9. IMPACT OF INCREASING THE MINIMUM WAGE

[9.1] The ACTU has discussed a number of academic studies on the minimum wage in its submission which require a reply from employers. In dealing with this material, however, we note that the evidence which relates to the minimum wage is of limited relevance in Safety Net proceedings as it is not just the minimum wage that is being adjusted by the decision but all minimum award rates. The effect on employment, prices and economic activity is thus much greater as it affects a substantially larger number of employees than just those on the minimum wage. Moreover, the flow-on effects are likely to be more substantial and immediate since the increases granted occur across the wage spectrum and not just amongst those at the bottom end of the pay scale.

Response to Hyslop and Stillman

[9.2]   At paragraph 6.32 to 6.34 of their submission, the ACTU cite research by New Zealand economists, Dean Hyslop and Steven Stillman, as evidence in support of the proposition that 'minimum wages do not harm employment'.[1] There are a number of problems with the research as it currently stands and the conclusion it reaches. Moreover, the relevance of the paper in the Safety Net Review context is minimal. It would be inappropriate to allow the Commission's decision to be influenced by this research without giving serious consideration to its limitations and the proper inferences to be drawn given these limitations.

[9.3]   The authors examine the impact on employment of significant reforms to the youth minimum wage introduced in New Zealand in 2001. The reforms 'resulted in a 69 percent increase in the minimum wage for 18 and 19 year-

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[1] Hyslop and Stillman, *Youth Minimum Wage Reform and the Labour Market*, January 2004.

olds' and 'a 41 percent increase in the minimum wage for 16 and 17 year-olds over a two-year period'[2]. In conclusion they find, 'no robust evidence of adverse effects on youth employment or hours worked'[3]. The change in average wages for these groups is much smaller. In footnote 17 of their research the authors state that, 'the post-reform average wage for 16 17 year-olds is 7 percent higher than the pre-reform average, while the increase for 18-19 year-olds is only 4 percent'.[4]

[9.4] Economic theory dictates that there are circumstances in which a rise in the minimum wage will not have any adverse on employment outcomes. This occurs in the simple case where the minimum wage is set below the level at which employers and employees are currently contracting in the labour market. A situation in which the minimum wage is not binding because employment contracts are providing rates of pay in excess of the statutory minimum. The minimum wage is effectively irrelevant in these circumstances because of its limited or non-application. Similarly, increases in the minimum wage up to a point – specifically, the market clearing level for the labour market – will have no significant impact on levels of employment.

[9.5] The first issue that has to be addressed in assessing the inferences to be drawn from this research involves determining how important these minimum wages were to begin with. That is to say, how important was the statutory minimum wage in determining conditions of employment in the broader labour market. The authors touch on this issue in their discussion of the 'fraction of workers who are paid exactly the minimum wage amount in each year'. They note that this statistic provides a 'measure of the extent to which the minimum wage binds'[5].

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[2] Ibid.
[3] Ibid.
[4] Ibid, page 11-12
[5] Ibid, page 12.

[9.6] The data speaks for itself. Essentially the only conclusion that can be drawn is that the minimum wage was irrelevant at that time and at that level. The authors acknowledge this explicitly in their research:

> 'Prior to the youth minimum wage reform, a small (less than 1 percent) and declining fraction of workers in each age group reported earning exactly the minimum wage, which further suggests that these minimum wages were essentially non-binding.'[6]

[9.7] A non-binding minimum wage has no impact on employment outcomes. Importantly, the minimum wage can be raised above this level without any impact on employment provided it does not exceed the wages currently being paid in the broader labour market. Given the very low initial levels of the minimum wages before the reform, large increases in the non-binding minimum wage could occur without any impact on employment, as appears to be the case with the New Zealand minimum wage reforms.

[9.8] The New Zealand minimum wage stands in stark contrast to the Australian award rate system. In this country we do not have a minimum wage that is effectively irrelevant. Instead we have an array of minimum wages specified in awards that have direct application to one-quarter of the private sector workforce. Indirectly, through the process of benchmarking of agreements to award rates of pay, award rates have even further flow-on effects to non-award employees. While it is possible that large increases in an irrelevant statutory rate of pay, which has little impact on the actual labour market, can occur without negative consequences for employment opportunities, this will certainly not be the case for the Australian award system.

[9.9] Following the introduction of the reforms to the youth minimum wage in 2001 the fraction of employees paid exactly at the current minimum wage increased to just over 5 per cent for 16-17 and 18-19 year-olds. The fraction for workers aged 20-25 years rose very marginally, and taking into account

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[6] Ibid, page 12.

measurement error, is still of a magnitude that justified the researchers commenting that the minimum wage was essentially non binding. It appears to be the case that, post-reform, the adult minimum wage was still effectively non-binding following the changes to youth minimum wages.

[9.10] It is not apparent, and perhaps never will be discernable, at which point the level of the minimum wage became binding on the relatively small proportion of the 16-17 and 18-19 year old who were paid at exactly the minimum wage in 2002 and 2003. It is highly likely that the vast majority of the minimum wage increase of the 69 per cent for 18-19 year olds, and the 41 per cent increase for 16-17 year-olds had no impact on employment because it constituted a rise in a non-binding minimum wage.

[9.11] There are a number of justifications for this conclusion. Firstly, the initial low level of the youth minimum, which for 16 to 19 year-olds prior to the reform was set at 60 per cent of the adult minimum wage. Hyslop and Stillman acknowledge that 'the pre-reform youth minimum wages were comparatively low'[7]. A rise of 66 per cent is necessary to match the adult minimum. A major component of the reforms involved extending the adult minimum wage to 18-19 year olds. Secondly, the adult minimum wage was and appears to remain non binding on the labour force. As 18-19 year-olds and 20-25 year-olds are reasonably substitutable as employees, we can anticipate similar demand for their labour and therefore the level at which the minimum wage becomes binding although being lower will not be much lower for 18-19 year olds. If the adult minimum wage is still non-binding we can be reasonably certain the minimum wage for 18-19 year-olds only became binding at a level just below the adult minimum wage.

[9.12] Thirdly, as already noted, although there was a 69 per cent increase in the minimum wage for 18-19 year-olds and a 41 per cent increase in the minimum wage for 16-17 year olds, the actual increase in average real hourly rates of pay for these two groups is of a far smaller magnitude. The authors'

own estimates are that the post-reform average wage for 16-17 year-olds and 18-19 year-olds are only 7 per cent and 4 per cent higher respectively. The large changes in the youth minimum wages have had very little impact on average wages, principally because the minimum wages were irrelevant to begin with, but this fact also suggests that the level at which they became binding was not too far below their current values.

[9.13]   Finally, judging by the low percentage of the youth workforce paid exactly at the minimum wage it is more likely than not that the point it became binding was somewhere just below the adult minimum. Were it the case that the new minimum wage began having application in the labour market at a much lower level, it is reasonable to expect that a larger proportion of 18-19 year-old employees would end up being paid at the minimum wage. As it stands, the roughly 5 per cent rate of payment at exactly the minimum wage suggests that it was only at a level marginally below the adult minimum that the wage increase began to have an impact on conditions of employment.

[9.14]   The discussion leads us to another important limitation of the paper. The researchers have not established formally that the minimum wage reform actually had an impact on the rates of pay of teenagers. In a limited way they attempt to do this by casual observation of the data, but without any statistical rigour.   Burkhauser, Couch and Wittenberg in their 2000 paper, A Reassessment of the New Economics of the Minimum Wage Literature, note the obvious point that:

> 'If changes in the minimum wage are to affect teenage employment, they
> must first have an impact on teenage wage rates.' [8]

[9.15]   In that case the authors proceed to establish that fact empirically. Hyslop and Stillman omit this analysis entirely, whereas it is critical to the conclusion of their research and its broader implications. Their finding that

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[7] Ibid, page 23.
[8] Richard V. Burkhauser, Kenneth A. Couch, David C. Wittenburg, *A Reassessment of the New Economics of the Minimum Wage Literature with Monthly Data from the Current Population Survey*, Journal of Labour Economics Volume 18 No. 4 October 2000, page 660.

large increases in the minimum wage for teenage workers had no adverse effect on teenage employment could simply be a reflection of the fact that these large increases in the minimum wage had no effect on the real wages of teenagers.

[9.16]   An examination of the data on hourly wages presented in the Hyslop and Stillman paper indicates that in the years following the youth minimum wage reform there was only a very slight increase in hourly rates of pay for 16-17 and 18-19 year-olds. Such an increase is consistent with the general trend upward in real wages over time reflecting ongoing productivity growth and the tightening New Zealand labour market. Similarly, the data they present in relation to income show little discernible impact of the minimum wage reform on weekly labour earnings or total income for teenage employees. Both these indicators were largely unchanged over the reform period. The evidence available suggests that the reforms had almost no impact on the actual real wages of teenagers.

[9.17]   If one examines in more detail the data presented in Figure 2 of the research some interesting features can be noted. The authors state that post-reform real hourly wages increased by 7 per cent for 16-17 year-olds and by 4 per cent for 18-19 year olds. These increases appear to be driven entirely by a change in relatively few observations in the lower tail of the wage distribution. An increase in the lowest values at the extreme end of any distribution will have a disproportionate impact on the mean of that distribution. The rest of the distribution seems relatively unaffected. Despite a significant change in the mean from these few extreme observations, for the vast majority of the workforce in question there was no impact on real hourly wages from the minimum wage reform.

[9.18]   This is the problem with most minimum wage research. Analysis is focussed upon the effect on the employment of the entire group in question whereas those actually directly affected are a small fraction of this population. With only the wages of a very small section of the relevant population being affected by these reforms it is not surprising then that the research finds 'no

robust evidence of adverse effects on youth employment or hours worked'. The real wages of the vast majority of 16-17 year-olds and 18 19 year olds were unaffected by the minimum wage reforms. Negligible employment effects can reasonably be expected in such a case.

[9.19]   Another major problem with the Hyslop and Stillman research is the fact that there is strong evidence of significant non-compliance with the new minimum wage. The authors note themselves:

> 'Following the minimum wage reform, the fractions of teenage workers paid below the minimum wage increased substantially, while the fraction of young adults was largely unaffected. In particular, the fraction of 18-19 year-olds affected increased from 2 percent in 2000 to 12 percent in 2001, and 13 percent in 2002 and 2003; while the fractions for 16-17 year-olds increased from 4 percent in 2000 to 6 percent in 2001, 9 percent in 2002, and 8 percent in 2003. Assuming that both the number of exemptions and the structure of measurement error in reported wages was reasonably stable over this period, these changes reflect a significant increase in non-compliance with the statutory minimum wage.' [9]

[9.20]   Which is to say that even where the minimum wage did become binding on employers and employees it was not complied with. It is not surprising therefore that the increase in the minimum wage had no effect on employment or hours worked, or teenage real wages for that matter. The minimum wage was simply ignored.

[9.21]   Hyslop and Stillman note the extent of the implied non-compliance by contrasting data on the fraction of workers with wages below the current minimum wage with the fraction of workers with wages below the minimum wage for next-year:

> 'Ignoring measurement error issues, and in the absence of possible employment effects, this implies the compliance rate for the affected 18-19 year-olds of 20-50 percent. Similarly, that 12, 15 and 21 percent of 16-17 year-old workers report wages in 2000, 2001 and 2002 below the following year's minimum, compared to the 6, 9 and 8 percent of workers

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[9] Op cit, page 12.

who are report sub minimum wages in 2001, 2002 and 2003, suggests a compliance rate for affected 16-17 year olds of 40-60 percent.'[10]

[9.22]   Ultimately the researchers concede explicitly that the issue of non-compliance is likely to undermine the validity of their work, if not the conclusions that can be drawn from their analysis. In their own words:

> 'One important caveat to the analysis is that there has been an increase in either real or apparent non-compliance: although the density in the affected regions of the wage distributions fell following the minimum wage reforms, there has been a significant increase in the fraction of teenage workers reporting sub-minimum wages.' [11]

[9.23]   To summarise, the New Zealand research relates to large increases in a very low minimum wage which was essentially irrelevant in determining the conditions of employment in the workplace. Following the reform this minimum wage was only binding on a very small section of the teenage workforce. There is no convincing evidence presented that the increases in the youth minimum wages had a significant effect on wages or salaries of teenage workers. In addition, there is evidence of substantial non-compliance with the higher youth minimum wage following the reform. Taking into consideration all these factors, the conclusion that there was no adverse effect on teenage employment should not be surprising. This research has absolutely no relevance to the Safety Net Review. The Australian awards system involves an array of minimum wages which are binding, set at comparatively high levels relative to average wages and are rigorously enforced in the labour market.

Response to Andrew Leigh

[9.24]   The ACTU's submission, at paragraphs 6.39 to 6.47, cites unfavourably research conducted by Mr Andrew Leigh of the John F. Kennedy School of Government at Harvard University (Attachment 9-A).   The Australian Chamber of Commerce and Industry has provided Mr Leigh with a direct opportunity to reply to these criticisms and his response to Professor

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[10] Ibid, page 13.
[11] Ibid, page 23.

Junankar's Critique is provided as <u>Attachment 9-B</u>. Also attached is Mr Leigh's erratum including a re-estimation of the implied elasticity of employment with respect to the minimum wage (<u>Attachment 9-C</u>).

[9.25] Mr Andrew Leigh's paper, *Employment Effects of Minimum Wages: Evidence from a Quasi-experiment*, attempts to quantify the impact on employment of changes in the Western Australian statutory minimum wage. In his conclusion he states, 'the elasticity of labour demand with respect to the Western Australian statutory minimum wage is estimated to be –0.13'[12]. Leigh's re-estimation of the implied elasticity using employment to population ratios has yielded a slightly higher estimate of –0.15. Therefore, on the basis of this estimate, a 10 per cent increase in the statutory minimum wage can be expected to decrease total employment by 1.5 per cent. The research establishes empirically that increases in the minimum wage come at a cost to employment. Job opportunities for the low-paid are lost as a consequence of raising the minimum wage.

[9.26] When considering this research it is important to bear in mind that the elasticity estimated is an aggregate labour demand elasticity with respect to the Western Australian statutory minimum wage. It estimates the effect of the change in the minimum wage on the entire labour force not just those paid the minimum wage. Mr Leigh states in his paper:

> 'Thus a total of 4.4 per cent of non-managerial employees would be affected by a typical rise in the Western Australian statutory minimum – or 4 per cent of all employees, assuming managerial employees are entirely unaffected. This figure accords with private calculations carried out by the Western Australian Department of Consumer and Employment Protection.'[13]

[9.27] The relatively modest impact on total employment resulting from increases in the minimum wage can be attributed in large part to the rather small proportion of the labour force affected by the minimum wage.

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[12] Andrew Leigh, *Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment*, The Australian Economic Record Volume 36 No. 4.
[13] Ibid, page 365.

[9.28] The situation is quite different to that which exists in relation to the award system. Official data on the proportion of employees reliant on award rates of pay indicate that 21.0 per cent of the entire workforce have their remuneration determined solely by awards[14], more than five times greater than the fraction of workers covered by the Western Australian minimum wage. Moreover, the flow-on effects of changes to award rates mean that in total a much larger proportion of the workforce is both directly and indirectly affected. It is quite reasonable to suppose that the aggregate labour demand elasticity with respect to changes in award rates of pay will be of a magnitude at least several times greater than that estimated in the paper because of the greater coverage.

[9.29] Mr Leigh claimed in a recent article in the Australian Financial Review, that:

> 'My findings suggest the ACTU's claim would result in a 0.8 percentage fall in employment, while the government's would cause a 0.3 percentage point drop.' [15]

[9.30] While superficially this may seem to be a small effect, a 0.8 percentage fall in employment still amounts to 75,000 fewer jobs. But more importantly, it is clear that his estimate of job losses is based on an elasticity with respect to a statutory minimum wage that applied to only 4 per cent of the workforce. The more appropriate elasticity to use in relation to the award system would be an elasticity with respect to an increase in the award rate of pay. Because a much larger proportion of the workforce is covered by award rates, this elasticity will be of a much greater magnitude and the resulting job losses will be of a far greater than 75,000 positions.

[9.31] The degree of direct coverage for the award wage system is five times greater than the proportion of the workforce covered by the minimum wage examined in Mr Andrew Leigh's research. It can legitimately be expected that

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[14] Australian Bureau of Statistics, *Employee Earnings and Hours: May 2002, Cat. No. 6306.0*, March 2003.

the impact of a wage rise in such a system would have an impact on aggregate employment that is roughly five time greater. The following calculation is provided simply by way of illustration. If we supposed that the aggregate elasticity of employment with respect to the award rate of pay is –0.8, roughly five times greater than Leigh's estimate, then the ACTU's claim for a 6 per cent wage rise would result in the loss of 450,000 jobs from the Australian economy. Empirical research on the labour market in Australia indicates that the total elasticity of demand for employment with respect to real wages is –0.8[16].

[9.32] It is clearly inappropriate to extrapolate, without adjustment, the results of research based on one system of minimum wages to an award system of an entirely different nature, which has a far more extensive impact on the Australian labour market. Yet it is clear that Mr Leigh has taken this approach in his article published in the Australian Financial Review. In due course this leads to his assertion, highlighted in the ACTU's submission at 6.43, that:

> 'The employment costs of raising the minimum wage appear relatively small, while the chance of providing a boost to the incomes of the working poor is real.
>
> The evidence from the West Australian minimum wage experiment appears to provide support for regular, moderate increases in the federal minimum wage.'

[9.33] The statement is only valid where the elasticity with respect to the Western Australian statutory minimum wage is equal to the elasticity with respect to the federal award rate of pay. For the reasons already specified this is highly unlikely.

[9.34] Evidence that tends to confirm this point is provided in both Leigh's original paper and the revised estimates in his erratum. The estimated

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[15] Andrew Leigh, *Count the Cost of Higher Minimum Wages*, Australian Financial Review, 14 January 2004.

[16] Lewis and MacDonald, *The Elasticity of Demand for Labour in Australia*, The Economic Record Volume 78 No. 1 March 2002.

elasticities of labour demand with respect to the minimum wage for male and female workers aged between 15 and 19 years are –0.362 and –0.624 respectively[17].   Both estimates are statistically significant at reasonable significance levels. Workers within this age group are far more likely to be paid according to the Western Australian minimum wage, with the result that an increase in the minimum wage has a much greater impact on the total employment of this group. Similarly, within the Australian labour force, workers are far more likely to be paid according to award rates. An increase in the award rate will therefore have a much greater impact on total employment than a minimum wage that applies to only 4 per cent of the workforce.

[9.35]   The proper conclusion to be drawn from this research is that regular, moderate increases in the federal minimum wage will have an adverse impact on the employment opportunities of the low paid. The Commission should give due weight to this consideration when making its determination of the size of the increase in the award that will be granted as a result of this year's Safety New Review.

Response to P.N. Junankar

[9.36]   The ACTU's response to Mr Andrew Leigh's research paper includes a preliminary critique by Professor P.N. Junankar of the University of Western Sydney. The following section of the ACCI submission attempts to clarify a number of points of contention in the research for the purpose of the Commission's understanding. In large part, even if properly founded, any flaws in the research identified by Professor Junankar are likely to lead to under-estimation of the effect of the statutory minimum wage on employment.

[9.37] Professor Junankar's only justifiable, substantive criticism of Mr Leigh's research is that it mistakenly states that employment to population

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[17] Andrew Leigh, *Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment - Erratum*, page 5.

ratios, rather than employment to labour force ratios, are used in the estimation process. In his erratum to the original paper, Leigh concedes this point and provides new estimates calculated using employment to population ratios. Essentially this makes no difference to the core findings of the research.

> 'Fortunately, as the amended analysis shows, correcting this error makes virtually no difference to the central results of the paper.
>
> ...
>
> In Table 3, the implied elasticity of employment with respect to the minimum wage should have been reported as –0.149 (not –0.126, as was originally found). The corrected result is still statistically significant at the 1 per cent level. In Table 4, the effect of minimum wage rises on various age-sex sub samples appears to be somewhat larger on young workers than was reported in the original version, though still statistically significant at the 1 per cent level.' [18]

[9.38]   The revised estimates using employment to population ratios indicate that the impact of the minimum wage on employment is slightly larger than originally estimated. Similarly, the measured effect of minimum wages on the employment of young workers, especially females, is greater than the estimate based on employment to labour force ratios. While Professor Junankar has made a legitimate criticism it is clear that it does not affect the results of the research.

[9.39]   An important issue in any examination of the effect of minimum wages on employment is attempting to control for other economic factors that may affect employment and that are taken into consideration when changing the minimum wage. As Leigh's paper notes:

> 'The main challenge confounding researchers is that Australian minimum wages are usually set by industrial commissions, which invariably take account of the unemployment rate and economic forecasts when setting wages. Studies using variation in minimum wages set by industrial commissions may therefore underestimate the elasticity of labour demand with respect to the minimum wage.' [19]

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[18] Andrew Leigh, *Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment - Erratum*, page 1.
[19] Andrew Leigh, Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment, The Australian Economic Record Volume 36 No. 4.

[9.40] The fact that industrial commissions explicitly take into account current and prospective economic conditions when setting minimum wages means that unless these factors are accounted for in the estimation of the labour demand elasticity they will tend to underestimate the effect of changes in minimum wages on employment.

[9.41] When economic and labour market conditions are strong there is a tendency to award larger minimum wage or award rate increases. The resulting effect on employment may be moderate not because there is little effect on employment from the increase, but rather its impact has been offset by favourable economic conditions. The effect on employment has to be split between that attributable to the wage change and the component that is offset by a strong economy. As stated in Leigh's paper, failing to take into account the effect of these strong economic conditions will lead to an underestimation of the impact of the wage change.

[9.42] The extent to which, 'these increases appear to have been exogenous to prevailing economic conditions, making the elasticity estimates less susceptible to attenuation bias'[20], was considered by Mr Leigh in his analysis. If the wage increases were exogenous to economic conditions that simply means that they were uncorrelated with the minimum wage rises. While the timing of the minimum wage changes was largely determined by the operation of statutory provisions, the magnitude of the increases appears at least in some part to take account of prevailing economic conditions.

[9.43] It is clear that industrial commissions and governments take into account the strength of the economy when making determinations about wage rates. It is often made explicit in the reasons for their decisions and were they to do otherwise would be socially irresponsible. Controlling for this influence is therefore crucial in any attempt to estimate the effect of minimum wages on employment. Failure to do so will lead to an underestimate of employment effects of increases in the statutory minimum wage.

[9.44]   Leigh's paper attempts to control for all other factors that may affect employment in Western Australia by using the rest of Australia as a control group. This is done implicitly by examining the change in the employment to population ratio in Western Australia relative to the change in employment to population ratio in the rest of Australia. As Professor Junankar correctly points out:

> 'This assumes that all the other factors that affect employment affect WA and the rest of Australia in exactly the same manner.'[21]

[9.45]   Although the myriad of variables that influence employment have not been included explicitly in Leigh's estimated equation there has been an attempt to control for them implicitly in the construction of the dependent variable. Given the differing sectoral composition of the Western Australian economy, particularly the relatively large contribution of the mining sector, it may not be an entirely effective control group.

[9.46]   The extent to which the array of factors that influence employment differ in Western Australia relative to the rest of Australia, and the extent to which they influenced the Government's decision to increase the minimum wage, will determine the size of the bias in the estimated elasticity. Yet even if it were the case that using the employment to population ratio in the rest of Australia failed as a control for these other factors, the direction of the bias in the elasticity estimate would tend to be positive.

[9.47]   Stronger economic and labour market conditions in Western Australia, relative to the rest of Australia, which led the Western Australian Government to provide a larger minimum wage increase will result in positive bias in the elasticity estimator. Positive bias in the estimator effectively means that it will tend to underestimate the impact of the minimum wage on total labour demand, it will underestimate the true elasticity of total labour demand with respect to the minimum wage. Were Professor Junankar able to find an

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[20] Ibid, page 362.
[21] Professor P.N. Junankar, "*Employment Effects of Minimum Wages: Evidence from a Quasi Experiment" – A Preliminary Critique*, January 2004.

unbiased estimator it would most likely provide a larger negative elasticity than Leigh's estimate. indicating that the effect of the minimum wage on employment is larger than that currently established.

[9.48] Another of Professor Junankar's criticisms of the Leigh paper is that:

> He looks at changes in employment three months before and after the change in minimum wages. … even on neoclassical assumptions, an increase in minimum wages may have its impact on employment spread over two or more years.'[22]

[9.49] In his opinion the timeframe examined by Leigh is insufficient to estimate the full impact of the change in the minimum wage on employment. If Professor Junankar is justified in his criticism the Leigh estimate only takes account of the short-run impact on employment. A longer timeframe would capture an even larger response from employment from an increase in the minimum wage. Again, the effect of remedying the supposed defect in the research will be to increase the estimated elasticity. The only conclusion that can be taken from Professor Junankar's criticism of Leigh's work in relation to this point is that he feels the elasticity has been underestimated.

[9.50] Junankar further criticises Leigh's work on the basis that where minimum wages were increased there was still an increase in employment.

> 'If we ignore the data problem (that Leigh does not use weighted employment population ratios but weighted employment labour force ratios) he still shows in Table 2 that for the largest increase in minimum wages (of 9.29% in 1994) there was an increase in employment in WA and in the rest of Australia. This is contrary to the expected outcomes of neoclassical economics'.[23]

[9.51] Essentially this criticism is without foundation. The effect of increasing minimum wages need not always, or ever, be to decrease employment. A rise in a minimum wage typically has the effect of causing a smaller rise in employment than would have been the case had the minimum wage simply been maintained. An increase in employment following a rise in

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[22] Ibid, page 2.
[23] Ibid, page 3.

minimum wages is entirely consistent with 'the expected outcomes of neoclassical economics'. Accordingly, the criticism by Junankar on this point should be ignored as groundless.

[9.52]   We have seen that even where Professor Junankar makes potentially valid criticisms of Leigh paper, the effect of remedying the perceived defect will lead to and increase in the estimated elasticity of employment with respect to the statutory minimum wage. Both the 'exogeneity' and the 'time-frame' issues raised by Junankar suggest that the estimator used by Leigh may have underestimated the impact of the minimum wage on employment. The other criticisms made in relation to Leigh's paper are either without foundation or fail to challenge the ultimate conclusion of Leigh's work which is that raising minimum wages is harmful to the employment opportunities of the low-paid.