

Labour Price Inflation: Response to GAAR Draft Decision and PEG Report

Final Report

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Prepared by BIS Shrapnel for

SP – AusNet, Envestra, and Multinet Gas

*BIS Shrapnel welcomes any feedback concerning the forecasts
or methodology used in this report as well as any suggestions
for future improvement.*

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BIS Shrapnel contact: Richard Robinson
Associate Director
BIS Shrapnel Pty Limited
Level 8, 181 Miller Street
North Sydney NSW 2060
Australia
Tel. +61 (0)2 9959 5924
Fax +61 (0)2 9959 5795

1. INTRODUCTION AND BACKGROUND

On 28th August, 2007, the Essential Services Commission of Victoria (ESC) provided its draft decision on the Gas Access Arrangement Review (GAAR) for the 2008–2012 period, for the three gas distribution business (GDBs) serving Victoria—SP AusNet, Envestra and MultiNet Gas. Part of this review addressed the wages growth forecasts presented by the GDBs in their submissions. Section 7.6 of the GAAR summarised these submissions: “Each of the distributors commissioned Meyrick and Associates to advise on the appropriate operations and maintenance expenditure rate of change formula and parameters to apply for 2008—2012”, plus “The three distributors also engaged BIS Shrapnel to provide an expert opinion regarding the level of wages growth that the three distributors should incorporate into their forecasts over the period to 2012/13”. In order to perform their calculations for expenditure, Meyrick applied a labour price inflation forecast of 5.7% per annum, based on the BIS Shrapnel 2008–13 forecast of average weekly ordinary time earnings (AWOTE) in its report *Outlook for Wages to 2012/13: Electricity, Gas and Water Sector, Australia and Victoria* (BIS Shrapnel, March 2007).

The Essential Services Commission subsequently engaged Pacific Economic Group (PEG) to undertake a review of the Meyrick and Associate reports — which included an examination of BIS Shrapnel’s March 2007 report. PEG’s findings were reported in their “Opex Rate of Change and Productivity: Response to Meyrick and Associates Reports” (Final report, July 2007). Among other requirements, the Commission asked PEG to “develop a set of criteria for evaluating whether Meyrick’s recommendations represent “the best estimate(s) arrived on a reasonable basis” of the parameters needed to set the opex rate of change formula.”¹

The ESC reported that “PEG considered that the Meyrick and Associates recommendations for operating expenditure PFP growth, labour price inflation and CPI growth were not the best estimates that could be derived for the following reasons:

- in relation to labour price inflation, PEG does not believe that relying entirely on the BIS Shrapnel forecast is a reasonable basis for a labour price projection. PEG states that it is more reasonable to consider both the Access Economics and BIS Shrapnel studies when developing a labour price inflation forecast to be used in the rate of change formula”.²

PEG recommended a labour inflation rate of 4.48% over the regulatory period, and the ESC appears to have totally accepted PEG’s recommendation in its determination of future operating costs. PEG recommended “placing a one-sixth weight on the BIS forecast and a five-sixths weight on the AE(2007) labor price projection. These weights are based on the criteria that were developed for evaluating whether an empirical forecast is consistent with being a best estimate arrived at on a reasonable basis. PEG’s analysis concludes that the AE(2007) estimates are superior to the BIS projections on five of these criteria, while the BIS forecast is superior on one criterion...AE(2007) forecasts 4.24% average labor price inflation for Victoria’s utilities sector over the term of the GAA. BIS Shrapnel recommends a 5.7% labor inflation measure. Applying five-sixths and one-sixth weights to these respective forecasts produces PEG’s recommended labor inflation rate of 4.48%”.³

¹ Pacific Economic Group, *Opex Rate of Change and Productivity: Response to Meyrick and Associates Reports*, July 2007, p2

² Essential Services Commission, *GAAR Draft Decision*, p178-179

³ PEG, *op. cit.*, p52

However, we believe PEG's analysis, judgements and recommendations are basically flawed and unnecessarily subjective. In deciding on the weighting criteria and its preference for the Access Economic's wage projections over BIS Shrapnel's wage projections, PEG arrived at a number of subjective judgements which were not adequately explained or justified. Some 'judgements' were not checked against publicly available facts or data.

In this document, BIS Shrapnel will respond to — and challenge — a number of PEG's judgements by presenting data (which PEG should have researched) and by providing a more detailed description of our methodology behind the initial wage forecasts presented in our March 2007 report. In addition, we will present some revised forecasts of national and utilities wages — in line with recent data and revisions to our macroeconomic forecasts — plus we will provide a wage forecast for Victorian utilities for the period 2008–2013. We will also address some of the assumptions included in Access Economic's report "Labour Cost Indices for the Energy Sector" (12 April 2007), which was not available at the time of BIS Shrapnel submitting its wage outlook report to the GDB's. The Access Economics 2007 (AE2007) report was essentially an update (with some additional work) of a report "Wage Growth Forecasts in the Utilities Sector" prepared in November 2006.

2. RESPONSE TO PEG EVALUATION CRITERIA AND THEIR JUDGEMENTS

PEG analysed a number of criteria when deciding whether the Access Economics (2007) wage projections were superior to those provided by BIS Shrapnel. These criteria were summarised in pages 34 to 37 of the PEG report, with some of their criteria/judgements explained further in pages 24 to 33 of that report. We will respond to each of the criteria (and PEG's comments) in turn.

Accuracy of the Data Employed

PEG believed "the BIS forecast is deficient in terms of accuracy since it applies to only male employees in the EGW sector and therefore does not accurately reflect the GDB's workforce, PEG therefore believes the AE(2007) is superior on this criterion".⁴

Data presented in table 2.1 shows that the difference in wages growth between males and all persons is less than 0.1% over the 22 years to 2006/07 inclusive. This is not surprising, given that males comprise around 80% to 85% of EGW employees (tables 2.2 and 2.3). Going forward, we expect the wage growth rates (in terms of full-time AWOTE) in the utilities sector for males and persons to be the same (or at most, have a difference of -0.1%), in line with historical trends, as presented in table 2.1.

The revised AWOTE forecasts presented in this report (section 3) will now use all persons. But, as the evidence of tables 2.1 to 2.3 show, this makes no difference to the wages growth outlook.

The data effectively disproves PEG's assertion that the BIS Shrapnel forecast for male workers only "does not allow for one important factor affecting the composition of GDB's workforce — the mix of male and female workers that are employed",⁵ and refutes PEG's claim that "there is a significant probability the wage measure used by BIS Shrapnel to project labour prices will overstate wage growth for all workers employed by the GDB's".⁶

⁴ PEG, op. cit, p34

⁵ ibid, p25

⁶ ibid, p25-26

A second key factor supporting the data showing little difference between males and all persons relates to pay setting arrangements in the utilities sector. Over 84% of employees in the electricity, gas and water sector have their pay set by collective agreements — the second highest proportion of all industry sectors (see table 2.6). Collective agreements usually have less divergence in the base pay increases under these agreements, than those set under individual agreements — so it is reasonable to assume that there will continue to be very little difference between males and all persons pay increases over the forecast period.

Accordingly, this criteria should *not* favour either Access Economics or BIS Shrapnel — and therefore not be included in any weighting.

Data Sources Reflect Relevant Business Conditions that Affect GDBs

PEG “believe the AE(2007) projection is superior on this criterion” because “AE has developed forecasts for each individual State and Territory...and it is important for the forecast used in the GAAR to reflect the relevant business conditions in Victoria rather than, say, Western Australia or Queensland”.⁷ There are a number of issues here.

Firstly, the individual State and Territory wage forecasts, which AE provides for the utilities sector (shown on page 66 of the AE(2007) report) are for the Labour Price Index (LPI). However, there is no historical series for LPI data in the electricity, gas and water sector by state. Because of small sample sizes and other technical difficulties, the Australian Bureau of Statistics (ABS) only provides state utilities LPI for two states (by special request), and for total Australia. This means that AE has no accurate historical basis on which to base its individual state utilities LPI forecasts.

Secondly, an analysis of state AWOTE data — which is available from the ABS for all states (on a special request for this unpublished data) — shows that over the long term, there is very little difference between the wage growth rates for employees in the electricity, gas and water sector across the states (see tables 2.4 and 2.5). Using the male AWOTE series for electricity, gas and water — in order to have a consistent series which is less affected by compositional effects of more/less female employees between the states — the long term growth rates between states is clustered around the long term average of 5.3 per cent per annum from 1984/85 to 2006/07, with Western Australia (6.0 per cent per annum on average) and the Northern Territory (4.8 per cent per annum on average) the two extremes. The average wage growth rates for the Victoria utilities sector was 5.2 per cent per annum, only marginally different to the national average of 5.3 per cent per annum, although growth rates for short-term periods have shown a greater divergence due to compositional changes within each state’s male utilities workforce.

This suggests that the national outlook for utilities wages growth will be more relevant to future Victoria utilities wages growth than overall differences in the strength of Victoria’s economy vis-à-vis Western Australia or Queensland. Given that Victoria presently (2006/07 data) accounts for over 25% of the total Australian utilities workforce (with NSW accounting for 28%, Queensland 18.8% and Western Australia 14%) it is also not surprising that Victoria’s utilities wage growth is normally close to the national average, as Victoria has a significant share of Australian utilities employment.

Thirdly, neither PEG nor Access Economics provided statistical evidence that wage setting in utilities between states is more strongly influenced by local business conditions compared to the industry-wide conditions within the utilities sector across Australia. Our data in tables 2.4 and 2.5 provides some evidence that industry-wide condition in the Australian utilities sector have more

⁷ *ibid.* p34

relevance over the longer term, and this is likely to continue *on average* over the next six years (2008–2013). It also supports our original contention with which PEG disagreed, i.e. “the wage pressures [in Victoria’s electricity, gas and water sector] will be no less acute [than Western Australia and Queensland]. The Victoria utilities sector will need to offer competitive wages to retain its existing workforce and attract new recruits...[and] that growth in both AWOTE and the wage cost index [now renewed to Labour Price Index] in Victoria’s electricity, gas and water sector will be at, or close to, the national average for the electricity, gas and water sector.”⁸

Fourth, PEG basically ignores the fact that AE(2007)’s Victorian utilities’ wage forecast is also ‘close to’ the national utilities wage forecast over the 2008–2013 period. The Nominal LPI forecast for the Victoria utilities LPI has an annual average of 4.24 per cent over the 2008/09 to 2012/13 period inclusive, compared to 4.30 per cent for Australia over the same period. It could be reasonably argued that a difference of 0.06 per cent is ‘close to’ the national average, which is the same as BIS Shrapnel’s position.

Accordingly, given the above — and particularly given AE’s Victorian wage forecast is close to the national average — the criteria should not favour either Access Economics or BIS Shrapnel, and therefore not be included in any weighting.

The Use of Rigorous Techniques

PEG believes the AE(2007) projection is superior on this criterion because “PEG believes that AE(2007) presents a more detailed and analytically sound framework for analysing labour price trends than BIS. This conclusion stems from the fact that AE’s analysis considers a wider range of factors that can affect the demand and supply of labour”.⁹

PEG’s first statement is a purely *subjective* judgement. In its report, BIS Shrapnel presented a detailed and analytically sound framework which also considered a wide range of relevant demand and supply factors. It is a subjective judgement to claim AE’s analysis was *more* detailed and considered a *wider* range of factors. Indeed, AE devoted a great deal of discussion to how conditions in the mining and construction sector will affect utilities wages, without actually providing some historical precedents that the expected downturn in mining investment and construction sector activity will drag down utilities wage *below* the national average in 2009/10 and 2010/11. As our discussion in this section and the next section (‘Robustness’) will show, it is highly improbable that utilities wages growth will fall below the national average any time over the next six years, even if construction conditions weaken and that sector’s wages growth falls below the national average. As such, even if one accepted PEG’s subjective arguments that AE’s analysis was wider and more detailed, the key question should be: are these more detailed and wider factors *relevant* to analysing labour price trends?

To analyse and understand labour price trends, both at the national and industry-specific level, it is important to understand how wages are determined. As discussed in section 3.2 of the BIS Shrapnel report (March 2007), there are three main methods of setting pay affecting different parts of the workforce (see table 2.6):

- Those dependent on awards rely on pay increases given in the annual National Wage case by the Fair Pay Commission (formerly by the Australian Industrial Relations Commission). At the

⁸ BIS Shrapnel, Outlook for Wages to 2012/13: Electricity, Gas and Water Sector, Australia and Victoria. March 2007. (quote also reproduced in PEG, op.cit. p27)

⁹ PEG, op.cit. p34

all industries level, 19.0% of all employees (data excludes those in agriculture, forestry and fishing) have their pay rises determined by this method (the proportions here are slightly different to those in table 3.2 of the March 2007 BIS Shrapnel report, because the May 2006 data was only released on 20 April, 2007). In the electricity, gas and water sector, only 0.9% of workers have their pay set by this method.

- Collective agreements negotiated under enterprise bargaining account for 41% of all employees, but 84.4% of electricity, gas and water employees' wage increases are determined by this method.
- The remaining 40% 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 14.7%.

This analysis shows that collective bargaining dominates the wage outcomes in the utilities sector, while table 2.7 shows that the utilities sector has consistently had higher wage increases under collective agreements than the all industries average, except in 2000 (note DEWR data for wage increases under current agreements by industry sector only starts in 1999/2000). Our analysis in table 2.8 shows that pay increases in the individual arrangements segment of the utilities sector is also usually higher than the all industries average.

Note in table 2.8, wage increases under 'individual arrangements' are calculated by deduction. Data from either ACIRRT (Australian Centre for Industrial Relations Research and Training) or 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 1.7 per cent increase in all industries AWOTE in 2005/06. Using the proportions of the workforce under each pay setting method (and with total AWOTE measured at 4.8 per cent) then the individual arrangements is calculated (as a residual) at 7.0 per cent in 2005/06. The same methodology was used to calculate individual arrangements using the labour price index.

The main problem with this methodology is that because individual arrangements are calculated as a residual, all of the compositional effects in terms of AWOTE (i.e. 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). Going forward, the higher wage increases forecast over the next five years for AWOTE compared to the LPI in the utilities sector reflects two factors:

- the upskilling of the large number of apprentices and other less skilled workers hired over the last two or three years, and
- the relatively flat employment profile expected over the next six years (see table 2.2), with no large influxes or exits of low-paid workers expected to have significant compositional effects.

Furthermore, table 2.7 shows that the Retail Trade and Accommodation, Cafes and Restaurants sectors consistently have lower wage outcomes than the all industries average over the past decade. Added to this is the fact that these two sectors have the highest proportion of employees dependent on 'awards only' pay increases (see table 2.6). The combination of lower-than-average increases under collective bargaining and relatively low award pay increases (see table 2.8)

means that overall wages growth in these two sectors is usually well below the total all industry average (see table 4.1, BIS Shrapnel March 2007). Given that the Retail Trade and Accommodation, Cafes and Restaurants (often called the 'hospitality' sector) collectively account for 20% of all industries employment, these two sectors normally combine to drag down the all industries average.

The Access Economics analysis did not consider how wages are determined in the 'real world', where 60% of all industries employees have their pay set by institutionalised arrangements. AE's 'more detailed' analysis discussed wages growth in a theoretical context which split wages into three significant components — underlying inflationary trends, growth in relevant productivity levels and cyclical factors. While these factors do influence wages growth, forecasts of wages growth need to properly consider the institutional realities of pay setting arrangements to be analytically sound.

Furthermore, AE's sectoral labour price forecasts were modelled to account for three factors:

- Industry growth trends
- Industry productivity trends
- Judgemental adjustments¹⁰

The last factor in their model means there is an element of subjective *opinion* as to what wages growth should be in an industry sector, based on *their* view of the relevant factors. Similarly, BIS Shrapnel's and other forecasters (such as Econtech — discussed later in this report) also introduce elements of subjective judgements in their forecasts, based on a range of factors. AE's use of similar subjective judgements therefore does not make AE's analysis of labour price trends "more detailed and analytically sound," than our 'judgemental adjustments'.

We particularly take issue with AE's nominal wages growth in the utilities sector in 2009/10 and 2010/11 which falls below the all industries average. For utilities wages growth to fall below the national average, this would require:

- Very low increases in utilities collective agreements, and they would probably need to be below increases in the Retail Trade collective agreements. Given a strong union presence in the utilities sector, this is highly improbable.
- Award pay rises in the National Wage Case given in those years would need to be well above the rises given under utilities collective agreements — which is again highly improbable.

The macroeconomic forecasts of both AE and BIS Shrapnel assume a slowing in employment growth and an easing in national wages growth over 2008/09 to 2009/10 or 2010/11. However, these weaker economic conditions are likely to affect other sectors — such as Retail Trade and Accommodation, Cafes and Restaurants — relatively more than the utilities sector, which tends to have less cyclical output. Accordingly, we would argue that AE's National (and Victorian) utilities wage forecasts in 2009/10 and 2010/11 are not analytically sound and are basically incorrect.

On the other hand, we believe our forecast analysis in table 2.8 provides an enhancement to our March 2007 report and presents the national and utilities wage forecasts in more detailed and analytically sound framework for analysing and forecasting wage trends than AE. Therefore, BIS

¹⁰ Access Economics, "Labour Cost Indices for the Energy Sector", 12 April, 2007

Shrapnel's projection should be judged to be superior on this criterion, or at the very least, this criteria should not favour either Access Economics or BIS Shrapnel.

Robustness

PEG's reason for considering AE superior on this criterion is that "AE(2007) presents a more detailed and persuasive analysis of the factors that have driven past and current demand for construction and mining labour and the extent to which those factors will continue to prevail in the future".¹¹

Once again, this is a subjective judgement, where PEG accepted AE's arguments that the slowdown in the demand for mining and construction labour would lead to an easing in wage pressures in the construction and utilities sectors. However, as charts 2.1 and 2.2 show, there is not a particularly strong correlation between construction wages growth and utilities wages growth. Utilities wages growth hasn't always fallen in tandem with construction wages growth, and there is little evidence to suggest that it will track down later this decade when AE expects construction wages to weaken sharply (below the national average).

PEG also made a subjective judgement when it claimed that BIS Shrapnel's scenario of a large long term capital works and maintenance programme in the utilities sector contained "a considerable amount of uncertainty".¹² All forecasts contain some uncertainty, but our forecasts of the large, long-term capital works program is backed up by substantial research of private and public utilities, and other sources, including Access Economics' *Investment Monitor*. Our forecast of the capital works and maintenance program was shown in chart 5.1 in the March 2007 report, with the capital works forecasts derived from BIS Shrapnel's *Engineering Construction in Australia: 2006 to 2021*. Given a number of major announcements since that report was published in early 2007, the investment program is now expected to be larger. Indeed, the large volume of work expected over the next few years is a key factor why we believe the labour market for the utilities sector will remain relatively tight for longer than AE. Also, at issue here is that PEG did not claim that there was a degree of uncertainty in AE's projections, but, given the range of arguments were presented in similar fashion to BIS Shrapnel — with similar uncertainties — this would suggest a subjective judgement (or even bias) in favour of AE.

PEG also accepts the AE argument "that the supply side of the labour market is beginning to respond to demand pressures. These responses include greater numbers of mining engineers coming out of Australian universities and greater migration within and to Australia to areas of where labour demand is greatest".¹³

However, it takes a 4 to 5 years to finish an engineering degree and additional years to gain the necessary experience to provide the requisite skills required by the industries (such as utilities, construction and mining). As such, skilled labour shortages are likely to persist well into the regulatory period. Econtech, in its report prepared for the Australian Energy Regulator "Labour Costs Growth Forecasts" (13 August 2007) also agreed with this assessment and analysed it further:

"To address the current skill shortages in these industries, a number of measures have been introduced to actively increase the supply of engineers. For instance the Australian Group of

¹¹ PEG, op.cit. p34

¹² ibid, p31

¹³ ibid, p33

Technical Universities has started a program to encourage students to study engineering. This program is expected to provide an extra 3,300 engineers over the next four years. However the shortage in engineers ranges from new graduates to experienced senior managers. As such, while the new programme could provide additional engineers, it will take some years before these new engineering graduates are experienced enough to also fill the more senior level shortages. This means that the wage pressures for experienced engineers are unlikely to ease in the near future.

Additionally, skilled migration has also been used to help ease the supply gap for engineers. According to Engineering Australia, the number of immigration applications by engineers is on the rise. However, despite this increase in skilled migrants, it is still insufficient to meet the rising demand.”¹⁴

Overall, we don't believe that PEG has provided an objective judgement with regard to robustness and accordingly, this criterion should not favour either Access Economics or BIS Shrapnel.

Historical Consistency

We take issue with PEG's position that this criterion is not “relevant for either BIS or AE(2007), so it does not favour either company's forecast”¹⁵ AE state wage forecasts for the utilities, construction and mining sectors are based on state industry labour price indices (LPIs), but a historical time series of state LPIs by industry is not available from the ABS for all states (the ABS was prepared to release historical data for only two states for EGW and Mining and five states for the Construction sector). Therefore, AE's choice of wage variable for the states has no historical consistency — it certainly could not be modelled for forecasting purposes. State AWOTE by industry is available for all states and therefore has historical consistency.

Accordingly, we believe this criterion favours BIS Shrapnel.

Reflects Long Run Behaviour

“PEG believes the AE(2007) projection is superior on this criterion because it distinguishes more carefully than the BIS study between the impact of cyclical and non-cyclical factors on labour demand and, much more than the BIS report, also considers the extent to which recent changes in labour demand reflect short term “catch up” or transitory factors that are not likely to persist.”¹⁶

Once again, this appears to be an overly subjective judgement by PEG, given the BIS Shrapnel March 2007 report also discussed at length the cyclical factors affecting labour demand and wages growth, as well as long-run (or non-cyclical) factors affecting past and future productivity growth. Our report also pointed that the “catch-up” phase in capital works and maintenance in the electricity, gas and water sector still has a number of years to run, with this major phase of investment to remain at elevated levels well into the regulatory period. We believe the AE(2007) report did not adequately consider how big and how long the major phase of investment and maintenance in the utilities sector would continue.

The AE report also gave no consideration to the fact that electricity, gas and water supplies are essential services where reliability of supply is paramount. This is a crucial non-cyclical factor which also tends to hold wage increases at or above the national average in order to retain and

¹⁴ Econtech, Labour Costs Growth Forecast, August 2007, p41

¹⁵ PEG, op. cit. p35

¹⁶ ibid, p35

attract adequate skilled labour to maintain reliability of supply. Econtech's report for the Australian Energy Regulator also supported this logic:

"Another distinguishing feature of this industry is that electricity, gas and water are considered essential services for business and consumers. As such, their supply must be reliable and activities within the industry are less responsive to increases in output costs. In other words, maintenance and supply activities in the electricity, gas and water industry cannot be delayed or cancelled when input prices such as wages increase in the short run. This means that businesses in this industry have a greater imperative to attract and maintain skilled workers and are more likely to absorb wage increases in order to maintain labour supply."¹⁷

Accordingly, we believe PEG's subjective judgement about the merits of AE's discussion versus BIS Shrapnel's discussion of relevant long-run (or non-cyclical) factors cannot be used in the weighting of the forecasts, and therefore this criterion should not favour either AE or BIS Shrapnel.

Consistent with Economic Theory

PEG believed the BIS projection to be superior on this criterion because "BIS's use of the AWOTE is a more conceptually valid measure of labour price inflation (for the purposes of the GAAR) than AE's analysis of the labour price index."¹⁸ PEG agreed with Meyrick and BIS Shrapnel that the AWOTE is preferred to the LPI, quoting from Meyrick that the AWOTE is "more likely to accurately capture compositional change in the workforce. This means it will capture the effect of upskilling as employers rely less on unskilled labour."¹⁹

This is particularly pertinent now. The AWOTE measure has dropped sharply over the past two years (and has actually fallen below LPI) because the utilities sector effectively ran out of skilled labour in 2005 and then embarked on a major program of hiring apprentices²⁰, trainees and other less skilled labour to satisfy their labour requirements. As these apprentices and trainees skill up over the next 3 to 5 years, the overall wage bill will increase, and AWOTE will increase faster than LPI — as it has done *on average* since the LPI's inception in 1997.

The problem with regard to PEG's methodology which weights BIS Shrapnel's and AE's wage forecast is that PEG uses AWOTE for BIS Shrapnel but the LPI from Access Economics. As PEG (correctly) believes AWOTE should be used to measure labour price inflation for the purposes of the GAAR, then AE's LPI forecast should be recalculated as an AWOTE forecast. In the utilities sector, AWOTE has been 0.8 per cent higher on average than LPI over the 1997/98 to 2006/07 period. In the BIS Shrapnel March 2007 report, we forecast this average difference between the two measure to remain at 0.8 per cent over the 2008 to 2013 period. Adding this 0.8 per cent difference to AE's LPI forecast of 4.24 per cent average labour price inflation for Victoria's utilities gives an equivalent AWOTE forecast of 5.04 per cent. We will refer to this when we establish a revised weighting in the next section.

¹⁷ Econtech, op.cit. p34

¹⁸ PEG, op.cit. p35-36

¹⁹ *ibid*, p24-25

²⁰ The major apprentice intake program has been confirmed by a number of utilities and by PB Associates (a consultant to the AER) the latter at a presentation at the ACCC Sydney offices in early May, 2007)

Transparent

“PEG believes the AE forecast is superior on this criterion as they believe “the bases for the AE(2007) forecast are more clearly presented than those for the BIS projection.”²¹ However, PEG acknowledges the reasons for preferring AE on the criterion of transparency as “essentially the same reason that the AE(2007) forecast is preferred in terms of robustness.”²² The end result that PEG discounted transparency from the criteria to prevent ‘inadvertent double counting’.

Similarly to the robustness criterion, we don’t believe that PEG has provided an objective judgement with regard to robustness and accordingly, this criterion should not favour either Access Economics or BIS Shrapnel.

3. A REVISED WEIGHTING FOR LABOUR PRICE INFLATION

The analysis in section 2 has, we believe, provided compelling reasons and statistical evidence to dismiss PEG’s claim that the AE(2007) is superior in the six criteria listed by PEG in its July 2007 report, and that these criteria now do not favour either Access Economics or BIS Shrapnel.

Conversely, we believe BIS Shrapnel is superior in terms of the ‘Historical Consistency’ criterion and agree with PEG that BIS Shrapnel is superior with regard to the ‘Consistent with Economic Theory’ criterion.

Based on PEG’s methodology described in section 4.1 of its report, with BIS Shrapnel superior in two criteria and AE superior in no criteria, then the weights should be 100% for BIS Shrapnel and zero for AE. However, we will defer to the evaluation criteria described by PEG regarding ‘weighting of alternative forecasts’ and ‘uncertainties’. In weighting alternative forecasts “it is generally not reasonable to place 100% on a single forecast and 0% on other forecasts unless one forecast is unambiguously superior to all alternatives,”²³ while” PEG believes that when there are significant uncertainties associated with forecasting a variable, it is often reasonable *ex ante* not to rely on any single forecast but, rather, to take a weighted average of the available, high quality forecasts.”²⁴

Econtech’s report prepared for the Australian Energy Regulator “Labour Costs Growth Forecasts” (13 August 2007) provides another ‘available, high quality forecast’ with which to weight alternative forecasts. Our reading of this report would suggest that it meets all of PEG’s evaluation criteria. Econtech provides a forecast of Average Weekly Earnings (AWE) growth rates in Victoria’s electricity, gas and water sector to 2015/16. We are unsure whether Econtech uses total Average Weekly Earnings of all employees (which includes overtime and both part-time and full-time employees) or full-time adult average weekly ordinary time earnings (AWOTE), but over time AWOTE has normally grown faster than AWE over the past two decades because of the faster growth in part-time employees compared to full-time employees (compare tables 2.2 and 2.3). The main exception to this historical trend has been over the last two years, when full-time employment has grown faster than part-time employment (and part-time employee hours have increased). However, in the context of utilities wage forecasts, part-time employees constitute less than 6% of employees, although overtime in the sector is often significant (overtime is not part of ‘ordinary time’ in AWOTE). For the purposes of this weighting, we will assume a constant proportion of part-

²¹ PEG, op.cit. p36

²² ibid. p37

²³ PEG, op.cit. p12

²⁴ ibid. p29

time employees and a constant rate of overtime — but the wage inflation in both these elements are heavily influenced by base AWOTE inflation in any case. So we can assume AWE is a good proxy for AWOTE.

BIS Shrapnel stands by their forecasts of wages growth in the Victorian electricity, gas and water sector and believe them to represent a 'best estimate' of forecast labour cost movements arrived on a reasonable basis. However, if one was to attempt to weight the alternative available reports, then a reasonable alternative would be to use the methodology described below and summarised in table 2.9.

Table 2.9 shows the AWOTE forecasts for Victorian utilities to 2012/13 based on AE's recalculation of their LPI forecasts, Econtech's forecast and BIS Shrapnel's Victorian forecast (mainly based on the Australian utilities forecast). Given the adjustment of AE's LPI to an AWOTE forecast, one of the two criteria in which BIS Shrapnel is superior has now been accounted for. We believe AE should therefore be assigned a weighting that is one-half of BIS Shrapnel's and Econtech's weights, with BIS Shrapnel and Econtech assigned equal weights. This gives a weighting of 20% AE, 40% BIS Shrapnel, 40% Econtech.

Applying the above weights gives a weighted average of 5.9 per cent over the 2008/09 to 2012/13 regulatory period. Using equal weights (1/3 each) gives a weighted average of 5.8 per cent over the same period.

Table 2.1: AWOTE – Electricity, Gas and Water Supply, Australia – Persons v Males (Year Average Growth)

| Year Ended May | Average Weekly Ordinary Time Earnings ⁽¹⁾ Males | | Average Weekly Ordinary Time Earnings ⁽¹⁾ Persons | | Difference in Growth Rates Persons - Males %CH |
|------------------------------|---|-------|---|-------|--|
| | \$ | %CH | \$ | %CH | |
| | 1985 | 424.3 | | 417.9 | |
| 1986 | 440.9 | 3.9 | 434.1 | 3.9 | 0.0 |
| 1987 | 472.0 | 7.0 | 464.1 | 6.9 | -0.1 |
| 1988 | 490.9 | 4.0 | 482.4 | 3.9 | -0.1 |
| 1989 | 521.9 | 6.3 | 513.4 | 6.4 | 0.1 |
| 1990 | 569.6 | 9.1 | 559.2 | 8.9 | -0.2 |
| 1991 | 595.7 | 4.6 | 585.2 | 4.7 | 0.1 |
| 1992 | 633.3 | 6.3 | 620.5 | 6.0 | -0.3 |
| 1993 | 648.5 | 2.4 | 638.3 | 2.9 | 0.5 |
| 1994 | 669.4 | 3.2 | 657.9 | 3.1 | -0.1 |
| 1995 | 690.2 | 3.1 | 679.3 | 3.2 | 0.1 |
| 1996 | 738.4 | 7.0 | 725.0 | 6.7 | -0.3 |
| 1997 | 789.1 | 6.9 | 774.9 | 6.9 | 0.0 |
| 1998 | 853.7 | 8.2 | 835.4 | 7.8 | -0.4 |
| 1999 | 888.1 | 4.0 | 872.8 | 4.5 | 0.4 |
| 2000 | 951.9 | 7.2 | 931.5 | 6.7 | -0.5 |
| 2001 | 1 019.3 | 7.1 | 994.1 | 6.7 | -0.3 |
| 2002 | 1 098.8 | 7.8 | 1 072.2 | 7.9 | 0.1 |
| 2003 | 1 135.1 | 3.3 | 1 104.3 | 3.0 | -0.3 |
| 2004 | 1 218.6 | 7.4 | 1 178.9 | 6.8 | -0.6 |
| 2005 | 1 266.6 | 3.9 | 1 221.1 | 3.6 | -0.4 |
| 2006 | 1 285.8 | 1.5 | 1 245.5 | 2.0 | 0.5 |
| 2007 | 1 332.3 | 3.6 | 1 291.2 | 3.7 | 0.1 |
| Forecasts | | | | | |
| 2008 | 1 398.9 | 5.0 | 1 355.8 | 5.0 | 0.0 |
| 2009 | 1 477.2 | 5.6 | 1 431.7 | 5.6 | 0.0 |
| 2010 | 1 555.5 | 5.3 | 1 507.6 | 5.3 | 0.0 |
| 2011 | 1 650.4 | 6.1 | 1 599.5 | 6.1 | 0.0 |
| 2012 | 1 747.8 | 5.9 | 1 693.9 | 5.9 | 0.0 |
| 2013 | 1 849.2 | 5.8 | 1 792.1 | 5.8 | 0.0 |
| Compound Annual Growth Rates | | | | | Average |
| 1985-2007 | 5.3 | | 5.3 | | -0.1 |
| 1985-90 | 6.1 | | 6.0 | | -0.1 |
| 1990-00 | 5.3 | | 5.2 | | 0.0 |
| 1992-97 | 4.5 | | 4.5 | | 0.0 |
| 1997-2002 | 6.8 | | 6.7 | | -0.1 |
| 2002-07 | 3.9 | | 3.8 | | -0.1 |
| Forecasts | | | | | |
| 2008-13 | 5.7 | | 5.7 | | 0.0 |

⁽¹⁾ Full-Time Earnings

Source: BIS Shrapnel, ABS data

Table 2.2: Total Employment - Electricity, Gas and Water Supply, Australia (Year Average)

| Year Ended May | Employed Total Males | | Employed Total Females | | Employed Total Persons | | Males Employed as a % Total Utilities Employment '000 |
|------------------------------|----------------------|-------|------------------------|-------|------------------------|-------|---|
| | '000 | %CH | '000 | %CH | '000 | %CH | |
| 1986 | 131.5 | | 12.7 | | 144.2 | | 91.2% |
| 1987 | 119.1 | -9.4 | 13.9 | 9.6 | 133.0 | -7.7 | 89.6% |
| 1988 | 110.5 | -7.3 | 13.8 | -0.7 | 124.2 | -6.6 | 88.9% |
| 1989 | 106.0 | -4.0 | 13.3 | -3.4 | 119.3 | -4.0 | 88.8% |
| 1990 | 97.8 | -7.8 | 10.9 | -18.1 | 108.7 | -8.9 | 90.0% |
| 1991 | 91.6 | -6.3 | 11.7 | 7.2 | 103.3 | -5.0 | 88.7% |
| 1992 | 92.2 | 0.7 | 14.0 | 19.7 | 106.2 | 2.8 | 86.8% |
| 1993 | 85.6 | -7.2 | 12.0 | -14.4 | 97.6 | -8.1 | 87.7% |
| 1994 | 78.8 | -7.9 | 13.4 | 11.6 | 92.2 | -5.5 | 85.5% |
| 1995 | 74.1 | -6.0 | 12.6 | -5.7 | 86.7 | -5.9 | 85.5% |
| 1996 | 66.7 | -10.1 | 13.9 | 9.9 | 80.5 | -7.2 | 82.8% |
| 1997 | 56.4 | -15.4 | 10.0 | -27.5 | 66.4 | -17.5 | 84.9% |
| 1998 | 55.3 | -2.0 | 9.2 | -8.2 | 64.5 | -2.9 | 85.7% |
| 1999 | 53.2 | -3.8 | 11.7 | 26.4 | 64.8 | 0.6 | 82.0% |
| 2000 | 52.7 | -1.0 | 11.6 | -0.7 | 64.2 | -0.9 | 82.0% |
| 2001 | 54.4 | 3.3 | 11.0 | -4.7 | 65.4 | 1.9 | 83.1% |
| 2002 | 52.6 | -3.2 | 14.8 | 34.5 | 67.5 | 3.1 | 78.0% |
| 2003 | 57.9 | 9.9 | 15.0 | 0.9 | 72.8 | 7.9 | 79.4% |
| 2004 | 60.4 | 4.5 | 14.9 | -0.7 | 75.3 | 3.4 | 80.3% |
| 2005 | 62.7 | 3.7 | 14.1 | -5.5 | 76.7 | 1.9 | 81.7% |
| 2006 | 68.9 | 9.9 | 18.6 | 32.1 | 87.4 | 14.0 | 78.8% |
| 2007 | 66.4 | -3.6 | 18.8 | 1.0 | 85.1 | -2.6 | 78.0% |
| Forecasts | | | | | | | |
| 2008 | n.f | | n.f | | 86.2 | 1.2 | |
| 2009 | n.f | | n.f | | 86.2 | 0.1 | |
| 2010 | n.f | | n.f | | 85.3 | -1.1 | |
| 2011 | n.f | | n.f | | 85.8 | 0.6 | |
| 2012 | n.f | | n.f | | 88.0 | 2.5 | |
| 2013 | n.f | | n.f | | 88.2 | 0.2 | |
| Compound Annual Growth Rates | | | | | | | Average |
| 1986-90 | -5.8 | | -2.9 | | -5.5 | | 89.3% |
| 1990-00 | -6.0 | | 0.6 | | -5.1 | | 85.2% |
| 1992-97 | -9.4 | | -6.4 | | -9.0 | | 85.3% |
| 1997-2002 | -1.4 | | 8.1 | | 0.3 | | 82.2% |
| 2002-07 | 4.8 | | 4.8 | | 4.8 | | 79.6% |
| Forecasts | | | | | | | |
| 2008-13 | - | | - | | 1.9 | | - |

n.f : no forecast

Source: BIS Shrapnel, ABS data

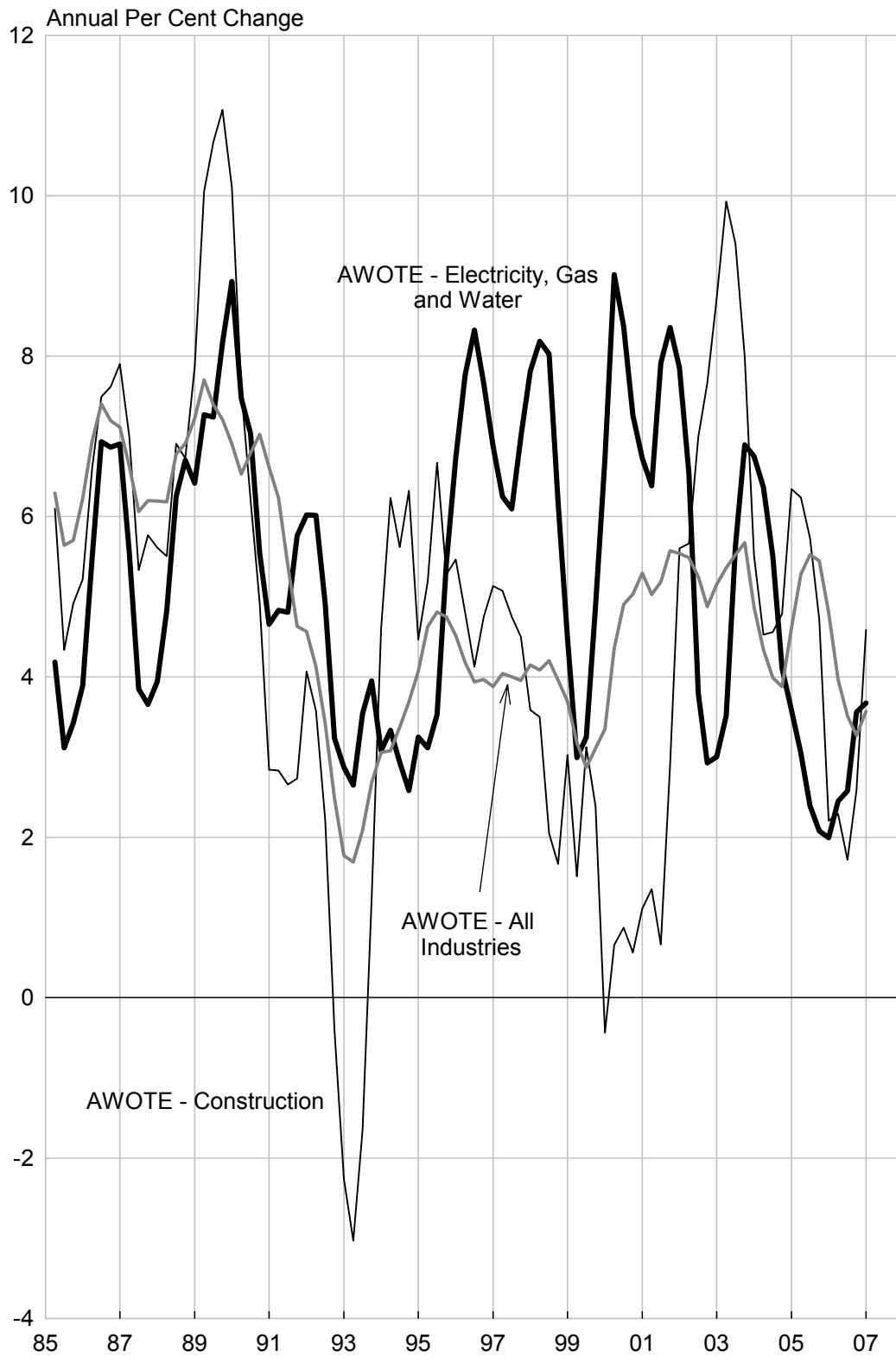
Table 2.3: Full-Time Employment - Electricity, Gas and Water Supply, Australia (Year Average)

| Year Ended May | Employed Full-Time Males | | Employed Full-Time Females | | Employed Full-Time Persons | | Males Employed as a % Full-Time Utilities Employment '000 |
|------------------------------|--------------------------|-------|----------------------------|-------|----------------------------|-------|---|
| | '000 | %CH | '000 | %CH | '000 | %CH | |
| 1986 | 131.0 | | 11.7 | | 142.6 | | 91.8% |
| 1987 | 118.7 | -9.3 | 12.4 | 6.7 | 131.1 | -8.0 | 90.5% |
| 1988 | 109.8 | -7.5 | 12.4 | -0.3 | 122.2 | -6.8 | 89.9% |
| 1989 | 105.3 | -4.1 | 11.9 | -3.9 | 117.3 | -4.1 | 89.8% |
| 1990 | 97.1 | -7.8 | 9.7 | -18.6 | 106.8 | -8.9 | 90.9% |
| 1991 | 91.3 | -6.0 | 10.0 | 3.0 | 101.3 | -5.2 | 90.1% |
| 1992 | 91.6 | 0.3 | 12.1 | 21.3 | 103.7 | 2.4 | 88.3% |
| 1993 | 85.0 | -7.1 | 10.0 | -17.5 | 95.0 | -8.3 | 89.5% |
| 1994 | 78.2 | -8.0 | 11.6 | 16.3 | 89.9 | -5.4 | 87.0% |
| 1995 | 73.5 | -6.1 | 10.7 | -7.7 | 84.2 | -6.3 | 87.2% |
| 1996 | 66.4 | -9.6 | 11.7 | 8.6 | 78.1 | -7.3 | 85.1% |
| 1997 | 55.7 | -16.1 | 8.3 | -28.7 | 64.1 | -18.0 | 87.0% |
| 1998 | 54.2 | -2.7 | 8.0 | -3.6 | 62.3 | -2.8 | 87.1% |
| 1999 | 52.8 | -2.6 | 10.0 | 24.4 | 62.8 | 0.9 | 84.1% |
| 2000 | 51.9 | -1.7 | 9.4 | -6.3 | 61.3 | -2.4 | 84.7% |
| 2001 | 53.5 | 3.1 | 9.2 | -1.3 | 62.8 | 2.4 | 85.3% |
| 2002 | 52.0 | -2.9 | 12.1 | 31.4 | 64.1 | 2.1 | 81.1% |
| 2003 | 56.5 | 8.7 | 12.4 | 2.6 | 68.9 | 7.5 | 81.9% |
| 2004 | 58.9 | 4.3 | 12.5 | 0.5 | 71.4 | 3.6 | 82.5% |
| 2005 | 60.4 | 2.6 | 11.5 | -7.8 | 71.9 | 0.8 | 84.0% |
| 2006 | 66.7 | 10.4 | 14.5 | 26.2 | 81.2 | 12.9 | 82.1% |
| 2007 | 64.7 | -3.0 | 15.7 | 8.0 | 80.4 | -1.1 | 80.5% |
| Forecasts | | | | | | | |
| 2008 | n.f | | n.f | | n.f | | |
| 2009 | n.f | | n.f | | n.f | | |
| 2010 | n.f | | n.f | | n.f | | |
| 2011 | n.f | | n.f | | n.f | | |
| 2012 | n.f | | n.f | | n.f | | |
| 2013 | n.f | | n.f | | n.f | | |
| Compound Annual Growth Rates | | | | | | | Average |
| 1986-90 | -5.8 | | -3.6 | | -5.6 | | 90.3% |
| 1990-00 | -6.1 | | -0.4 | | -5.4 | | 87.0% |
| 1992-97 | -9.5 | | -7.3 | | -9.2 | | 87.2% |
| 1997-2002 | -1.4 | | 7.8 | | 0.0 | | 84.5% |
| 2002-07 | 4.5 | | 5.3 | | 4.6 | | 82.2% |
| Forecasts | | | | | | | |
| 2008-13 | - | | - | | - | | - |

n.f : no forecast

Source: BIS Shrapnel, ABS data

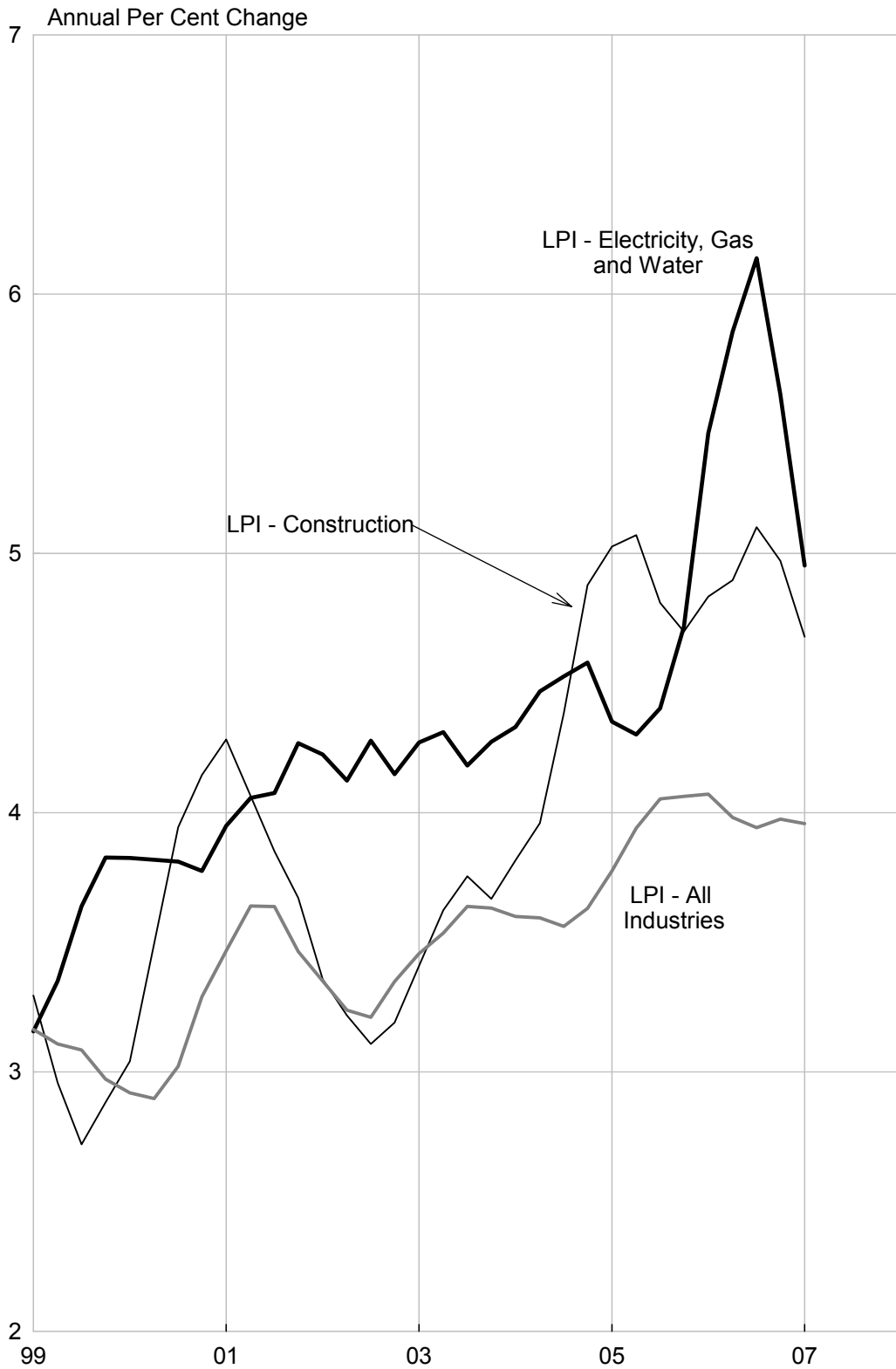
Chart 2.1: Average Weekly Ordinary Time Earnings (Persons) - Electricity, Gas & Water Construction & All Industries, Australia (Moving Annual Averages)



Year Ended June

Source: BIS Shrapnel, ABS data

Chart 2.2: Labour Price Index Ordinary Time Hourly Rates (Persons) - Electricity, Gas & Water, Construction & All Industries, Australia (Moving Annual Averages)



Year Ended June

Source: BIS Shrapnel, ABS data

**Table 2. 4: AWOTE Persons by State - Electricity, Gas and Water Supply
(Year Average Growth)**

| Year Ended May | NSW | | VIC | | QLD | | SA | | WA | | TAS | | NT | | ACT | | AUSTRALIA | |
|----------------|--|------|--|------|--|------|--|------|--|-----|--|------|--|------|--|------|--|-----|
| | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH | Average Weekly Ordinary Time Earnings ⁽¹⁾ | %CH |
| | \$ | | \$ | | \$ | | \$ | | \$ | | \$ | | \$ | | \$ | | \$ | |
| 1985 | 423.1 | 2.9 | 420.5 | 4.3 | 429.0 | 4.6 | 393.1 | 3.7 | 404.1 | 5.5 | 400.2 | 4.9 | 455.5 | 6.4 | 394.2 | 10.1 | 417.9 | 3.9 |
| 1986 | 437.4 | 7.6 | 438.4 | 6.8 | 448.6 | 7.0 | 407.4 | 6.4 | 426.5 | 3.5 | 419.9 | 4.4 | 484.4 | 5.9 | 433.9 | 0.0 | 434.1 | 6.9 |
| 1987 | 470.6 | 2.9 | 468.1 | 5.2 | 479.9 | 2.3 | 433.4 | 6.2 | 441.5 | 8.6 | 438.5 | 5.3 | 513.1 | 1.2 | 434.0 | 1.4 | 464.1 | 3.9 |
| 1988 | 484.3 | 6.8 | 492.3 | 4.8 | 491.1 | 9.2 | 460.2 | 5.1 | 460.6 | 9.3 | 461.7 | 7.2 | 507.2 | 19.5 | 440.2 | 10.2 | 482.4 | 6.4 |
| 1989 | 517.5 | 5.7 | 516.0 | 15.8 | 536.6 | 2.8 | 483.6 | 7.9 | 500.4 | 3.4 | 495.1 | 8.9 | 513.1 | 0.2 | 498.5 | 1.6 | 513.4 | 4.7 |
| 1990 | 547.0 | 8.1 | 597.5 | 4.3 | 551.7 | 3.4 | 517.1 | 3.5 | 545.9 | 6.0 | 506.0 | 2.7 | 613.1 | 4.3 | 549.3 | 8.3 | 559.2 | 6.0 |
| 1991 | 575.9 | 1.4 | 623.1 | 6.2 | 565.3 | 2.2 | 581.1 | 1.1 | 565.3 | 2.3 | 550.8 | 6.9 | 641.1 | 0.4 | 582.2 | 6.5 | 585.2 | 2.9 |
| 1992 | 622.3 | 4.2 | 657.8 | 1.9 | 584.8 | 3.6 | 577.9 | 4.5 | 598.9 | 7.8 | 565.5 | 1.6 | 641.1 | 0.2 | 604.6 | 11.8 | 620.5 | 6.9 |
| 1993 | 630.8 | 6.7 | 688.3 | 7.0 | 597.6 | 7.7 | 722.3 | 10.4 | 778.9 | 7.3 | 604.8 | 7.0 | 664.1 | 4.7 | 599.3 | 6.5 | 638.3 | 3.1 |
| 1994 | 657.1 | 8.5 | 711.2 | 8.8 | 619.0 | 4.5 | 616.5 | 10.5 | 624.3 | 7.9 | 661.4 | 9.5 | 666.5 | 6.1 | 612.2 | 7.1 | 657.9 | 4.5 |
| 1995 | 672.8 | 4.2 | 722.7 | 2.1 | 651.3 | 5.7 | 644.0 | 3.4 | 673.2 | 5.5 | 695.2 | 12.9 | 689.8 | 4.8 | 636.8 | 8.8 | 679.3 | 6.7 |
| 1996 | 739.5 | 6.6 | 751.1 | 8.0 | 694.1 | 8.0 | 654.1 | 6.0 | 725.6 | 6.2 | 890.1 | -0.8 | 1069.3 | 30.9 | 711.8 | 5.4 | 725.0 | 6.7 |
| 1997 | 789.1 | 10.5 | 803.6 | 7.5 | 747.7 | 5.1 | 722.3 | 6.2 | 778.9 | 7.6 | 725.7 | 11.6 | 734.2 | -6.9 | 758.2 | 6.0 | 774.9 | 6.9 |
| 1998 | 856.0 | 0.7 | 874.0 | 6.3 | 781.6 | 5.8 | 798.0 | 8.2 | 840.2 | 7.6 | 794.7 | 7.0 | 779.3 | 4.3 | 812.3 | 7.9 | 835.4 | 7.8 |
| 1999 | 891.7 | 8.5 | 892.5 | 4.4 | 826.3 | 4.5 | 825.1 | 8.2 | 868.8 | 5.6 | 897.1 | 3.1 | 817.1 | -0.9 | 884.0 | 3.2 | 872.8 | 4.5 |
| 2000 | 950.3 | 6.6 | 976.6 | 13.4 | 892.4 | 13.4 | 874.5 | 4.5 | 942.0 | 4.0 | 890.1 | 6.3 | 817.1 | 1.2 | 931.5 | 8.5 | 931.5 | 6.7 |
| 2001 | 1011.7 | 6.5 | 1049.4 | -3.6 | 938.1 | 10.3 | 923.5 | 0.3 | 1004.4 | 2.9 | 993.0 | 4.3 | 995.4 | 7.8 | 989.9 | 4.0 | 991.5 | 6.7 |
| 2002 | 1118.0 | 10.5 | 1115.1 | 0.9 | 992.5 | 0.9 | 980.6 | 6.2 | 1080.3 | 6.7 | 1062.0 | 0.8 | 1038.2 | 9.7 | 1049.7 | -5.2 | 1072.2 | 7.9 |
| 2003 | 1125.4 | 0.7 | 1152.7 | 3.4 | 1036.3 | 4.4 | 1060.7 | 8.2 | 1141.2 | 5.6 | 1095.1 | 3.1 | 1028.9 | 6.9 | 1083.1 | 3.2 | 1104.3 | 3.0 |
| 2004 | 1229.5 | 9.3 | 1426.6 | -0.9 | 1175.3 | 13.4 | 1108.1 | 4.5 | 1187.2 | 4.0 | 1164.3 | 6.3 | 1041.4 | 1.2 | 1175.7 | 8.5 | 1178.9 | 6.8 |
| 2005 | 1235.1 | 0.5 | 1182.8 | 3.5 | 1296.4 | 10.3 | 1111.2 | 0.3 | 1221.0 | 2.9 | 1214.6 | 4.3 | 1122.9 | 7.8 | 1222.9 | 4.0 | 1221.1 | 3.6 |
| 2006 | 1268.3 | 2.7 | 1203.0 | 1.7 | 1249.4 | -3.6 | 1139.6 | 2.6 | 1333.4 | 9.2 | 1301.2 | 7.1 | 1232.0 | 9.7 | 1246.8 | 7.6 | 1245.5 | 2.0 |
| 2007 | 1332.5 | 5.1 | 1241.0 | 3.2 | 1260.5 | 0.9 | 1210.2 | 6.2 | 1422.3 | 6.7 | 1312.0 | 0.8 | 1317.1 | 6.9 | 1246.8 | 7.6 | 1291.2 | 3.7 |
| Forecasts | | | | | | | | | | | | | | | | | | |
| 2008 | n.f. | | 1300.5 | 4.8 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1355.8 | 5.0 |
| 2009 | n.f. | | 1373.3 | 5.6 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1431.7 | 5.6 |
| 2010 | n.f. | | 1446.1 | 5.3 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1507.6 | 5.3 |
| 2011 | n.f. | | 1534.3 | 6.1 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1599.5 | 6.1 |
| 2012 | n.f. | | 1624.9 | 5.9 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1683.9 | 5.9 |
| 2013 | n.f. | | 1719.1 | 5.8 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1792.1 | 5.8 |
| 1985-2007 | 5.4 | | 5.0 | 4.8 | 5.0 | | 5.2 | | 5.9 | | 5.5 | | 4.9 | | 5.4 | | 5.3 | |
| 1985-90 | 5.3 | | 7.3 | 4.3 | 5.2 | | 5.6 | | 6.2 | | 4.8 | | 6.1 | | 6.9 | | 6.0 | |
| 1990-00 | 5.7 | | 5.0 | 4.9 | 4.9 | | 5.4 | | 5.6 | | 5.8 | | 5.7 | | 5.4 | | 5.2 | |
| 1992-97 | 4.9 | | 4.1 | 4.1 | 5.0 | | 4.6 | | 5.4 | | 5.1 | | 2.8 | | 4.6 | | 4.5 | |
| 1997-2002 | 7.2 | | 6.8 | 6.8 | 5.8 | | 6.3 | | 6.8 | | 7.9 | | 7.2 | | 6.7 | | 6.7 | |
| 2002-07 | 3.6 | | 2.2 | 4.9 | 4.9 | | 4.1 | | 5.7 | | 4.3 | | 4.9 | | 3.5 | | 3.8 | |
| Forecasts | | | | | | | | | | | | | | | | | | |
| 2008-13 | - | | 5.7 | | - | | - | | - | | - | | - | | - | | 5.7 | |

⁽¹⁾ Full-Time Earnings Source: BIS Shrapnel, ABS data

**Table 2. 5: AWOTE Males by State - Electricity, Gas and Water Supply
(Year Average Growth)**

| Year Ended May | NSW | | VIC | | QLD | | SA | | WA | | TAS | | NT | | ACT | | AUSTRALIA | | | |
|------------------------------|---------------------------------------|-----|---------------------------------------|------|---------------------------------------|------|---------------------------------------|------|---------------------------------------|-----|---------------------------------------|------|---------------------------------------|------|---------------------------------------|------|---------------------------------------|-----|--------|-----|
| | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | Ordinary Time Earnings ⁽¹⁾ | %CH | | |
| 1985 | 430.8 | 4.0 | 426.9 | 5.0 | 434.5 | 4.8 | 397.3 | 6.5 | 408.7 | 4.5 | 405.7 | 4.8 | 493.4 | -1.8 | 402.0 | -0.1 | 424.3 | 2.4 | | |
| 1986 | 445.0 | 3.9 | 445.4 | 4.3 | 454.9 | 4.7 | 413.3 | 4.0 | 430.9 | 5.4 | 425.2 | 4.8 | 518.6 | 5.1 | 443.6 | 1.7 | 440.9 | 3.2 | | |
| 1987 | 479.5 | 7.0 | 477.1 | 7.1 | 487.3 | 7.1 | 438.3 | 6.1 | 447.1 | 3.8 | 444.6 | 4.6 | 534.4 | 3.1 | 441.6 | 0.4 | 472.0 | 7.0 | | |
| 1988 | 494.0 | 4.0 | 501.0 | 5.0 | 498.1 | 2.2 | 466.8 | 6.5 | 467.4 | 4.5 | 468.5 | 5.4 | 524.5 | -1.8 | 442.6 | 0.2 | 490.9 | 4.0 | | |
| 1989 | 526.6 | 6.3 | 525.0 | 4.8 | 544.9 | 9.4 | 491.1 | 5.2 | 507.3 | 8.6 | 502.3 | 7.2 | 529.0 | 0.9 | 505.5 | 14.2 | 521.9 | 6.3 | | |
| 1990 | 588.1 | 9.1 | 610.2 | 16.2 | 560.6 | 2.9 | 524.7 | 6.8 | 554.4 | 9.3 | 512.5 | 2.0 | 626.9 | 18.5 | 560.3 | 10.8 | 569.6 | 9.1 | | |
| 1991 | 587.2 | 4.6 | 635.7 | 4.2 | 575.1 | 2.6 | 566.4 | 7.9 | 573.1 | 3.4 | 559.1 | 9.1 | 636.7 | 1.6 | 560.3 | 0.0 | 595.7 | 4.6 | | |
| 1992 | 634.1 | 6.3 | 674.0 | 6.0 | 598.4 | 4.1 | 586.7 | 3.6 | 607.2 | 6.0 | 573.4 | 2.6 | 666.8 | 4.7 | 610.6 | 9.0 | 633.3 | 6.3 | | |
| 1993 | 639.5 | 2.4 | 714.5 | 6.0 | 607.8 | 1.6 | 588.7 | 0.3 | 622.1 | 2.4 | 609.8 | 6.4 | 690.9 | 3.6 | 610.2 | -0.1 | 648.5 | 2.4 | | |
| 1994 | 668.0 | 3.2 | 725.8 | 1.6 | 631.9 | 4.0 | 618.8 | 5.1 | 636.0 | 2.2 | 674.2 | 10.6 | 686.1 | -0.7 | 620.9 | 1.7 | 669.4 | 3.2 | | |
| 1995 | 681.0 | 3.1 | 737.7 | 1.6 | 664.3 | 5.1 | 650.7 | 5.2 | 686.9 | 8.0 | 706.5 | 4.8 | 723.3 | 5.4 | 642.8 | 3.5 | 690.2 | 3.1 | | |
| 1996 | 751.0 | 7.0 | 767.5 | 4.0 | 707.9 | 6.6 | 664.2 | 2.1 | 743.3 | 8.2 | 732.2 | 3.6 | 723.5 | 0.0 | 722.2 | 12.4 | 738.4 | 7.0 | | |
| 1997 | 803.6 | 6.9 | 827.2 | 7.8 | 756.2 | 6.8 | 731.9 | 10.2 | 792.5 | 6.6 | 739.3 | 1.0 | 753.2 | 4.1 | 765.4 | 6.0 | 789.1 | 6.9 | | |
| 1998 | 879.6 | 8.2 | 899.0 | 8.7 | 790.4 | 4.5 | 811.0 | 10.8 | 868.0 | 8.3 | 804.2 | 8.8 | 803.2 | 6.6 | 830.6 | 8.5 | 853.7 | 8.2 | | |
| 1999 | 902.0 | 4.0 | 915.0 | 1.8 | 840.2 | 6.3 | 836.5 | 3.1 | 907.0 | 5.7 | 909.9 | 13.1 | 847.9 | 5.6 | 900.3 | 8.4 | 888.1 | 4.0 | | |
| 2000 | 963.0 | 7.2 | 1001.7 | 9.5 | 920.1 | 9.5 | 893.5 | 6.8 | 964.6 | 6.3 | 895.8 | -1.5 | 1103.7 | 30.2 | 950.4 | 5.6 | 951.9 | 7.2 | | |
| 2001 | 1032.3 | 7.1 | 1075.9 | 7.4 | 969.2 | 5.3 | 941.7 | 5.4 | 1028.7 | 6.6 | 1007.8 | 12.5 | 1050.7 | -4.8 | 1012.3 | 6.5 | 1019.3 | 7.1 | | |
| 2002 | 1140.7 | 7.8 | 1148.6 | 6.8 | 1017.3 | 5.0 | 1009.9 | 7.2 | 1109.4 | 7.8 | 1078.8 | 7.0 | 1098.5 | 4.5 | 1087.5 | 7.4 | 1098.8 | 7.8 | | |
| 2003 | 1150.4 | 3.3 | 1203.2 | 4.7 | 1057.3 | 3.9 | 1096.5 | 8.6 | 1172.9 | 5.7 | 1124.7 | 4.3 | 1097.9 | -0.1 | 1112.0 | 2.2 | 1135.1 | 3.3 | | |
| 2004 | 1253.5 | 7.4 | 1218.9 | 1.3 | 1205.9 | 14.0 | 1147.6 | 4.7 | 1220.3 | 4.0 | 1188.1 | 5.6 | 1091.2 | -0.6 | 1226.2 | 10.3 | 1218.6 | 7.4 | | |
| 2005 | 1259.2 | 3.9 | 1268.6 | 4.1 | 1338.5 | 11.0 | 1155.0 | 0.6 | 1257.3 | 3.0 | 1239.3 | 4.3 | 1177.6 | 7.9 | 1278.6 | 4.3 | 1266.6 | 3.9 | | |
| 2006 | 1292.5 | 1.5 | 1264.6 | -0.3 | 1284.5 | -4.0 | 1182.2 | 2.4 | 1379.4 | 9.7 | 1335.2 | 7.7 | 1291.5 | 9.7 | 1206.7 | -5.6 | 1285.8 | 1.5 | | |
| 2007 | 1366.6 | 3.6 | 1306.9 | 3.3 | 1284.6 | 0.0 | 1263.0 | 6.8 | 1472.4 | 6.7 | 1348.9 | 1.0 | 1370.0 | 6.1 | 1282.9 | 6.3 | 1332.3 | 3.6 | | |
| Forecasts | | | | | | | | | | | | | | | | | | | | |
| 2008 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1398.9 | 5.0 |
| 2009 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1477.2 | 5.6 |
| 2010 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1555.5 | 5.3 |
| 2011 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1650.4 | 6.1 |
| 2012 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1747.8 | 5.9 |
| 2013 | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | n.f. | | 1849.2 | 5.8 |
| Compound Annual Growth Rates | | | | | | | | | | | | | | | | | | | | |
| 1985-2007 | 5.4 | | 5.2 | | 5.1 | | 5.4 | | 6.0 | | 5.6 | | 4.8 | | 5.4 | | 5.3 | | 5.3 | |
| 1985-90 | 5.3 | | 7.4 | | 5.2 | | 5.7 | | 6.3 | | 4.8 | | 4.9 | | 6.9 | | 6.1 | | 6.1 | |
| 1990-00 | 5.6 | | 5.1 | | 5.1 | | 5.5 | | 5.7 | | 5.7 | | 5.8 | | 5.4 | | 5.3 | | 5.3 | |
| 1992-97 | 4.9 | | 4.2 | | 4.8 | | 4.5 | | 5.5 | | 5.2 | | 2.5 | | 4.6 | | 4.5 | | 4.5 | |
| 1997-2002 | 7.3 | | 6.8 | | 6.1 | | 6.7 | | 7.0 | | 7.9 | | 7.8 | | 7.3 | | 6.8 | | 6.8 | |
| 2002-07 | 3.5 | | 2.6 | | 4.8 | | 4.6 | | 5.8 | | 4.6 | | 4.5 | | 3.4 | | 3.9 | | 3.9 | |
| Forecasts | | | | | | | | | | | | | | | | | | | | |
| 2008-13 | - | | - | | - | | - | | - | | - | | - | | - | | - | | 5.7 | |

⁽¹⁾ Full-Time Earnings Source: BIS Shrapnel, ABS data

Table 2.6: Methods of Setting Pay, Industry, May 2006
Proportion of Employees (%)

| Industry | Award only | Collective agreement | Individual arrangement | All methods of setting pay |
|---------------------------------------|------------|----------------------|------------------------|----------------------------|
| Mining | 2.4 | 29.8 | 67.8 | 100.0 |
| Manufacturing | 10.6 | 37.7 | 51.7 | 100.0 |
| Electricity, gas and water supply | 0.9 | 84.4 | 14.7 | 100.0 |
| Construction | 12.0 | 27.7 | 60.3 | 100.0 |
| Wholesale trade | 12.8 | 9.5 | 77.7 | 100.0 |
| Retail trade | 28.7 | 34.8 | 36.5 | 100.0 |
| Accommodation, cafes and restaurants | 57.2 | 8.8 | 34.0 | 100.0 |
| Transport and storage | 12.4 | 40.4 | 47.1 | 100.0 |
| Communication services | 0.9 | 61.3 | 37.8 | 100.0 |
| Finance and insurance | 5.1 | 42.6 | 52.3 | 100.0 |
| Property and business services | 23.2 | 15.5 | 61.3 | 100.0 |
| Government administration and defence | 0.6 | 91.8 | 7.6 | 100.0 |
| Education | 11.9 | 81.5 | 6.7 | 100.0 |
| Health and community services | 25.4 | 58.4 | 16.2 | 100.0 |
| Cultural and recreational services | 19.2 | 40.7 | 40.1 | 100.0 |
| Personal and other services | 23.4 | 46.4 | 30.1 | 100.0 |
| All industries | 19.0 | 41.2 | 39.9 | 100.0 |

Source: Australian Bureau of Statistics, *Employees Earnings and Hours*, cat. N^o 6306, Table 15

Table 2.7: Federal Wage Agreements - Collective Agreements by Industry
(Average Annualised Wage Increase)

| Selected Industry | Collective Agreements | | | | | | | | Average 2000-2007 |
|--|---|------------|------------|------------|------------|------------|------------|----------------------|-------------------|
| | Average Annualised Wage Increase ⁽¹⁾ | | | | | | | | |
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007e ⁽²⁾ | |
| Electricity, gas and water supply | 3.1 | 3.8 | 3.9 | 4.2 | 4.3 | 4.2 | 4.3 | 4.3 | 4.1 |
| Mining | 2.9 | 3.4 | 3.4 | 3.2 | 3.3 | 3.6 | 3.8 | 4.0 | 3.5 |
| Manufacturing | 3.9 | 3.9 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.0 | 4.1 |
| Construction | 4.6 | 4.7 | 4.7 | 4.1 | 4.3 | 4.4 | 4.9 | 4.8 | 4.6 |
| Retail trade | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.4 | 3.5 | 3.4 | 3.3 |
| Accommodation, cafes and restaurants | 2.7 | 3.5 | 2.8 | 2.8 | 2.8 | 3.2 | 3.3 | 3.4 | 3.1 |
| Property and business services | 3.2 | 3.9 | 3.6 | 3.8 | 4.1 | 4.1 | 3.8 | 3.8 | 3.9 |
| Government administration and defence | 3.8 | 3.6 | 3.9 | 4.5 | 4.4 | 4.3 | 4.0 | 4.0 | 4.1 |
| ALL INDUSTRIES | 3.5 | 3.7 | 3.8 | 3.8 | 3.9 | 4.0 | 4.1 | 4.0 | 3.9 |

¹⁾Current agreements in June of each year.

Source: Department of Employment & Workplace Relations (DEWR)

²⁾Data in table to March Qtr 2007.

**Table 2.8: Total Wages Growth by Workforce Segment and Pay Setting Method
All Industries & Electricity, Gas & Water Supply****All Industries**

| Year Ended June | Year Average Percent Change | | | | | | | | | | | | | | |
|--|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Forecast | | | | | | |
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | | | | | | | | | |
| Proportion of Workforce by Pay setting Method | | | | | | | | | | | | | | | |
| Awards Only | 23.2% | 21.9% | 20.5% | 20.3% | 20.0% | 19.5% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% |
| Collective Agreements | 36.7% | 37.5% | 38.2% | 39.6% | 40.9% | 41.0% | 41.1% | 41.1% | 41.1% | 41.1% | 41.1% | 41.1% | 41.1% | 41.1% | 41.1% |
| Individual Arrangements | 40.1% | 40.7% | 41.3% | 40.2% | 39.1% | 39.5% | 39.9% | 39.9% | 39.9% | 39.9% | 39.9% | 39.9% | 39.9% | 39.9% | 39.9% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| AWOTE | | | | | | | | | | | | | | | |
| Awards Only | 1.6 | 2.0 | 1.6 | 2.1 | 1.9 | 2.0 | 1.7 | 0.9 | 1.6 | 1.5 | 1.7 | 2.0 | 2.3 | 2.0 | |
| Collective Agreements | 3.5 | 3.7 | 3.8 | 3.8 | 3.9 | 4.0 | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.2 | 4.4 | 4.3 | |
| Individual Arrangements | 4.3 | 8.6 | 9.1 | 8.0 | 7.4 | 6.5 | 7.0 | 4.4 | 8.3 | 7.7 | 6.4 | 8.0 | 8.4 | 7.9 | |
| AWOTE (Persons) | 3.4 | 5.3 | 5.5 | 5.1 | 4.9 | 4.6 | 4.8 | 3.6 | 5.3 | 5.0 | 4.5 | 5.3 | 5.6 | 5.3 | |
| Labour Price Index | | | | | | | | | | | | | | | |
| Awards Only | 1.6 | 2.0 | 1.6 | 2.1 | 1.9 | 2.0 | 1.7 | 0.9 | 1.6 | 1.5 | 1.7 | 2.0 | 2.3 | 2.0 | |
| Collective Agreements | 3.5 | 3.7 | 3.8 | 3.8 | 3.9 | 4.0 | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.2 | 4.4 | 4.3 | |
| Individual Arrangements | 3.2 | 4.1 | 3.8 | 3.8 | 4.2 | 4.4 | 5.2 | 5.4 | 5.9 | 5.2 | 4.4 | 5.5 | 5.9 | 5.4 | |
| Labour Price Index (Ord. Time) | 2.9 | 3.5 | 3.4 | 3.5 | 3.6 | 3.8 | 4.1 | 4.0 | 4.3 | 4.0 | 3.7 | 4.3 | 4.6 | 4.3 | |
| Compositional Effects + Bonuses | 0.5 | 1.8 | 2.2 | 1.7 | 1.3 | 0.8 | 0.7 | -0.4 | 1.0 | 1.0 | 0.8 | 1.0 | 1.0 | 1.0 | |

Source: BIS Shrapnel, ABS, DEWR

Electricity, Gas and Water Supply

| Year Ended June | Year Average Percent Change | | | | | | | | | | | | | |
|--|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Forecast | | | | | |
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | | | | | | | | |
| Proportion of Workforce by Pay setting Method | | | | | | | | | | | | | | |
| Awards Only | 1.4% | 1.3% | 1.1% | 1.4% | 1.7% | 1.3% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% |
| Collective Agreements | 76.5% | 77.3% | 78.1% | 79.0% | 79.9% | 82.2% | 84.4% | 84.4% | 84.4% | 84.4% | 84.4% | 84.4% | 84.4% | 84.4% |
| Individual Arrangements | 22.1% | 21.5% | 20.9% | 19.7% | 18.4% | 16.6% | 14.7% | 14.7% | 14.7% | 14.7% | 14.7% | 14.7% | 14.7% | 14.7% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| AWOTE | | | | | | | | | | | | | | |
| Awards Only | 1.4 | 1.6 | 1.3 | 1.7 | 1.5 | 1.6 | 1.4 | 0.7 | 1.3 | 1.2 | 1.4 | 1.7 | 1.9 | 1.6 |
| Collective Agreements | 3.1 | 3.8 | 3.9 | 4.2 | 4.3 | 4.2 | 4.3 | 4.3 | 4.5 | 4.6 | 4.2 | 4.4 | 4.7 | 4.5 |
| Individual Arrangements | 19.5 | 17.5 | 23.0 | -1.5 | 18.0 | 0.5 | -11.0 | 0.5 | 8.0 | 11.5 | 12.0 | 16.0 | 13.0 | 13.5 |
| AWOTE (Persons) | 6.7 | 6.7 | 7.9 | 3.0 | 6.8 | 3.6 | 2.0 | 3.7 | 5.0 | 5.6 | 5.3 | 6.1 | 5.9 | 5.8 |
| Labour Price Index | | | | | | | | | | | | | | |
| Awards Only | 1.4 | 1.6 | 1.3 | 1.7 | 1.5 | 1.6 | 1.4 | 0.7 | 1.3 | 1.2 | 1.4 | 1.7 | 1.9 | 1.6 |
| Collective Agreements | 3.1 | 3.8 | 3.9 | 4.2 | 4.3 | 4.2 | 4.3 | 4.3 | 4.5 | 4.6 | 4.2 | 4.4 | 4.7 | 4.5 |
| Individual Arrangements | 6.2 | 4.2 | 5.6 | 5.0 | 4.5 | 5.5 | 12.5 | 0.0 | 8.5 | 9.0 | 6.5 | 7.0 | 8.0 | 7.5 |
| Labour Price Index (Ord. Time) | 3.8 | 3.9 | 4.2 | 4.3 | 4.3 | 4.4 | 5.5 | 3.6 | 5.1 | 5.2 | 4.5 | 4.8 | 5.2 | 4.9 |
| Compositional Effects + Bonuses | 2.9 | 2.9 | 3.6 | -1.3 | 2.5 | -0.8 | -3.5 | 0.1 | -0.1 | 0.4 | 0.8 | 1.3 | 0.7 | 0.9 |

Source: BIS Shrapnel, ABS, DEWR

**Table 2.9: Labour Price Inflation in the Electricity, Gas & Water sector, Victoria:
Weighted Average of BIS Shrapnel, Econtech and Access Economics Forecasts**

| Year Ended June | Access Economics | | BIS Shrapnel | Econtech | Weighted Average AWOTE |
|-------------------|------------------|----------|--------------|----------|------------------------|
| | LPI | AWOTE(a) | AWOTE | AWE(b) | |
| Weight | 20% | | 40% | 40% | 100% |
| Actual 2007 | na | | 3.2 | 1.8 | 3.2 |
| Forecasts | | | | | |
| 2008 | 5.5 | 6.3 | 4.8 | 5.9 | 5.5 |
| 2009 | 5.0 | 5.8 | 5.6 | 6.0 | 5.8 |
| 2010 | 3.5 | 4.3 | 5.3 | 7.6 | 6.0 |
| 2011 | 3.8 | 4.6 | 6.1 | 7.0 | 6.2 |
| 2012 | 4.4 | 5.2 | 5.9 | 6.2 | 5.9 |
| 2013 | 4.5 | 5.3 | 5.8 | 5.9 | 5.7 |
| Average | | | | | |
| 2008/09 - 2012/13 | 4.2 | 5.0 | 5.7 | 6.5 | 5.9 |

Source: BIS Shrapnel, ABS data

(a) AE(2007) Labour Price Index forecast plus 0.8% each year to calculate equivalent AWOTE

(b) Econtech, Labour Costs Growth Forecasts, Aug 2007, p.v-vi. Note 2006/07 figure was a preliminary estimate.