The Australian Economic Review, vol. 37, no. 1, pp. 102–5

Employment Effects of Minimum Wages: Evidence from a Quasi-Experiment—Erratum

Andrew Leigh
John F. Kennedy School of Government
Harvard University

In an article published in the December 2003 edition of the *Australian Economic Review* (Leigh 2003), the author mistakenly used data for labour force to population ratios in place of the theoretical model requirement of data on employment to population ratios. Changes in the Western Australian minimum wage could have impacted employment on three margins, and this error meant that the analysis allowed for an effect on only two of these margins. To the extent that increases in the Western Australian minimum wage caused workers to become unemployed, or to shift from full-time to part-time employment, this ought not to have affected the empirical findings. But if increases in the Western Australian minimum wage caused workers to leave the labour force altogether, this would not have shown up in the figures presented. In addition, the original article presented 'implied elasticities', which were based on percentage point effects. Since elasticities should, strictly speaking, be percentage effects, the results are re-presented both as percentage point and percentage effects. The full dataset and Stata do-file are available from the author.

Tables 2, 3 and 4 from the article are re-presented below. The main difference to note in Table 2 is that the difference-in-difference estimate is negative and statistically significant for four of the minimum wage rises, negative and insignificant for one, and positive and insignificant for one (versus negative and significant for two, and negative and insignificant for four, as was originally found). In Tables 3 and 4, the corrected results are still statistically significant at the 1 per cent level, but the employment effect of increasing the minimum wage is estimated to be somewhat larger than was reported in the original version.

The author sincerely apologises for this error.

February 2004

Reference

Leigh, A. 2003, 'Employment effects of minimum wages: Evidence from a quasi-experiment', *Australian Economic Review*, vol. 36, pp. 361–73.

Table 2 Employment to Population Ratios before and after Minimum Wage Rises

	Western Australia		*Rest of Australia*		*Difference-in-difference*	
August 1994 wage rise (9.29 per cent increase)						
Before	0.506	(0.003)	0.479	(0.001)		
After	0.506	(0.003)	0.482	(0.001)		
Difference	0.0006	(0.005)	0.003	(0.002)	–0.002	(0.005)
Employment effect (in percentage points)					–0.027	(0.058)
Elasticity of labour demand					–0.055	(0.115)
September 1995 wage rise (5.31 per cent increase)						
Before	0.516	(0.003)	0.489	(0.001)		
After	0.518	(0.003)	0.504	(0.001)		
Difference	0.002	(0.005)	0.015	(0.002)	–0.013**	(0.005)
Employment effect (in percentage points)					–0.249	(0.104)
Elasticity of labour demand					–0.482	(0.201)
October 1996 wage rise (4.69 per cent increase)						
Before	0.519	(0.003)	0.490	(0.001)		
After	0.506	(0.003)	0.477	(0.001)		
Difference	–0.012	(0.005)	–0.013	(0.002)	0.0003	(0.005)
Employment effect (in percentage points)					0.007	(0.116)
Elasticity of labour demand					0.014	(0.227)
December 1998 wage rise (3.49 per cent increase)						
Before	0.524	(0.003)	0.494	(0.001)		
After	0.499	(0.003)	0.484	(0.001)		
Difference	–0.024	(0.005)	–0.010	(0.002)	–0.014***	(0.005)
Employment effect (in percentage points)					–0.412	(0.156)
Elasticity of labour demand					–0.805	(0.306)
March 2000 wage rise (6.14 per cent increase)						
Before	0.535	(0.003)	0.508	(0.001)		
After	0.506	(0.003)	0.492	(0.001)		
Difference	–0.028	(0.005)	–0.015	(0.002)	–0.013**	(0.005)
Employment effect (in percentage points)					–0.215	(0.090)
Elasticity of labour demand					–0.414	(0.174)
March 2001 wage rise (8.80 per cent increase)						
Before	0.538	(0.003)	0.507	(0.001)		
After	0.500	(0.003)	0.487	(0.001)		
Difference	–0.037	(0.005)	–0.020	(0.002)	–0.017***	(0.005)
Employment effect (in percentage points)					–0.198	(0.063)
Elasticity of labour demand					–0.381	(0.121)

Notes: (a) Estimates are for full-time equivalent, seasonally adjusted, employment to population ratios.
(b) Standard errors are in parentheses. Standard errors for estimates are calculated from ABS Cat. no. 6203.0, Table A. Standard errors for differences (and differences-in-differences) are then derived from these estimates using the usual formula for the standard error of a difference.
(c) ***, ** and * denote significance at the 1 per cent, 5 per cent and 10 per cent levels respectively.
(d) Employment effect is the difference-in-difference estimate divided by the percentage increase in the minimum wage. Elasticity is the employment effect divided by the mean of the employment to population ratio for Western Australia.

Source: ABS, *Labour Force Survey*, Cat. no. 6203.0.

Table 3 Combining the Difference-in-Difference Estimates
(dependent variable is all seven-month difference-in-difference estimates between Western Australia and the Rest of Australia between 1981 and 2002)

Panel A: Aggregating all six minimum wage increases						
Employment effect (in percentage points)	–0.149*** (0.048)					
Elasticity of labour demand	–0.290*** (0.094)					
N	247					
R^2	0.04					
Panel B: Sensitivity check						
Year excluded	1994	1995	1996	1998	2000	2001
Employment effect (in percentage points)	–0.206*** (0.032)	–0.136*** (0.051)	–0.162*** (0.053)	–0.136*** (0.047)	–0.137** (0.053)	–0.126** (0.058)
Elasticity of labour demand	–0.402*** (0.062)	–0.265*** (0.099)	–0.316*** (0.103)	–0.265*** (0.091)	–0.267** (0.103)	–0.246** (0.113)
N	246	246	246	246	246	246
R^2	0.05	0.03	0.04	0.03	0.03	0.02

Notes: (a) Of the 247 difference-in-difference estimates, six are the difference-in-difference estimates shown in Table 2. In these cases, the variable 'minimum wage increase' is the percentage rise in the minimum wage, and in all other cases, the variable 'minimum wage increase' is set to zero. The estimated coefficient on 'minimum wage increase' is therefore the employment effect (in percentage points), and the elasticity is the employment effect divided by the mean full-time equivalent employment to population ratio in Western Australia between 1994 and 2001.
(b) The dataset is all $[(T + 3) – (T – 3)]$ difference-in-difference estimates over the period February 1981 to February 2002.
(c) Robust standard errors are in parentheses. ***, ** and * denote significance at the 1 per cent, 5 per cent and 10 per cent levels respectively.

Source: ABS, *Labour Force Survey*, Cat. no. 6203.0.

Table 4 Elasticity of Labour Demand for Age–Sex Sub-Groups
(dependent variable is all seven-month difference-in-difference estimates between Western Australia and the Rest of Australia between 1981 and 2002)

Age	*15–24*	*25–34*	*35–44*	*45–54*
Panel A: Persons				
Employment effect (in percentage points)	–0.491***	–0.092	–0.021	–0.046
	(0.167)	(0.057)	(0.071)	(0.100)
Elasticity of labour demand	–1.009***	–0.141	–0.032	–0.069
	(0.344)	(0.087)	(0.108)	(0.150)
N	247	247	247	247
R^2	0.04	0.01	0.0002	0.0008
Panel B: Females				
Employment effect (in percentage points)	–0.624**	0.016	–0.115	0.106*
	(0.310)	(0.141)	(0.144)	(0.064)
Elasticity of labour demand	–1.426**	0.033	–0.253	0.217*
	(0.708)	(0.298)	(0.318)	(0.131)
N	247	247	247	247
R^2	0.05	0.0001	0.002	0.003
Panel C: Males				
Employment effect (in percentage points)	–0.362***	–0.198***	0.068	–0.195
	(0.124)	(0.070)	(0.102)	(0.163)
Elasticity of labour demand	–0.681***	–0.238***	0.079	–0.236
	(0.232)	(0.083)	(0.119)	(0.198)
N	247	247	247	247
R^2	0.02	0.01	0.001	0.01

Notes: (a) Of the 247 difference-in-difference estimates, six are the difference-in-difference estimates shown in Table 2. In these cases, the variable 'minimum wage increase' is the percentage rise in the minimum wage, and in all other cases, the variable 'minimum wage increase' is set to zero. The estimated coefficient on 'minimum wage increase' is therefore the employment effect (in percentage points), and the elasticity is the employment effect divided by the mean full-time equivalent employment to population ratio in Western Australia between 1994 and 2001 for that population sub-group.
(b) The data set is all $[(T + 3) – (T – 3)]$ difference-in-difference estimates over the period February 1981 to February 2002.
(c) Robust standard errors are in parentheses. ***, ** and * denote significance at the 1 per cent, 5 per cent and 10 per cent levels respectively.

Source: ABS, *Labour Force Survey*, Cat. no. 6203.0.