EFFECTS OF LABOUR MARKET REGULATION ON THE GENDER PAY GAP

by

Alison C. Preston & Geoffrey V. Crockett

Curtin University of Technology

Women's Economic Policy Analysis Unit
(WEPAU)

Discussion Paper Series 99/5

October 1999

Women's Economic Policy Analysis Unit (WEPAU), c/o Department of Economics,
Curtin Business School, Curtin University of Technology,
GPO Box U 1987, Perth 6845.

For further details on WEPAU refer to:
http://www.cbs.curtin.edu/cbs/research/wepau/

INTRODUCTION

Throughout Western developed economies, females earn significantly less than their male counterparts. In Australia the current female/male earnings ratio is 83.7 per cent, translating to a gender earnings gap of 16.3 per cent[1]. Elsewhere (e.g. the UK and the US) the gap is much larger (Blau and Kahn, 1992).

In an attempt to reduce the gender pay gap many governments have relied on legislative intervention. Equal pay legislation, for example, was passed in the US in 1963 and in Britain in 1970. Australia, too, has sought to assist females via legislation. In 1984 it introduced the *Sex Discrimination Act* and in 1986 the *Affirmative Action (Equal Employment Opportunity for Women) Act*. These two Acts, however, have only had minimal effect on closing the Australian gap (Kidd and Meng, 1997). Rather, the largest impact in Australia stems from the 1969 and 1972 equal pay decisions of the federal industrial Commission (Short, 1986; Gregory and Duncan, 1981; Kidd and Meng, 1997). Such outcomes are consistent with international literature which highlights the importance of institutions for female relative pay outcomes (Rubery, 1992; Whitehouse, 1992; Blau and Kahn, 1996).

Since the early 1990s Australian institutional arrangements for pay determination and labour market regulation have undergone considerable change. In a series of legislative amendments governments of all persuasions have sought to decentralise the level of bargaining and circumscribe the role of unions and tribunals in the wage determination process. While it is common to describe the processes in the various jurisdictions as 'enterprise bargaining', this label masks important differences in the institutional arrangements across Australia (Bennett, 1994). At one end of the spectrum there are regulatory systems based on individualism (e.g. Tasmania, Western Australia and Victoria). At the other end - at least prior to 1997 - there are collective

[1] This figures is based on Australian Bureau of Statistics (ABS) *Average Weekly Earnings, States and Australia* (Cat. No. 6302). The estimates are from seasonally adjusted average weekly ordinary time earnings for males and females employed full-time and pertain to May 1999.

systems such as those in New South Wales, Queensland, South Australia and federally.[2]

It is widely predicted that women will be worse off in a less regulated environment. The literature on female pay suggests that "... women's pay position is influenced more by the overall system of pay determination than by the specific policies for gender equality." (Rubery, 1992: 619). According to theory enterprise bargaining and labour market deregulation fails women because of their weaker bargaining power. The latter arises as a result of their concentration in part-time and casual employment, lower status jobs and occupations and lower union membership (Robertson, 1992; Burgmann, 1994; and Sayers, 1999).

Thus far the evidence as to the effect of labour market deregulation on gender equity has been mixed. Content analysis of agreements generally shows that equal employment opportunity provisions have been weakened and that the beneficiaries of the new arrangements are managers rather than workers (e.g. Boreham, Hall, Harley and Whitehouse, 1997). At an aggregate level, however, these changes have not adversely impacted on gender earnings. Although there has been a slight deterioration in female/male relative earnings since the regulatory reforms were first introduced, the change has not been statistically significant (Wooden, 1997).

In this paper we study the effects of labour market reform on gender equity from a state perspective. That is, comparisons are made between states adopting 'radical' (individualist) reforms (notably Western Australia and Victoria) with states pursuing more moderate (collectivist) approaches (such as New South Wales, Queensland and South Australia).

The plan of the paper is as follows. We begin with a brief overview of the changes in the federal and state regulatory systems. Thereafter the paper presents the research methodology and reviews the literature on gender earnings inequality. We follow this with a discussion of the data and presentation of results which test the hypothesis that

[2] In November 1996 the Federal government introduced the *Workplace Relations and Other Legislation Amendment Act 1996*. This Act has an individualised ideological

labour market deregulation adversely impacts on gender earnings inequality. In the final part of the paper we offer a summary and some concluding remarks.

LABOUR MARKET DEREGULATION

Federal Reforms

In an overview of labour market deregulation in Australia Hancock (1999) observes that forces seeking to change the system of wage determination and labour market regulation first emerged in the late 1980s. The initial pressures for change were accommodated by the Australian Industrial Relations Commission (AIRC) in the form of a two-tier wage system providing for both national wage adjustments and productivity bargaining.

In October 1991, under increasing pressure to further decentralise wage bargaining, the AIRC 'begrudgingly' introduced enterprise bargaining (Dabscheck, 1997). This did little to appease the key players (notably the Australian Labor Party (ALP), Australian Council of Trade Unions (ACTU) and the Business Council of Australia (BCA)) who had a common objective of overturning the traditional system of arbitration (Hancock, 1999). Accordingly, in 1992 the government (ALP) amended the *Industrial Relations Act 1988* and introduced a new division (3A) on certified agreements. Following re-election, more substantial changes were made via the *Industrial Relations Reform Act 1993* (which came into effect in early 1994). Under this Act collective bargaining was given priority and awards were relegated to the role of 'safety net'. Awards thus became the basis against which the no-disadvantage test was conducted and the main source of wage adjustments for those not in the enterprise stream.

The 1993 Act also permitted, for the first time, agreements to be made directly between employers and employees. Such agreements were intended for enterprises with no or few union members. There were some conditions attached. For example, a majority of employees had to genuinely agree to be bound by the agreement. The

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underpinning.

AIRC could refuse to approve an agreement if an employer had not notified unions respondent to the relevant award with members at the enterprise of negotiations. Finally, unions party to the award had to the right to be heard when the application for approval went before the Commission.

In 1996 the ALP lost power to the Howard Coalition Government. On election to office the Howard Government immediately began drafting new industrial relations legislation designed to further facilitate direct (employer-employee) bargaining. Following the passage of their Bill the *Industrial Relations Act 1988* was changed to the *Workplace Relations Act 1996*, which as Hancock (1999: 47) notes, "announces the legislature's preferences for employer-employee relations to be decided at the workplace with minimum third-party involvement". Further regulatory reforms aimed at promoting direct bargaining are currently before the federal parliament in the form of the *Workplace Relations Legislation Amendment (More Jobs, Better Pay) Bill 1999*.

State Reforms

Since 1992 changes in the institutional arrangements for pay determination have also occurred at the state level. However, there are notable state differences in the nature of the reforms introduced (Bennett, 1994). At one end of the spectrum there are regulatory systems based on individualism (e.g. Tasmania, Western Australia and Victoria). At the other end there are collective systems such as those found in New South Wales and, prior to 1997, Queensland and South Australia too.

In Victoria legislation was introduced in 1992 (*Employee Relations (ER) Act 1992)* to encourage and promote non-union bargaining. As part of the shift to non-union bargaining the ER Act abolished state awards and replaced them with a set of 'minimum conditions'. In 1996 the Victoria government ceded its industrial powers to the Commonwealth via the *Commonwealth Powers (Industrial Relations) Act 1996* (see Kollmorgen, 1997, for more details).

In Western Australia the main reforms to the industrial relations legislation were made in December 1993 via three new acts: the *Industrial Relations Amendment Act 1993 (WA)*, the *Minimum Conditions of Employment Act 1993* (WA) and the *Workplace Agreements Act 1993 (WAA)*. Under the WAA employers may opt to enter into non-union individual agreements. Agreements made under this Act are approved by the WA Commissioner of Workplace Agreements (as compared to the WA Industrial Relations Commission were union agreements are sent for ratification). The no disadvantage test against which WA non-union agreements are assessed is the *Minimum Conditions of Employment Act.* When compared to awards and minimums in the federal jurisdictions, the WA minimums are meagre. The WA minimum wage - which is prescribed by the Minister for Labour Relations - is, for example, well below the single minimum maintained by the AIRC (Hancock, 1999: 85).[3]

In Tasmania reforms introduced since 1993 provide for non-union agreements. Other changes include the abolition of preference and closed shop practices and restricted rights of entry for union officials (Otlowski, 1994). Agreements made in the Tasmanian jurisdiction are registered with the Enterprise Commissioner. As in WA there is a set of legislated (low) minimums against which agreements must comply.

As compared to Victoria, Western Australia and Tasmania, the regulatory arrangements in the remaining Australia states are 'collectivist'. In Queensland and South Australia the provisions have essentially mirrored those federally. In Queensland the 'harmonising' was achieved via an amendment to the Act in 1994 designed to bring the Queensland and federal systems into alignment (Coulthard, 1998). In South Australia, since 1994, non-union bargaining is provided for, but approval of such agreements rests with the state Commission (Alexander and Lewer, 1998). In New South Wales non-union bargaining is not provided for. In other words arbitration tribunals and unions continue to play an important role in shaping the wage outcomes in the NSW system (Gardner and Palmer, 1997).

[3] For more on the WA arrangements refer to Ford (1996), Bailey and McAtee (1999) and Bailey and Horstman (1999).

LITERATURE REVIEW AND RESEARCH METHODOLOGY

In economic studies of wage determination two procedures may be used to examine the impact of discrimination on gender wage inequality. The simplest is to include a female dummy variable in a pooled wage equation. The level of wage discrimination may be measured by the coefficient on the female dummy variable. A more sophisticated approach involves the estimation of separate male and female wage equations controlling for a range of productivity related characteristics such as experience, skills, occupation and industry of employment. A subsequent decomposition of the observed differences in average male and female wages into explained and unexplained components provides insight into the determinants of the difference (see Blinder, 1973; and Oaxaca, 1973). The decomposition procedure may be summarised as follows.

Firstly two separate wage equations of the form $\ln \hat{Y}_{im} = \hat{\beta}_{0m} + V_{im}\hat{\beta}_m$ and $\ln \hat{Y}_{if} = \hat{\beta}_{0f} + V_{if}\hat{\beta}_f$ are estimated for males (*m*) and females (*f*), respectively. Adopting the male wage structure as the non-discriminatory norm the raw wage gap can be decomposed using the following procedure: [4]

$$\overline{\ln Y_m} - \overline{\ln Y_f} = (\overline{V}_m - \overline{V}_f)\hat{\beta}_m + \overline{V}_f(\hat{\beta}_m - \hat{\beta}_f) + (\hat{\beta}_{0m} - \hat{\beta}_{0f}) \qquad (1)$$

where *m* denotes the males, *f* denotes females, $\overline{V}$ is a vector of the means of the independent variables and $\hat{\beta}$ is a vector of estimated slope coefficients. The first term of the decomposition calculates the portion of the gap attributable to differences in the characteristics of males and females. For example, if X denotes potential labour market experience then the difference in the average labour market experience of males and females would be $(\overline{X}_m - \overline{X}_f)$. To value this experience difference we multiply it with the male experience coefficient from the regression equation ($\hat{\beta}_{mX}$). This procedure is undertaken for each characteristic controlled for in the regression

equation (e.g. education level, sector of employment, birthplace, industry and occupation of employment). The *explained portion*, the first term of equation (1), is the summation of all characteristic differences valued at corresponding male rates.

The second term of equation (1) calculates differences in male-female returns to these characteristics. In other words, it measures the extent to which the market values the same characteristic differently for males and females. The third term represents differences in the constants ($\hat{\beta}_0$). Together the last two terms can be seen as providing an indicator of the extent to which female skills are *unexplained* or undervalued (i.e. the portion of the gap attributable to *equal pay* factors).[5]

Most Australian studies utilising the decomposition procedure outlined above find that less than a quarter of the gender wage gap arises because of differences in the endowments (characteristics) of males and females. The corollary of this is that around three quarters of the gap may be attributed to the undervaluation of female skills (see column (iv) in Table 1 below).

Differences in samples, time-frames and model specifications make it difficult to state, precisely, the extent to which females are disadvantaged in the Australian labour market. Estimates based on data from the 1990s range from around 8 per cent (Reiman, 1998) to 14.5 per cent (Preston, 1997). These estimates are consistent with studies using the dummy variable approach (e.g. Rummery, 1992; and Chang and Miller, 1996).

When compared with estimates based on data from earlier periods it is apparent that the gender wage gap in Australia has been falling. The largest convergence, as noted earlier, occurred in the 1970s following the removal of institutionalised gender wage discrimination in the equal pay decisions of 1969 and 1979 (Spilsbury and Kidd, 1996; Gregory and Ho, 1985; and Mitchell, 1983). Estimates from Miller (1994)

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[4] If the female wage structure is taken as the non-discriminatory norm the explained portion is equal to $(\overline{V}_m - \overline{V}_f)\hat{\beta}_f$, and the unexplained portion is equal to $\overline{V}_m(\hat{\beta}_m - \hat{\beta}_f)$.

[5] It should be acknowledged that a portion of this gap may also reflect data-deficiencies

show that in 1973 the adjusted wage gap was equal to around 40.8 per cent. By 1989/90 the corresponding gap was 12.7 per cent.[6]

Table 1 *Decomposing the Australian Gender Wage Gap.*

Study, year of data and decomposition procedure used (if not Blinder/Oaxaca approach).	Raw Wage Gap	Adjusted Wage Gap	Proportion Explained (%)	Proportion Unexplained (%)
	(i)	(ii)	(iii)	(iv)
Miller (1994): 1973 data.	0.468	0.408	13	87
Chapman and Mulvey (1986): 1982 data.	0.167	0.132	21	79
Kidd and Viney (1991): 1982 data.	0.208	0.173	17	83
Rummery (1992): 1984 data.	0.146	0.104	29	71
Miller (1994): 1989 data .	0.143	0.127	12	88
Langford (1995): 1989-90 data.	0.150	0.092	39	61
Kidd and Shannon (1996): 1989-90 data.	0.144	0.099	30	70
Preston (1997):				
• 1981 data	0.290	0.208	28	72
• 1991 data	0.199	0.145	27	73
Preston (1999): 1991 data.				
• private sector male/female wage gap	0.235	0.163	29	71
• public sector male/female wage gap	0.148	0.115	22	78
Reiman (1998): 1995 data.				
• all employees	0.124	0.084	32	68
• employees engaged in enterprise bargaining	0.121	0.936	22	78
• employees not engaged in enterprise bargaining	0.104	0.067	36	64

Notes:
(a) With the exception of Preston (1997 and 1999) all other studies use hourly earnings as their dependent variable. Preston uses weekly earnings.
(b) In Miller (1994) the sample is restricted to 30-64 year olds. The remaining studies in Table 1 draw their samples from the total working age population (in some cases defined as 18-64, in others defined as 15-64).
(c) In Kidd and Shannon (1996) the model includes controls for occupation and industry. Other studies listed in Table 1 which control for occupation and industry include Kidd and Viney (1991), Chapman and Mulvey (1986), Langford (1995), Preston (1997 and 1999), and Reiman (1998). Miller (1994) controls for occupation (but not industry).
(d) Reiman (1998) uses the employee survey from the 1995 Australian Workplace Industrial Relations Survey (AWIRS95) where it is possible to link individual data with workplace records. The model estimated here is thus of a very detailed nature (consisting of 61 variables). These include controls for human capital characteristics as well as a range of workplace factors (these include union membership, nature of competition in product market, ownership (Australian/overseas), and whether or not the firm made a profit or broke even last year).

The gap also narrowed over the 1980s, although at a much slower rate. In 1981, for example, the adjusted wage gap was equal to 20.8 per cent. By 1991 it had fallen to 15.1 per cent (see Preston, 1997).[7] The convergence noted here may be attribute it to improvements in female labour market experience over the period; changes in

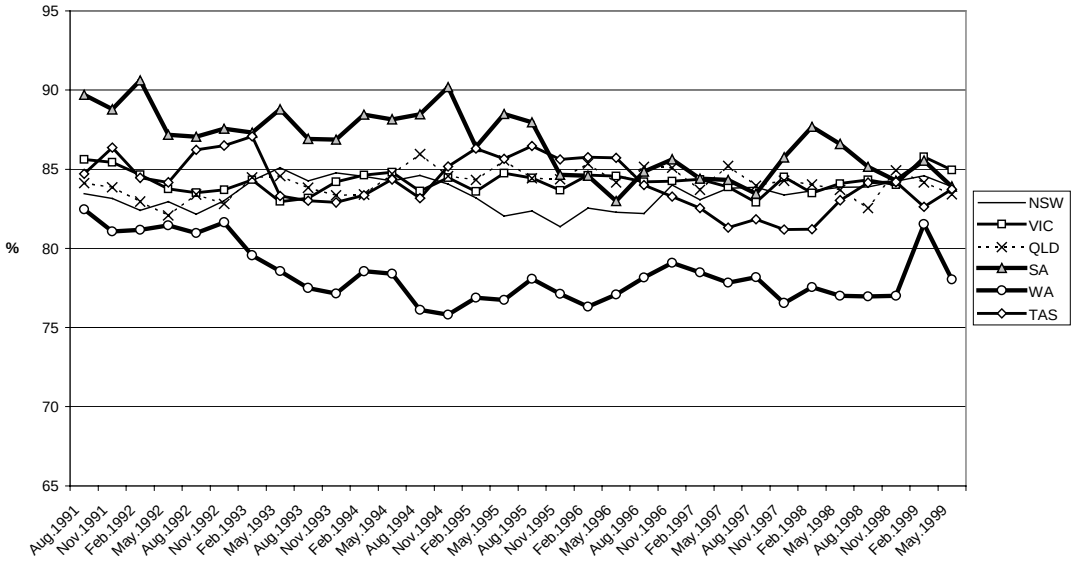
[6] The Australian experience of a rapid decline in the gender earnings differential following institutional intervention is not unique. The UK similarly experienced a remarkably increase in female relative earnings following the introduction of equal pay legislation in the 1970s (Gregory, Daly and Ho (1986). In the US the various pieces of legislation introduced to remove discrimination (e.g. Equal Pay Act of 1963 and Civil Rights Act of 1964) only had minimal effect, essentially because of the lack of supporting institutional structures (Gregory and Ho, 1985). The conclusion thus arrived at is that institutions matter in the determination of female pay.

experience helped reduced the gender earnings gap by about one quarter (Kidd and Meng, 1997; and Preston, 1997). Since 1991 there has been no significant change in the gender earnings gap at a national level (Wooden,1997). In the following section we examine the Australian data at a disaggregated state level.

DISAGGREGATED STATE ANALYSIS

We commence this section with the presentation of Figure 1 showing the within state gender pay gaps over the period 1991 to 1999. The ratios are derived from ABS data on average weekly ordinary time earnings (i.e. they do not include overtime earnings). The samples are restricted to adults employed full-time.

Figure 1: Within State Gender Pay Gaps, 1991 to 1999



Source: ABS 6302. The data series are for full-time adults, averge weekly ordinary time earnings (AWOTE)

Over the period August 1991 to May 1999 there was no significant change in the gender wage gaps of New South Wales (NSW), Victoria (Vic), Queensland (QLD) and Tasmania (Tas). In Western Australia (WA) the gap widened by 4.4 percentage points (to 22 per cent). In South Australia (SA) the equivalent change was 5.8 percentage points (to 16.1 per cent).

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7 The same model specification was used in both periods.

The Victorian and Tasmanian results are at odds with expectations (the hypothesis being that gender wage inequality will be higher in more deregulatory systems). However, Preston and Crockett (1999) show that relative to males and females nationally, the earnings of males and females in Victoria and Tasmania declined significantly over the 1990s - thus explaining the insignificant overall net gender effect.

The differentials shown in figure 1 are, however, only 'raw' differentials. As indicated above, any attempt to explain the pay gap between males and females needs to try and account for factors important in why individuals earn different amounts. That is, some effort should be made to control for differences in education, qualifications, skills, experience and demographic characteristics known to be important determinants of earnings. The following results from Preston and Crockett (1999) show the state gender pay gaps after adjusting for differences in observed characteristics.

Table 2 *Decomposing Australian State Gender Earnings Gaps, 1996*

	Australia	NSW	VIC	QLD	SA	WA	TAS
Total Gap	0.192	0.183	0.176	0.214	0.172	0.261	0.178
Explained Gap	0.051	0.050	0.041	0.063	0.013	0.085	0.006
Unexplained Gap	**0.141**	**0.133**	**0.135**	**0.151**	**0.159**	**0.176**	**0.171**

Source: Crockett and Preston (1999, Table 2).

The last row of Table 2 measures the adjusted gender earnings gap in each state. When compared with NSW (a collectivist system), the adjusted gaps in WA and Tasmania (individualist systems) are significantly higher. In the following section we combine 1991 and 1996 data to provide more insight in the sources contributing to changes in the wage structure within the various states.

CHANGES IN THE WAGE STRUCTURE: 1991 to 1996

Data

The data are drawn from the 1991 and 1996 Census Household Sample Files (HSFs) which contain a one per cent sample of the population. In keeping with most studies in this area our samples are restricted to full-time wage and salary earners aged between 16 and 64 years.[8] (Appendix A provides details on the data and variables used.) In the 1996 sample there are 26,370 males and 14,059 females. In the 1991 sample the corresponding sample sizes are 21,776 and 11,609.

The dependent variable in all cases is the natural logarithm of weekly earnings (ln*Y*). This variable picks up the weekly earnings from *all* sources (including overtime, allowances, interest etc.). The income data are grouped, thus the midpoints of each interval are used to estimate weekly earnings.[9] Following Chiswick and Miller (1995) the open-ended upper limit is given a value of 1.5 times the lower threshold level.

The estimation technique is ordinary least squares (OLS). Amongst other things, this procedure assumes that the population disturbances are distributed with constant variance. A violation of this assumption means that OLS is no longer efficient and that the OLS estimator of the variance of the slope coefficients is biased and inconsistent. Standard errors may, consequently, be too large or too small, thus affecting the construction of confidence intervals for the testing of hypotheses. In the analysis below the Breusch-Pagan (BP) test is used to detect whether or not heteroskedasticity is present. Where it is detected White's technique (White, 1980) is used to minimise the adverse consequences noted above. The technique provides a consistent estimates of the standard errors, and thus reliable (although unnecessarily large) confidence intervals.

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[8] Full-timers are defined as those working 35 or more hours per week in their main job. Our rationale for restricting the sample to full-time wage and salary earners is to overcome some of the estimation difficulties associated with measuring the labour market experience of persons employed part-time.

[9] Although the Census data also contains information on hours worked these data are also grouped. Rather than introduce further biases into the data (by dividing one grouped variable with another grouped variable) we choose, instead, to work with weekly income data and control for hours worked in the regression.

Methodology

The one period Blinder/Oaxaca decomposition technique summarised at equation (1) above may be extended following Wellington (1993) to allow for a study of the determinants of change over time.

$$(\overline{\ln Y_{m96}} - \overline{\ln Y_{m91}}) - (\overline{\ln Y_{f96}} - \overline{\ln Y_{f91}}) = \left[(\bar{V}_{m96} - \bar{V}_{m91})\hat{\beta}_{m96} - (\bar{V}_{f96} - \bar{V}_{f91})\hat{\beta}_{f96}\right] + \left[\bar{V}_{m91}(\hat{\beta}_{m96} - \hat{\beta}_{m91}) - \bar{V}_{f91}(\hat{\beta}_{f96} - \hat{\beta}_{f91})\right]$$

where the subscripts 96 and 91 refer, respectively, to two different time periods, 1996 and 1991.

The terms on the left-hand side measure the change in the raw wage gap over the period 1991 to 1996. The first term on the right-hand side measures the portion of this change in the raw wage gap which may be explained by changes in the endowments of males and females over the period. (The decomposition method proposed values such changes at 1996 levels). The second term on the right-hand side measures the portion of the change in the raw wage gap which cannot be explained by differences in the measured endowments between the two groups. Also included in this component are changes in the constant term. This evaluation holds the group's 1991 means (endowments) constant. The measured change is thus associated with a change in the way these characteristics are rewarded (paid for) over the period 1991 to 1996.

The results associated with the Wellington decomposition are presented in Table 3 below. (The regression results used to derive Table 3 are presented in Appendix B). Due to coding constraints the following analysis excludes Tasmania and restricts the analysis of South Australia and Western Australia to the capital cities of Adelaide and Perth.[10,11]

[10] In the 1991 Census Household Sample File Tasmania was grouped with the Australian Capital Territory. The non-metropolitan areas of South Australia and Western

Table 3: *1991 to 1996 Changing Gender Earning Gaps*

	NSW	VIC	QLD	ADEL	PERTH
Change Gender Gap to Explain	-1.288	0.176	0.056	-2.808	1.113
Explained Portion	-0.661	-1.688	0.148	-2.599	-0.099
Unexplained Portion	**-0.627**	**1.864**	**-0.092**	**-0.209**	**1.212**

Source: 1991 and 1996 Census HSFs

The last row of Table 3 shows that between the two Census periods (1991 and 1996) the gender earnings gaps in NSW, QLD and Adelaide experienced some convergence as a result of changes in the way female characteristics were paid for relative to men. In Victoria and Perth, between 1991 and 1996, there was a change in the way characteristics were paid for - with the change favouring males. In both Victoria and Perth females improved their average (earning) characteristics (e.g. human capital endowments) relative to men thus helping to narrow the pay gap. However, the gains made here were not enough to offset the adverse change in the remuneration structure, as discussed above. When compared to the 'collectivist' system of NSW, the unexplained changes in the Victorian and Perth wage structures are significant at the 10 and 20 per cent levels, respectively. The Victorian and Perth results, thus, lend support to the hypothesis that labour market deregulation adversely impacts on gender earnings inequality.

Australia were grouped together with the Northern Territory . These coding arrangements make it impossible to separately identify Tasmania, Western Australia and South Australia.

[11] In restricting the WA and SA analysis to the capital cities it is possible that we may understate the movement in the gap in these states. A one period analysis (1996) shows that in Perth, for example, the raw gender wage gap is equal to 23.5 per cent (as compared to a gap of 26.1 per cent for WA). Similarly, the Perth and WA adjusted gender wage gaps are equal to 16.2 and 17.6 per cent, respectively.

SUMMARY AND CONCLUSION

Since 1991 Australian institutional arrangements for pay determination at both state and federal levels have undergone a number of transformations. In a series of legislative amendments governments of all persuasions have sought to decentralise wage bargaining. While it is common to describe the processes in the various jurisdictions as 'enterprise bargaining', this label masks important differences in the institutional arrangements across Australia (Bennett, 1994). At one end of the spectrum there are the regulatory systems based on individualism (e.g. Victoria and Western Australia). At the other end there are the collectivist systems (e.g. New South Wales).

It was widely predicted that enterprise bargaining and labour market deregulation would cause a deterioration in the gender pay gap. Nationally such a deterioration has not yet eventuated. Females continue to earn around 86 per cent of male average earnings after adjustments have been made for differences in their productivity characteristics.

At the state level there are, however, differences in the size of the gender pay gap and the factors contributing to changes observed. Australian Census sample data for 1996 shows that NSW has the lowest adjusted gender wage gap (equal to 13.3 per cent) and Western Australia the highest (equal to 17.6 per cent). The results in this paper also show that in all states, except Queensland, females improved their relative productivity characteristics over the period 1991 to 1996, thus helping to reduce the gender pay gap. However, in Victoria and Western Australia (Perth) the relative productivity improvements (and thus convergence in the gap) were washed away by a shift (in favour of males) in the way the characteristics were rewarded (i.e paid for). It is notable that of the states studied in this paper Victoria and Western Australia are the only two which have an industrial relations system based on an ideology of individualism rather than collectivism.

From a policy perspective the results are consistent with Rubery's observation that "... women's pay position is influenced more by the overall system of pay determination

than by the specific policies for gender equality" (1992: 619). Convergence in the gender pay gap requires changes in equal opportunity factors (e.g. training, experience) as well as equal pay factors. It would appear that equal opportunity provisions are contributing to convergence in gender earnings (as reflected in a narrowing of the explained gap in Table 3). Equal opportunity, on its own, is not enough. Removal of the gender pay gap also requires that males and females are equally remunerated for their productivity characteristics. Decentralised bargaining weakens the capacity for institutions such as tribunals and unions to bring about the attainment of equal pay.

Since 1996 all jurisdictions, except NSW, have moved further down the deregulatory path. If the results of this paper are correct, then one might predict that the future will see a growing disparity between male and female relative earnings rather than an overall convergence.

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APPENDIX A: DEFINITION OF VARIABLES

Variable label	Variable Description
Dependent Variable *(lnY)*	Natural logarithm of weekly earnings (where earnings are defined as earnings from all sources).
Independent Variables	
Education (highest qualification)	
high school	(omitted group)
cert	vocational certificate
diploma	diploma
degree	degree
Experience *(exp, expsq)*	years of labour (potential) years of labour market experience (and its square)
Works Overtime *otime*	person works 41 or more hours per week (*otime*=1 ; else *otime*=0)
Demographic Characteristics	
Australia	born in Australia (omitted group)
esb	born English-speaking country
nesb	born in a non-English-speaking country
single	person never married (omitted group)
married	person married
wsd	person widowed, separated or divorced
child	person has dependant children (*child*=1; else *child*=0)
Sector of employment *govt*	person employed in the public sector (*govt=1*; else *govt*=0)
Industry (1 digit)	
affh	Agriculture, Forestry and Fishing.
mining	Mining
manufact	Manufacturing
elecgw	Electricity, Gas and Water.
constrn	Construction.
wt	Wholesale Trade (omitted group)
rt	Retail Trade.
transtre	Transport and Storage.
communic	Communication Services.
fin	Finance and Insurance
pbs	Property and Business Services.
pad	Public Administration and Defence.
ed	Education.
hellwel	Health and Welfare
ent	Entertainment and Recreation Services.
pos	Personal and Other Community Services.
Occupation (1 digit) *mgr*	
prof	Managers and Administrators.
aspro	Professionals
trade	Associate Professionals.
acsw	Tradespersons.
icssw	Advanced Clerical & Service Workers (omitted group)
iptw	Intermediate Clerical, Sales and Service Workers
lrw	Intermediate Plant Operators
	Labourers and Related Workers.

APPENDIX B: REGRESSION RESULTS

NSW - MALES - 1996

Mean of ln(Y)	6.490
Adjusted R^2	0.429
Number of Observations	9064

Variable	Coefficient	t-ratio	Mean of X
constant	5.689	104.905	
hschool	0.049	3.242	0.290
cert	0.136	9.009	0.344
diploma	0.183	6.008	0.031
degree	0.369	17.724	0.188
exp	0.031	18.394	19.768
expsq	-0.001	-15.036	529.890
otime	0.188	20.598	0.497
esb	0.045	2.774	0.091
nesb	-0.104	-8.167	0.174
married	0.100	7.498	0.600
wsd	0.040	2.139	0.087
child	-0.013	-1.109	0.349
govt	0.097	6.091	0.197
metro	0.130	10.445	0.840
affh	-0.351	-8.917	0.029
mining	0.536	14.291	0.018
manufact	-0.001	-0.065	0.180
elecgw	0.047	1.625	0.015
constrn	-0.031	-1.524	0.101
rt	-0.209	-10.219	0.100
rest	-0.184	-6.306	0.033
transtre	0.024	0.978	0.063
communic	0.097	3.554	0.029
fin	0.223	8.075	0.045
pbs	-0.029	-1.348	0.104
pad	-0.079	-3.267	0.058
ed	-0.217	-7.816	0.045
hellwel	-0.096	-3.042	0.040
ent	-0.062	-1.650	0.019
pos	-0.128	-3.936	0.031
mgr	0.330	6.367	0.148
prof	0.291	5.627	0.143
aspro	0.220	4.304	0.132
trade	0.008	0.168	0.218
icssw	0.073	1.426	0.095
iptw	-0.026	-0.503	0.133
ecssw	-0.035	-0.638	0.033
lrw	-0.061	-1.185	0.089

NSW MALES - 1991

Mean of ln(Y)	6.311
Adjusted R^2	0.551
Number of Observations	7543

Variable	Coefficient	t-ratio	Mean of X
constant	5.610	185.235	
hschool	0.044	3.538	0.318
cert	0.163	13.079	0.321
diploma	0.272	9.872	0.032
degree	0.388	19.644	0.136
exp	0.035	24.021	18.820
expsq	-0.001	-20.432	501.200
otime	0.174	19.946	0.370
esb	0.055	4.159	0.101
nesb	-0.071	-6.137	0.159
married	0.119	10.265	0.589
wsd	0.073	4.476	0.080
child	0.005	0.522	0.388
govt	0.037	2.796	0.285
metro	0.112	11.477	0.811
affh	-0.280	-7.665	0.026
mining	0.448	16.730	0.026
manufact	-0.002	-0.145	0.206
elecgw	0.006	0.243	0.034
constrn	0.041	2.070	0.080
rt	-0.150	-8.005	0.094
rest	-0.186	-6.510	0.028
transtre	0.023	1.154	0.070
communic	-0.024	-0.934	0.028
fin	0.146	5.895	0.052
pbs	0.065	2.753	0.060
pad	-0.023	-1.059	0.078
ed	-0.151	-5.677	0.047
hellwel	-0.184	-6.202	0.038
ent	-0.094	-2.039	0.012
pos	0.010	0.399	0.035
mgr	0.284	11.856	0.127
prof	0.155	6.572	0.107
aspro	0.089	3.986	0.113
trade	-0.094	-4.365	0.232
icssw	0.022	0.952	0.111
iptw	-0.116	-5.062	0.111
ecssw	-0.099	-3.249	0.019
lrw	-0.169	-7.706	0.149

NSW - FEMALES 1996

Mean of ln(Y)	6.307
Adjusted R^2	0.405
Number of Observations	4905

Variable	Coefficient	t-ratio	Mean of X
constant	5.756	157.547	
hschool	0.053	3.012	0.345
cert	0.129	6.322	0.162
diploma	0.196	6.792	0.072
degree	0.336	14.090	0.249
exp	0.035	17.103	17.865
expsq	-0.001	-13.705	455.870
otime	0.110	8.607	0.315
esb	0.030	1.496	0.086
nesb	-0.091	-6.270	0.182
married	-0.003	-0.211	0.476
wsd	0.033	1.869	0.145
child	-0.062	-4.161	0.230
govt	0.084	5.410	0.262
metro	0.143	8.742	0.859
affh	-0.470	-5.066	0.012
mining	0.223	2.705	0.001
manufact	-0.058	-2.325	0.110
elecgw	0.004	0.080	0.006
constrn	-0.136	-2.755	0.014
rt	-0.187	-6.711	0.105
rest	-0.200	-5.677	0.035
transtre	-0.008	-0.228	0.030
communic	0.097	2.656	0.021
fin	0.077	3.154	0.084
pbs	-0.006	-0.254	0.132
pad	-0.049	-1.534	0.056
ed	-0.176	-6.286	0.114
hellwel	-0.162	-6.391	0.160
ent	-0.048	-1.241	0.024
pos	-0.131	-3.695	0.038
mgr	0.281	9.294	0.076
prof	0.186	7.694	0.259
aspro	0.093	3.814	0.118
trade	-0.189	-4.911	0.030
icssw	-0.053	-2.755	0.252
iptw	-0.183	-5.937	0.031
ecssw	-0.094	-3.334	0.072
lrw	-0.188	-7.138	0.060

NSW FEMALES - 1991

Mean of ln(Y)	6.115
Adjusted R^2	0.469
Number of Observations	3941

Variable	Coefficient	t-ratio	Mean of X
constant	5.615	183.265	
hschool	0.058	3.690	0.371
cert	0.117	6.240	0.160
diploma	0.238	8.879	0.102
degree	0.352	15.184	0.161
exp	0.036	18.525	16.375
expsq	-0.001	-15.156	404.550
otime	0.128	8.963	0.202
esb	0.034	2.149	0.116
nesb	-0.045	-2.952	0.155
married	0.025	1.920	0.487
wsd	0.040	2.237	0.119
child	-0.076	-5.758	0.278
govt	0.038	2.500	0.302
metro	0.083	6.143	0.838
affh	-0.452	-5.482	0.010
mining	0.266	3.469	0.002
manufact	-0.010	-0.422	0.121
elecgw	0.085	1.253	0.005
constrn	-0.100	-1.529	0.013
rt	-0.175	-6.980	0.110
rest	-0.091	-2.688	0.031
transtre	0.012	0.396	0.033
communic	-0.033	-0.748	0.015
fin	0.065	2.788	0.108
pbs	0.023	0.860	0.094
pad	-0.036	-1.230	0.061
ed	-0.101	-3.822	0.110
hellwel	-0.043	-1.632	0.170
ent	-0.142	-2.262	0.011
pos	-0.084	-2.405	0.043
mgr	0.288	10.964	0.065
prof	0.158	7.533	0.217
aspro	0.117	5.033	0.075
trade	-0.205	-5.692	0.034
icssw	-0.001	-0.075	0.215
iptw	-0.178	-6.711	0.033
ecssw	-0.101	-5.595	0.117
lrw	-0.199	-8.441	0.079

VIC - MALES - 1996

Mean of ln(Y)	6.450
Adjusted R^2	0.422
Number of Observations	6472

Variable	Coefficient	t-ratio	Mean of X
constant	5.637	110.562	
hschool	0.074	4.154	0.345
cert	0.163	8.929	0.305
diploma	0.270	7.512	0.032
degree	0.398	16.557	0.188
exp	0.033	16.787	19.405
expsq	-0.001	-13.714	508.290
otime	0.157	14.768	0.501
esb	0.039	2.079	0.085
nesb	-0.122	-8.245	0.178
married	0.090	5.581	0.611
wsd	0.077	3.412	0.083
child	0.013	1.004	0.358
govt	0.132	6.446	0.155
metro	0.115	9.486	0.739
affh	-0.470	-9.500	0.029
mining	0.149	2.236	0.006
manufact	0.028	1.427	0.237
elecgw	0.164	4.084	0.013
constrn	-0.050	-1.961	0.090
rt	-0.156	-6.624	0.108
rest	-0.186	-5.063	0.024
transtre	0.034	1.215	0.049
communic	0.022	0.590	0.033
fin	0.192	5.998	0.042
pbs	0.066	2.646	0.098
pad	-0.099	-3.136	0.049
ed	-0.210	-6.752	0.050
hellwel	-0.058	-1.750	0.037
ent	-0.017	-0.327	0.017
pos	-0.055	-1.509	0.030
mgr	0.315	6.998	0.162
prof	0.258	5.673	0.139
aspro	0.177	4.034	0.135
trade	0.017	0.377	0.217
icssw	0.100	2.278	0.097
iptw	0.005	0.106	0.126
ecssw	-0.065	-1.312	0.032
lrw	-0.044	-0.956	0.082

VIC - MALES 1991

Mean of ln(Y)	6.286
Adjusted R^2	0.511
Number of Observations	5475

Variable	Coefficient	t-ratio	Mean of X
constant	5.700	157.689	
hschool	0.051	3.566	0.352
cert	0.166	10.998	0.284
diploma	0.252	9.009	0.039
degree	0.361	16.526	0.153
exp	0.035	20.844	18.338
expsq	-0.001	-17.617	482.890
otime	0.151	14.171	0.369
esb	0.013	0.813	0.099
nesb	-0.085	-6.564	0.172
married	0.073	5.542	0.610
wsd	0.022	1.103	0.071
child	0.011	0.992	0.411
govt	0.073	3.999	0.296
metro	0.067	6.390	0.742
affh	-0.286	-5.349	0.013
mining	0.231	3.454	0.006
manufact	-0.017	-0.959	0.251
elecgw	0.074	2.319	0.031
constrn	0.055	2.372	0.062
rt	-0.124	-5.740	0.101
rest	-0.124	-3.617	0.021
transtre	-0.038	-1.535	0.060
communic	-0.047	-1.537	0.037
fin	0.125	4.542	0.048
pbs	0.007	0.245	0.054
pad	-0.091	-3.293	0.077
ed	-0.179	-6.157	0.066
hellwel	-0.138	-3.954	0.041
ent	-0.091	-1.851	0.012
pos	0.020	0.647	0.034
mgr	0.247	8.427	0.134
prof	0.149	5.092	0.126
aspro	0.077	2.834	0.110
trade	-0.152	-5.604	0.226
icssw	0.003	0.111	0.112
iptw	-0.108	-3.785	0.116
ecssw	-0.155	-4.110	0.023
lrw	-0.186	-6.728	0.129

VICTORIAN FEMALES - 1996

Mean of ln(Y)	6.274
Adjusted R^2	0.398
Number of Observations	3550

Variable	Coefficient	t-ratio	Mean of X
constant	5.819	150.378	
hschool	0.045	2.301	0.419
cert	0.106	4.360	0.125
diploma	0.214	6.984	0.061
degree	0.293	10.788	0.255
exp	0.035	16.551	17.320
expsq	-0.001	-14.504	431.140
otime	0.120	8.119	0.320
esb	0.030	1.200	0.074
nesb	-0.052	-2.829	0.183
married	-0.007	-0.402	0.472
wsd	0.030	1.376	0.138
child	-0.100	-5.443	0.221
govt	0.068	3.551	0.190
metro	0.107	6.950	0.790
affh	-0.323	-4.868	0.016
mining	0.162	2.915	0.002
manufact	-0.035	-1.313	0.151
elecgw	0.185	1.925	0.003
constrn	-0.111	-1.897	0.012
rt	-0.117	-3.764	0.103
rest	-0.186	-3.546	0.028
transtre	-0.015	-0.382	0.029
communic	0.061	1.411	0.023
fin	0.076	2.702	0.076
pbs	0.017	0.622	0.124
pad	-0.048	-1.184	0.039
ed	-0.161	-5.685	0.125
hellwel	-0.141	-5.068	0.148
ent	-0.068	-1.369	0.023
pos	-0.158	-3.604	0.036
mgr	0.205	6.569	0.081
prof	0.166	7.028	0.239
aspro	0.009	0.370	0.132
trade	-0.226	-5.659	0.034
icssw	-0.103	-5.671	0.236
iptw	-0.252	-7.308	0.043
ecssw	-0.169	-5.363	0.071
lrw	-0.165	-5.888	0.064

VICTORIAN FEMALES - 1991

Mean of ln(Y)	6.112
Adjusted R^2	0.495
Number of Observations	3086

Variable	Coefficient	t-ratio	Mean of X
constant	5.726	186.375	
hschool	0.052	3.290	0.452
cert	0.142	6.523	0.100
diploma	0.214	7.708	0.089
degree	0.312	12.217	0.187
exp	0.033	17.572	15.640
expsq	-0.001	-14.599	373.190
otime	0.080	5.619	0.206
esb	-0.016	-0.891	0.096
nesb	-0.041	-2.566	0.154
married	0.033	2.519	0.485
wsd	0.042	2.183	0.118
child	-0.082	-6.124	0.273
govt	0.060	4.242	0.317
metro	0.053	4.246	0.784
affh	-0.371	-3.222	0.008
mining	0.116	2.108	0.001
manufact	-0.032	-1.383	0.154
elecgw	0.004	0.084	0.008
constrn	-0.014	-0.242	0.010
rt	-0.178	-7.284	0.117
rest	-0.124	-2.810	0.027
transtre	0.058	1.710	0.026
communic	-0.065	-1.625	0.016
fin	0.009	0.384	0.093
pbs	-0.003	-0.104	0.074
pad	-0.084	-2.613	0.052
ed	-0.122	-4.497	0.137
hellwel	-0.070	-2.677	0.158
ent	-0.108	-1.719	0.015
pos	-0.064	-2.082	0.039
mgr	0.258	8.297	0.056
prof	0.159	7.263	0.228
aspro	0.065	2.737	0.066
trade	-0.202	-6.180	0.034
icssw	-0.034	-2.039	0.204
iptw	-0.284	-9.788	0.044
ecssw	-0.095	-5.093	0.136
lrw	-0.246	-10.151	0.083

QLD - MALES - 1996

Mean of ln(Y)	6.411
Adjusted R^2	0.412
Number of Observations	4833

Variable	Coefficient	t-ratio	Mean of X
constant	5.728	76.850	
hschool	0.057	3.056	0.286
cert	0.126	6.818	0.336
diploma	0.192	4.283	0.022
degree	0.347	11.192	0.145
exp	0.033	14.133	19.789
expsq	-0.001	-11.970	527.790
otime	0.166	13.593	0.515
esb	0.022	1.241	0.116
nesb	-0.069	-2.593	0.078
married	0.093	5.231	0.604
wsd	0.032	1.283	0.085
child	0.002	0.154	0.341
govt	0.112	5.716	0.219
metro	0.026	2.111	0.478
affh	-0.277	-6.535	0.044
mining	0.663	16.119	0.038
manufact	0.006	0.271	0.173
elecgw	0.095	1.820	0.014
constrn	0.027	1.016	0.102
rt	-0.127	-4.820	0.100
rest	-0.238	-6.050	0.036
transtre	0.057	1.770	0.062
communic	0.078	2.137	0.022
fin	0.238	5.239	0.026
pbs	-0.003	-0.087	0.090
pad	-0.059	-1.841	0.071
ed	-0.177	-5.283	0.044
hellwel	0.031	0.731	0.040
ent	-0.028	-0.584	0.018
pos	-0.098	-2.331	0.031
mgr	0.270	3.761	0.146
prof	0.227	3.108	0.107
aspro	0.153	2.180	0.130
trade	-0.015	-0.217	0.237
icssw	0.039	0.545	0.093
iptw	-0.029	-0.404	0.139
ecssw	-0.023	-0.305	0.034
lrw	-0.082	-1.143	0.104

QLD - MALES - 1991

Mean of ln(Y)	6.212
Adjusted R^2	0.476
Number of Observations	3676

Variable	Coefficient	t-ratio	Mean of X
constant	5.659	140.292	
hschool	0.052	3.064	0.284
cert	0.160	10.206	0.323
diploma	0.312	8.080	0.026
degree	0.383	12.642	0.102
exp	0.032	14.861	18.849
expsq	-0.001	-12.250	499.190
otime	0.143	11.560	0.391
esb	0.019	1.061	0.112
nesb	-0.050	-2.006	0.066
married	0.071	4.343	0.594
wsd	0.021	0.798	0.088
child	0.040	3.082	0.395
govt	0.039	2.016	0.314
metro	0.008	0.707	0.473
affh	-0.280	-6.450	0.039
mining	0.471	12.608	0.038
manufact	0.012	0.552	0.180
elecgw	0.041	1.043	0.020
constrn	0.034	1.312	0.097
rt	-0.120	-4.941	0.096
rest	-0.107	-2.550	0.033
transtre	0.062	1.888	0.075
communic	0.035	1.009	0.029
fin	0.158	4.221	0.035
pbs	0.011	0.320	0.043
pad	0.035	1.171	0.088
ed	-0.155	-4.627	0.059
hellwel	-0.078	-2.059	0.039
ent	-0.041	-0.570	0.013
pos	0.005	0.147	0.036
mgr	0.208	5.905	0.106
prof	0.150	4.153	0.088
aspro	0.096	3.087	0.115
trade	-0.092	-2.883	0.236
icssw	0.002	0.050	0.113
iptw	-0.102	-3.150	0.132
ecssw	-0.079	-1.662	0.021
lrw	-0.164	-5.058	0.156

QUEENSLAND FEMALES - 1996

Mean of ln(Y)	6.198
Adjusted R^2	0.367
Number of Observations	2530

Variable	Coefficient	t-ratio	Mean of X
constant	5.710	115.859	
hschool	0.075	3.397	0.366
cert	0.113	4.135	0.126
diploma	0.189	5.079	0.057
degree	0.345	11.189	0.206
exp	0.032	11.365	17.600
expsq	-0.001	-9.713	448.980
otime	0.087	5.119	0.331
esb	0.034	1.346	0.108
nesb	-0.056	-1.723	0.074
married	0.042	2.338	0.475
wsd	0.008	0.315	0.142
child	-0.064	-3.053	0.211
govt	0.112	5.741	0.245
metro	0.067	4.489	0.532
affh	-0.179	-2.487	0.025
mining	0.293	2.051	0.006
manufact	0.079	2.059	0.081
elecgw	0.183	3.625	0.003
constrn	0.081	1.083	0.016
rt	-0.036	-0.836	0.128
rest	-0.013	-0.261	0.055
transtre	0.196	3.779	0.034
communic	0.107	1.647	0.017
fin	0.145	3.709	0.057
pbs	0.060	1.432	0.115
pad	0.080	1.760	0.060
ed	-0.046	-1.117	0.105
hellwel	-0.006	-0.151	0.186
ent	0.011	0.157	0.024
pos	-0.072	-1.245	0.043
mgr	0.196	4.290	0.068
prof	0.136	4.082	0.218
aspro	0.011	0.344	0.143
trade	-0.190	-3.398	0.030
icssw	-0.108	-4.497	0.275
iptw	-0.222	-5.809	0.029
ecssw	-0.092	-2.406	0.081
lrw	-0.248	-6.644	0.066

QUEENSLAND FEMALES - 1991

Mean of ln(Y)	5.999
Adjusted R^2	0.481
Number of Observations	1870

Variable	Coefficient	t-ratio	Mean of X
constant	5.489	123.855	
hschool	0.088	4.838	0.379
cert	0.135	5.003	0.102
diploma	0.248	7.620	0.110
degree	0.379	10.471	0.122
exp	0.042	15.250	15.297
expsq	-0.001	-12.939	362.450
otime	0.096	4.737	0.209
esb	-0.019	-0.786	0.104
nesb	-0.041	-1.275	0.044
married	0.022	1.387	0.458
wsd	0.058	2.498	0.131
child	-0.110	-5.912	0.262
govt	0.127	6.663	0.329
metro	0.045	3.248	0.551
affh	-0.366	-2.433	0.008
mining	0.461	4.573	0.004
manufact	0.001	0.018	0.085
elecgw	0.048	0.516	0.005
constrn	-0.002	-0.021	0.014
rt	-0.088	-2.350	0.160
rest	-0.017	-0.341	0.047
transtre	0.002	0.038	0.029
communic	0.080	1.538	0.010
fin	0.106	2.638	0.070
pbs	0.024	0.557	0.081
pad	-0.039	-0.877	0.067
ed	-0.082	-1.867	0.123
hellwel	-0.099	-2.403	0.190
ent	0.101	1.517	0.016
pos	-0.012	-0.255	0.049
mgr	0.176	3.642	0.033
prof	0.178	5.807	0.207
aspro	0.072	2.030	0.068
trade	-0.168	-3.728	0.033
icssw	-0.011	-0.528	0.238
iptw	-0.154	-2.346	0.017
ecssw	-0.054	-2.254	0.141
lrw	-0.102	-3.500	0.093

ADEL - MALES - 1996

Mean of ln(Y)	6.407
Adjusted R^2	0.445
Number of Observations	1502

Variable	Coefficient	t-ratio	Mean of X
constant	5.785	67.584	
hschool	0.091	2.848	0.358
cert	0.198	5.943	0.314
diploma	0.234	2.744	0.029
degree	0.434	9.254	0.156
exp	0.032	7.660	19.615
expsq	-0.001	-5.727	507.420
otime	0.203	10.434	0.452
esb	-0.044	-1.613	0.142
nesb	-0.143	-4.451	0.129
married	0.083	3.211	0.580
wsd	-0.002	-0.064	0.098
child	0.015	0.590	0.346
govt	0.114	3.479	0.214
affh	-0.219	-2.437	0.009
mining	0.538	4.098	0.003
manufact	-0.037	-1.013	0.249
elecgw	-0.130	-1.757	0.011
constrn	-0.060	-1.230	0.067
rt	-0.140	-3.199	0.105
rest	-0.145	-1.820	0.026
transtre	-0.006	-0.106	0.054
communic	0.074	1.212	0.035
fin	0.179	2.993	0.042
pbs	0.031	0.573	0.089
pad	-0.028	-0.515	0.053
ed	-0.198	-3.783	0.057
hellwel	-0.041	-0.657	0.050
ent	0.032	0.473	0.027
pos	-0.084	-1.354	0.038
mgr	0.147	1.945	0.140
prof	0.151	1.976	0.135
aspro	-0.007	-0.098	0.134
trade	-0.062	-0.865	0.227
icssw	-0.018	-0.246	0.111
iptw	-0.114	-1.524	0.129
ecssw	-0.143	-1.480	0.032
lrw	-0.116	-1.548	0.083

ADEL - MALES - 1991

Mean of ln(Y)	6.264
Adjusted R^2	0.527
Number of Observations	1371

Variable	Coefficient	t-ratio	Mean of X
constant	5.671	82.505	
hschool	0.092	3.285	0.344
cert	0.172	5.626	0.307
diploma	0.220	3.887	0.042
degree	0.475	10.168	0.141
exp	0.036	10.173	19.105
expsq	-0.001	-9.012	508.830
otime	0.160	8.412	0.372
esb	0.002	0.088	0.195
nesb	-0.044	-1.523	0.108
married	0.080	2.862	0.615
wsd	-0.027	-0.599	0.089
child	0.019	0.852	0.387
govt	0.071	2.458	0.300
affh	-0.317	-2.420	0.009
mining	0.212	1.283	0.007
manufact	0.017	0.519	0.271
elecgw	0.015	0.323	0.028
constrn	0.037	0.778	0.062
rt	-0.111	-2.637	0.092
rest	0.008	0.153	0.026
transtre	0.042	0.796	0.053
communic	0.032	0.563	0.028
fin	0.077	1.275	0.053
pbs	0.013	0.222	0.047
pad	-0.009	-0.195	0.079
ed	-0.103	-1.970	0.067
hellwel	-0.101	-1.622	0.045
ent	0.115	1.058	0.007
pos	0.007	0.108	0.035
mgr	0.164	2.917	0.134
prof	0.089	1.709	0.131
aspro	-0.013	-0.261	0.102
trade	-0.161	-3.185	0.228
icssw	-0.028	-0.528	0.129
iptw	-0.154	-2.730	0.111
ecssw	-0.140	-1.651	0.024
lrw	-0.257	-4.730	0.109

ADELAIDE FEMALES - 1996

Mean of ln(Y)	6.249
Adjusted R^2	0.379
Number of Observations	772

Variable	Coefficient	t-ratio	Mean of X
constant	5.868	79.937	
hschool	0.046	1.246	0.403
cert	0.026	0.521	0.133
diploma	0.180	3.298	0.075
degree	0.253	4.866	0.237
exp	0.024	5.808	18.030
expsq	0.000	-4.826	448.910
otime	0.131	4.738	0.286
esb	0.034	1.041	0.131
nesb	-0.114	-2.287	0.104
married	0.023	0.790	0.473
wsd	-0.008	-0.202	0.148
child	-0.011	-0.347	0.183
govt	0.145	4.440	0.298
affh	0.010	0.091	0.006
mining	0.000	0.000	0.000
manufact	0.051	0.940	0.120
elecgw	-0.043	-0.693	0.003
constrn	0.169	1.180	0.003
rt	-0.049	-0.732	0.106
rest	-0.133	-1.593	0.035
transtre	0.132	2.017	0.035
communic	0.028	0.226	0.014
fin	0.082	1.247	0.062
pbs	0.058	0.931	0.106
pad	0.031	0.417	0.047
ed	-0.152	-2.236	0.139
hellwel	-0.064	-1.142	0.190
ent	-0.102	-0.866	0.028
pos	-0.056	-0.863	0.039
mgr	0.129	2.212	0.070
prof	0.166	3.398	0.273
aspro	-0.009	-0.184	0.113
trade	-0.209	-3.042	0.023
icssw	-0.061	-1.577	0.276
iptw	-0.087	-1.413	0.041
ecssw	-0.101	-1.636	0.053
lrw	-0.231	-3.871	0.063

ADELAIDE FEMALES - 1991

Mean of ln(Y)	6.079
Adjusted R^2	0.505
Number of Observations	779

Variable	Coefficient	t-ratio	Mean of X
constant	5.654	102.780	
hschool	0.093	3.255	0.465
cert	0.153	4.218	0.127
diploma	0.313	5.709	0.089
degree	0.402	9.015	0.134
exp	0.031	8.453	16.022
expsq	-0.001	-6.852	383.160
otime	0.097	3.850	0.202
esb	0.046	1.853	0.166
nesb	-0.007	-0.188	0.072
married	0.032	1.258	0.471
wsd	0.062	1.919	0.134
child	-0.050	-1.947	0.259
govt	0.056	2.470	0.363
affh	-0.197	-2.354	0.005
mining	0.000	0.000	0.000
manufact	-0.039	-0.813	0.145
elecgw	-0.014	-0.144	0.012
constrn	0.057	0.906	0.019
rt	-0.178	-4.030	0.119
rest	0.019	0.259	0.019
transtre	-0.048	-0.440	0.022
communic	-0.178	-3.151	0.015
fin	-0.010	-0.227	0.099
pbs	-0.062	-1.112	0.063
pad	-0.066	-1.166	0.073
ed	-0.122	-2.427	0.119
hellwel	-0.141	-3.206	0.190
ent	-0.312	-2.944	0.009
pos	-0.126	-2.061	0.049
mgr	0.298	4.578	0.039
prof	0.161	3.863	0.211
aspro	0.095	2.085	0.055
trade	-0.033	-0.578	0.042
icssw	0.016	0.515	0.223
iptw	-0.165	-2.649	0.033
ecssw	-0.024	-0.779	0.141
lrw	-0.175	-3.593	0.081

perth - males - 1996

Mean of ln(Y)	6.492
Adjusted R^2	0.434
Number of Observations	1890

Variable	Coefficient	t-ratio	Mean of X
constant	5.801	79.982	
hschool	0.041	1.421	0.286
cert	0.095	3.340	0.323
diploma	0.038	0.720	0.041
degree	0.256	6.300	0.187
exp	0.039	10.813	20.025
expsq	-0.001	-8.912	536.870
otime	0.178	9.135	0.490
esb	-0.032	-1.378	0.220
nesb	-0.031	-0.992	0.147
married	0.132	4.472	0.599
wsd	0.077	2.009	0.087
child	0.017	0.693	0.349
govt	0.067	2.141	0.193
affh	-0.244	-2.550	0.007
mining	0.355	4.307	0.028
manufact	-0.080	-2.223	0.192
elecgw	0.027	0.347	0.015
constrn	0.032	0.770	0.111
rt	-0.155	-3.552	0.105
rest	-0.209	-3.953	0.023
transtre	0.039	0.723	0.058
communic	0.030	0.478	0.025
fin	0.122	2.080	0.035
pbs	-0.004	-0.091	0.111
pad	-0.057	-0.994	0.045
ed	-0.145	-2.754	0.062
hellwel	-0.144	-2.347	0.046
ent	0.000	-0.004	0.016
pos	-0.146	-2.430	0.032
mgr	0.273	4.326	0.143
prof	0.268	4.197	0.137
aspro	0.141	2.416	0.141
trade	-0.052	-0.870	0.234
icssw	0.032	0.527	0.107
iptw	-0.076	-1.196	0.118
ecssw	-0.046	-0.593	0.031
lrw	-0.151	-2.352	0.078

perth - males - 1991

Mean of ln(Y)	6.301
Adjusted R^2	0.557
Number of Observations	1399

Variable	Coefficient	t-ratio	Mean of X
constant	5.610	82.792	
hschool	0.046	1.765	0.276
cert	0.174	6.995	0.288
diploma	0.236	5.754	0.059
degree	0.483	12.150	0.148
exp	0.034	10.486	18.769
expsq	-0.001	-9.016	488.660
otime	0.144	7.656	0.395
esb	-0.058	-2.813	0.249
nesb	-0.121	-4.343	0.127
married	0.141	5.067	0.602
wsd	0.047	1.421	0.084
child	-0.022	-1.013	0.397
govt	0.016	0.537	0.304
affh	-0.087	-0.813	0.007
mining	0.282	5.438	0.024
manufact	-0.002	-0.067	0.192
elecgw	0.001	0.018	0.024
constrn	0.012	0.240	0.078
rt	-0.113	-3.082	0.118
rest	-0.029	-0.417	0.024
transtre	0.085	1.810	0.066
communic	0.004	0.089	0.036
fin	0.112	2.490	0.044
pbs	-0.026	-0.442	0.057
pad	0.021	0.420	0.070
ed	-0.185	-3.353	0.055
hellwel	-0.022	-0.340	0.038
ent	0.063	0.785	0.016
pos	0.033	0.693	0.056
mgr	0.328	5.588	0.129
prof	0.187	3.317	0.122
aspro	0.164	3.058	0.132
trade	-0.041	-0.706	0.212
icssw	0.076	1.337	0.134
iptw	0.047	0.797	0.089
ecssw	0.024	0.404	0.030
lrw	-0.054	-0.941	0.122

PERTH FEMALES - 1996

Mean of ln(Y)	6.257
Adjusted R^2	0.438
Number of Observations	1037

Variable	Coefficient	t-ratio	Mean of X
constant	5.801	84.456	
hschool	0.067	2.322	0.355
cert	0.065	1.676	0.142
diploma	0.157	2.717	0.071
degree	0.257	5.817	0.231
exp	0.040	10.382	18.006
expsq	-0.001	-8.341	456.550
otime	0.066	2.683	0.289
esb	-0.027	-1.130	0.201
nesb	-0.074	-2.057	0.124
married	0.012	0.464	0.442
wsd	-0.034	-0.983	0.182
child	-0.065	-2.159	0.200
govt	0.063	2.211	0.265
affh	-0.216	-2.046	0.007
mining	0.219	2.125	0.009
manufact	0.095	1.540	0.068
elecgw	0.004	0.051	0.001
constrn	0.097	0.981	0.017
rt	-0.127	-2.027	0.115
rest	-0.113	-1.700	0.042
transtre	0.046	0.620	0.030
communic	0.075	0.823	0.017
fin	0.087	1.499	0.082
pbs	0.032	0.557	0.130
pad	0.068	0.961	0.052
ed	-0.183	-2.844	0.123
hellwel	-0.153	-2.528	0.182
ent	0.061	0.717	0.024
pos	-0.033	-0.492	0.041
mgr	0.209	3.462	0.071
prof	0.235	4.872	0.225
aspro	0.061	1.514	0.131
trade	-0.164	-2.520	0.032
icssw	-0.111	-3.220	0.274
iptw	-0.156	-1.585	0.025
ecssw	-0.124	-2.487	0.082
lrw	-0.286	-4.953	0.055

PERTH FEMALES - 1991

Mean of ln(Y)	6.077
Adjusted R^2	0.549
Number of Observations	777

Variable	Coefficient	t-ratio	Mean of X
constant	5.517	97.117	
hschool	0.064	2.492	0.360
cert	0.128	3.829	0.139
diploma	0.236	5.111	0.107
degree	0.320	5.862	0.161
exp	0.040	10.893	16.447
expsq	-0.001	-8.877	406.580
otime	0.158	6.380	0.212
esb	0.016	0.705	0.229
nesb	-0.018	-0.571	0.125
married	0.013	0.483	0.449
wsd	0.025	0.835	0.134
child	-0.062	-2.446	0.251
govt	0.076	2.356	0.327
affh	0.134	1.996	0.001
mining	0.280	2.090	0.009
manufact	0.028	0.573	0.089
elecgw	0.258	1.577	0.004
constrn	0.277	2.769	0.014
rt	-0.059	-1.171	0.124
rest	0.068	1.015	0.032
transtre	0.065	0.836	0.026
communic	-0.155	-0.795	0.009
fin	0.103	2.233	0.106
pbs	0.057	1.161	0.102
pad	0.053	0.869	0.060
ed	-0.008	-0.127	0.121
hellwel	0.064	1.108	0.181
ent	-0.028	-0.177	0.013
pos	-0.115	-1.579	0.053
mgr	0.341	4.604	0.028
prof	0.124	3.006	0.220
aspro	0.069	1.991	0.093
trade	-0.172	-2.670	0.045
icssw	0.003	0.099	0.216
iptw	-0.345	-2.444	0.014
ecssw	-0.103	-3.152	0.127
lrw	-0.244	-5.072	0.071