource and resource related sectors. Despite the GFC, the continued need to fuel ongoing industrialisation in China as well as Queensland's favourable proximity to countries in the region with high dependency on energy resource imports (Japan, Korea & China) will continue to underpin resource investment decisions across the state for a number of years.

### 2.3.2 Outlook for the Queensland economy

State final demand declined in 2009–10, with Gross State Product estimated to be barely positive. Nonetheless, a stronger period of growth is expected to emerge from 2010–11, underpinned by a nationwide recovery in dwelling activity and strengthening overseas demand, including for commodities. As public investment slows, private investment will take over as the key driver of growth from 2011–12. Engineering construction and equipment investment will be particularly strong from 2012–13, followed soon after by non-dwelling building.

Dwelling construction will pick up through 2010 and strengthen thereafter. A low interest rate environment, the FHOG and one of the highest dwelling deficiencies across the states has provided the initial impetus for growth. However, there are concerns within the residential construction sector in Queensland that new developer charges by the state government may act as a constraint to land development in the state, and have negative consequences similar to what occurred in NSW since the mid-2000s. We still expect dwelling construction to continue its recovery and strengthen next year as investor and upgrader demand returns, encouraged by a stronger Queensland economy and the shortage of housing (equal to almost one year of underlying demand by mid 2011). Overall, private dwelling construction is forecast to surge a cumulative 35 per cent over the four years to 2013–14 before higher interest rates begin to drag down growth.

A sharp recovery in demand for resources, led predominately by China, has improved the outlook considerably in the mining and construction sectors, with a solid demand and price outlook and the prospect of easing financial constraints auguring well for the next round of projects. Activity has already picked up in the coal and related infrastructure (rail and port) sectors, but excess capacity among the base metals, mining and other manufacturing sectors means there is little scope for an early broad-based pick-up in mining and manufacturing investment. Overall, private engineering construction has held up well so far, but is set for a sharp decline in 2010–11 as the \$2.1 billion Yarwun alumina refinery expansion and a number of large infrastructure investments are completed and are only partially offset by increased coal investment activity. Financial year 2011–12 is expected to remain weak but a recovery is predicted from 2012–13, with the strength of the upturn boosted by potential coal seam LNG developments. Strong growth in engineering construction is projected over 2012–13 to 2014–15, before easing in 2015–16 and 2016–17, keeping Queensland construction activity at high levels over the medium term (also see charts 5.2 and 5.3)

We expect a sharp and prolonged downturn in non-residential building activity from 2009–10 onwards. The financial crisis caused a premature end to the boom, as project finance dried up and then demand slowed. The current round of projects have begun winding up and activity is not expected to recover until 2012–13 when excess capacity across a number of sectors is absorbed and financial conditions are sound.

Another concern is that the high Australian dollar will dampen non-commodity export volumes going forward. Moreover, the high dollar (if it persists) will also continue to weigh down on industries such as (inbound) tourism and education which had risen to a higher plane over the last decade in terms of contribution to GSP. On the other hand, healthy rural conditions are likely for the next one-to-two years following heavy rains and floods throughout Queensland, and this will provide a boost to exports and GSP.



**Table 2.2: State Economic Indicators**

Year Ended June	Annual Percentage Change										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>QLD</b>											
State Final Demand	7.2	7.1	1.8	-0.9	2.1	3.7	5.8	4.7	3.9	5.0	7.5
Gross State Product (GSP)	5.5	4.7	0.3	0.2	3.0	3.7	4.6	4.3	4.6	4.2	5.4
Employment Growth	4.6	2.6	2.4	0.6	2.1	1.9	3.4	3.2	1.5	2.5	3.5
<b>AUST</b>											
Australian Domestic Demand	4.5	5.6	1.8	3.3	3.8	4.3	4.9	2.6	3.3	5.2	6.1
Gross Domestic Product (GDP)	3.8	3.7	1.2	2.3	3.8	4.1	3.9	2.7	4.0	4.1	4.5
Employment Growth	3.1	3.0	1.6	1.4	2.4	2.4	2.9	1.9	0.9	2.3	3.0

Source: ABS, BIS Shrapnel 'Long Term Forecasts: 2010-2025'

**Table 2.3: Queensland Industry Output Forecasts  
(Constant 2007/08 chain volume measures)  
Annual Per Cent Change**

Year Ended June									Forecasts						
	2004	2005	2006	2007	2008	2009	2010e	2011	2012	2013	2014	2015	2016	2017	
Agriculture	8.0	11.8	-3.3	-4.4	1.7	10.4	-5.3	13.4	-0.7	5.1	-0.5	3.5	-1.5	3.0	
Mining	0.1	7.7	-0.1	0.8	0.1	1.0	0.0	6.0	3.4	5.5	5.5	6.7	5.3	6.6	
Manufacturing	2.8	0.4	-0.9	2.1	2.4	-4.9	-2.1	3.1	3.9	3.6	2.1	3.3	4.1	4.9	
Electric., Gas, Water & Waste	4.3	-2.3	5.7	2.9	0.5	4.5	2.7	3.0	2.3	1.2	1.3	2.1	1.8	1.6	
Construction	8.8	0.5	10.6	18.4	8.5	-1.1	-8.6	-1.9	0.0	8.5	11.0	4.1	1.2	10.0	
Wholesale Trade	6.4	6.1	6.9	6.3	0.0	4.6	-2.8	1.5	4.3	5.2	4.8	4.3	5.5	7.6	
Retail Trade	9.4	7.3	1.2	7.2	8.2	3.2	-1.1	2.1	5.4	5.1	2.3	3.5	4.1	5.4	
Accommodation & Food Services	9.8	0.9	5.6	1.5	-0.8	-1.6	-4.1	1.8	5.1	3.6	2.5	4.7	6.0	4.9	
Transport, Postal & Warehousing	4.8	8.8	8.9	3.7	7.0	-0.2	0.9	3.4	5.5	5.8	4.4	4.9	5.6	5.6	
Info. Media & Telecoms.	5.8	2.6	3.4	7.4	6.3	-2.2	-0.9	2.1	6.0	5.3	3.9	5.2	4.3	5.2	
Finance & Insurance	12.6	12.5	9.8	10.5	3.5	-0.7	1.7	2.8	5.0	4.6	4.0	5.2	6.7	5.7	
Rental, Hiring & Real Estate	9.5	1.4	3.5	-1.0	6.4	0.1	1.1	1.9	4.5	4.9	2.2	4.4	7.8	5.0	
Prof., Sci., & Tech. Services	13.2	2.4	1.4	4.4	12.0	0.3	1.6	1.8	2.7	5.2	4.8	3.5	5.2	6.0	
Admin. & Support	17.2	2.2	1.4	11.6	11.8	-4.0	1.4	2.6	4.6	5.7	2.6	3.6	5.1	6.9	
Public Admin. & Safety	3.3	8.4	8.0	3.3	0.1	5.6	-0.5	2.0	2.4	2.0	3.0	3.4	3.5	3.1	
Education & Training	4.7	1.5	1.8	6.6	2.2	2.8	3.0	2.2	3.4	2.7	2.7	3.1	3.5	3.4	
Healthcare & Social Assist.	7.7	5.7	5.3	2.9	8.2	2.5	4.1	5.4	5.2	3.7	4.4	4.8	3.8	5.2	
Art & Rec. Services	14.0	8.4	2.3	5.2	7.9	10.7	-0.4	4.0	6.1	2.6	4.6	4.1	3.4	5.3	
Other Services	0.8	-2.4	3.4	7.0	2.0	2.7	-0.6	3.2	4.2	2.5	3.0	3.1	4.5	3.8	
Ownership of Dwellings	5.4	5.0	4.5	4.5	3.3	3.6	3.0	2.8	3.6	4.2	4.3	4.3	3.8	4.3	
<b>TOTAL - GSP</b>	<b>6.4</b>	<b>5.2</b>	<b>4.5</b>	<b>5.5</b>	<b>4.7</b>	<b>0.3</b>	<b>0.2</b>	<b>3.0</b>	<b>3.7</b>	<b>4.6</b>	<b>4.3</b>	<b>4.6</b>	<b>4.2</b>	<b>5.4</b>	

e: estimate

Source: ABS, BIS Shrapnel Forecasts

All in all, employment and GSP growth is forecast to be weaker than the national average over 2009–10 to 2011–12, but then outpace national growth thereafter. Higher interest rates and a higher Australian dollar over 2013 will combine with a modest downturn in dwelling activity to pull down Queensland's economic and employment growth over 2013–14 and 2014–15. Thereafter, an easing in interest rates, a lower dollar and solid business and infrastructure investment will lead to stronger growth from 2015–16 onwards.

Longer term, Queensland's key economic drivers of higher population growth and continuing infrastructure and resources investment will sustain strong GSP and employment growth.

**Table 3.1: Wages and Prices – Australia  
Year Average Growth**

Year Ended June	Average Weekly Ordinary Time Earnings <sup>(1)</sup>		Labour Price Index 2008/09=100	CPI Headline Inflation (BIS Shrapnel forecasts)		Official Headline CPI <sup>(2)</sup> %CH
	\$/week	%CH		89/90=100	%CH	
1990	521.0	6.9		100.0	8.0	8.0
1991	555.4	6.6		105.3	5.3	5.3
1992	580.8	4.6		107.3	1.9	1.9
1993	591.0	1.8		108.4	1.0	1.0
1994	609.1	3.1		110.4	1.8	1.8
1995	634.9	4.2		113.9	3.2	3.2
1996	663.8	4.6		118.7	4.2	4.2
1997	688.5	3.7		120.3	1.3	1.3
1998	716.0	4.0		120.3	0.0	0.0
1999	741.4	3.5	3.1	121.8	1.3	1.3
2000	765.4	3.2	3.0	124.7	2.4	2.4
2001	804.2	5.1	3.5	132.2	6.0	6.0
2002	847.4	5.4	3.3	136.0	2.9	2.9
2003	890.0	5.0	3.5	140.2	3.1	3.1
2004	931.6	4.7	3.6	143.5	2.4	2.4
2005	972.9	4.4	3.7	147.0	2.4	2.4
2006	1 017.5	4.6	4.1	151.7	3.2	3.2
2007	1 054.1	3.6	3.9	156.1	2.9	2.9
2008	1 106.1	4.9	4.1	161.4	3.4	3.4
2009	1 166.5	5.5	4.1	166.4	3.1	3.1
2010	1 231.3	5.6	3.1	170.3	2.3	2.3
Forecasts						
2011	1 286.9	4.5	3.7	175.0	2.7	3.3
2012	1 340.5	4.2	3.8	180.2	3.0	2.9
2013	1 406.4	4.9	4.3	186.4	3.4	2.8
2014	1 483.8	5.5	4.4	192.3	3.2	2.5
2015	1 556.7	4.9	3.7	197.4	2.6	2.5
2016	1 631.0	4.8	3.9	203.1	2.9	2.5
2017	1 717.2	5.3	4.3	209.6	3.2	2.5
Compound Annual Growth Rates (3)						
1990-2000	3.9			2.2		2.2
2000-2010	4.9		3.7	3.2		3.2
2005-2010	4.8		3.9	3.0		3.0
2010-2017	4.9		4.0	3.0		2.7
2012-2017	5.1		4.1	3.1		2.6

Source: BIS Shrapnel, ABS data

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

(2) RBA Forecasts to December 2012. Beyond 2012, Commonwealth Treasury's forecasts are used.

(3) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

### 3. OUTLOOK FOR AUSTRALIAN INFLATION AND ALL INDUSTRIES WAGES

#### 3.1 Key Points

- Headline Consumer price inflation (CPI) is forecast to average 3.1 per cent per annum over the five years from 2012–13 to 2016–17, due largely to demand inflationary pressures stemming from a strong economy, and partly from wage cost pressures.
- National (all industries) wage inflation is forecast to average 5.1 per cent per annum over the five years from 2012–13 to 2016–17 in terms of average weekly ordinary time earnings for full-time adults (AWOTE), with the national labour price index (LPI) to average 4.1 per cent per annum over the same period.
- The key determinants of nominal wages growth are consumer price inflation, productivity and the relative tightness of the labour market (ie the demand for labour compared to the supply of labour). In this section, we provide our outlook for consumer price inflation in Australia. This, in turn, will provide a context for our outlook for Australia 'all industries' wage inflation.

#### 3.2 Outlook for Consumer Price Inflation

After a period of low annual inflation from late 2008 and through 2009 — due to the slowdown in the domestic economy brought about the GFC — consumer price inflation is on the rise again. Meanwhile, underlying price pressures are sticky downwards suggesting that there is ongoing prevalence of broad based price pressures in the economy. The headline rate rose to 3.1 per cent through-the-year to June 2010 quarter underpinned by the persistent inflationary pressures in particular strong utilities inflation. The 25 per cent increase in tobacco excise in April 2010 also contributed to a high June inflation outcome.

The pick up in recent producer price data indicates a rebuilding of input costs for businesses after a year of consistent declines in Producer Price Index (PPI) inflation. In the March quarter, upstream price pressures rose by 1.0 per cent and a further 0.3 per cent increase in the June 2010 quarter. As a stronger demand environment is predicted over the short-to-medium term, we expect a greater share of producer price inflation being passed on to consumer prices in the period ahead. Meanwhile, housing inflation which comprises rents, utilities (electricity, gas, water and sewerage) as well as property rates and charges and house repairs and maintenance costs is expected to remain firm over the next few quarters.<sup>1</sup>

Rents have been increasing due to a significant deficiency of residential stock, with vacancy rates at near the lowest levels in over a decade across Australia. Dwelling construction in most major capital cities has now fallen to a level where not enough is being built to satisfy underlying demand for dwellings. In our view, rental inflation will be solid over the next one-to-two years due to the persistent deficiency of residential stock, which will put upward pressure on housing and, in turn, non-tradeables inflation.

Moreover, further price resetting in the utilities sector will add to consumer price inflation. Recently, strong population growth and rapidly rising penetration rates of air conditioning in dwellings have been driving strong demand for electricity. This is requiring further expansion of infrastructure to expand supply capability and ensure reliability of the network especially during peak periods. To finance supply expansions and in light of higher costs for raw materials, the industry regulators have approved price increases for utility groups. Growing demand for electricity and the need to finance large utility infrastructure upgrade programs means that this strong uptrend in utilities price growth will continue in the coming quarters, although below the current rates of increases.

<sup>1</sup> The housing component accounts for 19.5 per cent of the overall CPI basket.

Over the next 18 months, we expect food prices to exert upward pressure on tradeables inflation. Food prices are affected by climatic conditions which affect supply (droughts etc) and to a lesser degree petrol prices. Prices are also partly responsive to world prices for grains, meat and dairy products, in particular, and also other traded foodstuff. Therefore prices are also affected by movements in exchange rates.

Adverse weather patterns, rising world incomes (and demand for a western or protein diet), increasing urbanisation and demand for biofuels all contributed to the emergence of a significant demand–supply imbalance which led to a surge in food prices through 2007 – 2008. Increased global supply and weaker demand growth has subsequently seen prices fall back in 2009 and early 2010. In addition, a return to more average growing patterns will ease price pressures further. But a major supply response, particularly for dairy and meat, will take time to come through which will limit the extent of the downward bias to food inflation.

Overall, we are forecasting the headline inflation at 3.0 per cent through-the-year to September 2010 quarter. The September outcome will also partly reflect the 25 per cent increase in tobacco excise duty which came in effect on 30 April. This excise increase effectively adds around 0.2 percentage points to the September quarter CPI. Balancing the rebuild of upstream price pressures and the stabilisation of the labour markets with downward (disinflationary) forces such as a stronger currency, our expectation is that inflation will remain near the RBA's upper target band through to the June 2011 quarter. We forecast annual CPI inflation at 2.9 per cent through-the-year to June 2011.

### **Medium to long term outlook**

Australia's high inflation environment prior to the GFC was predominantly due to a narrowing of the nation's output gap defined as the difference between the economy's actual output (aggregate demand) and potential supply (productive capacity). The Australian economy in 2008 was in its 17<sup>th</sup> year of uninterrupted growth. This long stretch of economic growth together with an extended period of underinvestment in the second half of the 1990s left the economy with minimum spare resources. The combination of strong demand conditions — which was largely due to the expansionary net terms of trade effect which boosted incomes and spending — and scarce productive capacity led to a shrinking of the output gap and created demand inflationary pressures.

Indeed, demand inflationary pressures were the main problem, rather than wage cost drivers. Thanks to a decentralised labour market, wage escalation was relatively contained despite low unemployment and tight labour markets. The strong demand conditions saw retailers and other businesses lift profit margins which translated into higher average price of consumer goods and services. Annual headline inflation stayed above 3 per cent over the four quarters to September 2008, outside the Reserve Bank's target zone of 2-3 per cent. Moreover, underlying inflation, reached 4.7 per cent through-the-year to September 2008, the highest level in 16 years.

The onset of the GFC in late 2008, and resulting world recession, however, produced a sharp reversal in the terms of trade stimulus and undermined the economy's strong run of business investment — a key driver of domestic demand during the pre-GFC period. Moreover, as the prospects of a more severe global economic downturn (and weaker domestic growth) emerged in late 2008, consumer confidence declined due to mounting fears over job security. With a significant weakening in the economy and consumer spending, the strong demand inflationary pressures of early 2008 began to moderate over the second half of 2008.

The headwinds from the GFC early last year are now well and truly behind us with the Australian economy emerging relatively unscathed from the global financial crisis. Moreover, having undergone a period of strong recovery in late 2009, the economy is now at the threshold of the next cyclical upswing. However, the Australian economy is entering the next cyclical upturn with limited spare resources. Employment has grown strongly over the past six months

and the unemployment rate has declined by around half a percentage point from its peak of 5.8 per cent reached in the middle part of 2009. In addition, surveys of business capacity utilisation indicate that the levels of capacity utilisation are now back above long-run average levels and continues to trend upward.

Meanwhile, a robust recovery in non-Japan Asia, and China's appetite for steel has underpinned substantial rises in the prices of Australia's main commodity exports, namely iron ore and coking coal — the raw materials used in steel making. The surge in iron ore and coal prices will again provide a large stimulus to Australia's terms of trade boosting Australian incomes and spending capacity. With the economy expected to hit full productive capacity within two to three years and the terms of trade likely to regain its peak of a couple of years ago, we expect the output gap that opened up last year to narrow quickly — creating an environment for stronger demand inflationary pressures over 2012 and 2013.

Employment growth will follow this recovery in demand and output, with accelerating growth in employment over 2012 to 2013 producing a decline in the unemployment rate, falling below 5 per cent by mid 2011 and below 4 per cent by mid 2013. The strengthening in employment growth and the economy generally will result in rising incomes and demand, which, combined with the shrinking of spare capacity, will add to the demand inflationary pressures during 2012 and particularly in 2013. Wages growth is also expected to pick up over these two years, with an accompanying slowing in productivity growth also adding to the rise in unit labour costs and non-tradeables inflation.

On the other hand, a rising A\$ over 2012 and into 2013 — due to both rising commodity prices and higher interest rates — is expected to soften tradeables inflation. Nonetheless, the upward pressures on inflation from strengthening demand are expected to outweigh the benefits of a higher dollar, with CPI inflation forecast at 3.1 per cent in 2011–12. A further tightening in the labour market over 2013 is expected to result in CPI inflation rising over 3 per cent through-the-year to June 2013 before weakening domestic demand (as a result of high interest rates) drags headline inflation back below 3 per cent in 2013–14.

Inflation containment will remain a policy challenge well into the medium term. Tight labour markets will emerge once again in the medium term to become a chronic problem for inflation. The large pool of unemployed that was a feature of the 1990s has gone. Moreover, skilled labour shortages will remain a problem for the foreseeable future, particularly given anecdotal evidence of a re-emergence of skilled labour shortages so early into current economic upswing. Inflation will act as the main 'safety valve' on Australia's constrained economy.

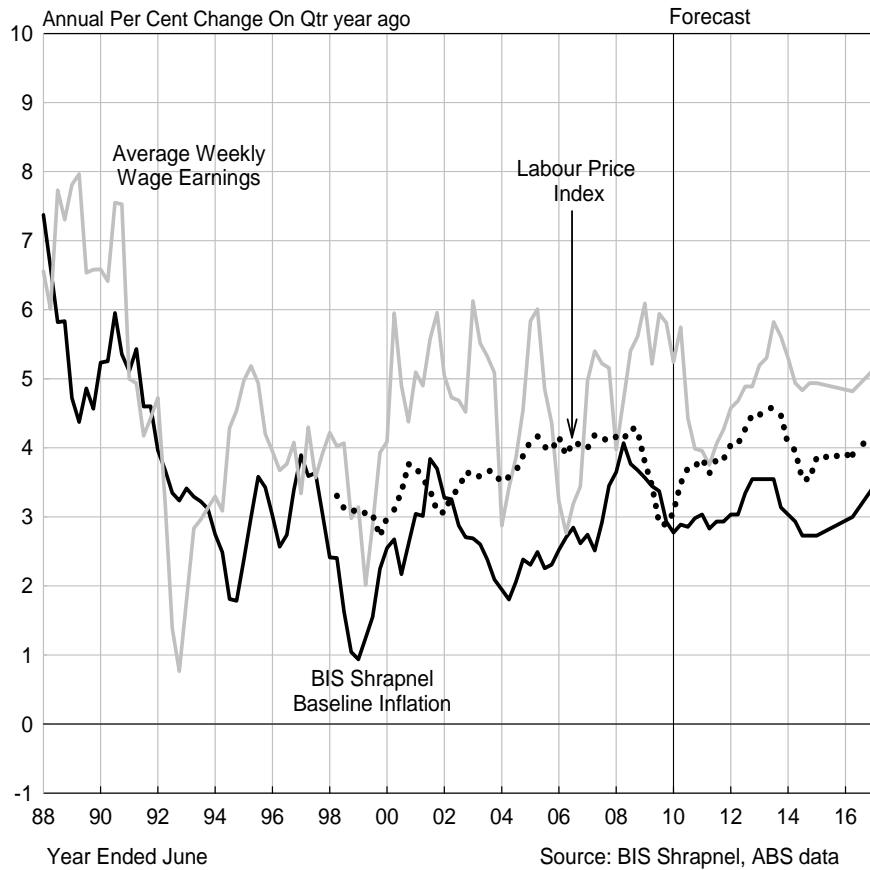
While-ever the unemployment rate is close to or below 5 per cent there will be the potential for a demand-driven rise in wages growth and inflation. Pressures may moderate from time to time, but it would take another full-blown recession and a sharp fall in employment to really see inflationary pressures be significantly subdued.

### **3.2.1 Reserve Bank of Australia CPI forecasts**

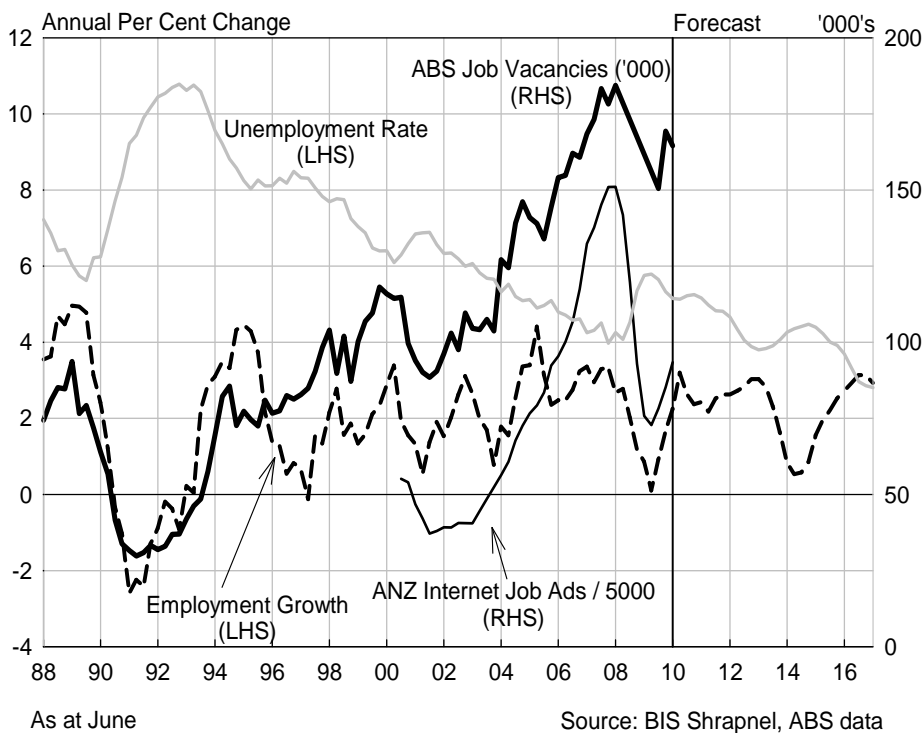
The Reserve Bank and the Federal Treasury provide the 'official' view of CPI forecasts. The RBA's August 'Statement on Monetary Policy' is generally similar to BIS Shrapnel's CPI forecast to 2012 (RBA current forecasts only extend to December 2012) although it is slightly higher for the near term. The RBA forecasts the headline CPI rate rising to 3.25 by June 2011, and remaining within a 2.75 per cent to 3.0 per cent band until December 2012.

Beyond 2012, the official CPI inflation is 2.5 per cent per annum, based on the Commonwealth Treasury's forecasts set out in the 2010–11 Commonwealth Budget Papers. This, in turn, is based on the mid-point of the RBA's monetary policy target of "2 per cent to 3 per cent over the economic cycle".

**Chart 3.1: Australia – Wages and Prices**



**Chart 3.2: Employment and Unemployment**



### 3.3 Outlook for Australian All Industries Wages

#### Wage pressures eased through 2009–10 but will now strengthen with labour market

Wage inflation, as measured by the 'All Industries' LPI (labour price index), eased through 2009 to 2.9 per cent through-the-year to December and to March 2010, after peaking at 4.3 per cent in December 2008. AWOTE (average weekly ordinary time earnings) lagged the easing in LPI and only eased to 5.8 per cent through-the-year to February 2010 (and to 5.2 per cent in May 2010) after peaking at 6.1 per cent in June 2009, with compositional effects holding up average wages. The largest proportion of job losses usually occur among the lower skilled (and lower paid) sections of the workforce, which boosts the overall average.

As a result of the slowdown in domestic demand through 2008–09, profits came under significant pressure and employment growth slowed sharply. However, the easing in labour markets was slow to affect wages because of the staggered nature of wage setting decisions. Tight labour conditions and the high CPI through most of 2008 (the headline rate peaked at 5.0 per cent in the September quarter, 2008) also pushed up wage demands and agreements through 2008 and into early 2009 and most of these agreements run for an average of three years. Because contracts are fixed for a set period, a year in the case of awards and some individual arrangements and multiple years for collective agreements, it took time for the initial decline in employment growth and weakening inflationary environment during 2009 to be reflected in slower wages growth.

Nevertheless, wages growth eased from 4.1 per cent for the LPI in 2008–09 to 3.1 per cent in 2009–10, led by the sharp slowing in wages growth in the individual arrangements segment. The fall in wage inflation in 2009–10 was also exacerbated by the fact that workers dependent on awards received no increase in 2009–10 after the Fair Pay Commission did not grant any increase in the Federal Minimum Wage, which would have come into effect in October 2009.

Meanwhile, employment rebounded in the second half of 2009 and into 2010, after declining in the first half of the year. This rebound has seen the unemployment rate fall back to 5.1 per cent, after peaking at only 5.8 per cent. While this rapid turnaround in the labour market will be slow to affect wages, we believe that LPI wages growth troughed in the June quarter 2010, and will now rise from here.

Wage escalation over the next 18 months will be shaped by the substantial wage rise for award-reliant workers, stability in enterprise bargaining and a recovery in wages for those on individual agreements, particularly skilled workers.

The New Federal wage body, 'Fair Work Australia' granted a \$26.22 increase (4.8 per cent) for those workers on absolute Federal Minimum Wage (\$543.68/week) to be effective from July 1, 2010. The rise, equivalent to 2.1 per cent of AWOTE, partly reflects some 'catch-up' for the lack of pay increase in 2009–10 and prospects for better economic conditions in 2010–11. However, most workers on awards do not receive the minimum wage and the actual wage rise for award-dependant workers will be considerable less than 4.8 per cent. Notwithstanding this, we expect the lift in minimum wages to add around 0.2 percentage points to aggregate wage inflation over the year to June 2011 quarter.

Meanwhile, recent collective agreements data from the Department of Education, Employment and Workplace Relations (DEEWR) shows only a modest easing in the average annualised wage increases (AAWIs) formalised during 2009. With economic conditions improving, formalised agreements are likely to stabilise at around the current annualised rate of just under 4 per cent before starting to recover through 2010–11. Boosting the uptrend in wage agreements will be the reasonably large increase in minimum award wage — the annual increase is used as a benchmark for some enterprise bargaining decisions. We expect this



segment of wage costs to be steady at 3.9 per cent during 2010–11 as the higher wage agreements struck during 2008 and early 2009 are offset by recent agreements with lower approved AAWIs.

Increases in individual agreements 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, current business conditions and the short-term economic outlook. Our expectation is that this segment will recover from late this year. With the economic recovery now well underway contributing to solid employment growth, skilled labour shortages are re-emerging in the sectors which drove strong increases in individual agreements prior to the GFC.

The upshot is that annual LPI inflation is forecast to strengthen to 3.7 per cent in 2010–11 from 3.1 percent in 2009–10 and further to 3.8 per cent in 2011–12 (see Tables 3.1 and 3.2). AWOTE wages growth, on the other hand, is expected to ease to 4.5 per cent in 2010–11 and 4.2 per cent in 2011–12. We believe the strength in recent AWOTE wages growth was due to compositional effects. During the post GFC economic downturn, the largest proportion of job losses occurred among the lower skilled (and lower paid) workers sections of the workforce. With the economic upswing now well entrenched, these workers will be slowly absorbed back into the workforce which in turn will initially drag down overall wages growth in AWOTE terms.

### Medium to longer term outlook – wages growth higher as pressures persist

From 2010, housing construction will take over from waning public spending as the key driver of growth supported by a strengthening world economy underpinning export growth, commodity prices and rises in national income and spending. The latter will also drive the next round of resources investment, with a widespread recovery in overall business investment expected to be in full swing by 2011–12. This will drive a recovery in employment growth, which will gather pace over 2011–12 and particularly 2012–13.

**Table 3.2: Wages Growth, All Industries, Australia, (by Workforce Segmented by Pay Setting Method)**

Year Ended June	Year Average Percent Change													Averages				
	2006	2007	2008	2009	2010	Forecast							2000-10			2011-17		
<b>Proportion of Workforce by Pay setting Method</b>																		
Awards Only	19.0%	17.8%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	19.2%	16.5%			
Collective Agreements	41.1%	40.5%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.8%	39.5%	39.8%			
Individual Arrangements	39.9%	41.8%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%	41.2%	43.7%			
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100.0%</b>			
<b>AWOTE</b>																		
Awards Only (a)	1.7	2.0	1.4	1.7	0.5	2.1	1.4	1.6	1.8	1.3	1.8	1.8	1.7	1.7				
Collective Agreements	4.1	4.1	4.0	4.2	3.9	3.9	4.0	4.2	4.4	4.1	4.1	4.3	3.9	4.1				
Individual Arrangements (b)	6.5	3.8	7.1	8.0	9.0	5.9	5.4	6.8	8.0	7.0	6.5	7.5	6.9	6.7				
<b>AWOTE (Persons)(c)</b>	<b>4.6</b>	<b>3.6</b>	<b>4.9</b>	<b>5.5</b>	<b>5.6</b>	<b>4.5</b>	<b>4.2</b>	<b>4.9</b>	<b>5.5</b>	<b>4.9</b>	<b>4.8</b>	<b>5.3</b>	<b>4.7</b>	<b>4.9</b>				
<b>Labour Price Index</b>																		
Awards Only (a)	1.7	2.0	1.4	1.7	0.5	2.1	1.4	1.6	1.8	1.3	1.8	1.8	1.7	1.7				
Collective Agreements	4.1	4.1	4.0	4.2	3.9	3.9	4.0	4.2	4.4	4.1	4.1	4.3	3.9	4.1				
Individual Arrangements (b)	5.2	4.6	5.3	4.9	3.3	4.1	4.6	5.5	5.4	4.3	4.6	5.3	4.3	4.8				
<b>Labour Price Index (Ord. Time)</b>	<b>4.1</b>	<b>3.9</b>	<b>4.1</b>	<b>4.1</b>	<b>3.1</b>	<b>3.7</b>	<b>3.8</b>	<b>4.3</b>	<b>4.4</b>	<b>3.7</b>	<b>3.9</b>	<b>4.3</b>	<b>3.6</b>	<b>4.0</b>				
Compositional Effects + Bonuses, etc	0.5	-0.3	0.8	1.3	2.5	0.8	0.3	0.6	1.1	1.2	0.8	1.0	1.1	0.8				

Source: BIS Shrapnel, ABS, DEEWR

(a) Contribution of nominal award wage increases to total wages growth, rather than percent change in award wages

(b) Indiv Agreements picks up all the compositional effects and bonuses, incentives, etc plus all the standard errors of LPI and AWOTE estimates by ABS

(c) Full-time Adult Persons, excluding overtime

This is projected to push the unemployment rate down below 4 per cent by early to mid 2013. With the labour market again showing signs of tightness and skilled labour shortages re-emerging, we expect wage pressures to be re-ignited, with both AWOTE and the LPI rising toward 5 per cent and over 4 per cent respectively during 2012–13.

Wages growth (in year average terms) is expected to subsequently rise further and peak at 5.5 per cent for AWOTE and 4.4 per cent for LPI in 2013–14, despite the RBA and government acting to constrain economic growth and inflationary pressures during 2013. Nonetheless, the higher interest rates will cause a slowdown in economic and employment growth during 2014, and this will eventually feed through to wages growth in 2014–15, with wages growth in the individual arrangements and award segments slowing first. But with only a small rise expected in the unemployment rate (to 4.5 per cent) because of the deceleration in labour force growth, wage pressures are expected to rise again in 2015–16 and beyond.

Indeed, by the middle of this decade, both skilled and general labour shortages will begin to emerge due to demographic factors, i.e. retirements. Australia will continue to experience sustained labour shortages in the decade to 2025 (and beyond), and these shortages will become more significant as the workforce ages. As Australia's 'baby boomers' generation move into the 65+ age group, the growth of the 15-64 year old component of Australia's working age population (the overwhelming majority of Australia's workforce) will begin to slow.

With more people retiring, the supply of labour will increase at a slower rate through the coming decade. This will lead not only to skilled labour shortages, but total labour shortages. Meanwhile, the demand for labour will continue to rise — particularly in periods of strong investment and economic growth. These sustained labour shortages will result in a long term upward bias in wage inflationary pressures.



## 4. BIS SHRAPNEL'S WAGE MODEL

### 4.1 Key Points

- BIS Shrapnel believes that AWOTE (average weekly ordinary time earnings) is the wage measure that best reflects the increase in wage cost changes (or unit labour costs, net of productivity increases) for Powerlink as AWOTE measures both the changes in the price of grades of specific labour *and* the changes in skill levels (for which employees are promoted to higher grades, at a higher cost to the enterprise). The labour price index only measures changes in the *price* of labour, or wage rates, for specific occupations or job classifications, which are then aggregated into a measure of the collective variations in wage *rates* made to the current occupants of the *same* set of specific jobs. The LPI, therefore, reflects pure price changes, but does not capture changes in skill levels and movements across grades in an enterprise or industry.

### 4.2 A Note on Different Wage Measures

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) — are 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 Shrapnel forecasts.
- The Labour Price Index (LPI) — is a CPI-style measure of changes in wage and salary costs based on a weighted combination of a surveyed 'basket' of jobs. The LPI used in this report excludes bonuses. The LPI 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 LPI figures quoted in this report are sourced from ABS catalogue number 6345.0, with BIS Shrapnel forecasts.

Each measure provides a slightly different gauge of labour costs. However, the main distinction between average earnings measures and the labour price index relate to the influence of compositional shifts in employment. The compositional effects include changes in the distribution of occupations within the same industry and across industries, and the distribution of employment between industries. For example, a large fall in the number of lower paid employees, or in employment in an industry with lower average wages, will increase average weekly earnings (all else being equal). While this is a true reflection of the average cost of labour to businesses, it is not necessarily the best measure of ongoing wage inflation (ie 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.

**Table 4.1: Methods of Setting Pay, Industry, August 2008  
Proportion of Employees (%)**

Industry	Award only	Collective agreement	Individual arrangement	All methods of setting pay
Mining	1.2	30.9	67.9	100.0
Manufacturing	12.2	29.9	57.9	100.0
Electricity, gas, water and waste services	5.4	67.5	27.0	100.0
Construction	9.1	25.6	65.3	100.0
Wholesale trade	9.0	10.1	80.8	100.0
Retail trade	28.9	36.2	34.9	100.0
Accommodation and food services	50.3	19.3	30.5	100.0
Transport, postal and warehousing	8.3	48.9	42.8	100.0
Information media and telecommunication	5.6	31.1	63.3	100.0
Financial and insurance services	2.2	38.9	59.0	100.0
Rental, hiring and real estate services	20.2	11.9	67.9	100.0
Professional, scientific and tech. services	5.4	8.6	85.9	100.0
Administrative and support services	33.9	15.7	50.5	100.0
Public administration and safety	3.6	88.2	8.2	100.0
Education and training	8.4	81.2	10.4	100.0
Health care and social assistance	17.2	64.5	18.2	100.0
Arts and recreation services	14.2	37.9	47.9	100.0
Other services	25.4	7.3	67.3	100.0
<b>All industries 2008 Survey (a)</b>	<b>16.5</b>	<b>39.8</b>	<b>43.7</b>	<b>100.0</b>
<b>Electricity, Gas &amp; Water (2006)<sup>1</sup></b>	<b>0.9</b>	<b>84.4</b>	<b>14.7</b>	<b>100.0</b>
<b>Property and Business Services (2006)<sup>1</sup></b>	<b>23.2</b>	<b>15.5</b>	<b>61.3</b>	<b>100.0</b>

Source: Australian Bureau of Statistics, *Employees Earnings and Hours*, cat. N<sup>o</sup> 6306, Table 15

(1) Previous ANZSIC1993 industry classification, which was used for May 2006 survey (and all previous surveys). August 2008 was first survey using new ANZSIC2006 categories.

**Table 4.2: Wages Growth, All Industries, Australia,  
(by Workforce Segmented by Pay Setting Method)**

Year Ended June	Year Average Percent Change										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Proportion of Workforce by Pay setting Method</b>											
Awards Only	23.2%	21.9%	20.5%	20.3%	20.0%	19.5%	19.0%	17.8%	16.5%	16.5%	16.5%
Collective Agreements	36.8%	37.5%	38.2%	39.6%	40.9%	41.0%	41.1%	40.5%	39.8%	39.8%	39.8%
Individual Arrangements	40.0%	40.7%	41.3%	40.2%	39.1%	39.5%	39.9%	41.8%	43.7%	43.7%	43.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>AWOTE</b>											
Awards Only	1.6	2.0	1.6	2.1	1.9	2.0	1.7	2.0	1.4	1.7	0.5
Collective Agreements	3.5	3.7	3.8	3.8	3.9	4.0	4.1	4.1	4.0	4.2	3.9
Individual Arrangements (a)	3.9	8.0	8.7	7.7	6.9	6.0	6.5	3.8	7.1	8.0	9.0
<b>AWOTE (Persons)(b)</b>	<b>3.2</b>	<b>5.1</b>	<b>5.4</b>	<b>5.0</b>	<b>4.7</b>	<b>4.4</b>	<b>4.6</b>	<b>3.6</b>	<b>4.9</b>	<b>5.5</b>	<b>5.6</b>
<b>Labour Price Index</b>											
Awards Only	1.6	2.0	1.6	2.1	1.9	2.0	1.7	2.0	1.4	1.7	0.5
Collective Agreements	3.5	3.7	3.8	3.8	3.9	4.0	4.1	4.1	4.0	4.2	3.9
Individual Arrangements (a)	3.3	4.0	3.8	3.8	4.2	4.3	5.2	4.6	5.3	4.9	3.3
<b>Labour Price Index (Ord. Time)</b>	<b>3.0</b>	<b>3.5</b>	<b>3.3</b>	<b>3.5</b>	<b>3.6</b>	<b>3.7</b>	<b>4.1</b>	<b>3.9</b>	<b>4.1</b>	<b>4.1</b>	<b>3.1</b>
Compositional Effects + Bonuses, etc	0.3	1.6	2.0	1.6	1.1	0.7	0.5	-0.3	0.8	1.3	2.5

Source: BIS Shrapnel, ABS, DEWR

(a) Calculated as a residual - affected by compositional effects and the payments of bonuses, incentive payments, etc

(b) Full-time Adult Persons, excluding overtime

The labour 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 LPI 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 LPI 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 labour 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 labour price index. However, the employer's total wages bill (and unit labour costs) would be higher.

#### **4.2.1 AWOTE better reflects changes in labour costs for Electricity, Gas and Water Enterprises**

BIS Shrapnel notes that in its recent draft determination for the Victorian DNSPs, the Australian Energy Regulator (AER) stated that "consistent with previous AER determinations, the AER considers that the LPI is the measure that most reasonably reflects the labour costs that Victorian DNSPs are likely to incur".<sup>2</sup>

We disagree with this statement from the AER. Changes in labour costs for an enterprise (such as Powerlink) or an industry (such as the Electricity, Gas and Water Supply sector) are driven both by changes in the price of grades of specific labour and by changes in skill levels (for which employees are promoted to higher grades, at a higher cost to the enterprise).

As discussed earlier, the labour price index only measures changes in the *price* of labour, or wage rates, for specific occupations or job classification, which are then aggregated into a measure of the collective variations in wage *rates* made to the current occupants of the *same* set of specific jobs. The LPI, therefore, reflects pure price changes and does not measure variations in quality of the quantity of work performed. The LPI also does not reliably measure the changes in total labour costs which the Victorian DNSP or Queensland DNSP/TNSP incur, because the LPI does not reflect changes in the skill levels of employees within an enterprise or industry. As skills are acquired, employees will be promoted to a higher grade or job classification, and with this promotion will move onto a higher base pay. So the change in the cost of labour over, say a year, includes increases in the base pay rates (which the LPI measures) and the higher average base pay level. The AWOTE captures both these elements, while the LPI only captures the first element. Basically, promoting employees to a higher occupation does not necessarily show up in the LPI, but the employer's total wages bill (and average unit labour costs) is higher, as is AWOTE.

For this reason, BIS Shrapnel prefers using AWOTE as the measure that best reflects the increase in wage cost changes (or unit labour costs, net of productivity increases) for business and the public sector across the economy. On the other hand, the labour price index can be used as a measure of *underlying* wage inflation in the economy.

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<sup>2</sup> See AER, Draft Decision, *Victorian Electricity Distribution Network Service Providers Distribution Determination 2011-15*, Appendices, June 2010 pp. 125. The AER also applied the growth in LPI to determine Energex's and Ergon Energy's labour escalators.

### 4.3 Description of BIS Shrapnel's Wage Model

Australia's system of wage determination has evolved over the past two decades (from a much more centralised system in the 1970s and 1980s to the present predominantly decentralised framework), particularly since the Federal Industrial Relations and Workplace Relations Act in 1996. The current system now sees three discrete segments of the workforce with different methods of setting pay.

BIS Shrapnel's wage model (for both AWOTE and LPI) is based on the analysis of past and future (expected) wage movements in three discrete segments of the workforce, ie on the three main methods of setting pay and working conditions (see Tables 4.1 and 4.2):

- Those dependent on awards rely on pay increases given in the annual National Wage case by Fair Work Australia (formerly by the Fair Pay Commission and the Australian Industrial Relations Commission). Most of the wage increases in the National wage case over the past decade have been given as flat, fixed amount (ie dollar value) increases, rather than as a proportional increase. At the all industries level, 16.5 per cent of all employees (data excludes those in agriculture, forestry and fishing) have their pay rises determined by this method. In the electricity, gas and water sector, less than one per cent of workers have their pay set by this method.
- Collective agreements negotiated under enterprise bargaining account for 39.8 per cent of all employees, but around 82 per cent of electricity, gas and water employees' wage increases are determined by this method.
- The remaining 43.7 per cent of all industries employees have their pay set by individual arrangements, such as individual contracts or other salary arrangements (including incentive-based schemes), while the proportion for electricity, gas and water is around 17 per cent.

Future movements of forecasts of wage inflation are based on the key influences on the different wage determination mechanisms of each discrete segment ie:

- increases in the Federal Minimum Wage (on which a range of mostly lower paid awards are also based) granted by Fair Work Australia (and by the Fair Pay Commission and the AIRC previously) each year are usually set in relation to recent increases in the CPI and with regard to the wage-setting body's view of both current and short-term future economic conditions. For instance, the \$21.66 increase granted by the Fair Pay Commission in its decision in mid-2008 (effective October 2008) amounted to a 4.1 per cent increase for those on the Federal Minimum Wage of \$522/week. This reflected the marked acceleration in the CPI in the first half of 2008 (to 4.2 per cent in the March quarter and to 4.5 per cent in the June quarter). It also reflected the strong economic conditions apparent around mid-2008 (the unemployment rate was just over 4 per cent). Conversely, the Fair Pay Commission gave no increase in its July 2009 decision, citing as its reasons, the deterioration of economic conditions and what we believe is a spurious link between minimum wage increases and higher unemployment.
- increases in collective agreements under enterprise bargaining are influenced by a combination of recent CPI increases, inflationary expectations, the recent profitability of relevant enterprises, current business conditions and the short-term economic outlook, and by the industrial relations 'strength' of relevant unions. Because the average duration of agreements now runs for two-to-three years, BIS Shrapnel bases its near-term forecasts on the strength of recent agreements, which have been 'formalised' over recent quarters. Thereafter, collective agreements are based on BIS Shrapnel's macroeconomic forecasts.

- increases in individual agreements 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, current business conditions and the short-term economic outlook.

Note in table 4.2, wage increases under 'individual arrangements' are calculated by deduction. Data from DEWR (Department of Employment and Workforce Relations) are used for wage increases under collective agreements. Award increases are calculated by applying the flat \$ increase provided in each annual National pay decision to the relevant AWOTE \$ value to give the percentage increase.

For example, the \$17 per week increase granted in mid-2005 was equal to a 1.8 per cent contribution to the all industries AWOTE in 2005–06. Using the proportions of the workforce under each pay setting method (and with total AWOTE measured at 4.6 per cent) then the individual arrangements is calculated (as a residual) at 6.5 per cent in 2005–06. The same methodology was used to calculate individual arrangements using the labour price index.

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 LPI, 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 and water supply).

#### **4.4 Some Deficiencies in Econometric Models of Wage Determination for the EGW Sector**

We believe that BIS Shrapnel's institution-based wage model for the EGW sector better approximates the underlying (actual) data generating process than a straight application of an econometric model. As a result, we strongly believe our model of wage determination for the EGW or utilities sector is superior to methodology utilising purely econometric regression techniques, in particular linear regression models to forecast wages. This opinion is based on a number of factors. Consider the following:

- the evolution of the wage determination system from the 1980s and particularly during the 1990s in the utilities sector means that econometric equations struggle with the changes in the relative importance of different factors influencing wages growth that have occurred over the past two-to-three decades. As such, we believe that an econometric equation would struggle to properly model the present complexity of the wage determination processes in this sector.
- BIS Shrapnel's model of wage determination does take account of the present complexity of the wage determination process, both at the national (all industries) level and at the industry sector level. Our methodology and explanation of the macroeconomic influences are, we believe, clear and transparent. We use small sector mathematical models to derive forecasts for discrete segments, rather than an over-riding, overall macroeconomic model.
- BIS Shrapnel believes the use of univariate or multi-equation time series econometric modelling is not the best method for forecasting wages growth in the utilities sector. This is because many regression equations include lagged dependent variables, and econometric models that include lagged dependant variables tend to miss turning points in the cycle, often producing results we know to be spurious. Indeed, the models performed no better (or worse) than a combination of a large range of 'mini' sectoral models and our expertise and knowledge of key influences.



In addition, there can be a significant problem in measuring productivity in the Electricity, Gas and Water Sector — a key explanatory variable used in econometric models of wage determination in the utilities sector.

We argue that 'productivity' is difficult to measure and predict in the Electricity, Gas and Water Sector, firstly because output measures are affected by the weather and particularly the availability of water. Secondly, because reliability is essential in the utilities sector, utilities' workforces need to have sufficient labour to deal with both emergency and routine maintenance, as well as ongoing capital enhancement and reliability augmentation programs, rather than to actually produce the electricity, gas or water.

Nevertheless, the productivity and overall efficiency of the utilities sectors throughout Australia have improved over the past two decades (particularly during the 1990s). Most of the utilities are constantly undertaking improvements and are seeking to move to worlds 'best practice' (within the local geographic and other constraints).

All in all, the problem with accurately measuring productivity in the EGW sector can lead to biased coefficient estimates if the popular method of least squares is applied.

The theoretical arguments for an institution-based wage model for the EGW sector against an econometric model are reinforced when one considers the limitations of the results from an application of an econometric (wage) model for the utilities sector.

Access Economics' (AE) model for national utilities wage escalation — which has been relied upon by the Australian Energy Regulator in its recent determinations (such as the determinations for Victorian Electricity Distributors, Energex and Ergon Energy)<sup>3</sup> — is fundamentally an econometric model. Moreover, Access Economics forecasts of the wage escalation for a particular sector, for example the utilities sector Labour Price Index (LPI), uses econometric techniques. It is derived in three stages.<sup>4</sup>

The first step involves generating the national wage forecasts (as measured by the LPI) from their national wage model which is embedded within AE macroeconomic model of the Australian economy. The second step involves modelling (and forecasting) the deviations in sector wage inflation from the national wage inflation. We denote this as the intermediate or the sector wage deviation model. The deviations or differentials are modelled as a function of three factors which AE collectively describes as the 'component drivers'. They are:

- **Business cycle factors.** This is based on the deviations in industry performance from the national average. According to AE, faster growing industries will tend to see faster growth in wages and vice versa.
- **Productivity factors.** AE assumes that industries with faster growth in productivity will see faster growth in wages — workers across an industry being rewarded for increasing the average amount of output per employee faster than the national average.
- **Competition (relative wage) factors.** This is based on wage movements in sectors that would be competing with the EGW sector, because of readily transferable skills. As wage rates in (say) mining rise higher, companies in (say) the construction sector will be forced to pay higher wages to keep their staff. According to AE, the modelling here will see wages in competitor industries tend to move more closely together — with industries that are

<sup>3</sup> See AER, Final Decision, *Queensland Distribution Determination 2010-11 to 2014-15*, May 2010 p. 409 and AER Draft Decision, *Victorian Electricity Distribution Network Service Providers Distribution Determination 2011-15*, Appendices, June 2010 pp. 126-138.

<sup>4</sup> Access Economics' methodology for national utilities wage escalation is described in the Access Economics report "Forecast growth in labour costs: March 2010 report" prepared for the Australian Energy Regulator on 16 March, 2010.

benefiting from the two previous factors tending to be drawn back towards the average, and wages in otherwise slow growing industries boosted.

The final stage involves adding the predicted deviations — ascertained from the wage deviation or intermediate model — to the national wage forecasts in order to generate the sector wage escalation rates. However, it may be noted that AE does not strictly apply their model generated forecast deviations to the national forecasts in order to arrive at the wage escalation rates for the sector. AE applies a 'user adjustment' to the model predictions before settling on their final future model deviations. We presume the 'user adjustment' process takes into account the recent wage outcomes for the EGW sector.

In our report for the Victorian Electricity Distributors, we empirically tested the validity of AE claim that utilities wage differentials from the national average can principally be explained by variations in its component drivers. To capture the variations in utilities sector wage differential with the national average, we followed in the footsteps of AE and prescribed a linear regression model. Specifically, we allowed the sector wage deviations to linearly depend on its explanatory variables, namely a cyclical (output) component, a productivity element and relative wage movements. Our model was estimated using published ABS data.

Our empirical results revealed that coefficients of output and productivity deviations were negatively signed — directly in contrast to AE a-priori expectations that they should have positive coefficients. Moreover, the coefficients of output and productivity deviations were not statistically significant either on an individual basis or jointly. Hence the hypothesis that the estimated coefficients were significantly different from zero was not supported by the data. This means that the claim that output and productivity deviations are the key drivers of utilities wage deviations was soundly rejected by the observed/empirical data. We therefore conclude that utilities wage inflation is time independent of these factors and hence they should not be considered as the key influences on utilities wage escalation. The inclusion of these variables as key explanatory variables makes the model a poor predictor of sector wage differentials, both to estimate historical data and for forecasting purposes.

According to the AE model, the negative productivity growth of the utilities sector over the decade to 2010 and relative lower output growth than GDP should have produced a lower than average LPI growth for the utilities sector. However, utilities LPI inflation was consistently above total Australia 'all industries' average, by an average of 0.6 per cent.

It appears that the negative (or under-estimation) bias of the AE model has underpinned AE's forecasts of utilities inflation provided to the AER in March 2010 (we are not aware of any subsequent reports). AE numerical forecasts of utilities wage escalation, as presented to the AER, show that — contrary to the recent past — future wage escalation in the utilities sector will only be marginally higher than the national average in 2009–10 before converging to and then falling below the national average in 2013–14 and 2014–15, before again only equalling the national average in 2015–16 (see table 5.1 on page 46 of AE March 2010 report to the AER. Over the six years from 2010–11 to 2015–16, the average growth in the utilities LPI is 3.7 per cent per annum — the same as national (or 'all industries') LPI. This compares to the past decade when LPI growth in the electricity, gas and water supply (EGW) sector averaged 0.6 per cent higher than growth in the national ('all industries') average.

The upshot is that econometric models for the EGW sector while theoretically coherent can have significant deficiencies in adequately capturing the realities of wage formation and determination in this sector. Hence, forecasts predominantly based on statistical or econometric models of wage determination for this sector will have serious shortcomings.



## 5. POWERLINK'S INTERNAL LABOUR COST ESCALATION

### 5.1 Key Points

- Electricity network related labour includes a range of skilled labour who work directly and indirectly on the construction, maintenance, design and operation of the electricity network, in both the operational (opex) and capital enhancement (capex) aspects. The workers work both in the field and in the offices. The escalator which BIS Shrapnel proposes to use for the electricity network related labour is wages growth in the Electricity, Gas and Water Supply (EGW or 'Utilities') sector for Queensland.
- Movements in Average Weekly Ordinary Time Earnings (AWOTE) for full-time adult persons is forecast for each year from 2010–11 and 2016–17. Labour Price Index (LPI) data — another wage measure which is preferred by the Australian Energy Regulator (AER) and the Reserve Bank of Australia — is not available for the EGW sector by state. Nonetheless, we have provided forecasts of LPI for the EGW sector in Queensland based on the national EGW LPI forecasts.
- Overall, BIS Shrapnel expects wages growth in the electricity, gas and water sector for total Australia — expressed in average weekly ordinary time earnings (AWOTE) — will average 5.1 per cent per annum (0.2 percentage points higher than the national AWOTE average of 4.9 per cent per annum) over the seven years from 2010–11 to 2016–17. Meanwhile, growth in the labour price index (LPI) for the Australian electricity, gas and water sector is forecast to average 4.8 per cent per annum (0.8 percentage points higher than national LPI growth of 4.0 per cent per annum) over the seven years to 2016–17. The faster wages growth expected in the electricity, gas and water sector over the next seven years is in line with historical movements over the past 15 years (see Table 5.5).
- Utilities wages growth in Queensland is forecast to average 5.1 per cent per annum (in AWOTE terms) over the seven years from 2010–11 to 2016–17, and 5.3 per cent per annum over the five years from 2012–13 to 2016–17, slightly faster than the national average of 5.2 per cent p.a. (see Table 5.6 and 5.7).
- Over the next seven years from 2010–11 to 2016–17, Powerlink's internal general labour costs — as measured by the Business Services (BS) sector wages growth in Queensland in AWOTE terms — is forecast to average 5.4 per cent per annum, the same as the national average, and 5.9 per cent p.a. over the five years from 2012–13 to 2016–17.

### 5.2 Specialised Electricity Network Related Labour – Australia

Before we analyse the wage data for the utilities sector, we need to address a significant data issue that has arisen recently. The reclassification of the industry sectors by the ABS which has been underway for more than a year has seen 'waste services' added to the EGW sector. The August 2009 for AWOTE and September quarter 2009 for LPI was the first quarter where wages data was classified under the new ANZSIC 2006 industry classification. Up to the June quarter 2009, industry wages data was still classified under the previous ANZSIC 1993 industry classification.

The inclusion of the waste services sub-sector will, we believe, lead to lower wage growth outcomes for the combined EGW and Waste Services sector, and it will not be an accurate indicator for the mostly higher skilled (and more highly demanded) occupations in the EGW sector (see Appendix A).

Given a key objective of this report is to provide forecasts of the change in electricity network related labour costs and that EGW is more representative of their skill levels and labour demand than EGWWS, we have deliberately excluded the waste services component from our

Table 5.1: Labour Price Index Growth by Industry Sector and by State

Sector	% of Total Employment May 2010	Labour Price Index <sup>(1)</sup>								Five-Year Average
		Annual Percent Change								
		Jun '06	Jun'07	Jun'08	Jun'09	Sep'09	Dec'09	Mar'10	Jun'10	
Private		4.0	3.9	4.4	3.6	3.1	2.5	2.6	2.7	3.7
Public		4.3	4.2	3.9	4.4	4.6	4.0	4.3	4.0	4.2
<b>Industry</b>										
Mining	1.6%	5.9	5.5	6.7	4.2	3.7	3.6	3.4	3.8	5.2
Manufacturing	8.8%	3.9	4.1	4.6	2.5	2.5	2.1	2.2	2.6	3.5
Electricity, Gas, Water and Waste Services	1.3%	6.4	4.0	3.5	4.7	4.4	3.7	4.6	4.7	4.7
Construction	9.2%	5.9	4.2	4.7	4.5	3.8	3.5	2.9	2.9	4.4
Wholesale Trade	3.7%	3.7	3.7	4.6	3.3	2.8	2.5	2.1	1.7	3.4
Retail Trade	10.7%	3.4	3.1	4.5	3.5	3.3	2.4	2.4	2.8	3.5
Accommodation and Food Services	6.9%	3.3	3.0	2.3	3.4	3.3	1.9	1.8	2.0	2.8
Transport, Postal and Warehousing	5.4%	4.2	4.1	3.9	4.4	4.5	4.1	3.4	3.2	4.0
Information Media and Telecommunications	2.0%	2.8	3.6	3.9	3.0	2.7	2.0	2.0	2.0	3.1
Finance and Insurance Services	3.5%	4.0	4.3	3.6	3.2	2.2	2.1	2.9	3.1	3.6
Rental, Hiring and Real Estate services	1.8%	3.9	3.0	4.1	3.6	3.7	2.0	2.2	2.5	3.4
Professional, Scientific and Technical Services	7.6%	4.3	4.3	5.1	5.1	3.5	2.9	3.0	2.9	4.3
Administration and Support Services	3.3%	3.3	3.6	4.9	2.9	2.5	1.9	1.9	2.5	3.4
Public Administration and Safety	6.3%	4.2	4.3	3.9	4.5	4.6	3.7	3.9	3.7	4.1
Education	7.6%	4.4	4.1	4.0	4.5	4.0	3.9	4.3	3.9	4.2
Health Care and Social Assistance	11.0%	4.5	4.3	3.6	3.9	4.5	3.9	3.7	4.0	4.1
Arts and Recreation Services	1.8%	3.0	4.4	3.4	3.9	3.7	2.5	3.0	2.8	3.5
Other Services	4.2%	3.2	4.0	3.3	3.3	2.5	2.1	2.5	2.3	3.2
<b>State/Territory</b>										
New South Wales	31.3	3.9	3.8	4.0	3.6	3.6	2.9	3.2	3.1	3.7
Victoria	25.1	3.7	3.6	4.2	3.4	3.0	2.7	2.7	2.7	3.5
Queensland	20.7	4.7	4.6	3.9	4.1	3.5	3.1	3.2	3.3	4.1
South Australia	7.2	3.7	4.3	4.6	3.7	3.4	2.4	2.5	2.9	3.8
Western Australia	10.8	4.6	5.2	5.6	4.6	4.1	3.0	3.0	3.4	4.7
Tasmania	2.1	4.1	4.5	3.6	4.2	4.2	3.6	3.6	3.6	4.0
Northern Territory	1.1	3.9	4.3	4.2	3.8	3.7	3.4	3.2	3.4	3.9
Australian Capital Territory (ACT)	1.8	3.8	4.3	4.0	4.1	3.8	3.7	3.4	3.0	3.8
<b>Total All<sup>(2)</sup></b>	<b>100</b>	<b>4.2</b>	<b>4.0</b>	<b>4.1</b>	<b>4.2</b>	<b>3.4</b>	<b>2.9</b>	<b>2.9</b>	<b>3.1</b>	<b>3.8</b>

Source: BIS Shrapnel, ABS data

(1) Measures changes in the price of labour. Ordinary hourly rates of pay (excludes overtime and bonuses)

(2) Excludes Agriculture, Forestry &amp; Fishing

Table 5.2: Australia  
AWOTE Growth by Industry Sector

Industry Sector	% of Total Employment May 2010	\$ / Week May '10	Average Weekly Earnings <sup>(1)</sup>								Five-Year Average
			Annual Percent Change								
			May '06	May '07	May '08	May'09	Aug'09	Nov,09	Feb'10	May'10	
Mining	1.6%	2 018	5.3	5.8	9.5	6.4	6.8	7.8	7.8	6.4	6.7
Manufacturing	8.8%	1 124	3.8	4.5	4.1	4.5	2.6	1.7	1.4	1.5	3.7
Electricity, gas, water and waste services	1.3%	1 392	1.0	4.2	2.2	7.0	5.8	6.8	8.2	9.5	4.7
Construction	9.2%	1 284	-1.4	8.0	7.1	9.0	7.4	7.8	8.7	6.8	5.8
Wholesale trade	3.7%	1 162	3.2	5.9	3.9	4.8	1.1	3.1	3.8	0.8	3.7
Retail trade	10.7%	951	8.3	4.0	2.5	4.8	4.6	5.6	5.7	6.3	5.2
Accommodation and food services	6.9%	900	7.3	8.9	0.1	3.5	4.3	5.7	3.4	4.5	4.8
Transport, postal and warehousing	5.4%	1 167	4.5	-0.5	1.8	3.4	1.5	4.1	7.8	7.5	3.3
Information media and telecommunications	2.0%	1 480	1.9	10.8	4.2	5.2	4.0	6.3	5.6	5.6	5.5
Finance and insurance	3.5%	1 494	3.7	3.7	4.9	1.4	2.0	2.4	6.6	7.5	4.2
Rental hiring and real estate services	1.8%	1 233	5.9	3.9	7.7	6.4	7.9	4.4	1.2	1.8	5.1
Professional, scientific and technical services	7.6%	1 513	4.7	5.0	6.5	5.6	4.5	4.7	6.1	7.1	5.8
Administration and support services	3.3%	1 210	3.1	4.5	7.7	6.4	6.1	8.2	7.9	7.3	5.6
Public administration and defence	6.3%	1 513	4.5	3.5	3.8	6.0	5.1	7.2	7.2	7.2	5.0
Education and training	7.6%	1 210	3.9	4.4	2.3	5.3	5.4	5.7	5.5	5.6	4.3
Health and social assistance	11.0%	1 318	-0.7	6.5	2.5	7.0	8.4	7.7	5.8	2.9	5.0
Arts and recreational services	1.8%	1 328	-5.9	6.9	2.3	5.3	4.1	7.7	2.7	2.2	3.3
Other services	4.2%	1 186	2.7	1.9	2.5	7.0	7.0	4.6	0.5	0.5	3.8
<b>Total All Industries<sup>(2)</sup></b>	<b>100%</b>	<b>1 250</b>	<b>3.2</b>	<b>5.0</b>	<b>3.7</b>	<b>10.5</b>	<b>5.2</b>	<b>5.9</b>	<b>5.8</b>	<b>5.2</b>	<b>4.7</b>

(1) Full Time Adult Ordinary Time earnings for persons

Source: BIS Shrapnel, ABS data

(2) Excludes Agriculture, Forestry and Fishing sector

forecasts and back data. Using a comparison of the historical wages and employment data of EGW versus EGW and Waste Services, we estimated the waste services wages component, and removed its effect both from the most recent wages data.

### **5.2.1 Electricity, gas and water sector wages growth will continue to be much higher than All Industries average due to stronger demand for skilled labour**

Wages growth in the electricity, gas and water sector is usually higher than the total Australian national (all industries) average. The EGW labour price index growth has consistently been above the national average since the index's inception in 1997 (except in 1998–99 and 2007–08, when it was within 0.1 per cent of the national average) and has averaged 0.6 per cent higher over the decade to 2009–10 (see Table 5.5). While growth in average weekly ordinary time earnings of the electricity, gas and water sector has displayed considerable more volatility (mainly related to compositional effects) over the past two decades, AWOTE growth in the sector has also usually been higher than the national average (see Tables 5.2 and 5.5).

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. With many of the particular skills relevant to the electricity, gas and water sector expected to remain in relatively high demand, wage increases are expected to remain higher in this industry than the national average. In addition, 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 (see Tables 5.1 and 5.2). These sectors tend to be highly cyclical, with weaker employment suffered during downturns impacting on wages growth in particular. The EGW sector is not impacted in the same way due to its obligation to provide essential services and thus retain skilled labour.

The key elements of the utilities wage forecast is set out in Table 5.4. Table 5.4 shows that 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 for total utilities wages will invariably be higher than the all industries average. Table 5.3 shows that the utilities sector has consistently had higher wage increase under collective agreements than the all industries average. Over the past 7 years, the outcomes from collective agreements have been 0.5 per cent higher, on average, than the all industries average. We expect this trend to continue over the seven years to 2016–17, with the all industries average to also continue to be dragged down by the retail and hospitality industries.

The analysis in Table 5.4 also shows that pay outcomes in the individual arrangements segment of the utilities sector is also usually higher than the all industries average, although — as explained in sections 4.1 and 4.2 — some incentives and compositional effects emanating from the collective agreements may be ending up in the individual arrangements segment calculated in the LPI in Table 5.4.

With regard to the proportions of employees now under collective agreements, we now estimate that the proportion of employees under collective bargaining in the electricity, gas and water supply sector has fallen from 84.4 per cent in 2006 (the last survey conducted under the ANZSIC1993 industry classification) to around 82 per cent now. The latest survey (conducted in August 2008) saw the industries classified under the new ANZSIC2006 classifications. Under the new industry groupings, 'Waste Services' has been added to electricity, gas and water supply services, plus a miniscule part of the old construction sector. Our analysis of the new proportions and relevant employment numbers for these separate sectors suggests some movement from collective bargaining to individual arrangement in the 'pure' utilities sector ie electricity, gas and water sector (assuming no change in employees depended on award increases).

**Table 5.3: Federal Wage Agreements – Collective Agreements by Industry  
(Average Annualised Wage Increase)**

Selected Industry (ANZSIC1993)	Collective Agreements							Average 2003-2009
	Average Annualised Wage Increase <sup>(1)</sup>							
	2003	2004	2005	2006	2007	2008	2009	
<b>Electricity, Gas and Water Supply</b>	<b>4.2</b>	<b>4.3</b>	<b>4.2</b>	<b>4.6</b>	<b>4.5</b>	<b>4.7</b>	<b>4.7</b>	<b>4.5</b>
Agriculture, Forestry & Fishing	3.4	3.3	3.0	3.0	3.1	3.0	3.7	3.2
Mining	3.2	3.3	3.6	3.7	3.9	4.2	4.3	3.7
Manufacturing	4.1	4.1	4.1	4.2	4.2	4.0	4.0	4.1
Construction	4.1	4.3	4.4	4.9	4.8	4.4	5.0	4.6
Wholesale Trade	3.8	3.9	4.0	3.7	3.6	3.8	4.0	3.8
Retail trade	3.2	3.2	3.4	3.5	3.9	3.8	3.9	3.6
Accommodation, Cafés & Restaurants	2.8	2.8	3.2	3.3	3.4	3.3	3.4	3.2
Transport & Storage	3.6	3.6	3.7	3.7	3.7	3.8	4.0	3.7
Communications Services	4.0	4.2	4.1	3.6	2.6	2.6	3.8	3.6
Finance & Insurance	4.1	4.2	4.1	4.1	3.9	3.6	3.9	4.0
Property & Business Services	3.8	4.1	4.1	3.8	3.8	3.7	4.0	3.9
Government Administration & Defense	4.4	4.4	4.3	4.0	4.0	4.0	4.1	4.2
Health & Community Services	3.9	4.0	4.1	4.0	3.9	3.9	3.9	4.0
Education	3.9	4.5	4.7	4.9	4.5	4.7	4.2	4.5
Cultural & Recreational Services	3.7	3.5	3.8	3.5	3.8	3.8	3.9	3.7
Personal & Other Services	4.5	4.4	4.0	4.0	4.1	4.1	4.0	4.2
<b>ALL INDUSTRIES</b>	<b>3.8</b>	<b>3.9</b>	<b>4.0</b>	<b>4.1</b>	<b>4.1</b>	<b>4.0</b>	<b>4.1</b>	<b>4.0</b>

<sup>1)</sup>Current agreements in June of each year.

Source: Department of Employment &amp; Workplace Relations (DEWR)

**Table 5.4: Electricity, Gas & Water Supply Wage Forecasts – Australia**

Year Ended June	Year Average Percent Change														Averages				
	2004	2005	2006	2007	2008	2009	2010	Forecast									2000-10	2011-17	
<b>Proportion of Workforce by Pay setting Method</b>																			
Awards Only	1.7%	1.3%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.1%	0.9%
Collective Agreements	79.9%	82.2%	84.4%	83.2%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	80.6%	82.0%
Individual Arrangements	18.4%	16.6%	14.7%	15.9%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	18.3%	17.1%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100.0%</b>
<b>AWOTE</b>																			
Awards Only (a)	1.6	1.6	1.4	1.7	1.2	1.4	0.4	1.8	1.1	1.3	1.4	1.1	1.5	1.5	1.4	1.4	1.4	1.4	1.4
Collective Agreements	4.3	4.2	4.6	4.5	4.7	4.7	4.6	4.5	4.6	4.8	4.8	4.7	4.6	4.8	4.2	4.7	4.2	4.7	4.7
Individual Arrangements (b)	16.5	-0.7	-15.3	1.4	-3.2	15.2	22.7	6.4	6.6	8.0	8.5	7.7	7.0	8.0	8.1	7.5	8.1	7.5	7.5
<b>AWOTE (Persons)(c)</b>	<b>6.5</b>	<b>3.4</b>	<b>1.6</b>	<b>4.0</b>	<b>3.3</b>	<b>6.5</b>	<b>7.7</b>	<b>4.8</b>	<b>4.9</b>	<b>5.3</b>	<b>5.4</b>	<b>5.2</b>	<b>5.0</b>	<b>5.3</b>	<b>5.1</b>	<b>5.1</b>	<b>5.1</b>	<b>5.1</b>	<b>5.1</b>
<b>Labour Price Index</b>																			
Awards Only (a)	1.6	1.6	1.4	1.7	1.2	1.4	0.4	1.8	1.1	1.3	1.4	1.1	1.5	1.5	1.4	1.4	1.4	1.4	1.4
Collective Agreements	4.3	4.2	4.6	4.5	4.7	4.7	4.6	4.5	4.6	4.8	4.8	4.7	4.6	4.8	4.2	4.7	4.2	4.7	4.7
Individual Arrangements (b)	4.7	5.3	10.7	7.5	1.2	3.5	3.9	4.7	5.2	7.0	7.0	5.3	5.0	5.8	5.3	5.7	5.3	5.7	5.7
<b>Labour Price Index (Ord. Time)</b>	<b>4.3</b>	<b>4.4</b>	<b>5.5</b>	<b>5.0</b>	<b>4.1</b>	<b>4.5</b>	<b>4.4</b>	<b>4.5</b>	<b>4.7</b>	<b>5.1</b>	<b>5.1</b>	<b>4.8</b>	<b>4.6</b>	<b>4.9</b>	<b>4.4</b>	<b>4.8</b>	<b>4.4</b>	<b>4.8</b>	<b>4.8</b>
Compositional Effects + Bonuses,etc	2.2	-1.0	-3.8	-1.0	-0.8	2.0	3.2	0.3	0.2	0.2	0.3	0.4	0.3	0.4	0.7	0.3	0.7	0.3	0.3

Source: BIS Shrapnel, ABS, DEEWR

(a) Contribution of nominal award wage increases to total wages growth, rather than percent change in award wages

(b) Because of relatively small workforce (and therefore small sample size) in EGW, Indiv Agreements picks up all the standard errors of LPI and AWOTE estimates by ABS

(c) Full-time Adult Persons, excluding overtime

A comparison of wage movements in the 'old' electricity, gas and water supply (EGW) sector compared to the 'new' electricity, gas and water supply and waste services (EGWWS) sector shows the addition of waste services drags down measured LPI wages growth by 0.1 per cent per annum on average in the combined EGWWS compared to EGW over 1998–99 to 2008–09, with AWOTE growth in EGWWS 0.6 per cent lower on average compared to EGW over the same 11 year period. This result is not surprising given lower skill level and lower demand for workers in the waste services sector. A comparison of EGW and EGWWS wages and employment growth is provided in Appendix A.

The latest 'Skills in Demand' lists released in June 2010 by the Department of Education, Employment and Workplace Relations shows that all states are currently experiencing shortages of skilled labour for engineers, other professionals and tradespeople who are in high demand by the electricity, gas and water sector — and who are also keenly sought in the mining, construction and manufacturing sectors. In Queensland, the DEEWR shows relevant shortages are being reported for:

- electrical engineers and electrical engineering draftspersons and technicians
- structural engineers, civil engineers and civil engineering draftspersons and technicians
- mechanical engineers, and mechanical engineering draftspersons and technicians
- engineering managers
- construction estimators and building associates
- electricians and electrical lines workers

Other surveys also indicate that skills shortages are already beginning to emerge in a number of professions. The 'Clarius Skills Index' — a quarterly index compiled by the Clarius Group (an employment services provider) and KPMG Econtech — reported in its June quarter 2010 report that "demand for skilled labour continued to increase across the majority of the 20 skilled occupations measured for the index, with eight of those categories having already passed the 100 mark, indicating shortages of labour" (page 2, Clarius Skills Index, June quarter 2010). Building and Engineering professions are among these eight categories with shortages of skilled labour, with four occupations relevant to the utilities sector included among the ten listed occupations with the 'highest levels of skills shortages':

- building and engineering professionals
- building and engineering associate professionals
- construction tradespersons
- metal related tradespersons.

Skills shortages and sustained strong demand for skilled labour will lead to higher wages growth in the sector. The sharp rise in vacancies and strengthening demand for labour resulted in an escalation of wages growth — in underlying or labour price index (LPI) terms — over 2005–06 and 2006–07, with the LPI accelerating to 5.5 per cent and 5.0 per cent respectively from around 4.3 per cent over 2002–03 to 2004–05. LPI growth in the electricity, gas and water sector over 2005–06 and 2006–07 was the fastest rate of growth since its inception in 1997. LPI growth surprisingly slowed to 4.1 per cent in 2007–08, but accelerated over the second half of calendar 2008, with the average LPI growth of 4.5 per cent in 2008–09. Wage increases in the EGW sector remained well above the national average of 3.1 per cent in 2009–10, with LPI growth in EGW estimated to be 4.4 per cent.



**Table 5.5: Total Australia and Electricity, Gas & Water:  
Average Weekly Ordinary Time Earnings and Labour Price Index  
(Year Average Growth)**

Year Ended June	Average Weekly Ordinary Time Earnings <sup>(1)</sup>				Labour Price Index <sup>(2)</sup>			
	All Industries		Electricity, Gas and Water		All Industries		Electricity, Gas and Water	
	\$	%CH	\$	%CH	Index	%CH	Index	%CH
1990	521.0	6.9	559.2	8.9				
1991	555.4	6.6	585.2	4.7				
1992	580.8	4.6	620.5	6.0				
1993	591.0	1.8	638.3	2.9				
1994	609.1	3.1	657.9	3.1				
1995	634.9	4.2	679.3	3.2				
1996	663.8	4.6	725.0	6.7				
1997	688.5	3.7	773.6	6.7				
1998	716.0	4.0	831.8	7.5	67.5		79.2	
1999	741.4	3.5	867.1	4.2	69.6	3.1	81.7	3.2
2000	765.4	3.2	922.8	6.4	71.7	3.0	68.2	3.8
2001	804.2	5.1	982.3	6.4	74.2	3.5	70.8	3.9
2002	847.4	5.4	1,055.3	7.4	76.7	3.3	73.8	4.2
2003	890.0	5.0	1,085.1	2.8	79.3	3.5	76.8	4.3
2004	931.6	4.7	1,155.7	6.5	82.2	3.6	79.9	4.3
2005	972.9	4.4	1,194.5	3.4	85.3	3.7	83.3	4.4
2006	1 017.5	4.6	1,214.1	1.6	88.7	4.1	87.6	5.5
2007	1 054.1	3.6	1,262.4	4.0	92.2	3.9	91.8	5.0
2008	1 106.1	4.9	1,304.2	3.3	96.1	4.1	95.7	4.1
2009	1 166.5	5.5	1,388.6	6.5	100.0	4.1	100.0	4.5
2010	1 231.3	5.6	1,495.0	7.7	103.1	3.1	104.4	4.4
Forecasts								
2011	1 286.9	4.5	1,566.8	4.8	106.9	3.7	109.1	4.5
2012	1 340.5	4.2	1,643.7	4.9	111.0	3.8	114.0	4.7
2013	1 406.4	4.9	1,731.1	5.3	115.8	4.3	119.3	5.1
2014	1 483.8	5.5	1,824.6	5.4	120.9	4.4	125.4	5.1
2015	1 556.7	4.9	1,919.2	5.2	125.4	3.7	131.4	4.8
2016	1 631.0	4.8	2,014.8	5.0	130.3	3.9	137.5	4.6
2017	1 717.2	5.3	2,121.9	5.3	136.0	4.3	144.3	4.9
Compound Annual Growth Rates <sup>(3)</sup>								
1990-2000	3.9		5.1					
2000-2010	4.9		4.9		3.7		4.3	
2005-2010	4.8		4.6		3.9		4.6	
2010-2017	4.9		5.1		4.0		4.7	
2012-2017	5.1		5.2		4.1		4.8	

Source: BIS Shrapnel, ABS

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

(2) Ordinary time hours excluding bonuses.

(3) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

Growth in average weekly earnings in the electricity, gas and water sector also accelerated sharply over 2008–09 and 2009–10, after compositional effects of strong employment growth muted AWOTE growth over the previous four years - it is likely the biggest growth in employment was in the lower paid segments in the industry, which pushed down the average wage for the whole sector over 2005–06 to 2007–08. Conversely, the strong 6.5 per cent growth in AWOTE in 2008–09 was despite employment growth of over 20 per cent in that year — suggesting that the EGW sector may have attracted higher skilled (and paid) workers in a year where labour demand in construction and mining eased due to the GFC-inspired economic downturn.

The divergent growth patterns of average weekly ordinary time earnings (AWOTE) and the labour price index over the past decade highlight the problems associated with changes in the composition of employment within industries.

This strong growth in employment since 2002 has been associated with a pick-up in infrastructure and maintenance work as well as an ongoing reversal in the sharp losses in employment seen through the 1990s. Privatisation and rationalisation were the drivers of the job cuts in the 1990s, but in some cases the desire to be streamlined left only a 'skeleton' crew in-house for routine operations and emergency disruptions, while capital and maintenance works (both minor and major) tended to be contracted out. Capital expenditure in the utilities sector during the 1990s was also relatively low, and this may also have contributed to weaker employment.

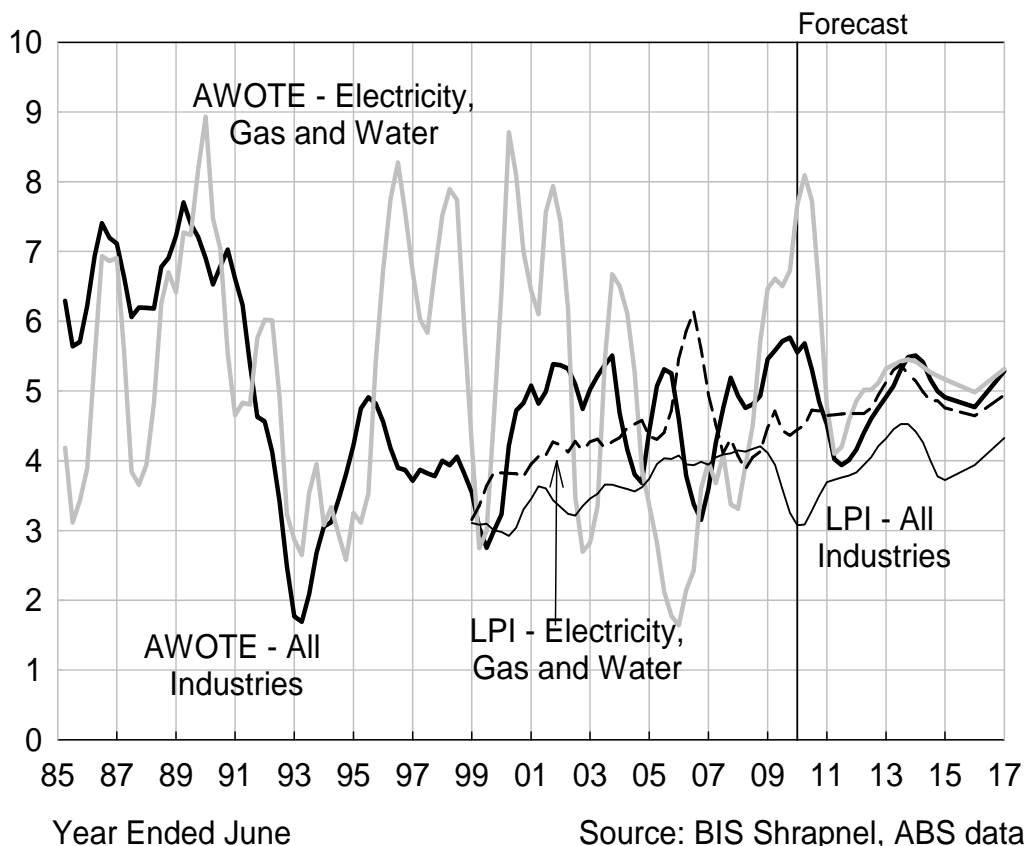
The emergence of skilled labour shortages across many industry sectors over the 2000s encouraged utilities businesses to boost their in-house response capabilities, while increasing competition has shifted the business focus towards customer service in order to enhance product differentiation with an accompanying increase in employment not directly related to the provision of electricity, gas and water services. The entrance of new players in the sector has also exacerbated this situation as it has increased demand for all occupations within this sector.

We expect wages growth in the electricity, gas and water sector to remain above the national average over the medium term, given the relatively high levels of job vacancies in the sector and the current levels of skills shortages being reported. Increased demand for labour will continue in the sector over the next 6 to 7 years at least. Electricity, gas and water utilities in virtually every state across Australia have embarked on major network refurbishment, extension and augmentation programs. These programs are directed at improving reliability levels and address ageing asset profiles. Added to this is our expectation that a number of peak, intermediate and base load power stations will be built over the next decade, along with new renewable generation facilities, while local reticulation construction will continue to be driven by new housing and industrial and commercial demand.

We expect further growth in electricity, gas and water employment over the next seven years, although the rate of growth is forecast to be much slower than in recent years. Partly underpinning this outlook for further employment growth is the relatively higher levels of utilities-related infrastructure construction expected to occur over the next few years. Submissions to the Australian Energy Regulator (AER) and to other state based equivalents from a number of utilities in each state have consistently reported that they expect to increase employment over the next six to seven years.

More importantly, electricity, gas and water supplies are essential services where reliability of supply is paramount. Accordingly, this requires adequate skilled labour to maintain reliability of supply, which points to the need to offer high wages to attract and retain skilled labour in this sector.

**Chart 5.1: AWOTE & LPI**  
**Total Australia (All Industries) and Electricity, Gas and Water**



### 5.2.2 Tightening Labour Markets and Strong Unions to Push Up EGW Wages over Medium-term

Overall, we expect outcomes under individual arrangements to be higher over the next seven years, compared to the last five years, while outcomes under collective bargaining will be about the same as the last five years. There are basically three reasons for the high outcomes (with details discussed below):

- with the economy recovering, employment growth outpacing population and labour force growth and the unemployment rate approaching 5 per cent and expected to fall toward 4 per cent within two-to-three years, we expect to again witness the re-emergence of skilled labour shortages and competition for scarce labour from 2011–12, particularly from the construction sector (and from the mining sector at the same time or soon after), which will push up wage demands under both collective bargaining and by those 17 per cent of employees under individual arrangements. Added to this is that utilities across Australia are themselves in the midst of strong long-term phase of construction, maintenance and augmentation programs, which will not only hold up utilities engineering construction at high (and often higher) levels, but will also realise strong competition for similarly skilled workers in high demand from the mining and construction sectors.
- the upskilling (and associated higher wages) of the large influx of apprentices and other skilled workers hired over the second half of last decade (whose lower relative pay drove down the utilities AWOTE average over the 2005–06 to 2007–08 period) will push up the utilities average over the next few years. This positive compositional effect will boost the individual arrangements segment AWOTE calculations (in Table 5.4).

- fewer negative compositional effects, given slower employment growth (compared to the strong growth in recent years and expected for 2010–11) and a fairly stable employment profile predicted over the six years to 2016–17. This implies no large influxes or exits of low-paid workers. Table 5.8 details the EGW output and employment forecasts.

As previously mentioned, collective bargaining dominates the pay setting arrangements in the EGW sector. Increases in collective agreements under enterprise bargaining are influenced by a combination of recent CPI increases, inflationary expectations, the recent profitability of relevant enterprises, current business conditions and the short-term economic outlook, and by the industrial relations ‘strength’ of relevant unions. Because the average duration of agreements runs for two-to-three years, BIS Shrapnel bases its near-term forecasts of EBA wages on the strength of recent agreements, which have been ‘formalised’ (ie an agreement has been ‘reached’ or ‘approved’) over recent quarters.

Data from the Department of Education, Employment and Workplace Relations quarterly report, *Trends in Federal Enterprise Bargaining*, shows that average outcomes of agreements increased through 2008–09, with the year average of the ‘formalised’ agreements rising to 5.0 per cent in 2008–09, compared to 4.7 per cent in 2007–08. Meanwhile, the average annual increase for ‘current operating’ agreements in 2008–09 was 4.7 per cent, the same as 2007–08.

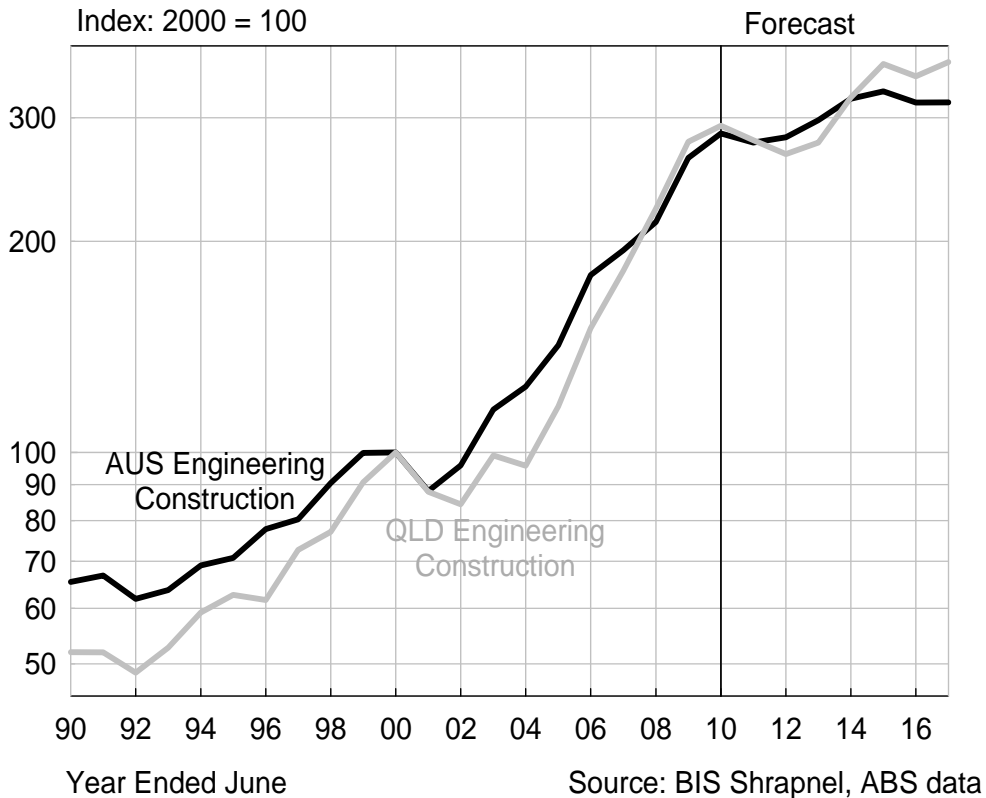
Furthermore, given the average duration of enterprise agreements in the utilities sector is close to 3 years, these high outcomes in 2008–09 will influence the overall EBA average over 2009–10 and into 2010–11, ie it will tend to push up the overall average.

The onset of weaker conditions through 2008–09 was slow to affect union demands in the utilities sector, but recent DEEWR data showed some moderation in ‘formalised’ agreements over the second half of 2009 to just above 4 per cent. Given the economy and employment conditions improved through 2009–10, we expect some pick up in formalised agreements during 2010. With economic conditions continuing to improve, we then expect a further pick up in the pace of formalised agreements over the next two years, with annual average wage increases (AAWIs) pushing above 4.5 per cent. As the high wage outcomes negotiated in 2008–09 start to have less effect, we expect the average EBA wage growth (ie for ‘current operating’ agreements) to ease from an estimated 4.6 per cent in 2009–10 to 4.5 per cent in 2010–11, before starting to rise again.

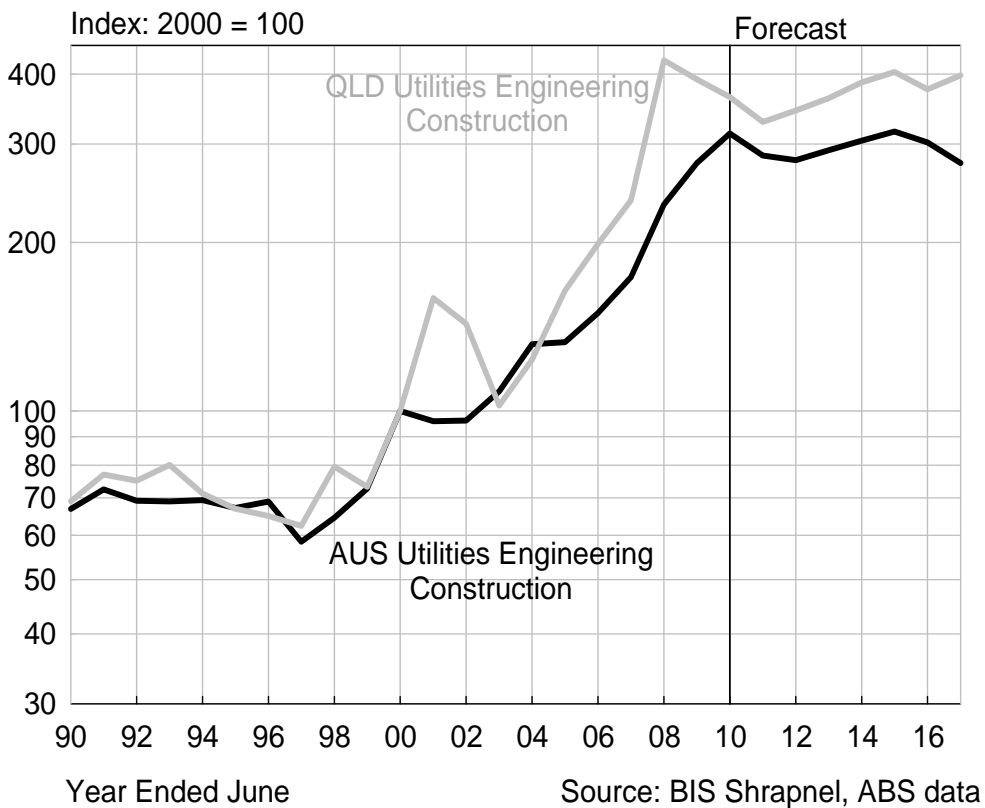
Note that the latest collective agreements data for EGW from the DEEWR is now classified under the ANZSIC2006 category which includes Waste Services. The DEEWR has also back cast their data under the new classifications to the September quarter 2006. Although this is only a short time frame for comparison, it shows that AAWIs under the ‘old’ EGW classification were on average 0.1 per cent to 0.2 per cent higher per annum on average compared to the newly combined EGWWS sector.

Despite the relative weakness of the economy over 2008–09 and 2009–10, wages remained elevated in the utilities sector due to the comparative strength in demand for skilled labour, and particularly because of the strength of unions in what is an essential service sector. The industrial relations reality is that there are powerful 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).

**Chart 5.2: Total Engineering Construction  
Australia and Queensland**



**Chart 5.3: Utilities Engineering Construction  
Australia and Queensland**



BIS Shrapnel analysis shows collective agreements in the EGW sector have been on average around 1.5 per cent higher than CPI inflation over the decade to 2009. Given the strength of unions in the sector and a tighter labour market over the next seven years than for most of the 2000s, collective agreements are likely to continue to be *at least* the same quantum above CPI inflation, and possibly more over the forecast period.

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.

Although the recent downturn saw some easing in overall skilled labour shortages for some professions relevant to the utilities sector, the DEEWR “Skills in Demand Lists” and Clarius Index still revealed ongoing shortages of key professionals and tradepersons in the utilities sector. These shortages are expected to continue — and worsen — over the next seven years given the large capital works and maintenance programs planned in most states’ utilities, and stronger demand from the mining and construction sectors.

With economic conditions improving and skilled labour demand recovering, we expect higher wages growth in this segment to come through, as employers bid up wages for skilled labour in scarce supply. Businesses will find they must ‘meet the market’ on remuneration in order to attract and retain staff and we expect wages under individual arrangements to accelerate rapidly from 2012–13, as shown in table 5.4. The individual arrangements segment forecasts in the labour price index measure — which largely abstracts from compositional effects and bonuses/incentives — projects wage increases of 6 per cent on average over the 2012–13 to 2016–17 period. This compared to an average of 5.6 per cent for the 2004–05 to 2008–09 period, when the skilled labour market was also tight, similar to what we expect over the six year period to 2016-17.

Two other factors which will act to push up wages growth attributable to the individual arrangements segment — that is the compositional effects — is the upskilling of the workforce and, later in the period, the ageing of the workforce. Apprentices, trainees and numbers of new staff have increased markedly over recent years, both among the electricity TNSPs and electricity, gas and water sector generally. Given slower growth in employment numbers over the next seven years, it is likely that there will be overall upskilling of the existing workforce, which will see a commensurate movement by much of the workforce into higher grades (ie on higher pay), although the ‘base’ movement — the nominal increase in EBA’s — will not reflect this, so this upgrading will end up as compositional increases in the individual arrangements segment. A related aspect is the ageing profile, which will particularly affect the ‘professionals’ on non-EBA’s, who tend to be older and more experienced.

Indeed, the strengthening of non-EBA wages from 2011–12 and the compositional effects from the overall upskilling is expected to result in strong growth in individual arrangements over the seven years to 2017, averaging 7.5 per cent per annum. In terms of AWOTE, this is comparable to the average of 8.1 per cent per annum over the decade to 2010 (see table 5.4). All the compositional effects from the upskilling of the workforce will fall into the individual arrangements wage setting measure. This is because the electricity, gas and water sector has a relatively small workforce and the individual arrangements segment picks up the standard errors of LPI and AWOTE estimates by the ABS.

**Table 5.6: AWOTE Persons by State – Electricity, Gas and Water Supply  
( Year Average Growth)**

Year Ended May	NSW		VIC		QLD		SA		WA		TAS		NT		ACT		AUSTRALIA		
	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	
1985	423.1		420.5		429.0		393.1		404.1		400.2		455.5		394.2		417.9		
1986	437.4	3.4	438.4	4.3	448.6	4.6	407.4	3.7	426.5	5.5	419.9	4.9	484.4	6.4	433.9	10.1	434.1	3.9	
1987	470.6	7.6	468.1	6.8	479.9	7.0	433.4	6.4	441.5	3.5	438.5	4.4	513.1	5.9	434.0	0.0	464.1	6.9	
1988	484.3	2.9	492.3	5.2	491.1	2.3	460.2	6.2	460.6	4.3	461.7	5.3	507.2	-1.1	440.2	1.4	482.4	3.9	
1989	517.5	6.8	516.0	4.8	536.6	9.2	483.6	5.1	500.4	8.6	495.1	7.2	513.1	1.2	498.5	13.3	513.4	6.4	
1990	547.0	5.7	597.5	15.8	551.7	2.8	517.1	6.9	546.9	9.3	506.0	2.2	613.1	19.5	549.3	10.2	559.2	8.9	
1991	575.9	5.3	623.1	4.3	565.3	2.5	558.1	7.9	565.3	3.4	550.8	8.9	614.6	0.2	558.2	1.6	585.2	4.7	
1992	622.3	8.1	657.8	5.6	584.8	3.4	577.9	3.5	598.9	6.0	565.5	2.7	641.1	4.3	604.6	8.3	620.5	6.0	
1993	630.8	1.4	698.3	6.2	597.6	2.2	584.5	1.1	613.0	2.3	604.8	6.9	664.1	3.6	599.3	-0.9	638.3	2.9	
1994	657.1	4.2	711.2	1.9	619.0	3.6	616.5	5.5	624.3	1.9	661.4	9.4	666.5	0.4	612.2	2.1	657.9	3.1	
1995	672.8	2.4	722.7	1.6	651.3	5.2	644.0	4.5	673.2	7.8	695.2	5.1	699.8	5.0	636.8	4.0	679.3	3.2	
1996	739.5	9.9	751.1	3.9	694.1	6.6	654.1	1.6	725.6	7.8	714.1	2.7	701.2	0.2	711.8	11.8	725.0	6.7	
1997	787.3	6.5	803.5	7.0	746.4	7.5	720.6	10.2	777.5	7.2	724.1	1.4	731.4	4.3	758.2	6.5	773.6	6.7	
1998	851.1	8.1	873.7	8.7	777.9	4.2	793.1	10.1	836.5	7.6	790.3	9.1	771.5	5.5	812.3	7.1	831.8	7.5	
1999	883.1	3.8	892.0	2.1	820.0	5.4	816.9	3.0	880.7	5.3	889.5	12.5	803.9	4.2	884.0	8.8	867.1	4.2	
2000	938.3	6.2	975.5	9.4	883.0	7.7	862.7	5.6	932.8	5.9	880.3	-1.0	1054.0	31.1	931.4	5.4	922.8	6.4	
2001	995.3	6.1	1048.1	7.4	925.8	4.8	905.5	5.0	992.7	6.4	979.2	11.2	968.4	-8.1	989.6	6.2	982.3	6.4	
2002	1095.3	10.0	1112.9	6.2	978.3	5.7	956.1	5.6	1065.3	7.3	1042.0	6.4	1004.1	3.7	1048.7	6.0	1055.3	7.4	
2003	1099.8	0.4	1150.4	3.4	1018.0	4.1	1030.2	7.7	1121.5	5.3	1074.9	3.2	997.9	-0.6	1081.8	3.2	1085.1	2.8	
2004	1196.8	8.8	1140.2	-0.9	1151.4	13.1	1071.5	4.0	1163.6	3.8	1137.4	5.8	1003.5	0.6	1174.2	8.5	1155.7	6.5	
2005	1197.5	0.1	1180.2	3.5	1268.1	10.1	1268.1	-0.1	1194.4	2.6	1182.4	4.0	1069.7	6.6	1221.1	4.0	1194.5	3.4	
2006	1224.4	2.2	1200.2	1.7	1218.3	-3.9	1090.9	1.9	1300.9	8.9	1263.6	6.9	1175.3	9.9	1157.1	-5.2	1214.1	1.6	
2007	1289.8	5.3	1238.5	3.2	1226.9	0.7	1160.2	6.3	1389.4	6.8	1285.8	1.8	1286.4	9.5	1244.9	7.6	1262.4	4.0	
2008	1336.5	3.6	1245.5	0.6	1259.8	2.7	1211.2	4.4	1478.5	6.4	1290.1	0.3	1339.8	4.1	1374.5	10.4	1304.2	3.3	
2009	1396.3	4.5	1329.9	6.8	1346.7	6.9	1230.1	1.6	1617.9	9.4	1367.9	6.0	1392.1	3.9	1422.6	3.5	1388.6	6.5	
2010	1469.9	5.3	1517.1	14.1	1409.0	4.6	1289.3	4.8	1717.9	6.2	1364.5	-0.3	n/a		n/a		1495.0	7.7	
Forecast																			
2011					1475.2	4.7												1566.8	4.8
2012					1546.1	4.8												1643.7	4.9
2013					1628.3	5.3												1731.1	5.3
2014					1719.4	5.6												1824.6	5.4
2015					1808.5	5.2												1919.2	5.2
2016					1898.6	5.0												2014.8	5.0
2017					1997.9	5.2												2121.9	5.3
1985-2010	5.1		5.3		4.9		4.9		6.0		5.0		4.8		5.5		5.2		
1990-2000	5.5		5.0		4.8		5.3		5.5		5.7		5.6		5.4		5.1		
2000-2010	4.6		4.5		4.8		4.1		6.3		4.5		3.1		4.8		4.9		
2005-2010	4.2		5.2		2.1		3.8		7.5		2.9		6.8		3.9		4.6		
2010-2017					5.1												5.1		
2012-2017					5.3												5.2		

n/a: AWOTE data not available after November 2009. Compound annual growth rates for NT and ACT are therefore 1985-2009, 2000-2009, and 2005-2009. Source: BIS Shrapnel, ABS Data

As the bottom line in table 5.4 indicates, compositional effects, together with bonuses and incentives, added an average of 0.7 per cent to AWOTE growth compared to LPI growth over the 2000–2010 period. Over the forecast period, we expect compositional effects (including bonuses and incentives) to add 0.3 per cent on average to the AWOTE wage measure (compared to LPI growth) over the seven years to 2017, with those effects appearing to boost wages growth numbers in the individual arrangements segment.

We have included year-to-year movements for AWOTE in the electricity, gas and water sector over the seven years to 2016–17, which are presented in table 5.4 and chart 5.1. We have made an *indicative* allowance in AWOTE movements for compositional changes of employment within the sector through the cycle, which can distort year-to-year movements. A detailed analysis of occupations within the sector would be required to estimate compositional effects, but detailed information on the employment plans of *all* the utilities in Australia would be required. Such an analysis is outside the scope of this study. However, given our forecasts of Australian (and Queensland) employment in the utilities sector is for relatively stable employment growth over the period from 2011-12 to 2016-17 (see table 5.8), we do not expect any large positive or negative compositional effects in any one year (see tables 5.4 and 5.7).

**Table 5.7: Electricity, Gas & Water Supply Wage Forecasts – Queensland**

Year Ended June	Year Average Percent Change																Averages	
	2004	2005	2006	2007	2008	2009	2010	Forecast							2000-10	2011-17		
<b>Proportion of Workforce by Pay setting Method (a)</b>																		
Awards Only	1.7%	1.3%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.1%	0.9%
Collective Agreements	79.9%	82.2%	84.4%	83.2%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	80.6%	82.0%
Individual Arrangements	18.4%	16.6%	14.7%	15.9%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	18.3%	17.1%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100.0%</b>
<b>AWOTE</b>																		
Awards Only	1.7	1.7	1.4	1.7	1.2	1.5	0.4	1.9	1.2	1.4	1.6	1.2	1.6	1.6	1.6	1.6	1.5	1.5
Collective Agreements (b)	4.3	4.2	4.6	4.5	4.7	4.7	4.6	4.5	4.6	4.8	4.8	4.7	4.6	4.8	4.8	4.8	4.2	4.7
Individual Arrangements (a) (c)	52.4	40.3	-53.2	-19.2	-6.9	17.7	5.0	5.8	6.0	8.0	9.6	7.7	7.0	7.5	7.5	7.5	7.7	7.4
<b>AWOTE (Persons)(b)(d)</b>	<b>13.1</b>	<b>10.1</b>	<b>-3.9</b>	<b>0.7</b>	<b>2.7</b>	<b>6.9</b>	<b>4.6</b>	<b>4.7</b>	<b>4.8</b>	<b>5.3</b>	<b>5.6</b>	<b>5.2</b>	<b>5.0</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>	<b>5.1</b>	<b>5.1</b>
<b>Labour Price Index</b>																		
Awards Only	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	0.4	1.9	1.2	1.4	1.6	1.2	1.6	1.6	1.6	1.6	<i>n.a</i>	1.5
Collective Agreements (b)	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	4.6	4.5	4.6	4.8	4.8	4.7	4.6	4.8	4.8	4.8	<i>n.a</i>	4.7
Individual Arrangements (a) (c)	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	4.3	4.5	5.2	6.5	7.2	5.8	5.0	5.5	5.5	5.5	<i>n.a</i>	5.7
<b>Labour Price Index (Ord. Time)</b>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<b>4.5</b>	<b>4.5</b>	<b>4.7</b>	<b>5.1</b>	<b>5.2</b>	<b>4.9</b>	<b>4.6</b>	<b>4.9</b>	<b>4.9</b>	<b>4.9</b>	<i>n.a</i>	<b>4.8</b>
Compositional Effects + Bonuses, etc	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>	0.1	0.2	0.1	0.3	0.4	0.3	0.3	0.3	0.3	0.3	<i>n.a</i>	0.3

(a) Assume workforce proportions are the same as Australia

Source: BIS Shrapnel, ABS, DEEWR

(b) Historical movements in Collective Agreements in QLD assumed to be the same as Australia

(c) Because of relatively small workforce (and therefore small sample size) in EGW, Indiv Agreements picks up all the standard errors of LPI and AWOTE estimates by ABS

(d) Full-time Adult Persons, excluding overtime

### 5.2.3 Specialised electricity network related labour – Queensland

Utilities AWOTE wages growth in Queensland lagged the national average over the past five years, due to compositional effects from very strong employment growth resulting in more lower paid workers entering the workforce. This offset what we understand were rising wages in the sector, bid up by heightened competition for skilled workers from Queensland's mining and construction sectors.

With slower growth in construction activity, manufacturing production and resources investment in the near term, there will be less intense competition for skilled workers sought by the utilities sector. In addition, utilities' engineering construction activity in Queensland contracted in 2009–10 and is forecast to remain weak over 2010–11, before increasing from 2011–12 (see chart 5.1). This means an easing in the overall demand for skilled labour in the utilities sector itself in the near term.



**Table 5.8: Electricity, Gas, Water and Waste Services  
Output, Employment and Productivity – Australia and Queensland**

Year Ended June	Australia						Queensland					
	Gross Value Added (1)		Employment		Productivity		Gross Value Added (1)		Employment		Productivity	
	\$m	%CH	'000	%CH	\$/employee ('000)	%CH	\$m	%CH	'000	%CH	\$/employee ('000)	%CH
1990	20389		121.1		168.4		2364		16.0		147.4	
1991	20716	1.6	116.0	-4.2	178.6	6.0	2460	4.1	14.2	-11.3	172.9	17.3
1992	20894	0.9	119.4	2.9	175.0	-2.0	2547	3.5	16.7	17.4	152.6	-11.8
1993	21259	1.7	110.9	-7.2	191.8	9.6	2676	5.1	16.3	-2.3	164.1	7.6
1994	21931	3.2	106.4	-4.0	206.1	7.4	2808	4.9	15.7	-4.0	179.4	9.3
1995	22490	2.5	100.0	-6.1	225.0	9.2	2904	3.4	15.7	0.0	185.5	3.4
1996	22709	1.0	93.5	-6.4	242.8	7.9	2862	-1.4	16.0	2.4	178.6	-3.7
1997	22625	-0.4	80.4	-14.0	281.4	15.9	2936	2.6	15.4	-4.1	191.1	7.0
1998	23475	3.8	78.4	-2.5	299.3	6.4	3197	8.9	14.7	-4.1	216.9	13.5
1999	23998	2.2	78.9	0.6	304.0	1.6	3327	4.1	14.6	-0.7	227.3	4.8
2000	24489	2.0	79.5	0.8	307.9	1.3	3376	1.5	13.5	-7.5	249.2	9.6
2001	24963	1.9	80.5	1.2	310.1	0.7	3642	7.9	13.0	-3.8	279.3	12.1
2002	25215	1.0	83.1	3.2	303.5	-2.1	3854	5.8	17.0	30.2	227.1	-18.7
2003	25534	1.3	89.6	7.8	285.1	-6.1	3789	-1.7	15.6	-7.9	242.3	6.7
2004	25605	0.3	91.5	2.1	280.0	-1.8	3951	4.3	17.4	11.3	227.1	-6.3
2005	25733	0.5	95.2	4.1	270.2	-3.5	3859	-2.3	17.5	0.6	220.5	-2.9
2006	26163	1.7	106.0	11.2	246.9	-8.6	4078	5.7	23.4	33.7	174.2	-21.0
2007	26430	1.0	105.8	-0.1	249.8	1.2	4196	2.9	20.2	-13.5	207.3	19.0
2008	26474	0.2	113.8	7.5	232.7	-6.8	4215	0.5	23.5	16.2	179.2	-13.5
2009	28605	8.0	136.3	19.8	209.9	-9.8	4404	4.5	27.2	15.7	161.8	-9.7
2010	29425	2.9	132.2	-3.0	222.6	6.1	4543	3.2	28.5	4.7	159.3	-1.5
Forecasts												
2011	30484	3.6	152.5	15.3	199.9	-10.2	4711	3.7	33.4	17.1	141.0	-11.5
2012	31155	2.2	154.3	1.2	201.9	1.0	4826	2.4	34.1	2.0	141.7	0.4
2013	31685	1.7	157.4	2.0	201.3	-0.3	4930	2.2	34.8	2.2	141.6	0.0
2014	31938	0.8	161.0	2.3	198.4	-1.5	4996	1.3	35.9	3.2	139.0	-1.8
2015	32545	1.9	163.8	1.7	198.7	0.2	5115	2.4	36.9	2.6	138.7	-0.2
2016	32968	1.3	166.2	1.5	198.4	-0.2	5206	1.8	37.4	1.5	139.1	0.3
2017	33462	1.5	166.0	-0.1	201.5	1.6	5315	2.1	37.8	1.0	140.7	1.1
Compound Annual Growth Rates (2)						Compound Annual Growth Rates (2)						
1990-2000	1.8		-4.1		6.2		3.6		-1.7		5.4	
2000-2010	1.9		5.2		-3.2		3.0		7.7		-4.4	
2005-2010	2.7		6.8		-3.8		3.3		10.3		-6.3	
2010-2017	1.9		3.3		-1.4		2.3		4.1		-1.8	
2012-2017	1.4		1.5		0.0		1.9		2.1		-0.1	

Source: BIS Shrapnel, ABS data

(1) Gross Value Added in constant 2008/09 prices is the output measure

(2) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

Accordingly, utilities AWOTE growth in Queensland is forecast to be slightly below the national utilities average over 2010–11 and 2011–12. However, by 2012–13, BIS Shrapnel expects the next stage of the resources investment boom in Queensland to be in full flow. The resources investment and strengthening construction will elevate the demand for skilled labour in Queensland, resulting in utilities wages growth in Queensland rising to the national average in 2012–13 before surpassing total Australia EGW wage inflation in 2013–14. Wage escalation towards the end of the forecast horizon is expected to slow to the Australian average as demand for labour eases in line with a slight weakening in construction activity.

Overall, utilities wages growth in Queensland is forecast to average 5.1 per cent per annum over the seven years from 2010–11 to 2016–17 (ie it will match the national average), with the average over 2012–13 to 2016–17 forecast at 5.3 per cent per annum (see tables 5.6 and 5.7).

### 5.3 General labour escalation

General labour includes mainly clerical/administration staff, who provide mainly administration and corporate support services. Although in reality most of clerical/administration staff are on similar enterprise agreements as the network-related labour in the same enterprise (usually with similar agreed wage increases), the AER believes separate escalators should be used for what they consider to be two discrete labour segments.

The escalator BIS Shrapnel originally proposed to use for 'General Labour' was wage movements in Queensland for the two industry sectors:

- Administration and Support Services (ASS); and
- Professional, Scientific and Technical Services (PSTS).

These two sectors combined cover the majority of the 'general' labour — both internal and services contracted out (such as legal services, auditing, consulting, engineering design consultancies, etc). As such, the wage movements in these two sectors covering 'business services' functions would be a better escalator for Powerlink than the 'all industries' (total state) AWOTE or LPI for the whole state. The all industries state (or Australian) average includes lower skilled occupations such as retail, hospitality, etc services, which have nothing to do with 'general labour' functions.

However, because the state wage data for the ASS and PSTS only started in the June quarter, 2009, we reverted to the 'old' ANZSIC1993 industry classification 'Property and Business Services' (PBS). We have a long time series of data for PBS the national and state levels (see Tables 5.9 and 5.10). Under the new ABS industry ANZSIC2006 classifications (August 2009 was the first quarter where wages data was classified under the ANZSIC2006) PBS has effectively been split into three sectors, but the 'business services' components of ASS and PSTS comprise the bulk (over 80%) of employment in old PBS (the other 'new' sector is 'Rental, Hiring and Leasing Services'), so PBS is a very good proxy for general labour.

#### 5.3.1 Business Services Wages Growth – Australia

Business services wages at the national level are forecast to average 5.4 per cent per annum (in nominal terms) over the seven years from 2010–11 to 2016–17, in AWOTE terms (see table 5.9). In Labour Price Index (LPI) terms, the average growth is forecast to be 4.1 per cent at the national level. The components and rationale for this sector are set out in table 5.8.

**Table 5.9: Total Australia (All Industries) and Property & Business Services  
Average Weekly Ordinary Time Earnings and Labour Price Index  
(Year Average Growth)**

Year Ended June	Average Weekly Ordinary Time Earnings <sup>(1)</sup>				Labour Price Index <sup>(2)</sup>			
	All Industries		Property & Business Services		All Industries		Property & Business Services	
	\$	%CH	\$	%CH	Index	%CH	Index	%CH
1990	521.0	6.9	573.8	7.1				
1991	555.4	6.6	611.3	6.5				
1992	580.8	4.6	649.4	6.2				
1993	591.0	1.8	634.4	-2.3				
1994	609.1	3.1	664.1	2.9				
1995	634.9	4.2	664.1	1.8				
1996	663.8	4.6	710.1	6.9				
1997	688.5	3.7	717.1	1.0				
1998	716.0	4.0	731.9	3.1	67.5		69.8	
1999	741.4	3.5	764.6	4.5	69.6	3.1	71.7	2.7
2000	765.4	3.2	793.9	3.8	71.7	3.0	73.6	2.7
2001	804.2	5.1	870.6	9.7	74.2	3.5	75.9	3.1
2002	847.4	5.4	945.9	8.6	76.7	3.3	77.7	2.4
2003	890.0	5.0	974.2	3.0	79.3	3.5	80.0	3.0
2004	931.6	4.7	987.8	1.4	82.2	3.6	82.7	3.4
2005	972.9	4.4	1018.1	3.1	85.3	3.7	85.2	3.0
2006	1 017.5	4.6	1095.6	7.6	88.7	4.1	88.6	4.0
2007	1 054.1	3.6	1120.4	2.3	92.2	3.9	92.0	3.9
2008	1 106.1	4.9	1213.8	8.3	96.1	4.1	95.7	4.0
2009	1 166.5	5.5	1292.0	6.4	100.0	4.1	100.0	4.5
2010	1 231.3	5.6	1370.6	6.1	103.1	3.1	102.9	2.9
Forecasts								
2011	1 286.9	4.5	1,434.0	4.6	106.9	3.7	106.6	3.6
2012	1 340.5	4.2	1,495.8	4.3	111.0	3.8	110.7	3.9
2013	1 406.4	4.9	1,587.5	6.1	115.8	4.3	115.6	4.4
2014	1 483.8	5.5	1,686.6	6.2	120.9	4.4	120.9	4.6
2015	1 556.7	4.9	1,778.1	5.4	125.4	3.7	125.3	3.6
2016	1 631.0	4.8	1,868.6	5.1	130.3	3.9	130.4	4.1
2017	1 717.2	5.3	1,983.3	6.1	136.0	4.3	136.3	4.5
Compound Annual Growth Rates <sup>(3)</sup>								
1990-2000	3.9		3.3					
2000-2010	4.9		5.6		3.7		3.4	
2005-2010	4.8		6.1		3.9		3.9	
2010-2017	4.9		5.4		4.0		4.1	
2012-2017	5.1		5.8		4.1		4.2	

Source: BIS Shrapnel, ABS

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

(2) Ordinary time hours excluding bonuses.

(3) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

Table 5.10: Property &amp; Business Services Wages Growth – Australia

Year Ended June	Year Average Percent Change														Averages		
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017			
<b>Proportion of Workforce by Pay setting Method</b>																	
Awards Only	19.7%	21.5%	23.2%	19.2%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	18.7%	15.1%	
Collective Agreements	12.8%	14.2%	15.5%	13.3%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	12.3%	11.0%	
Individual Arrangements	67.5%	64.4%	61.3%	67.6%	73.9%	73.9%	73.9%	73.9%	73.9%	73.9%	73.9%	73.9%	73.9%	73.9%	69.0%	73.9%	
<b>Total</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100.0%	
<b>AWOTE</b>																	
Awards Only (a)	1.7	1.9	1.7	1.9	1.3	1.5	0.4	1.9	1.3	1.4	1.6	1.2	1.6	1.6	1.6	1.5	
Collective Agreements	4.1	4.1	3.8	3.8	3.7	4.0	3.8	3.8	3.9	4.1	4.2	4.0	3.8	3.9	3.8	4.0	
Individual Arrangements (b)	0.8	3.2	10.8	2.1	10.5	7.8	7.6	5.3	5.0	7.4	7.5	6.5	6.0	7.4	6.8	6.4	
<b>AWOTE (Persons)(c)</b>	1.4	3.1	7.6	2.3	8.3	6.4	6.1	4.6	4.3	6.1	6.2	5.4	5.1	6.1	5.5	5.4	
<b>Labour Price Index</b>																	
Awards Only (a)	1.7	1.9	1.7	1.9	1.3	1.5	0.4	1.9	1.3	1.4	1.6	1.2	1.6	1.6	1.6	1.5	
Collective Agreements	4.1	4.1	3.8	3.8	3.7	4.0	3.8	3.8	3.9	4.1	4.2	4.0	3.8	3.9	3.8	4.0	
Individual Arrangements (b)	3.7	3.1	4.9	4.5	4.6	5.2	3.2	3.9	4.4	5.1	5.3	4.0	4.6	5.2	3.7	4.6	
<b>Labour Price Index (Ord. Time)</b>	3.4	3.0	4.0	3.9	4.0	4.5	2.9	3.6	3.9	4.4	4.6	3.6	4.1	4.5	3.3	4.1	
<b>Compositional Effects + Bonuses, etc</b>	-2.0	0.1	3.6	-1.6	4.3	2.0	3.2	1.0	0.4	1.7	1.6	1.8	1.0	1.6	2.1	1.3	

Source: BIS Shrapnel, ABS, DEEWR

(a) Contribution of nominal award wage increases to total wages growth, rather than percent change in award wages

(b) Calculated as a residual - affected by compositional effects and the payments of bonuses, incentive payments, etc

(c) Full-time Adult Persons, excluding overtime

The PBS sector experienced a sustained period of high demand for their services and labour between 2001–02 and 2007–08, boosted initially by residential property and construction and then from strong business investment and jobs growth. This fuelled above average growth in wages (on an AWOTE basis). However the credit crisis and GFC hit employment growth in 2008–09 and, in a lagged response, hit wages growth in 2009–10.

In the near term, wages growth in the business services sector is expected to pick up (in LPI terms) and follow (with a lag) the upswing in residential investment and strengthen from 2012–13 in line with the gathering momentum in business investment. Given over 70 per cent of employees are on individual arrangements, domestic activity, the demand for labour, profits and any potential labour shortages in the sector will be key drivers of overall wages. With labour shortages expected to be apparent by 2012–13 (when the national unemployment rate is sustained well below 5 per cent) plus the prospect of healthier profits, wages growth is forecast to accelerate and outstrip the national average over the forecast period (see table 5.9).

### 5.3.2 Business Services Wages Growth – Queensland

The state forecasts for PBS wages are set out in table 5.10. The year-to-year forecasts tend to follow the investment cycle and relative strength of each state's Gross State Product (GSP), state final demand and overall employment over the next seven years. Forecasts of these variables and the outlook for the state economies are set out in section 2.2 and tables 2.2 and 2.3. BS wages growth in Queensland, meanwhile, is weaker than the national average over the next two years, before accelerating and generally outstripping the national average from 2012–13.

Over the next seven years from 2010–11 to 2016–17, BS wages growth in Queensland is forecast to average 5.4 per cent per annum – the same as the national average. In the five year period from 2012–13 to 2016–17, business services wages growth is projected to average 5.9 per cent p.a.

Table 5.11: AWOTE Persons by State – Property & Business Services (Year Average Growth)

Year Ended May	NSW		VIC		QLD		SA		WA		TAS		NT		ACT		AUSTRALIA	
	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch
1985	362.6		395.5		362.2		364.5		371.3		366.1		411.2		459.9		374.0	
1986	391.2	7.9	431.9	9.2	410.0	13.2	393.3	7.9	436.0	17.4	424.7	16.0	457.5	11.3	486.9	5.9	411.3	10.0
1987	436.4	11.5	492.6	14.0	462.7	12.9	434.4	10.4	452.3	3.7	453.6	6.8	469.3	2.6	528.6	8.6	458.7	11.5
1988	482.6	10.6	538.0	9.2	496.6	7.3	447.2	3.0	512.2	13.2	467.6	3.1	462.7	-1.4	580.0	9.7	500.0	9.0
1989	526.5	9.1	584.7	8.7	483.4	-2.7	482.0	7.8	542.1	5.8	490.7	4.9	518.5	12.1	603.6	4.1	535.6	7.1
1990	585.4	11.2	602.6	3.1	520.2	7.6	510.8	6.0	541.2	-0.2	558.5	13.8	569.2	9.8	610.0	1.1	573.8	7.1
1991	623.6	6.5	642.7	6.7	513.9	-1.2	597.4	16.9	637.0	17.7	620.6	11.1	653.5	14.8	674.1	10.5	611.3	6.5
1992	708.9	13.7	645.8	0.5	528.6	2.9	620.2	3.8	636.4	-0.1	557.3	-10.2	702.3	7.5	715.8	6.2	649.4	6.2
1993	661.3	-6.7	638.3	-1.2	542.3	2.6	609.7	-1.7	638.3	0.3	554.7	-0.5	673.9	-4.0	736.5	2.9	634.4	-2.3
1994	665.9	0.7	684.9	7.3	567.4	4.6	642.4	5.4	625.2	-2.0	524.0	-5.5	619.7	-8.0	726.4	-1.4	652.5	2.9
1995	722.0	8.4	664.5	-3.0	556.5	-1.9	625.9	-2.6	671.3	7.4	631.2	20.5	642.8	3.7	707.7	-2.6	664.1	1.8
1996	758.6	5.1	729.5	9.8	581.0	4.4	721.0	15.2	701.9	4.6	585.7	-7.2	647.7	0.8	791.4	11.8	710.1	6.9
1997	730.4	-3.7	773.6	6.1	633.6	9.1	684.6	-7.8	724.0	3.1	510.9	-12.8	694.6	7.2	721.1	-8.9	717.1	1.0
1998	738.9	1.2	782.3	1.1	655.2	3.4	690.8	3.9	707.6	-2.3	600.2	17.5	744.5	7.2	906.6	25.7	731.9	2.1
1999	784.4	6.2	792.0	1.2	690.8	5.4	660.4	-4.4	795.3	12.4	532.4	-11.3	690.9	-7.2	883.4	-2.6	764.6	4.5
2000	855.9	9.1	800.6	1.1	679.4	-1.7	616.0	-6.7	821.1	3.2	704.4	32.3	673.6	-2.5	1015.8	15.0	793.9	3.8
2001	923.4	7.9	834.3	4.2	791.9	16.6	745.7	21.1	953.4	16.1	740.6	5.1	783.5	16.3	1020.5	0.5	870.6	9.7
2002	1007.1	9.1	944.6	13.2	833.9	5.3	807.8	8.3	950.6	-0.3	740.3	0.0	863.2	10.2	1046.9	2.6	945.9	8.6
2003	987.5	-1.9	1011.2	7.1	833.7	0.0	943.4	16.8	968.0	1.8	838.2	13.2	841.5	-2.5	1274.4	21.7	974.2	3.0
2004	980.4	-0.7	1047.8	3.6	889.4	6.7	937.1	-0.7	968.8	0.1	862.5	2.9	890.2	5.8	1238.1	-2.8	987.8	1.4
2005	1025.8	4.6	1069.6	2.1	984.3	10.7	944.3	0.8	949.7	-2.0	886.5	2.8	921.6	3.5	1310.8	5.9	1018.1	3.1
2006	1100.1	7.2	1124.5	5.1	1051.7	6.9	1040.3	10.2	1067.2	12.4	838.8	-5.4	1073.9	16.5	1277.0	-2.6	1095.6	7.6
2007	1116.4	1.5	1090.5	-3.0	1110.8	5.6	1064.8	2.4	1283.8	20.3	923.2	10.1	1060.8	-1.2	1289.9	1.0	1120.4	2.3
2008	1182.3	5.9	1208.1	10.8	1170.1	5.3	1081.9	1.6	1426.4	11.1	1126.4	22.0	1096.2	3.3	1435.6	11.3	1213.8	8.3
2009	1281.8	8.4	1242.9	2.9	1254.6	7.2	1192.9	10.3	1482.3	3.9	1312.9	16.6	1087.6	-0.8	1523.8	6.1	1292.0	6.4
2010	1410.0	10.0	1230.4	-1.0	1283.7	2.3	1235.3	3.6	1754.8	18.4	1475.9	12.4	1146.6	5.4	1620.9	6.4	1370.6	6.1
Forecast																		
2011					1337.6	4.2											1433.4	4.6
2012					1393.5	4.2											1495.1	4.3
2013					1480.2	6.2											1586.7	6.1
2014					1575.0	6.4											1685.6	6.2
2015					1662.9	5.6											1776.9	5.4
2016					1747.8	5.1											1867.4	5.1
2017					1856.6	6.2											1982.0	6.1
1985-2010	5.6		4.6		5.2		5.0		6.4		5.7		4.2		5.2		5.3	
1990-2000	3.9		2.9		2.7		1.9		4.3		2.3		1.7		5.2		3.3	
2000-2010	5.1		4.4		6.6		7.2		7.9		7.7		5.5		4.8		5.6	
2005-2010	6.6		2.8		5.5		5.5		13.1		10.7		4.5		4.3		6.1	
2010-2017					5.4												5.4	
2012-2017					5.9												5.8	

Source: BIS Shrapnel, ABS Data

## 6. POWERLINK'S EXTERNAL LABOUR COST ESCALATION

### 6.1 Key Points

- The escalator for external labour working on construction and maintenance activities — Queensland construction sector AWOTE growth — is forecast to average 5.8 per cent per annum over the five year period from 2012–13 to 2016–17. Strong growth in overall state construction activity over most of these five years (following relatively weak growth in construction activity over 2010–11 and 2011–12) will drive the relatively high wages growth.
- External labour used in non-construction activities usually work across a range of business services activities, including IT support, legal, accounting, consulting engineers, etc. These activities mainly fall under 'business services', and AWOTE wages growth in this sector is forecast to average 5.9 per cent over 2012–13 to 2016–17.

### 6.2 Construction-related External Labour

The external contractor labour which undertakes construction or maintenance related projects would be classified to the construction sector. Accordingly, the escalator used for contractor labour is Construction sector wages growth as measured by AWOTE and LPI.

The key driver of construction sector wages is total construction activity, measured as the sum of work done for residential and non-residential construction, as well as civil engineering construction. Historically, the price of labour and aggregate construction activity has generally exhibited the same cycle, especially during the upturn phase of the construction cycle. However, wages are often sticky downwards (ie the magnitude of the fall in wages, during a downturn, do not directly correlate with activity, as was the case in 2001). Nonetheless, in broad terms, the movements in the two series show a similar timing. Strong construction activity points to the need to offer high wages to attract and retain skilled labour in the sector.

#### 6.2.1 Construction Wages Growth – Australia

At present, construction activity is being held up by extraordinary levels of government infrastructure spending as projects begun as a result of the infrastructure bottlenecks mid-last decade came through and, more recently, with the GFC-induced boost to expenditure on schools and hospitals. Nonetheless, a broad based recovery in construction activity is anticipated from 2011–12. The long overdue recovery in residential building will lead the upswing in private construction from 2010. The large deficiency of dwelling stock and rising pent-up demand means that Australia is set for a boom in housing construction to cater for underlying demand and address the undersupply.

Private engineering construction is also expected to regain momentum from 2011–12 as an improvement in international financial conditions enables investment to proceed on projects that were sidelined as a result of the credit crisis. As excess capacity in the mining sector is increasingly absorbed, commodity prices are expected to strengthen through 2011–12, underpinning a further round of investment through the middle of the decade.

Meanwhile, a recovery in non-dwelling building is not anticipated before 2011–12. Although the global credit crisis choked the property cycles before there was time for a significant oversupply to emerge, the subsequent downturn in domestic demand, collapse in profits and rise in unemployment means that it will be a number of years before the conditions to drive a new construction phase are in place.

In light of the expected upturn in overall construction activity over the medium term, Australian construction wages are forecast to enter a phase of strong growth over the next five years. We believe construction sector wages growth as measured by LPI will be close to the historical peak levels of 5.2 per cent over 2013–14. Meanwhile, AWOTE growth is expected to peak at 6.8 per cent in 2013–14 (see table 6.1).

Table 6.1: Construction Wages Growth – Australia

Year Ended June	Year Average Percent Change														Averages		
	2006	2007	2008	2009	2010	Forecast							2000-10	2011-17			
<b>Proportion of Workforce by Pay setting Method</b>																	
Awards Only	12.0%	10.6%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	13.0%	9.1%		
Collective Agreements	27.7%	26.7%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.0%	25.6%			
Individual Arrangements	60.3%	62.8%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	62.0%	65.3%			
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100.0%</b>			
<b>AWOTE</b>																	
Awards Only (a)	1.8	2.2	1.5	1.7	0.5	2.1	1.4	1.5	1.7	1.3	1.7	1.7	1.8	1.6			
Collective Agreements	4.9	4.9	4.6	5.3	5.0	4.8	4.8	5.0	5.2	4.9	4.8	4.9	4.7	4.9			
Individual Arrangements (b)	0.5	5.3	12.0	9.6	9.7	5.5	5.6	6.8	8.2	6.6	5.5	6.8	5.9	6.4			
<b>AWOTE (Persons)(c)</b>	<b>1.9</b>	<b>4.9</b>	<b>9.2</b>	<b>7.8</b>	<b>7.7</b>	<b>5.0</b>	<b>5.0</b>	<b>5.9</b>	<b>6.8</b>	<b>5.7</b>	<b>5.0</b>	<b>5.8</b>	<b>5.1</b>	<b>5.6</b>			
<b>Labour Price Index</b>																	
Awards Only (a)	1.8	2.2	1.5	1.7	0.5	2.1	1.4	1.5	1.7	1.3	1.7	1.7	1.8	1.6			
Collective Agreements	4.9	4.9	4.6	5.3	5.0	4.8	4.8	5.0	5.2	4.9	4.8	4.9	4.7	4.9			
Individual Arrangements (b)	5.5	5.3	5.2	4.8	3.0	3.6	4.4	5.8	5.7	4.9	4.4	5.5	4.3	4.9			
<b>Labour Price Index (Ord. Time)</b>	<b>4.9</b>	<b>4.9</b>	<b>4.7</b>	<b>4.7</b>	<b>3.3</b>	<b>3.8</b>	<b>4.2</b>	<b>5.2</b>	<b>5.2</b>	<b>4.6</b>	<b>4.3</b>	<b>5.0</b>	<b>4.1</b>	<b>4.6</b>			
Compositional Effects + Bonuses, etc	-3.0	0.0	4.4	3.1	4.4	1.2	0.8	0.7	1.6	1.1	0.7	0.8	1.1	1.0			

Source: BIS Shrapnel, ABS, DEEWR

(a) Contribution of nominal award wage increases to total wages growth, rather than percent change in award wages

(b) Indiv Agreements picks up all the compositional effects and bonuses, incentives, etc plus all the standard errors of LPI and AWOTE estimates by ABS

(c) Full-time Adult Persons, excluding overtime

Table 6.2: Construction Wages Growth – Queensland

Year Ended June	Year Average Percent Change														Averages		
	2004	2005	2006	2007	2008	2009	2010	Forecast									2000-10
<b>Proportion of Workforce by Pay setting Method (a)</b>																	
Awards Only	15.2%	13.6%	12.0%	10.6%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	13.0%	9.1%	
Collective Agreements	24.1%	25.9%	27.7%	26.7%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.0%	25.6%		
Individual Arrangements	60.8%	60.5%	60.3%	62.8%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%	62.0%	65.3%		
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		
<b>AWOTE</b>																	
Awards Only	2.1	2.2	1.9	2.3	1.5	1.8	0.5	2.1	1.4	1.5	1.7	1.3	1.7	1.7	1.9	1.6	
Collective Agreements (b)	4.3	4.4	4.9	4.9	4.6	5.3	5.0	4.8	4.8	5.0	5.2	4.9	4.8	4.9	4.7	4.9	
Individual Arrangements (a) (c)	9.4	6.6	-1.2	9.7	11.3	8.5	10.5	4.6	5.3	6.4	8.5	6.8	5.4	6.4	6.4	6.2	
<b>AWOTE (Persons)(b)(d)</b>	<b>7.1</b>	<b>5.4</b>	<b>0.9</b>	<b>7.7</b>	<b>8.7</b>	<b>7.1</b>	<b>8.2</b>	<b>4.4</b>	<b>4.8</b>	<b>5.6</b>	<b>7.0</b>	<b>5.8</b>	<b>4.9</b>	<b>5.6</b>	<b>5.4</b>	<b>5.5</b>	
<b>Labour Price Index</b>																	
Awards Only	2.1	2.2	1.9	2.3	1.5	1.8	0.5	2.1	1.4	1.5	1.7	1.3	1.7	1.7	1.9	1.6	
Collective Agreements (b)	4.3	4.4	4.9	4.9	4.6	5.3	5.0	4.8	4.8	5.0	5.2	4.9	4.8	4.9	4.7	4.9	
Individual Arrangements (a) (c)	6.0	4.9	4.8	5.1	4.9	6.4	2.4	3.0	3.9	5.8	6.0	5.2	4.3	5.2	4.3	4.8	
<b>Labour Price Index (Ord. Time)</b>	<b>5.0</b>	<b>4.4</b>	<b>4.5</b>	<b>4.7</b>	<b>4.5</b>	<b>5.7</b>	<b>2.9</b>	<b>3.4</b>	<b>3.9</b>	<b>5.2</b>	<b>5.4</b>	<b>4.8</b>	<b>4.2</b>	<b>4.8</b>	<b>4.1</b>	<b>4.5</b>	
Compositional Effects + Bonuses, etc	2.0	1.0	-3.6	2.9	4.2	1.4	5.3	1.0	0.9	0.4	1.6	1.0	0.7	0.8	1.3	0.9	

(a) Assume workforce proportions are the same as Australia

Source: BIS Shrapnel, ABS, DEEWR

(b) Historical movements in Collective Agreements in QLD assumed to be the same as Australia

(c) Indiv Agreements picks up all the compositional effects and bonuses, incentives, etc, plus the standard errors of LPI and AWOTE estimates by ABS

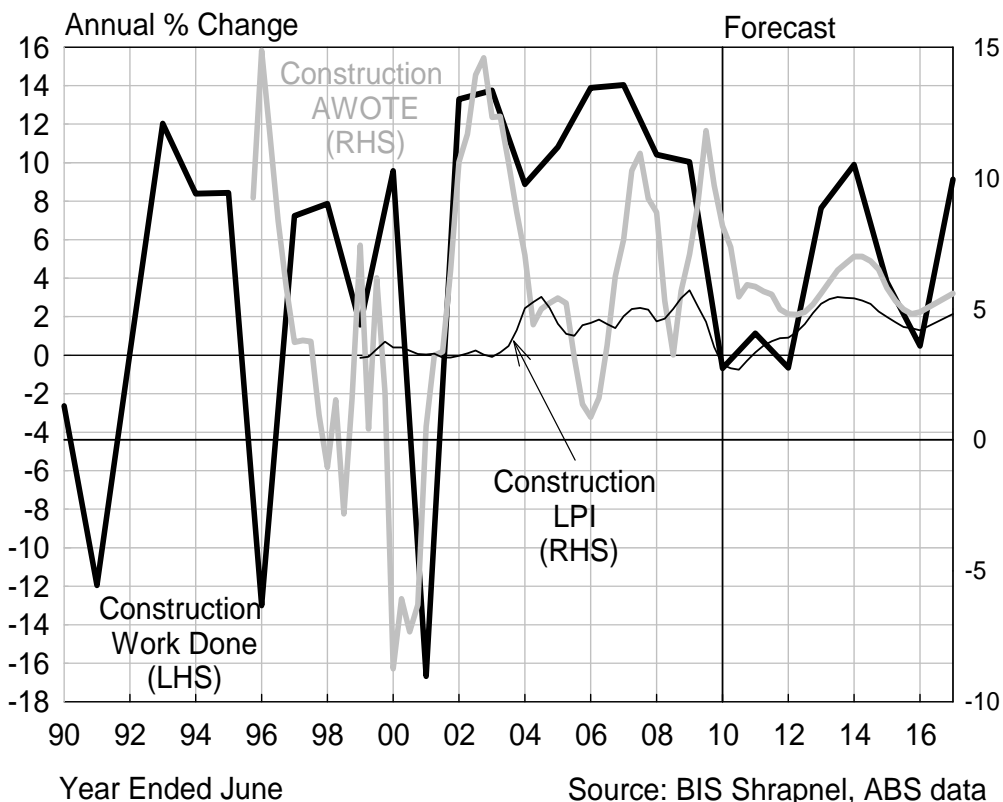
(d) Full-time Adult Persons, excluding overtime

**6.2.2 Construction Sector Wages Growth in Queensland**

Construction sector wages growth in Queensland tracks – or lags by around one year – the growth in total construction activity (see chart 6.1). Construction activity was extremely strong through most of the 2000s as the minerals investment boom and strong population growth (from both interstate and international migration) fuelled increased demand across all construction categories. However, since the onset of the global financial crisis and the subsequent weakening of the minerals boom, construction activity has been sustained mainly by significant public infrastructure investment. Total Queensland construction activity (measured in real ‘work done’ terms) is estimated to have fallen in 2009–10 as heavy declines in dwelling construction overshadowed marginal growth in non-dwelling construction. This fall in activity saw Queensland construction wages growth in LPI terms slow to 2.9 per cent in 2009–10 (after 5.7 per cent growth in 2008–09), although AWOTE growth is estimated to have picked up to 8.2 per cent from 7.1 per cent in 2008–09. Beyond 2009–10, undersupplied property markets and an easing in credit availability will see dwelling construction activity grow significantly, although declines across the other construction sectors will see overall construction decline again in 2010–11, followed by a small increase in 2011–12.

Despite the weakening in construction activity, Queensland construction LPI growth is forecast to pick up to 3.4 per cent in 2010–11, partly due to a ‘catch-up’ from the wage pause in 2009–10. AWOTE growth, however, is expected to ease to 4.4 per cent in 2010–11. In 2011–12 Queensland construction wages are expected to increase further, with the LPI and AWOTE forecast to increase by 3.9 per cent and 4.8 per cent respectively.

**Chart 6.1: Queensland Construction Work Done Vs Construction Wages**



Beyond 2011–12, Queensland will benefit from rolling investment cycles. Initially, strong growth in dwelling construction and a stabilisation across engineering and non-dwelling construction will drive growth in total construction work done. Engineering construction is forecast to recover from 2012–13 and grow strongly over the following two years as the next round of minerals, energy and infrastructure investment ramps up. Non-dwelling building will also begin increasing



**Table 6.3: AWOTE Persons by State – Construction  
(Year Average Growth)**

Year Ended May	NSW		VIC		QLD		SA		WA		TAS		NT		ACT		AUSTRALIA	
	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch
1985	397.7		334.5		366.1		333.4		377.7		357.6		380.7		424.9		380.7	
1986	417.7	5.0	360.1	7.7	370.4	1.2	364.4	8.5	392.6	3.8	380.8	6.1	423.0	10.0	467.0	9.0	400.6	5.2
1987	443.0	6.0	394.5	9.5	398.7	7.6	375.2	3.0	441.8	12.5	402.7	5.8	466.0	10.2	500.6	7.2	432.2	7.9
1988	474.7	7.2	426.7	8.2	422.0	5.8	406.5	8.3	431.0	-2.4	411.0	2.1	485.5	4.1	514.2	2.7	456.5	5.6
1989	516.2	8.7	462.3	8.3	465.0	10.2	425.9	4.8	449.3	4.3	435.9	6.1	484.2	-0.3	546.4	6.3	492.4	7.9
1990	597.8	15.8	482.7	4.4	478.6	2.9	449.9	5.6	526.6	17.2	461.4	5.8	489.8	1.2	601.0	10.0	542.1	10.1
1991	584.0	-2.3	500.7	3.7	510.4	6.6	474.0	5.4	591.3	12.3	481.0	4.2	527.2	7.6	563.2	-6.3	557.5	2.8
1992	620.8	6.3	506.8	1.2	513.2	0.5	505.6	6.7	648.0	9.6	501.9	4.4	581.0	10.2	600.3	6.6	580.2	4.1
1993	609.0	-1.9	496.4	-2.0	510.5	-0.5	515.3	1.9	596.4	-8.0	503.7	0.3	578.3	-0.5	665.9	10.9	567.1	-2.3
1994	604.0	-0.8	545.9	10.0	556.2	9.0	497.7	-3.4	643.3	7.9	522.2	3.7	610.0	5.5	638.0	-4.2	593.1	4.6
1995	674.1	11.6	553.7	1.4	551.2	-0.9	479.4	-3.7	677.0	5.2	503.7	-3.6	701.1	14.9	675.9	5.9	618.0	4.2
1996	703.4	4.3	572.0	3.3	633.2	14.9	512.1	6.8	684.4	1.1	593.0	17.7	598.6	-14.6	767.7	13.6	652.0	5.5
1997	769.7	9.4	596.9	4.3	656.9	3.7	527.4	3.0	708.5	3.5	692.0	16.7	638.6	6.7	671.7	-12.5	682.2	4.6
1998	731.1	-5.0	675.8	13.2	650.0	-1.0	573.7	8.8	718.8	1.5	647.5	-6.4	683.3	7.0	701.6	4.4	704.0	3.2
1999	772.0	5.6	637.0	-5.7	698.3	7.4	632.7	10.3	766.5	6.6	680.5	5.1	698.9	2.3	750.3	6.9	724.7	2.9
2000	781.3	1.2	634.8	-0.4	637.3	-8.7	648.5	2.5	837.4	9.3	623.1	-8.4	855.3	22.4	763.8	1.8	722.1	-0.4
2001	771.1	-1.3	665.3	4.8	640.6	0.5	732.3	12.9	782.7	-6.5	608.8	-2.3	795.3	-7.0	797.1	4.4	730.5	1.2
2002	835.9	8.4	687.4	3.3	708.6	10.6	694.8	-5.1	783.6	0.1	650.7	6.9	794.4	-0.1	803.7	0.8	769.6	5.3
2003	922.4	10.3	772.7	12.4	795.9	12.3	618.9	-10.9	778.6	-0.6	659.5	1.4	886.1	11.5	864.4	7.6	832.3	8.2
2004	941.7	2.1	814.8	5.4	852.1	7.1	700.5	13.2	871.5	11.9	679.1	3.0	924.2	4.3	805.6	-6.8	875.2	5.1
2005	988.6	5.0	849.1	4.2	898.2	5.4	860.2	22.8	980.4	12.5	741.3	9.2	969.6	4.9	806.8	0.1	924.6	5.7
2006	964.9	-2.4	877.4	3.3	906.0	0.9	855.3	-0.6	1022.8	4.3	849.4	14.6	952.0	-1.8	1132.7	40.4	941.8	1.9
2007	1000.4	3.7	909.0	3.6	975.4	7.7	915.7	7.1	1145.2	12.0	917.4	8.0	975.0	2.4	1089.5	-3.8	987.8	4.9
2008	1120.6	12.0	1020.7	12.3	1060.1	8.7	976.5	6.6	1175.7	2.7	948.0	3.3	1131.8	16.1	1201.3	10.3	1078.2	9.2
2009	1185.3	5.8	1137.7	11.5	1137.2	7.3	965.2	-1.2	1298.3	10.4	988.8	4.3	1117.5	-1.3	1220.9	1.6	1162.0	7.8
2010	1209.9	2.1	1275.0	12.1	1230.2	8.2	1070.7	10.9	1400.2	7.8	1048.4	6.0	1200.5	7.4	1230.2	0.8	1250.9	7.7
Forecast																		
2011					1284.6	4.4											1313.5	5.0
2012					1346.5	4.8											1379.4	5.0
2013					1421.9	5.6											1460.2	5.9
2014					1522.0	7.0											1560.1	6.8
2015					1610.5	5.8											1648.7	5.7
2016					1689.5	4.9											1731.1	5.0
2017					1784.0	5.6											1832.4	5.8
<b>Compound Annual Average Growth Rates</b>																		
1985-2010	4.6		5.5		5.0		4.8		5.4		4.4		4.7		4.3		4.9	
1990-2000	2.7		2.8		2.9		3.7		4.7		3.0		5.7		2.4		2.9	
2000-2010	4.5		7.2		6.8		5.1		5.3		5.3		3.4		4.9		5.6	
2005-2010	4.1		8.5		6.5		4.5		7.4		7.2		4.4		8.8		6.2	
2010-2017					5.5												5.6	
2012-2017					5.8												5.8	

Source: BIS Shrapnel, ABS Data

from 2013–14 as strong private sector investment overtakes weak public building activity, although this recovery will be partially offset by weaker dwelling building over 2013–14 and 2014–15. Overall, total construction activity will increase strongly in 2012–13 and 2013–14, before growth eases over the following two years.

The recovery in construction activity will lead to increasing wages growth, with growth in the QLD construction LPI predicted to peak in 2013–14 at 5.4 per cent, in line with the peak in construction activity growth, before weakening slightly over 2014–15 and 2015–16. Despite this weakening, LPI growth beyond 2012–13 will be greater than the national average. Construction AWOTE growth will track the improvement in ‘underlying wage inflation’ (ie the LPI), and peak at 7.0 per cent in 2013–14, before easing.

### **6.3 Non-construction External Labour**

External labour used in non-construction activities usually work across a range of mainly business services activities, including IT support, legal, accounting, consulting engineers, other consultants, etc. These activities would largely be categorical under the two sectors, Administration and Support Services (ASS), and Professional, Scientific and Technical Services (PSTS) for Queensland. The wage escalation forecasts are based on a weighted average of forecasts of wages in the two sectors in Queensland.

We have therefore assumed the consultant escalation to be identical to the escalation provided for Powerlink’s internal general labour. For numerical escalation factors see tables 5.9 to 5.11, with the rationale for the forecasts set out in section 5.3.



## 7. LABOUR ESCALATION FOR COMPETING INDUSTRIES

### 7.1 Key Points

- Mining and construction wages growth in Queensland will pick up over the next two years, and are then forecast to exhibit relatively high growth over 2012–13 to 2014–15 before easing. A key driver of the expected strong demand for labour and the high wages growth will be a ramping up of the mining investment boom, with the strengthening in other construction sectors (housing, non-residential building, infrastructure including utilities-related engineering construction) also adding to the upward pressure on labour demand and wages.
- While the pace of manufacturing wages growth will be more subdued in comparison, labour demand and wages growth in that sector will also accelerate over the next four years to relatively high levels over 2012–13 and 2013–14. Sub-sectors supplying materials and inputs to the state's construction and mining sectors, plus minerals processing (ie basic metals) will be strong over the forecast period, but other sub-sectors will be negatively impacted by the high Australian dollar.
- Strong demand for skilled labour from the mining, construction and parts of the manufacturing sectors in Queensland (and Australia) over the five years from 2012–13 to 2016–17, plus ongoing demand from the utilities sector, will result in relatively strong wages growth across all four sectors. This will be especially exacerbated by a tight labour market overall (the unemployment rate will be below 5% over the period) and particularly by skilled labour shortages in many of the professions and occupation relevant to all four sectors.
- Over the five years from 2012–13 to 2016–17, the annual average growth in wages (AWOTE) is forecast to be 5.8 per cent for the Queensland construction sector, 6.0 per cent for Queensland mining, and 4.9 per cent for the Queensland manufacturing sector, compared to 5.3 per cent in the Queensland electricity, gas and water sector.

### 7.2 Construction Wages

The forecasts and rationale for Australian and Queensland construction sector wages growth is set out in section 6. The forecasts are also shown in tables 7.1 and 7.2.

### 7.3 Mining Wages

The mining investment boom over the second half of the 2000s resulted in rapid employment growth in the mining sector, strong demand for labour — particularly skilled labour — and an escalation in wages growth. Rapidly rising commodity prices and high profits also fuelled the escalation in mining wages. Over the 2005–06 to 2009–10 period, mining sector wages growth in AWOTE terms averaged 6.7 per cent per annum and 5.2 per cent p.a. in LPI terms, at the Australian level. In Queensland, the growth in mining sector AWOTE over the same past five years was 7.6 per cent p.a.

Wages growth in the mining sector in LPI terms slowed sharply in 2009–10 in a lagged response to downturn in resource exports and output in 2008–09, caused by the global financial crisis. Meanwhile, mining AWOTE growth in 2009–10 remained high (7.2 per cent) due to compositional effects — the cut backs in mining employment impacted disproportionately on lower paid workers, boosting the overall average wage. Employment growth has bounced back, and although mining LPI growth is forecast to pick-up to 4.3 per cent in 2010–11, AWOTE growth is expected to ease back toward the 'underlying' wage (i.e. the LPI). Thereafter, both AWOTE and LPI growth is forecast to accelerate over 2011–12 to 2013–14, before easing — but still exhibiting relatively high growth — over the 2014–15 to 2016–17 period.

Table 7.1: Electricity, Gas &amp; Water Services vs Competitor Industries, Australia

Year Ended June	Average Weekly Ordinary Time Earnings (1)				Labour Price Index			
	EGW	Construction	Manufacturing	Mining	EGW	Construction	Manufacturing	Mining
	%CH	%CH	%CH	%CH	%CH	%CH	%CH	%CH
1990								
1991	4.7	2.8	6.3	6.7				
1992	6.0	4.1	3.5	9.7				
1993	2.9	-2.3	1.8	5.7				
1994	3.1	4.6	2.2	10.8				
1995	3.2	4.2	7.3	-1.2				
1996	6.7	5.5	4.3	8.3				
1997	6.7	4.6	1.7	2.7				
1998	7.5	3.2	5.7	6.7				
1999	4.2	2.9	4.7	3.3	3.2	3.3	3.3	2.6
2000	6.4	-0.4	2.7	3.9	3.8	2.9	2.8	2.5
2001	6.4	1.2	2.2	4.8	3.9	4.1	3.2	3.1
2002	7.4	5.3	6.5	2.4	4.2	3.3	3.3	3.5
2003	2.8	8.2	9.8	2.7	4.3	3.3	3.7	3.6
2004	6.5	5.1	4.3	4.7	4.3	3.7	3.2	2.9
2005	3.4	5.7	3.1	2.2	4.4	5.2	3.8	4.1
2006	1.6	1.9	4.4	4.5	5.5	4.9	4.0	5.0
2007	4.0	4.9	4.7	6.5	5.0	4.9	3.7	6.0
2008	3.3	9.2	4.2	8.1	4.1	4.7	4.5	5.8
2009	6.5	7.8	5.3	7.3	4.5	4.7	3.5	5.7
2010	7.7	7.7	1.8	7.2	4.4	3.3	2.3	3.6
Forecasts								
2011	4.8	5.0	4.0	4.9	4.5	3.8	3.5	4.3
2012	4.9	5.0	4.3	5.2	4.7	4.2	3.9	4.9
2013	5.3	5.9	4.9	6.1	5.1	5.3	4.5	5.6
2014	5.4	6.8	5.3	6.7	5.1	5.3	4.4	6.0
2015	5.2	5.7	4.6	6.5	4.8	4.6	3.7	5.3
2016	5.0	5.0	4.3	5.4	4.6	4.3	3.9	4.7
2017	5.3	5.8	4.7	5.4	4.9	5.0	4.3	5.2
Compound Annual Growth Rates (2)					Compound Annual Growth Rates (2)			
1990-2000	5.1	2.9	4.0	5.6				
2000-2010	4.9	5.6	4.6	5.0	4.3	4.2	3.5	4.3
2005-2010	4.6	6.2	4.1	6.7	4.6	4.5	3.6	5.2
2010-2017	5.1	5.6	4.6	5.8	4.7	4.6	4.0	5.2
2012-2017	5.2	5.8	4.8	6.0	4.8	4.9	4.1	5.4

Source: BIS Shrapnel, ABS data

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

(2) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

Driving the high wages growth over the 2011–12 to 2016–17 period will be strong demand for labour, and particularly skilled labour, as a result of the mining investment boom projected to occur over the forecast period. Projections for continued strong economic growth in China and India — with their long term programs of industrialisation and urbanisation, which are metals and energy intensive — plus ongoing growth throughout other parts of Asia and, by mid-decade, a sustained recovery in the US and European economies, will all combine to underpin healthy demand for minerals and energy. Commodity prices have already rebounded from the slump of 2008–09, and further price rises are forecast over the next few years. Prices over the next seven years are expected to be well above historical averages, both in real and nominal terms.

The strong outlook is encouraging another major round of mining investment which will ramp up further from 2011–12. The capital intensive nature of mining means not only that labour costs are usually a low proportion of total costs, but that the mining sector has a requirement for more highly skilled labour. Relatively high prices also mean that the mining sector can afford to offer higher wages.

In Queensland, the current round of mining investment is dominated by coal mining, including harbours. Coal mining investment is forecast to increase further over the next six years, with further heavy investment in coal related harbours and railways ramping up from around 2012. Adding to the volume of investment from around 2013 is the expected construction of LNG plants, with this work rising to a peak in 2014–15 and continuing around those high levels until 2016–17. Increased investment activity is also expected in the bauxite, alumina and other base metals over the 2012–13 and 2016–17 period.

Overall, mining sector wages in AWOTE terms are forecast to average 6.0 per cent per annum over the five years from 2012–13 to 2016–17 at both the Australian and Queensland levels. In terms of competition with the electricity, gas and water sector, it will be the utilities' workforce in regional areas which will face the most pressure for higher wages.

#### **7.4 Manufacturing Wages**

Growth in manufacturing has lagged the growth in all industries wages over the last decade, both in AWOTE and LPI terms, at the Australian level. Employment and output growth have been weak overall, with the manufacturing sector one of the sectors hardest hit by the global financial crisis. However, employment in the sector appears to have stabilised after declining over the past two years. Meanwhile, output has rebounded sharply over recent quarters.

Moderate growth in output is expected over the next three years alongside a modest recovery in employment over 2011–12 and 2012–13, before growth eases over 2013–14 and 2014–15 due to the expected rise in interest rates in 2012–13. Growth in output and employment is subsequently expected to strengthen over 2015–16 and 2016–17.

Output and employment growth in Queensland's manufacturing sector is expected to follow a similar cycle to the national manufacturing sector, but higher growth in both output and employment is forecast for Queensland manufacturing over the 2011–12 to 2016–17 period (see table 2.3 for output forecasts). Higher growth will be the result of stronger growth in construction activity during most of this period (boosting the state's building and construction materials sectors); buoyant demand from Queensland's (and other states') mining sectors for inputs such as explosives, chemicals, equipment, etc; and from solid growth in the metals processing segments (alumina, nickel, copper, zinc). However, some of the strong growth will be partially offset by the negative impacts on industry competitiveness due to the higher Australian dollar.

Overall, AWOTE growth in Queensland's manufacturing sector is forecast to average 4.9 per cent per annum over the five years from 2012–13 to 2016–17, slightly higher than the Australian manufacturing AWOTE of 4.8 per cent p.a.

Table 7.2: Electricity, Gas &amp; Water Services vs Competitor Industries, Queensland

Year Ended June	Average Weekly Ordinary Time Earnings (1)							
	EGW		Construction		Manufacturing		Mining	
		%CH		%CH		%CH		%CH
1990	552		479		442		682	
1991	565	2.5	510	6.6	472	6.8	728	6.7
1992	585	3.4	513	0.5	485	2.8	749	2.9
1993	598	2.2	510	-0.5	498	2.6	828	10.6
1994	619	3.6	556	9.0	507	1.9	936	13.0
1995	651	5.2	551	-0.9	552	8.8	953	1.8
1996	694	6.6	633	14.9	555	0.7	1037	8.8
1997	746	7.5	657	3.7	576	3.7	1098	5.9
1998	778	4.2	650	-1.0	604	4.9	1257	14.5
1999	820	5.4	698	7.4	626	3.6	1239	-1.5
2000	883	7.7	637	-8.7	646	3.2	1196	-3.4
2001	926	4.8	641	0.5	647	0.1	1265	5.7
2002	978	5.7	709	10.6	651	0.8	1357	7.3
2003	1018	4.1	796	12.3	722	10.9	1436	5.8
2004	1151	13.1	852	7.1	797	10.2	1363	-5.1
2005	1268	10.1	898	5.4	812	1.9	1407	3.3
2006	1218	-3.9	906	0.9	827	1.9	1519	7.9
2007	1227	0.7	975	7.7	855	3.4	1621	6.7
2008	1260	2.7	1060	8.7	901	5.4	1714	5.7
2009	1347	6.9	1137	7.3	992	10.1	1907	11.3
2010	1409	4.6	1230	8.2	1071	7.9	2112	10.7
Forecasts								
2011	1475	4.7	1285	4.4	1129	5.5	2222	5.2
2012	1546	4.8	1347	4.8	1175	4.0	2339	5.2
2013	1628	5.3	1422	5.6	1235	5.1	2477	5.9
2014	1719	5.6	1522	7.0	1304	5.6	2646	6.8
2015	1808	5.2	1610	5.8	1368	4.9	2821	6.6
2016	1899	5.0	1690	4.9	1429	4.4	2974	5.4
2017	1998	5.2	1784	5.6	1496	4.7	3130	5.2
Compound Annual Growth Rates (2)								
1990-2000	4.8		2.9		3.9		5.8	
2000-2010	4.8		6.8		5.2		5.8	
2005-2010	2.1		6.5		5.7		8.5	
2010-2017	5.1		5.5		4.9		5.8	
2012-2017	5.3		5.8		4.9		6.0	

Source: BIS Shrapnel, ABS data

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

(2) e.g. CAGR for 2012-2017 is CAGR for 2012/13 to 2012/17 inclusive.

Table 7.3: Mining, Average Weekly Ordinary Time Earnings – Person by State, \$/week

Year Ended May	NSW		VIC		QLD		SA		WA		TAS		NT		ACT		AUSTRALIA	
	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch
1985	440.8		488.4		488.9		476.1		456.2		390.4		461.7		505.8		505.8	
1986	482.5	9.4	556.6	14.0	481.9	8.5	495.0	3.8	485.8	6.1	433.8	10.0	507.4	9.0	546.9	8.1	546.9	8.1
1987	534.5	10.8	614.5	10.4	508.3	5.5	519.6	5.0	515.7	6.1	423.7	-2.3	544.5	7.3	585.5	7.1	585.5	7.1
1988	538.8	0.8	695.1	13.1	533.8	5.0	554.2	6.7	526.2	2.0	485.5	14.6	597.7	9.8	616.4	5.3	616.4	5.3
1989	576.2	6.9	748.0	7.6	568.1	6.4	605.7	9.3	601.8	14.4	480.2	-1.1	649.1	8.6	660.0	7.1	660.0	7.1
1990	602.7	4.6	787.0	5.2	569.5	0.2	646.6	6.7	643.9	7.0	584.3	21.7	637.1	-1.8	699.6	6.0	699.6	6.0
1991	676.0	12.2	666.3	-15.3	634.9	11.5	674.1	4.3	727.5	13.0	587.3	0.5	613.1	-3.8	746.2	6.7	746.2	6.7
1992	785.8	16.2	679.4	2.0	733.9	15.6	744.1	10.4	699.2	-3.9	596.0	1.5	627.9	2.4	818.5	9.7	818.5	9.7
1993	777.4	-1.1	660.5	-2.8	765.5	4.3	849.4	14.1	695.9	-0.5	728.1	22.2	648.1	3.2	865.0	5.7	865.0	5.7
1994	815.7	4.9	804.5	21.8	779.9	1.9	980.5	15.4	747.6	7.4	764.7	5.0	627.2	-3.2	958.1	10.8	958.1	10.8
1995	785.7	-3.7	621.0	-22.8	797.9	2.3	955.6	-2.5	850.4	13.7	783.4	2.4	556.5	-11.3	946.7	-1.2	946.7	-1.2
1996	804.5	2.4	723.2	16.5	861.6	8.0	1074.0	12.4	884.8	4.0	866.1	10.6	610.1	9.6	1024.9	8.3	1024.9	8.3
1997	849.8	5.6	910.4	25.9	889.4	3.2	1024.5	-4.6	868.0	-1.9	1004.6	16.0	739.0	21.1	1052.2	2.7	1052.2	2.7
1998	878.2	3.3	1092.3	20.0	926.1	4.1	1076.5	5.1	970.3	11.8	1055.1	5.0	648.9	-12.2	1122.2	6.7	1122.2	6.7
1999	947.0	7.8	1114.4	2.0	941.3	1.6	1142.7	6.1	1020.2	5.1	977.2	-7.4	672.3	3.6	1158.9	3.3	1158.9	3.3
2000	1002.0	5.8	1007.4	-9.6	1042.0	10.7	1268.3	11.0	1092.5	7.1	1039.6	6.4	715.1	6.4	1203.5	3.9	1203.5	3.9
2001	1066.7	6.5	1097.4	8.9	1125.8	8.0	1291.7	1.8	1162.4	6.4	1145.5	10.2	674.5	-5.7	1261.4	4.8	1261.4	4.8
2002	1093.4	2.5	927.9	-15.4	1094.1	-2.8	1338.0	3.6	1158.3	-0.3	1208.9	5.5	813.1	20.5	1291.5	2.4	1291.5	2.4
2003	1104.2	1.0	1198.8	29.2	1204.0	10.0	1387.4	3.7	1168.5	0.9	1177.8	-2.6	760.3	-6.5	1326.5	2.7	1326.5	2.7
2004	1215.4	10.1	1447.5	20.7	1394.1	15.8	1470.3	6.0	1171.1	0.2	1345.0	14.2	1078.9	41.9	1389.1	4.7	1389.1	4.7
2005	1274.6	4.9	1484.0	2.5	1480.3	6.2	1473.4	0.2	1226.0	4.7	1441.6	7.2	1028.6	-4.7	1419.1	2.2	1419.1	2.2
2006	1350.3	5.9	1552.6	4.6	1447.0	-2.3	1526.1	3.6	1318.2	7.5	1624.2	12.7	1142.6	11.1	1483.6	4.5	1483.6	4.5
2007	1381.7	2.3	1637.4	5.5	1511.9	4.5	1697.0	11.2	1292.2	-2.0	1549.7	-4.6	1075.9	-5.8	1579.9	6.5	1579.9	6.5
2008	1391.7	0.7	1613.7	-1.4	1719.3	13.7	1910.5	12.6	1376.6	6.5	1597.8	3.1	1139.0	5.9	1707.3	8.1	1707.3	8.1
2009	1486.5	6.8	1806.2	11.9	1825.7	6.2	2055.1	7.6	1443.2	4.8	1816.8	13.7	1233.5	8.3	1832.5	7.3	1832.5	7.3
2010	1669.9	12.3	n/a		1985.2	8.7	2216.0	7.8	1616.4	12.0	1797.7	-1.1	n/a		1964.2	7.2	1964.2	7.2
Forecast																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
1985-2010		5.5		5.6		6.0		6.3		6.2		6.3		4.2		5.6		5.6
1990-2000		5.2		2.5		5.8		7.0		6.2		5.9		1.2		5.6		5.6
2000-2010		5.2		6.7		5.8		5.7		4.0		5.6		6.2		5.0		5.0
2005-2010		5.6		5.0		8.5		8.5		5.7		4.5		4.6		6.7		6.7
2010-2017						5.8										5.8		5.8
2012-2017						6.0		6.0								6.0		6.0

n/a: AWOTE data not available after November 2009. Compound annual growth rates for Victoria and ACT are therefore 1985-2009, 2000-2009, and 2005-2009. Source: BIS Shrapnel, ABS Data



Table 7.4: Manufacturing, Average Weekly Ordinary Time Earnings - Person by State, \$/week

Year Ended	NSW		VIC		QLD		SA		WA		TAS		NT		ACT		AUSTRALIA		
	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	Year Avg \$	A%Ch	
May 1985	355.3		351.7		332.8		326.2		364.9		360.2		347.6		219.2		344.8		
1986	376.8	6.0	372.5	5.9	343.0	3.1	356.5	8.5	379.4	3.8	383.6	6.1	386.2	10.0	240.9	9.0	364.3	5.7	
1987	405.9	7.7	401.5	7.8	358.0	4.6	380.5	6.7	398.2	5.0	403.6	5.5	421.8	9.2	265.3	10.1	390.3	7.1	
1988	425.9	4.9	423.8	5.6	380.8	6.2	398.9	4.8	406.2	2.0	438.6	8.4	438.2	3.9	276.0	4.0	411.9	5.5	
1989	456.6	7.2	457.5	8.0	404.9	6.3	423.0	6.0	430.4	6.0	472.5	7.7	514.7	17.5	288.7	4.6	441.4	7.2	
1990	498.2	9.1	507.0	10.8	442.1	9.2	465.0	9.9	473.0	9.9	515.8	9.2	506.2	-1.6	328.9	13.9	484.2	9.7	
1991	537.8	7.9	527.7	4.1	471.9	6.8	499.8	7.5	502.8	6.3	547.6	6.2	590.4	16.6	327.4	-0.5	514.6	6.3	
1992	555.1	3.2	546.9	3.6	485.0	2.8	523.1	4.7	534.0	6.2	568.5	3.8	620.1	5.0	335.3	2.4	532.4	3.5	
1993	554.4	-0.1	562.6	2.9	497.6	2.6	528.4	1.0	560.7	5.0	574.3	1.0	658.0	6.1	340.0	1.4	541.9	1.8	
1994	568.7	2.6	573.9	2.0	507.1	1.9	534.1	1.1	601.0	7.2	572.6	-0.3	629.2	-4.4	367.8	8.2	553.9	2.2	
1995	627.6	10.4	617.7	7.6	551.6	8.8	560.5	4.9	592.5	-1.4	574.5	0.3	650.6	3.4	365.1	-0.7	594.2	7.3	
1996	653.3	4.1	648.0	4.9	555.3	0.7	592.2	5.7	626.9	5.8	602.9	4.9	693.4	6.6	417.1	14.2	619.8	4.3	
1997	658.2	0.7	647.8	0.0	575.9	3.7	610.7	3.1	650.7	3.8	656.0	8.8	700.7	1.0	501.7	20.3	630.5	1.7	
1998	691.1	5.0	695.2	7.3	604.2	4.9	630.6	3.2	694.6	6.7	696.0	6.1	806.7	15.1	542.5	8.1	666.1	5.7	
1999	716.3	3.6	737.1	6.0	625.8	3.6	680.3	7.9	710.0	2.2	715.1	2.7	872.2	8.1	482.2	-11.1	697.1	4.7	
2000	757.2	5.7	739.8	0.4	646.0	3.2	672.3	-1.2	736.6	3.8	727.6	1.8	916.3	5.1	415.0	-13.9	716.0	2.7	
2001	763.7	0.9	771.4	4.3	646.0	0.1	692.0	2.9	740.6	0.5	756.3	3.9	896.5	-2.2	501.8	20.9	731.6	2.2	
2002	825.4	8.1	837.7	8.6	651.4	0.8	736.9	6.5	808.1	9.1	792.7	4.8	866.7	-3.3	530.1	5.6	779.1	6.5	
2003	912.5	10.6	916.6	9.4	722.5	10.9	794.9	7.9	857.4	6.1	842.2	6.2	833.2	-3.9	518.7	-2.1	855.2	9.8	
2004	962.4	5.5	907.3	-1.0	796.5	10.2	854.1	7.5	939.3	9.6	874.0	3.8	871.7	4.6	514.0	-0.9	892.2	4.3	
2005	955.3	-0.7	954.0	5.1	811.7	1.9	908.2	6.3	1009.3	7.4	878.5	0.5	997.2	14.4	601.7	17.0	920.0	3.1	
2006	1012.3	6.0	980.5	2.8	826.8	1.9	934.0	2.8	1109.5	9.9	946.6	7.8	1222.8	22.6	635.8	5.7	960.3	4.4	
2007	1037.1	2.5	1049.2	7.0	855.1	3.4	983.1	5.3	1146.6	3.3	1008.9	6.6	1258.3	2.9	651.1	2.4	1005.8	4.7	
2008	1070.5	3.2	1108.0	5.6	901.4	5.4	1033.1	5.1	1157.1	0.9	1006.8	-0.2	1298.9	3.2	626.9	-3.7	1048.2	4.2	
2009	1114.0	4.1	1143.6	3.2	992.4	10.1	1108.4	7.3	1186.9	2.6	1008.4	0.2	1319.8	1.6	842.0	34.3	1103.9	5.3	
2010	1118.4	0.4	1164.2	1.8	1070.6	7.9	1135.6	2.4	1129.4	-4.8	1060.8	5.2	1379.7	4.5	951.1	13.0	1123.7	1.8	
Forecast																			
2011					1129.1	5.5											1168.6	4.0	
2012					1174.7	4.0											1219.1	4.3	
2013					1234.9	5.1											1279.3	4.9	
2014					1304.2	5.6											1347.4	5.3	
2015					1368.0	4.9											1409.2	4.6	
2016					1428.6	4.4											1470.3	4.3	
2017					1495.6	4.7											1539.2	4.7	
<b>Compound Annual Average Growth Rates</b>																			
1985-2010	4.7		4.9		4.8		5.1		4.6		4.4		5.7		6.0		4.8		
1990-2000	4.3		3.9		3.9		3.8		4.5		3.5		6.1		2.4		4.0		
2000-2010	4.0		4.6		5.2		5.4		4.4		3.8		4.2		8.6		4.6		
2005-2010	3.2		4.1		5.7		4.6		2.3		3.8		6.7		9.6		4.1		
2010-2017					4.9												4.6		
2012-2017					4.9												4.8		

Source: BIS Shrapnel, ABS Data

## APPENDIX A: ELECTRICITY, GAS AND WATER SUPPLY (EGW) VERSUS ELECTRICITY, GAS, WATER AND WASTE SERVICES (EGWWS)

### Potential Impact of the Recent Change to ABS Industry Classification ie Adding Waste Services to EGW

The reclassification of the industry sectors by the ABS which has been underway for more than a year has seen 'waste services' added to the EGW sector. Wages data classified under the new ANZSIC 2006 industry classification first became available in November 2009 — providing August 2009 for AWOTE and September quarter 2009 for LPI. Up to the June quarter 2009, industry wages data was still classified under the previous ANZSIC 1993 industry classification. Industry employment data has been classified under the new ANZSIC 2006 code since February 2009, while output (Gross Value Added) was reclassified from the September quarter 2009 (released early December 2009). All historical data (for wages, GVA, etc) was also reclassified.

The inclusion of the waste services sub-sector has led to lower wage growth outcomes for the combined EGW and Waste Services sector. Hence, it is not an accurate indicator for the mostly higher skilled (and more highly demanded) occupations in the EGW sector. Using a comparison of the historical wages and employment data of EGW versus EGW and Waste Services at the national (Australian) level, annual growth in the combined EGWWS sector is 0.1 per cent *less* on average than the EGW sector over the period from 1998–99 to 2008–09, and 0.6 per cent less on average over the same period for AWOTE. The overall wages growth average has also been dragged down by the fact that employment growth in the lower paid waste services sub-sector has outstripped growth in the higher paid EGW sector over the eleven years to November 2008 — 4.8 per cent p.a. for waste services compared to 3.8 per cent p.a. for EGW.

Access Economics stated that the Australian Energy Regulator (AER) commissioned Access Economics to provide forecasts for labour costs growth for the Electricity, Gas, Water and Waste services (utilities) industry to 2017-18. The problem for the electricity and indeed gas utilities dealing with the AER, is that the inclusion of waste services understates the growth in labour costs, both historically and going forward. The AER is supposed to deliver a ruling on labour and other cost escalators pertinent to the electricity and gas utilities.

**Table A-1: EGW V. EGWWS**

Year Ended June	AWOTE					LPI					EMPLOYMENT				
	EGW		EGWWS		Difference	EGW		EGWWS		Difference	EGW		EGWWS		Difference
	\$/week	%CH	\$/week	%CH	%CH	2004=100	%CH	2009=100	%CH	%CH	'000	%CH	'000	%CH	%CH
1998	832	7.5	796	6.3	1.2	79		64			64.5	-2.9	78.4	-2.5	-0.5
1999	867	4.2	827	3.9	0.3	82	3.2	66	3.0	0.2	64.8	0.6	78.9	0.6	-0.1
2000	923	6.4	867	4.8	1.6	85	3.8	68	3.8	0.0	64.2	-0.9	79.5	0.8	-1.7
2001	982	6.4	918	6.0	0.5	88	3.9	71	3.8	0.2	65.4	1.9	80.5	1.2	0.7
2002	1 055	7.4	981	6.8	0.6	92	4.2	74	4.2	0.0	67.5	3.1	83.1	3.2	-0.1
2003	1 085	2.8	1 001	2.1	0.8	96	4.3	77	4.1	0.1	72.8	7.9	89.6	7.8	0.1
2004	1 156	6.5	1 057	5.5	1.0	100	4.3	80	4.0	0.3	75.3	3.4	91.5	2.1	1.3
2005	1 195	3.4	1 091	3.2	0.2	104	4.4	83	4.3	0.1	76.7	1.9	95.2	4.1	-2.3
2006	1 214	1.6	1 111	1.9	-0.2	110	5.5	88	5.3	0.2	87.4	14.0	106.0	11.2	2.7
2007	1 262	4.0	1 152	3.7	0.3	115	5.0	92	4.8	0.1	85.1	-2.6	105.7	-0.3	-2.3
2008	1 304	3.3	1 183	2.7	0.6	120	4.1	96	4.1	-0.1	89.9	5.6	113.1	7.0	-1.4
2009	1 389	6.5	1 255	6.1	0.3	126	4.5	100	4.4	0.1	na	na	134.8	19.2	na
Average Growth Rates															
1998-09	4.8		4.2		0.6	4.3		4.2		0.1	3.8		4.6		-0.3

e: estimate

Source: BIS Shrapnel, ABS data

## **Key Personnel**

**Richard Robinson, B.Comm (Hons),  
Senior Economist  
Associate Director - Economics**

Richard Robinson has been employed with BIS Shrapnel since 1986.

Richard is the company's principal economic forecaster, being largely responsible for the short term economic forecasts presented at BIS Shrapnel's half yearly conferences in March and September. He contributes forecasts and analysis to the regular subscription services, *Economic Outlook* and *Long Term Forecasts*.

Richard regularly analyses and forecasts resources investment and civil engineering construction activity, and production of manufactures, consumer goods and commodities. In this work, he has developed considerable industry expertise in the construction, manufacturing, agriculture, services, commodity and resources sectors of the Australian and state economies.

Richard has also been involved in a wide range of consultancy and private client projects including formulating end-use sector demand models for forecasting product demand, project evaluation studies, cost-benefit analysis, assessments of individual property markets and analysing the consistency of escalators in contracts. Some other projects have included analysing and forecasting freight tonnages; a study of the repair and maintenance market; the preparation of economic arguments for the National Wage Case for a private industry group; regular analysis and detailed short and long term forecasts of economic variables in a number of overseas countries; and contributing discussion papers to CEDA (Committee for Economic Development of Australia).

**Kishti Sen, B.A., M.Ec. (Hons), Ph.D.  
Economist**

Kishti recently joined BIS Shrapnel after several years working as a macroeconomist at the Reserve Bank of Fiji. He works across both the Economics and Infrastructure and Mining units at BIS Shrapnel, using both top down and bottom-up methodologies in undertaking analysis of the economy and specific markets sectors. Since joining the company at the start of October 2007, Kishti has contributed to several of BIS Shrapnel's reports. The objectives of some of the research undertaken by Kishti have ranged from providing an outlook for land values in South Australia, to writing an economic statement in support of Unions NSW upcoming state wage case for 2008/09 to providing forecasts of construction costs in the water sector for ACTEW Corporation, a Canberra based utilities company.