

## Workplace Research Centre Research Note No 2

### Are NSW public sector workers paid excessively?

Comparison of NSW public sector workers with their private sector counterparts.

Yury Andrienko

Serena Yu

Workplace Research Centre, University of Sydney

#### Summary

Official statistics appear to show that NSW public sector workers are better paid on average than their private sector counterparts. However, when we control for relevant factors (eg workers with similar levels of education and work experiences) we find that similarly qualified and experienced workers earn similar wages – whether they work in the NSW public sector or private sector.

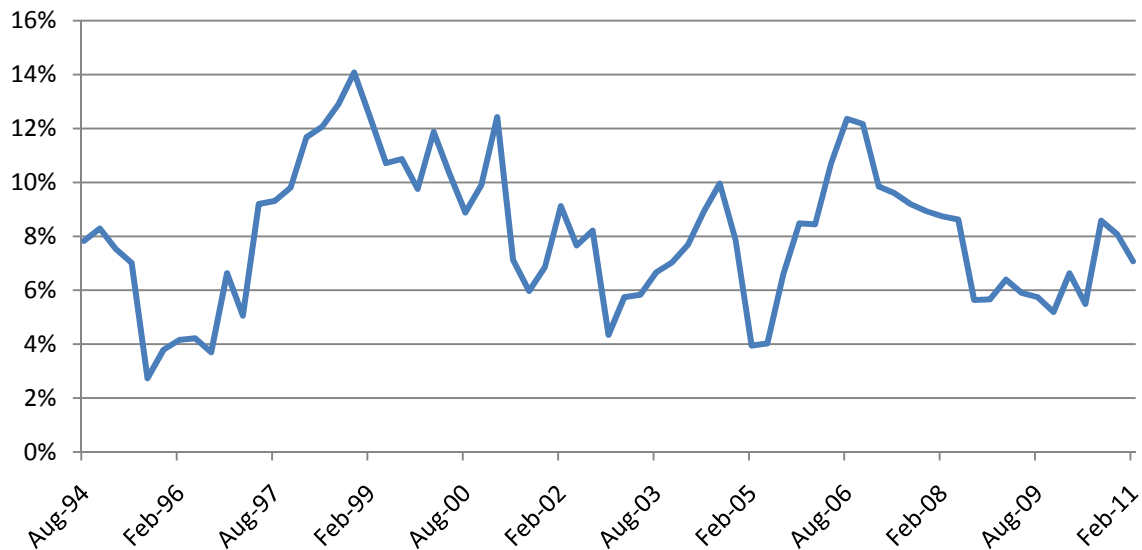
#### Analysis

Weekly earnings data from the Australian Bureau of Statistics<sup>1</sup> (ABS) shows that the gap in real wages between public sector and private sector workers has been, on average between 1994 and 2011, around 8 percent. As Figure 1 shows however, this gap has fluctuated over the business cycle.

Figure 1. Percentage gap between public and private sector workers' real wages, 1994-2011

---

<sup>1</sup> Average Weekly Earnings for Adult Full Time Earnings in NSW



Source: ABS cat. No. 6302.0 Average Weekly Earnings  
 ABS cat. no. 6401.0 Consumer Price Index

This simple analysis however does not account for observed differences between public and private sector workers in terms of characteristics such as qualification levels and experience and job characteristics such as agreement type, occupation, and industry. Using standard methods of gap decomposition established by Oaxaca (1973), Blinder (1973) and Altonji and Blank (1999), we are able to gain richer insight into the determinants behind this wage gap.

Our analysis uses the Australia at Work Survey, which is a 5 year panel data set tracking the working lives of Australians. Our pooled sample includes 9,441 observations between 2007 and 2010 Australia-wide, and 2,832 within NSW. We have included all non-managerial employees working full time within this period. We have used weekly earnings data to allow for better comparison to other standard data sources<sup>2</sup>. Longitudinal weights have been applied to the data to control for attrition in the data set.

***A raw wage gap between public and private sector weekly earnings of 9 percent in Australia was observed between 2007 and 2010. Over 93 percent of this gap is explained by differences in qualifications, experience and occupation between the sectors.***

Our results for the public-private sector hourly earnings gap for Australian full time, non-managerial employees are presented in Attachment 1. It indicates that the raw wage gap between public and private sector employees was around 9 percent on average between 2007 and 2010. Over 93 percent of this gap was explained by observed factors between the two sectors, predominantly higher qualifications, higher skilled occupations and greater experience of workers in the public sector. Differences in qualifications accounted for almost two fifths of this explained differential, with 52 percent of public sector workers holding a Bachelor's degree or higher, compared to 24

<sup>2</sup> Note that the analysis was also conducted using hourly earnings, in order to control for higher average hours worked in the private sector. Based on hourly earnings, it was found that while the raw wage gap was higher, our conclusions were very similar to those presented here with respect to the decomposition results.

percent of private sector workers. Occupational structure explains a further two fifths of the explained gap, due to the difference in the proportion of professionals in the public and private sectors, 52 and 26 percent respectively. Finally, experience was also a key factor in explaining the wage gap, with the average tenure amongst public sector employees being 10 years, compared to 6 years in the private sector.

*A raw wage gap between public and private sector weekly earnings of 8 percent was observed in NSW. Differences in qualifications, experience and occupation between the sectors explains 7 percent out of the 8 percent gap.*

In NSW, the story is very similar, see Attachment 2. A raw wage gap of 8 percent was observed between 2007 and 2010. The vast majority of this raw wage gap, 7 out of 8 percent, was explained by observed differences, again predominantly greater levels of experience and qualifications, and differences in occupational structure amongst NSW public sector workers. In NSW, 54 percent of public sector workers hold a Bachelor's degree or higher, compared to 28 percent in the private sector. NSW public sector workers are also vastly more experienced on average than private sector workers, with an average tenure of 10 and 6 years, respectively. Finally, 52 percent of public sector workers are professionals, compared to 31 percent in the private sector.

Working in the opposite direction (or narrowing the gap between public and private sector workers) is the distribution of workers across different industries. Around 30 percent of private sector workers are found in predominantly professional roles in industries such as information technology, financial services, technical services, and real estate services. Only 4 percent of public sector workers work in these industries. Longer weekly hours and a greater presence of (self-reported) individual contracts in the private sector also worked to narrow the gap between public and private sector earnings.

*Sector had no significant effect on earnings between 2007 and 2010 in NSW after controlling for a range of individual and employer level characteristics.*

More sophisticated multivariate analysis<sup>3</sup> of longitudinal individual data from 2007 to 2010 was also applied, and is detailed in Attachment 3. In addition to the large number of individual and firm characteristics used in the earnings gap decomposition above, the advanced analysis allows us to control for unobserved individual characteristics, as well as the interaction of variables. The analysis found no significant effect of sector on earnings in Australia and NSW in any particular year, and across the entire period of study.

We can conclude that the wage gap between public and private sector workers in NSW (and indeed across Australia) is attributable to observable, measurable differences within these workforces. Key

---

<sup>3</sup> Fixed and random effects panel data models

among these differences are higher levels of experience and qualifications, and the dominance of professionals among public sector workers.

## References

Altonji, J.G. and Blank, R.M. (1999) "Race and Gender in the Labor Market," in O.C. Ashenfelter and D. Card, eds., *Handbook of Labor Economics*, Volume 3C, Amsterdam: Elsevier Science, chapter 48:3143-3259.

Blinder, A.S. (1973) "Wage Discrimination: Reduced Form and Structural Estimates" *Journal of Human Resources* 18:436-455.

Oaxaca, R. (1973) "Male-Female Wage Differentials in Urban Labor Markets" *International Economic Review* 14:693-709.

## Attachment 1

<b>N=9441</b>	Coefficient	Standard Error	z	P> z
<b>Log(Real Weekly Wages)</b>				
Public Sector	7.006	0.007	1001.310	0.000
Private Sector	6.916	0.007	992.240	0.000
Difference	0.090	0.010	9.080	0.000
Explained	0.084	0.012	6.740	0.000
Unexplained	0.006	0.012	0.500	0.618
<b>Explained gap</b>				
Experience	0.043	0.004	11.470	0.000
Contract Type	-0.037	0.004	-9.940	0.000
Demographics	-0.002	0.001	-1.320	0.188
Mobility	-0.001	0.002	-0.690	0.490
Wage Setting	-0.030	0.004	-7.960	0.000
Study	-0.001	0.001	-1.280	0.199
Qualifications	0.059	0.004	13.950	0.000
Workplace Size	0.032	0.003	12.390	0.000
Geography	0.004	0.001	3.260	0.001
Occupation	0.052	0.005	9.970	0.000
Industry	-0.036	0.010	-3.510	0.000
Year	0.001	0.000	1.500	0.134
<b>Unexplained gap</b>				
Experience	-0.148	0.112	-1.330	0.184
Contract Type	-0.430	0.157	-2.740	0.006
Demographics	0.010	0.016	0.620	0.533
Mobility	-0.015	0.029	-0.520	0.604
Wage Setting	-0.094	0.039	-2.440	0.015
Study	-0.029	0.042	-0.700	0.487
Qualifications	-0.002	0.014	-0.110	0.911
Workplace Size	-0.005	0.019	-0.250	0.799
Geography	0.006	0.009	0.700	0.487
Occupation	-0.004	0.014	-0.310	0.756
Industry	0.026	0.019	1.410	0.158
Year	0.000	0.000	-0.080	0.938
Constant	0.692	0.209	3.320	0.001

## Attachment 2

N=2832	Coefficient	Standard Error	z	P> z
<b>Log(Real Weekly Wages)</b>				
Public Sector	7.040	0.013	549.320	0.000
Private Sector	6.958	0.014	497.960	0.000
Difference	0.082	0.019	4.320	0.000
Explained	0.069	0.025	2.750	0.006
Unexplained	0.013	0.023	0.570	0.571
<b>Explained gap</b>				
Experience	0.054	0.007	7.470	0.000
Contract Type	-0.024	0.006	-3.760	0.000
Demographics	0.000	0.003	-0.120	0.904
Mobility	-0.001	0.003	-0.410	0.680
Wage Setting	-0.032	0.007	-4.480	0.000
Study	0.000	0.002	-0.040	0.971
Qualifications	0.059	0.007	7.950	0.000
Workplace Size	0.028	0.004	6.550	0.000
Occupation	0.054	0.009	5.760	0.000
Industry	-0.068	0.020	-3.330	0.001
Year	0.000	0.001	0.430	0.665
<b>Unexplained gap</b>				
Experience	0.153	0.222	0.690	0.491
Contract Type	0.163	0.293	0.560	0.578
Demographics	0.024	0.026	0.920	0.356
Mobility	0.076	0.041	1.860	0.063
Wage Setting	0.008	0.033	0.230	0.817
Study	-0.087	0.028	-3.110	0.002
Qualifications	0.146	0.038	3.900	0.000
Workplace Size	0.019	0.032	0.610	0.544
Occupation	0.032	0.020	1.570	0.115
Industry	0.082	0.030	2.750	0.006
Year	0.000	0.001	-0.430	0.667
Constant	-0.603	0.366	-1.650	0.099

## Attachment 3

A range of fixed and random effects models were estimated in order to investigate the impact of sector on earnings in each year, and overall. We provide here a sample of the fixed effects results for NSW, which show that Sector (Public=0, Private=1) had an insignificant impact on real weekly earnings, as did Sector in any given year between 2007 and 2010.

<b>Log(Real Weekly Wages)</b> <b>N=2832</b>	Coefficient	Standard Error	z	P> z
Age	0.025	0.036	0.710	0.475
Age squared	-0.001	0.000	-4.150	0.000
Hours	0.009	0.004	2.010	0.045
Hours squared	0.000	0.000	-0.540	0.588
Tenure	-0.002	0.005	-0.480	0.628
Tenure Squared	0.000	0.000	-0.090	0.929
Award	0.019	0.012	1.570	0.117
Collective agreement	0.009	0.017	0.500	0.616
Individual contract	0.025	0.026	0.960	0.336
AWA	-0.153	0.091	-1.680	0.093
Other wage setting instrument	-0.034	0.018	-1.890	0.059
Don't know wage setting type	-0.028	0.050	-0.570	0.569
Year 10 or below	0.004	0.033	0.130	0.897
Year 11 or below	-0.064	0.078	-0.810	0.417
Year 12 or below	0.051	0.049	1.050	0.296
Certificate/Diploma	0.009	0.046	0.200	0.844
Trade qualification	0.003	0.049	0.060	0.953
Degree	-0.031	0.072	-0.430	0.667
Postgraduate	-0.020	0.070	-0.290	0.775
Mid size workplace	0.096	0.019	4.990	0.000
Large size workplace	0.101	0.021	4.910	0.000
Technician/Trades worker	0.015	0.052	0.290	0.775
Community/ Personal Services worker	-0.162	0.078	-2.080	0.038
Clerical/Administrative worker	-0.011	0.048	-0.220	0.825
Sales worker	0.028	0.082	0.340	0.734
Machinery operator	-0.040	0.083	-0.480	0.628
Labourer	0.064	0.088	0.730	0.464
Mining	0.367	0.120	3.050	0.002
Manufacturing	0.016	0.067	0.240	0.811
Electricity/Gas/Water/Waste Services	0.062	0.123	0.500	0.616
Construction	0.134	0.077	1.740	0.083
Wholesale trade	-0.157	0.130	-1.210	0.225
Retail trade	-0.117	0.089	-1.320	0.188
Accommodation/Food Services	0.240	0.142	1.680	0.093
Transport, postal, warehousing services	0.019	0.095	0.200	0.845

<b>Log(Real Weekly Wages)</b> <b>N=2832</b>	Coefficient	Standard Error	z	P> z
Information, media and telecommunications	-0.087	0.091	-0.950	0.341
Finance and insurance services	-0.047	0.124	-0.380	0.703
Rental, hiring, real estate services	0.200	0.117	1.710	0.088
Professional, technical and scientific services	0.147	0.085	1.730	0.084
Administrative and support services	0.056	0.102	0.550	0.585
Public administration and safety	-0.022	0.092	-0.240	0.810
Education and training	0.070	0.097	0.730	0.468
Healthcare and social assistance	0.099	0.099	1.000	0.319
Arts and recreation services	-0.141	0.118	-1.190	0.233
Other services	0.129	0.168	0.760	0.446
2008	0.077	0.034	2.250	0.025
2009	0.130	0.066	1.970	0.049
2010	0.215	0.099	2.160	0.031
Sector in 2007	0.029	0.036	0.810	0.421
Sector in 2008	0.013	0.018	0.740	0.458
Sector in 2009	0.022	0.019	1.180	0.237
Sector in 2010	0.015	0.021	0.710	0.481
Constant	6.851	1.262	5.430	0.000