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**How Do Unionists Vote? Estimating the Causal Impact of
Union Membership on Voting Behaviour from 1966 to 2004**

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ABSTRACT

I explore the voting patterns of trade union members in Australian elections conducted between 1966 and 2004, and find that on average, 63 percent of trade union members vote for the Australian Labor Party. Despite the fact that union membership declined from around one-half of the workforce in the early-1980s to one-quarter of the workforce in the early-2000s, unionists have not become more pro-Labor. Analysing unionists' voting behaviour by gender, I find that male unionists were more pro-Labor than female unionists in the 1960s, but the reverse is true today. Recognising that union membership may be endogenous with respect to political ideology, I instrument for union membership and conclude that the observed association between union membership and voting reflects a causal relationship.

Keywords: voting, elections, unions, endogeneity, instrumental variables

JEL Codes: D72, J51

1. Introduction

Over the past two decades, union membership in Australia has fallen from approximately half of the workforce to one-quarter of the workforce. Yet unions still retain an important place in Australian politics. The Australian Council of Trade Unions, to which most Australian unions are affiliated, is one of the major lobby groups in Australian politics. One of the major parties in Australian politics, the Australian Labor Party (ALP), is heavily dominated by the union movement.

Yet while much attention has been paid to the role of unions in Australian politics, little attention has been directed to the voting behaviour of union members. Understanding more about unionists' voting patterns can provide us with a fuller picture of how unions operate, and the extent to which the political preferences of union leaders differ from those of their members.

By estimating voting patterns over eleven elections, this paper provides an insight on how voting patterns of unionists have changed over nearly forty years. Using such a large sample makes it possible to separately analyse voting patterns of men and women, as well as to explore the factors that lead some unionists to vote for the Coalition. To take account of the possible endogeneity of union membership with respect to voting, two instrumental variable strategies are employed.

The remainder of this paper is structured as follows. Section 2 discusses the existing literature and provides some background on union membership in Australia. Section 3 presents empirical results, and the final section concludes.

2. Background

Closely allied with the union movement since its formation in 1891, unions retain a strong role within the Australian Labor Party.¹ Those unions that are affiliated to the

¹ The origins of the Labor Party were in New South Wales, where the party was formed as the Labor Electoral League by the NSW Trades and Labour Council (McMullin 1991, 11). However, as McMullin notes "In Labor's early years in NSW, protectionists, free traders, single taxers and socialists jostled for control of the party, and the same kind of process occurred, with significant variations, in each colony." (1991, 43).

Australian Labor Party have a formal role in the party's decision-making process, and control 50 percent of the votes at the Party's federal conference. Of Labor's 88 federal politicians in the 41st Parliament, 30 were former party and union officials (Grattan 2005). In 2003-04, the union movement donated \$7 million to the Labor Party, around 15 percent of its total fundraising over this period (AEC 2005; AAP 2005), while the Coalition parties received no donations from unions.² In having close ties to the Australian union movement, the ALP is similar to continental European social democratic parties, which cooperate closely with the national trade union movements in their respective countries.³

Yet some have argued that the close ties between the union movement and the Australian Labor Party have frayed over recent decades. Jaensch (1989) argued that the 1950s Labor Party "was labourist... essentially protective of labour and labour's interests", but that the relationship changed with the prices and wages Accord in the 1980s. While the organisational ties between federal Labor and the ACTU were strong during this period, there is a view that unions during this period came to be treated by Labor more as a pressure group than an integral part of the organisation (Phillimore 2000; Briggs 2002; Griffin and Svensen 2002, cited in Griffin, Nyland and O'Rourke 2004).

One issue upon which the union movement and the Labor Party have historically differed is trade. Three of Australia's largest tariff cuts – in 1973, 1988 and 1991 – were implemented by federal Labor Governments, and all were strongly opposed by the union movement at the time (Leigh 2002). The ALP has also recently resisted a push by the union movement to include labour standards in trade agreements (Griffin, Nyland and O'Rourke 2004). Another point of difference between the party and sections of the union movement has been environmental policy. In the final week of the 2004 election campaign, Coalition Prime Minister John Howard was cheered by a

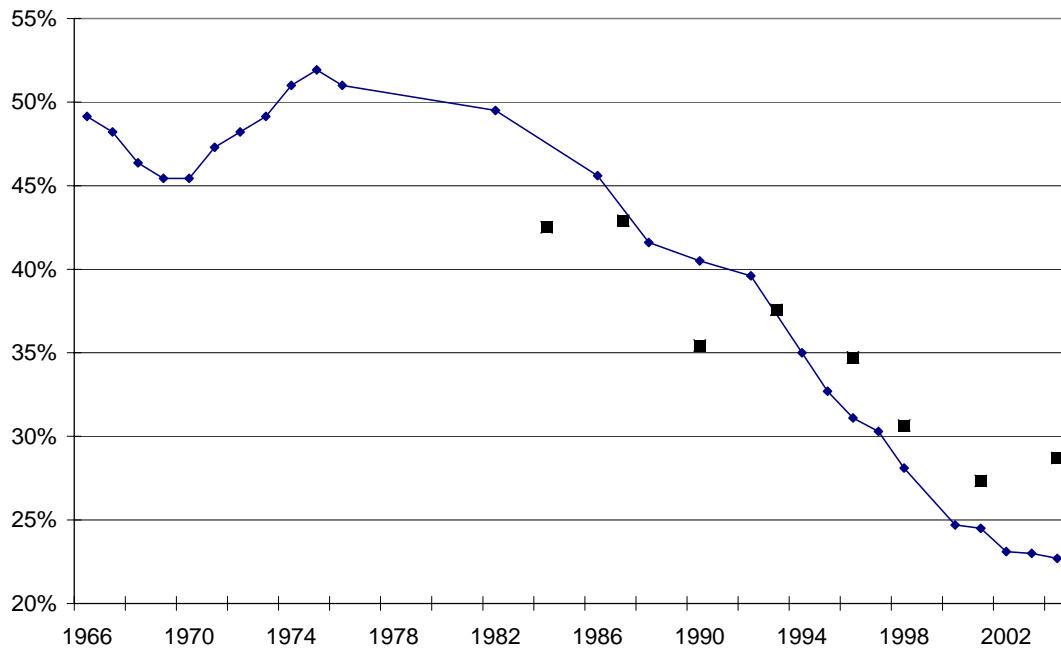
² The website www.democracy4sale.org, operated by the NSW Greens, tabulates AEC data on donations into donor categories. Over the period 1998-2004, only one union gave to the federal branch of either the Liberal Party or the National Party: a \$4000 donation by the Police Federation to the federal National Party in 2002-03. The other non-Labor parties to benefit from union donations were the Australian Democrats and the Greens, who received five-figure donations in various years from the Australian Manufacturing Workers Union and the Construction, Forestry, Mining and Energy Union.

³ As Scott (2003) points out, the distinction between "labour" and "social democratic" parties may be less important in practice than the divide between these parties and the US Democrats, which does not have the same close relationship with the AFL/CIO.

crowd of Tasmanian timber workers – many of them members of the Construction, Forestry, Mining and Energy Union – as he announced a package that would ensure no job losses in their industry.

Another factor that might have affected the voting behaviour of union members is the decline in union membership that occurred during the 1980s and 1990s. Figure 1 shows union membership over the period from 1966 to 2004. Between 1966 and 1986, union membership fluctuated between 45 percent and 52 percent of the workforce, before collapsing during the late-1980s and 1990s. In 2004, just 23 percent of the Australian workforce were members of a trade union.

Figure 1: Share of Employees in a Union (1966-2004)



Note: Union membership rates from 1976 onwards are derived from employee surveys – generally regarded as the most accurate source. For earlier years, we only have estimates from union surveys. These are invariably higher, since they include people who belong to multiple unions, and those who are no longer financial members. In 1976, the estimate in the employee surveys was 7.8% higher than the estimate in the union surveys. To make the two series comparable, I therefore scale down the union survey number for 1911-1975 by 7.8%. Sources: ABS 6323.0, 6325.0, 6310.0. Black squares represent union membership as a share of the workforce, estimated from election surveys. Since employment status was not asked of all respondents in the surveys that followed the 1966 and 1969 elections, the estimates for these years are not shown.

As a check on the election surveys used in this paper, I also calculate for each survey the fraction of employees who are union members. These figures are shown with black squares in Figure 1, and correspond reasonably well with the official data.

At the same time as union membership has collapsed, there is also some suggestive evidence that the proportion of union members whose unions are affiliated to the Labor Party has fallen over time. While data on the fraction of unionists belonging to affiliated unions are scant, Rawson estimated that about 60 percent of unionists belonged to ALP-affiliated unions in the mid-1980s, and the figure was “considerably higher” in earlier decades (Rawson 1986, quoted in Griffin, Nyland and O’Rourke 2004).

Only a few Australian studies have estimated the relationship between union membership and voting. Using data from the 1993 and 1996 election studies, Charnock (1997b) estimated the effect of union membership (in a regression including 32 other demographic and behavioural variables), and found that union members were 18-19 percent more likely to vote for the ALP. Manning (2006) found similar voting patterns among unionists in the 1987 and 2004 elections. Leithner (1997) explored the interaction between union membership and gender in the 1993 election, and found a gender voting gap only among unionists. Leigh (2005) observed the same pattern in ten elections over the period 1966-2001, but urged caution on placing a causal interpretation on the finding, on the basis that union membership is not necessarily exogenous to partisan preference.

What is known about the voting behaviour of union members in other countries? In the US, Freeman (2003) found that union members (and those in a union household) were 9-16 percent more likely to vote Democratic in House and Presidential elections.⁴ Adding additional covariates to the model had little impact on the marginal effect of union membership. Comparing voting behaviour in Australia, Britain and Canada, Bélanger (2003) found that the marginal effect of being a union member was larger in Australia than the other two countries. Other studies to have analysed the relationship between voting behaviour and union membership include Juravich and Shergold (1988); Uhlaner (1989); Delaney, Masters and Schwochau (1990); Crewe, Fox and Day (1995); Clark and Masters (2001); and Citrin, Schickler and Sides (2003). Without exception, these studies assume that union membership is exogenous

⁴ CNN exit polls for the 2004 Presidential Election suggested a union voting gap at the top of this range (16 percent). Among non-union members, 45% voted for Democratic candidate John Kerry, while 61% of union members did so. See <http://edition.cnn.com/election/2004/>.

with respect to voting behaviour – in other words, that union membership affects political preferences, rather than the other way around. I return to this issue below.

3. Empirical Results

In analysing voting behaviour and union membership, I use eleven post-election surveys for elections held between 1966 and 2004. Two of these surveys – 1987 and 1990 – do not contain information on income, and are hence excluded from the multiple regression analysis. In most years, the union membership question was of the type, “Are you a member of a trade union?”, but in 1990 and 1993, the question also allowed respondents to select the option “staff association”. I code those in staff associations as non-union members (see Data Appendix for details).

I code respondents as 1 if they said that they voted for the Labor Party, and 0 if they voted for the Liberal-National Coalition. Respondents who said that they cast a first preference vote for any other party are coded as missing. Because the Australian electoral system allows for preferential voting, one would ideally like to take account of the second preferences of those who did not vote first for one of the major parties, but this question was unfortunately not asked in the earlier election surveys. To compensate for this, I present results based on first preference votes in the regression analyses, but show two-party preferred vote results (where available) in the charts.

More information on the surveys and particular variables is set out in the Data Appendix. Summary statistics are provided in Table 1.

Table 1: Summary Statistics

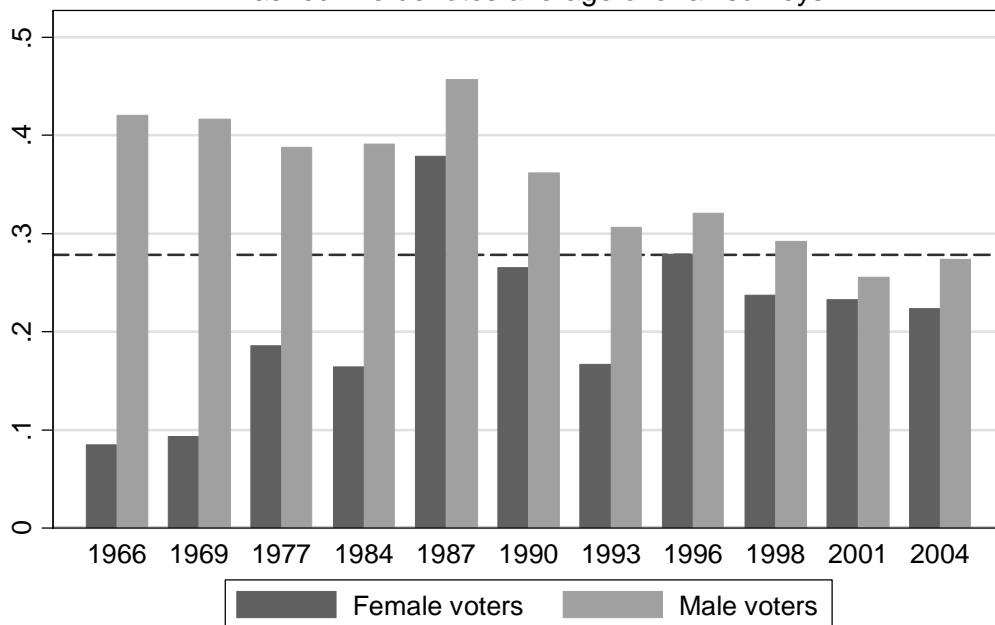
Variable	Mean	SD	N
Voted Labor (first preference)	0.471	0.499	17786
Voted Labor (two-party preferred)	0.465	0.499	8577
Union member	0.281	0.449	17786
Age	46.103	16.165	17326
Years of education	12.159	1.855	17240
Born overseas	0.220	0.414	17641
Female	0.490	0.500	17744
Married	0.722	0.448	17647
Divorced	0.063	0.243	17647

Note: Household income is not included, since it is coded by quintiles.

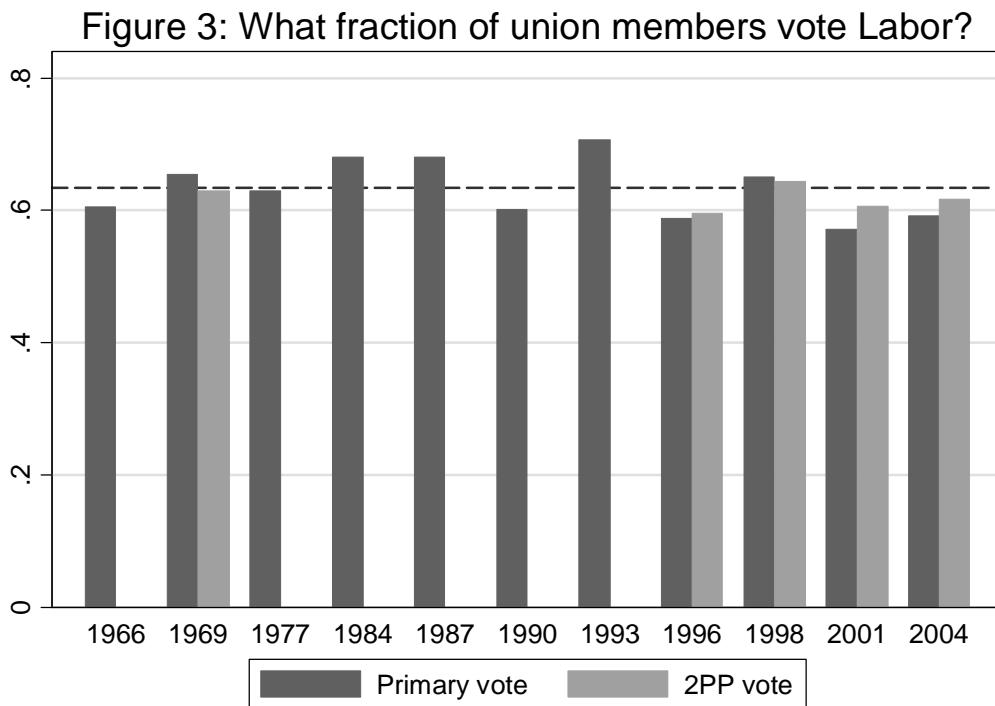
The fraction of the sample who are members of a trade union is depicted in Figure 2. Across all surveys, an average of 28 percent of voters are members of a trade union. Note that Figure 2 looks at *voters*, while Figure 1 showed the proportion of *employees* in a union. According to the election surveys, the fraction of men in a union steadily declined, while the fraction of women who in a union grew until the early-1980s (driven by rising female labour force participation), and then declined somewhat during the 1990s.

Figure 2: What fraction of voters are union members?

Dashed line denotes average over all surveys



The voting patterns of trade unionists are depicted in Figure 3. Across the eleven elections, 63 percent of union members voted for the Labor Party. In instances where the survey also recorded both the two-party preferred vote, the fraction supporting the Labor Party is very similar (note that the primary vote analysis includes only those who voted for either Labor or the Coalition).⁵ In the aggregate data, there is little evidence of any strong time trend in the voting patterns of trade union members.



However, when the data are broken down by gender, a more nuanced pattern emerges. Figures 4 and 5 show the fraction of union members voting Labor in the various elections. Over the entire period, 57 percent of female union members voted Labor, while 67 percent of male union members did so. However, in recent years, these two groups appear to have converged. Indeed, the 2004 election saw a larger fraction of female unionists vote Labor (61 percent), than male unionists (57 percent).

⁵ The primary vote and the two-party preferred vote results are similar because the voting patterns of unionists and non-unionists are similar with regard to minor parties. For example, in the 2004 election, the full distribution of first preference votes among non-unionists (unionists) was: Liberal 48.6% (33.2%), National 4.0% (1.8%), Labor 29.7% (49.6%), Democrats 3.0% (3.1%), Greens 5.8% (4.9%), One Nation 1.8% (2.1%), Another party/Independent 2.6% (1.3%), Did not vote 4.4% (4.1%).

Figure 4: What fraction of female union members vote Labor?

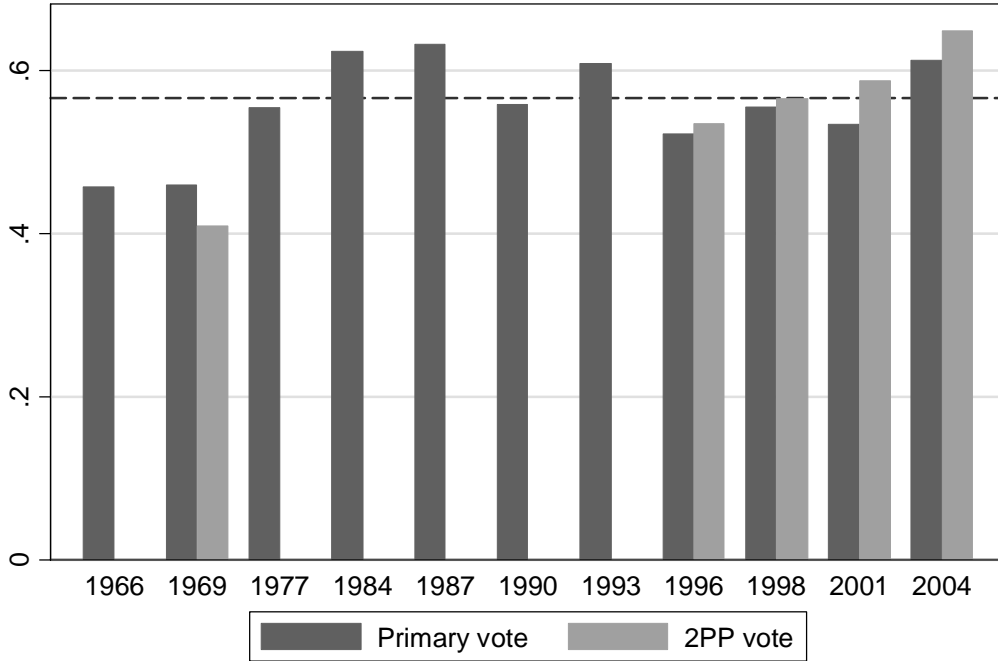
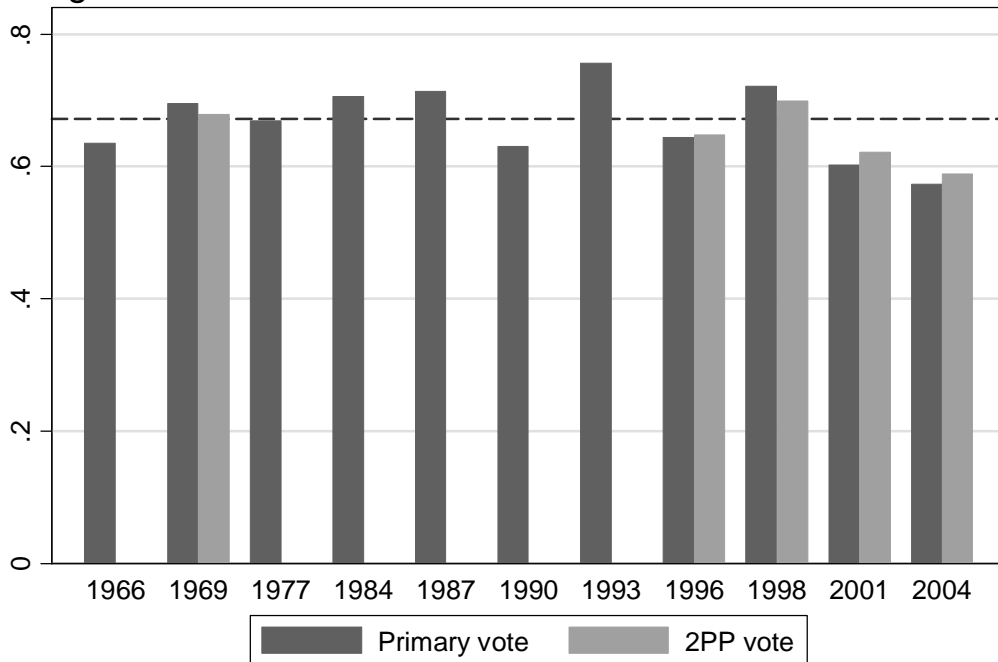


Figure 5: What fraction of male union members vote Labor?



I now turn to a multiple regression analysis, estimating the relationship between union membership and voting Labor across nine elections (1987 and 1990 are excluded since respondents in these years were not asked their income). Column 1 of Table 2

shows the relationship between union membership and voting Labor, with only election fixed effects. Union members are 23 percent more likely to vote Labor. In column 2, I add a vector of plausibly exogenous demographic controls – five age dummies, five income quintiles, four education categories, whether the respondent was born overseas, gender and marital status – and find that this makes no substantial difference to the union membership coefficient (indeed, the union membership coefficient is slightly larger). Similar results obtain if the sample is restricted to the 2004 election (columns 3 and 4).⁶

⁶ Employment status is not included as a control in the regressions, since it is unavailable for the 1966 and 1969 election surveys (which only asked about the employment status of the head of household). However, for the years when the respondent's employment status is available, including it as a control makes little difference to the union coefficient.

Table 2: Union membership and voting
Dependent Variable: 1 if voted Labor, 0 if voted Coalition

	(1)	(2)	(3)	(4)
	1966-2004	1966-2004	2004 only	2004 only
Union member	0.232*** [0.010]	0.236*** [0.010]	0.225*** [0.034]	0.242*** [0.035]
Aged 30-39		0.003 [0.016]		-0.025 [0.060]
Aged 40-49		-0.019 [0.016]		0.023 [0.058]
Aged 50-59		-0.081*** [0.017]		0.006 [0.058]
Aged 60 or over		-0.139*** [0.016]		-0.153*** [0.055]
Income quintile 2		-0.082*** [0.014]		-0.143*** [0.046]
Income quintile 3		-0.120*** [0.015]		-0.183*** [0.048]
Income quintile 4		-0.161*** [0.015]		-0.200*** [0.048]
Income quintile 5		-0.226*** [0.015]		-0.250*** [0.048]
High school only		-0.079*** [0.015]		-0.04 [0.056]
Diploma/trade		-0.063*** [0.012]		-0.091** [0.042]
University degree		-0.01 [0.017]		0.031 [0.052]
Born overseas		0.053*** [0.012]		0.044 [0.038]
Female		-0.044*** [0.010]		0.003 [0.032]
Married		-0.028** [0.013]		-0.02 [0.043]
Divorced		-0.021 [0.022]		-0.103* [0.060]
Election FE?	Yes	Yes	No	No
Observations	12761	12761	1091	1091
Pseudo R²	0.04	0.06	0.03	0.06
Observed Prob.	0.47	0.47	0.42	0.42

Note: Coefficients are marginal effects from a probit model. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively. Robust standard errors in parentheses. Excluded categories are as follows: age - those aged 18-29; income – first quintile; education – high school dropouts.

Among union members, what factors are associated with voting Labor? To answer this question, Table 3 restricts the sample to union members only, and explores the effect of demographic characteristics on the voting decision of unionists. From the

pooled sample (column 1), it appears that those union members that are more likely to vote Labor are those who are male, middle-aged, have lower household incomes, and are less educated. Restricting the sample to 2004 only (column 2), most of these effects become statistically insignificant, due to the much smaller sample size. The only effect that remains significant in 2004 is the propensity of more affluent union members to vote for the Coalition.

Table 3: What determines how union members vote?
Dependent Variable: 1 if voted Labor, 0 if voted Coalition
Sample restricted to union members

	(1)	(2)
	1966-2004	2004
Aged 30-39	0.068** [0.027]	-0.097 [0.150]
Aged 40-49	0.068** [0.027]	0.001 [0.134]
Aged 50-59	-0.021 [0.030]	-0.109 [0.137]
Aged 60 or over	-0.070** [0.035]	-0.236 [0.145]
Income quintile 2	-0.086*** [0.032]	-0.269** [0.109]
Income quintile 3	-0.121*** [0.035]	-0.386*** [0.110]
Income quintile 4	-0.154*** [0.034]	-0.345*** [0.114]
Income quintile 5	-0.189*** [0.036]	-0.333*** [0.126]
High school only	-0.080*** [0.030]	-0.07 [0.134]
Diploma/trade	-0.055** [0.022]	-0.004 [0.092]
University degree	0.033 [0.029]	0.123 [0.099]
Born overseas	0.014 [0.020]	-0.052 [0.080]
Female	-0.139*** [0.019]	-0.002 [0.065]
Married	-0.012 [0.023]	-0.051 [0.092]
Divorced	-0.019 [0.040]	-0.123 [0.130]
Election FE?	Yes	No
Observations	3528	276
Pseudo R²	0.03	0.05
Observed Prob.	0.63	0.58

Note: Coefficients are marginal effects from a probit model. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively. Robust standard errors in parentheses. Excluded categories are as follows: age - those aged 18-29; income – first quintile; education – high school dropouts.

Up to this point, I have estimated the association between union membership and voting. However, there is no *a priori* reason to interpret this association in a causal fashion. It is possible that one's political preferences affect union membership, or that

both are affected by some third factor. To illustrate this point, one need only look to a parallel literature – estimating factors affecting the decision to join a union, where some studies have estimated the impact that having a left-wing political orientation has on one’s decision to join a union.⁷

The problem of identifying causation is not unique to the question of union membership and voting. Indeed, it will arise in any instance where researchers are estimating the relationship between two attitudinal values. For example, researchers have tested whether Australians’ voting patterns are affected by self-identified class (McAllister 1992; Goot 1994; Charnock 1997), postmaterialist values (Gow 1990; Western and Tranter 2001) and attitudes to leadership (Marks 1993).

Such studies typically assumed that the presence of an association between voting and class/values/attitudes indicates that class/values/attitudes have a causal effect on the voting decision. But of course, correlation does not prove causation. Indeed, it is perfectly plausible that the causal relationship operates in the opposite direction – that a person’s political inclination is what determines their self-identified class, attitude to postmaterialist values or beliefs about leadership. Alternatively, it might be the case that voting and attitudes are jointly determined by some other third factor that is not observable to the statistician.

One way to address this endogeneity problem is to include in the regression only variables that are plausibly exogenous to the voting decision. Covariates such as gender, age, education and income are unlikely to be determined by one’s political preferences, and are hence an association between these variables and partisan preferences can usually be assumed to be causal. While this has the virtue of simplicity, it has the disadvantage of severely restricting the variables that can be included in a voting equation.

⁷ In the Australian context, see for example Peetz (1998, 56-64). But as Riley (1997, 277) pointed out in her review of the British literature on the factors that affect union membership: “An employee’s ideological convictions are frequently surveyed as researchers suspect that ideological convictions function as a direct motivator of the joining decision. However, the causal relationships between these independent variables have not been established.”

Another approach, particularly useful in the case where the independent variable is not plausibly exogenous, is to use an instrumental variable. A good instrument must meet two criteria: it must be correlated with the independent variable of interest (in this case, union membership), and it must be uncorrelated with the dependent variable (in this case, voting behaviour), except through its effect on union membership.

Here, I use two instruments to estimate the causal effect of union membership on voting. The first instrument is whether union membership is compulsory in the respondent's workplace. The assumption underlying this instrument is that an individual's decision to join a workplace where union membership is compulsory is not a function of their ideology, but rather their aptitude and the expected returns from employment in that occupation. Thus working for a company where union membership is compulsory should only affect voting behaviour through the channel of union membership.

The second instrument is the unionisation rate in the respondent's occupation. Again, the assumption underlying this instrument is that occupational choice is not driven by the unionisation rate in a given occupation, but by the person's ability. However, the decision to work in a more heavily unionised occupation will increase the probability that the person will join a union.

Since I am still instrumenting with a choice variable, neither of these instruments will be perfectly exogenous with respect to the voting decision. However, both have the advantage that occupational choice is plausibly more exogenous to voting behaviour than the decision to join a union.⁸

The first IV strategy is implemented using surveys covering the 1966, 1969 and 1977 elections. Subsequent election surveys did not ask respondents whether union membership was compulsory in their workplace, probably because compulsory unionisation had largely disappeared by the early-1990s (see Peetz 1998, 87-103). The second uses the 1998, 2001 and 2004 election surveys, which had a common

⁸ Another possible instrument would have been to use the timing of laws banning compulsory unionisation in different states during the early-1990s. However, the first stage of this regression was not significant.

occupational coding system. Unionisation rates in each occupation are estimated using the 1998 election survey, and are then used to instrument for union membership in the 2001 and 2004 surveys. To ensure sufficient sample size in each cell, I use broad occupation codes and drop occupations with less than 5 respondents. This leaves 36 occupations for which unionisation rates can be estimated. Unionisation rates in these 36 occupations range from zero to 59 percent, with a mean of 27 percent.

Table 4: Instrumenting for Unionisation
Dependent Variable: 1 if voted Labor, 0 if voted Coalition

Instrument (Years):	(1)	(2)	(3)	(4)
	Compulsory unionisation (1966-1977)		Unionisation rate in occupation (2001-2004)	
	OLS	IV	OLS	IV
Union member	0.219*** [0.018]	0.218*** [0.024]	0.215*** [0.024]	0.446*** [0.117]
Aged 30-39	-0.021 [0.024]	-0.021 [0.024]	-0.033 [0.040]	-0.053 [0.042]
Aged 40-49	0.012 [0.024]	0.012 [0.024]	-0.014 [0.039]	-0.05 [0.043]
Aged 50-59	-0.046* [0.025]	-0.046* [0.025]	-0.066* [0.040]	-0.106** [0.045]
Aged 60 or over	-0.066*** [0.025]	-0.066*** [0.026]	-0.216*** [0.040]	-0.258*** [0.045]
Income quintile 2	-0.049** [0.023]	-0.049** [0.023]	-0.136*** [0.035]	-0.138*** [0.035]
Income quintile 3	-0.122*** [0.028]	-0.122*** [0.028]	-0.203*** [0.037]	-0.220*** [0.038]
Income quintile 4	-0.169*** [0.025]	-0.169*** [0.025]	-0.233*** [0.037]	-0.267*** [0.040]
Income quintile 5	-0.257*** [0.025]	-0.257*** [0.025]	-0.290*** [0.038]	-0.303*** [0.039]
High school only	-0.093*** [0.020]	-0.093*** [0.020]	-0.042 [0.039]	-0.062 [0.041]
Diploma/trade	-0.074*** [0.020]	-0.074*** [0.020]	-0.052* [0.028]	-0.068** [0.030]
University degree	-0.041 [0.036]	-0.041 [0.035]	0.054 [0.035]	0.028 [0.038]
Born overseas	-0.013 [0.019]	-0.012 [0.019]	0.091*** [0.026]	0.089*** [0.026]
Female	-0.064*** [0.016]	-0.064*** [0.017]	0.009 [0.021]	0.012 [0.022]
Married	0.01 [0.020]	0.009 [0.020]	-0.027 [0.030]	-0.018 [0.031]
Divorced	0.015 [0.048]	0.015 [0.048]	-0.080* [0.045]	-0.081* [0.046]
Election FE?	Yes	Yes	Yes	Yes
Observations	4145	4145	2125	2125
R²	0.09		0.08	
Partial R² of excluded instruments		0.5188		0.0426
Test of excluded instruments		F(1,4126) = 8261.00 [P= 0.0000]		F(1,2107) =88.05 [P=0.0000]

Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively. Robust standard errors in parentheses. Excluded categories are as follows: age - those aged 18-29; income -

first quintile; education – high school dropouts. Instrument in column (2) is whether union membership is compulsory in the respondent's workplace. Instrument in column (4) is the mean unionisation rate in the respondent's occupation (as calculated from the 1998 election survey).

Table 4 shows the results of these two specifications. For simplicity, I use a linear probability model. In both cases, I therefore first show the OLS estimates, to confirm that the coefficient on the union membership dummy is not noticeably different from the probit models. In column 1, the union membership coefficient is 0.219 (the probit marginal effect for these elections is 0.227), while in column 3, the union membership coefficient is 0.215 (the corresponding probit marginal effect is 0.223).

In both IV strategies, the first stage regressions are highly statistically significant, and the partial R^2 s of the excluded instruments are sufficiently large that neither appear to suffer from the so-called "weak instruments" problem (Bound, Jaeger and Baker 1995). Using compulsory unionisation as an instrument, the coefficient is almost precisely the same as in the IV specification, suggesting that the marginal effect on the voting behaviour of those forced to join a union is the same as the average union effect. Using mean unionisation rates, the coefficient on union membership is considerably higher than in the OLS specification, suggesting that the marginal effect on voting behaviour of joining a highly unionised occupation is larger than the average effect of unionisation on voting. One plausible interpretation of this is that having more unionised co-workers might have a direct effect on one's voting decision. If so, this would suggest that compulsory unionisation laws are a better instrument than unionisation rates, and indicate that the results in column 2 should be preferred over those in column 4.

4. Conclusion

This paper uses eleven post-election surveys covering elections from 1966-2004 to estimate the effect of union membership on voting behaviour. I find that around two-thirds of union members vote Labor, and around one-third vote for the Coalition. In probit regressions, union membership increases the chance that the respondent will vote Labor by around 23 percent. In comparative terms this is a large effect: approximately twice the magnitude of the effect found by Freeman (2003) for the US.

The union voting effect does not appear to have changed significantly over time, nor does the effect of union membership change when controls are added for age, education, household income, marital status and whether the respondent was born overseas. The marginal effect of union membership was larger for men in the earlier surveys, but in the 2004 election survey, the union effect appears to be larger for women. Among unionists, I investigate the factors that distinguish the two-thirds who vote Labor from the one-third who vote for the Coalition. Union members who are male, middle-aged, have lower household incomes, and are less educated are more likely to vote Labor than other unionists.

To estimate the causal effect of union membership, two instrumental variables strategies are employed – using compulsory union laws and average unionisation rates across occupations to identify the impact of unionisation. The intuition behind the choice of instruments is that occupational choice is more plausibly exogenous with respect to political ideology than the decision to join a union. The results of both IV strategies suggest that the marginal effect estimated from a probit model is not upwardly biased.

Given the foregoing results, it is possible to see what the voting patterns in recent elections would look like if the unionisation rate had remained at 50 percent of the workforce, its approximate level in the period 1973-82. To calculate this, I multiply the point estimate of the effect of union membership effect on the Labor vote (+23 percent) by the change in the unionisation rate as a fraction of employees, by the share of voters who are employees.⁹ These calculations are set out below:

1996 election:

Actual result: Coalition by 3.6%

Union effect on Labor vote: $0.23*(0.5-0.31)*0.55 = 2.4\%$

1998 election:

Actual result: Coalition win (but 2PP voteshare only 49%)

Union effect on Labor vote: $0.23*(0.5-0.28)*0.56 = 2.8\%$

⁹ Employment rates are calculated from Australian Bureau of Statistics Labour Force Statistics, as the participation rate minus the unemployment rate. The rate for the population aged 15+ is assumed to be the same as that for the voting age population.

2001 election:

Actual result: Coalition by 1.0%

Union effect on Labor vote: $0.23*(0.5-0.24)*0.56 = 3.3\%$

2004 election:

Actual result: Coalition by 2.7%

Union effect on Labor vote: $0.23*(0.5-0.23)*0.58 = 3.6\%$

These results suggest a significant electoral loss to Labor from declining union membership. All else equal, if half the workforce had remained unionised, Labor would probably have been victorious in the 1998, 2001 and 2004 federal elections. The decline in union membership adversely affects the ALP, and changing patterns of union membership would seem to at least partly explain Labor's poor performance in recent federal elections.

Data Appendix

The surveys used in this paper are listed in Appendix A. These were chosen on the basis that they included questions on which party the respondent voted for the in previous election, plus a set of demographic variables, including trade union membership. The 1987 and 1990 *Australian Election Studies* did not ask respondents any questions about income, and are hence excluded from the multiple regression analyses. (For 1987, Leigh 2005 uses the *1987-88 National Social Science Survey*, but it is not used here on the basis that its trade union membership question has an unusual wording.) The surveys covering the 1966 and 1969 elections were conducted face-to-face. All other election surveys were of the mail-out type.

Generally speaking, comparisons of the demographics in the Australian Election Studies and the National Social Science Surveys suggest that the two surveys were similarly representative of the population. However, as Goot (2000, 48) has shown, tertiary-educated respondents were over-represented in the AES – perhaps because it was conducted by mail. Neither set of surveys appeared to suffer from a noticeably greater degree of pro-winner bias than the other (see Leigh 2005). I would be happy to supply any researchers with the Stata routine used to create the dataset.

Coding of variables was straightforward in most all cases. Some notes on particular variables appear below.

Education

Educational attainment was coded into four categories: high school dropouts, high school graduates, some college or a trade qualification, and college degree (more detailed information on education existed in some, but not all, surveys).

Income

There was some variation in the number of income categories across surveys. There were 8 income categories in 1966, 1969, 1977, 1087 in 1984, 108 in 1987, 14 in 1993 and 1996, and 16 in 1998, 2001 and 2004. Except for 1984 and 1987, income was presented as a range, and individuals in each range were coded as having family income at the midpoint of the range, or 1.15 times the upper limit in the case of those in the top category. Lastly, it should be noted that, as a consequence of this categorization and the underlying distribution of incomes, no respondents in 1966 fell into the third income quintile.

Age

The voting age in Australia was 21 until 1973, when it was lowered to 18. In most cases, the survey was restricted to those who were eligible to vote, but in the few cases where respondents report an age that would have made them ineligible to cast a ballot, they were dropped from the sample.

Trade union membership

The trade union membership question was worded almost precisely the same in all surveys except 1990 and 1993. In these two years, the question allowed the respondent to select either ‘trade union’ or ‘staff association’. In Leigh (2005), these were coded together, but since the central focus of this paper is on trade union

membership, I take a more cautious approach, and code those in staff associations as non-union members.

Occupation

The 1998, 2001 and 2004 election surveys use the ASCO2 occupational coding system. Occupation codes for student, not in the labour force, not applicable, inadequately described, and missing are all coded as missing. The occupation “Other Labourers and Related Workers” is coded inconsistently (93 in 1998; 99 in 2001 and 2004), so is made consistent in all years.

Weights

Only the 1993 survey is weighted. For all other surveys, each individual is assigned a weight of 1. The weights are then recoded so as to balance the sample across elections, by ensuring that the sum of the weights for each election is 2000.

Appendix Table A: Elections in Sample

Election	Study
1966	D. Aitkin, M. Kahan and D. Stokes. 1967. <i>Australian National Political Attitudes</i> (ICPR Study No 7282). Ann Arbor, Michigan: Inter-university Consortium for Political and Social Research (also
1969	D. Aitkin, M. Kahan and D. Stokes. 1969. <i>Australian National Political Attitudes</i> (ICPR Study No 7393). Ann Arbor, Michigan: Inter-university Consortium for Political and Social Research
1977	D. Aitken. 1979. <i>Macquarie University Australian Political Attitudes Survey</i> (ASSDA No 9). Canberra: Australian National University, Social Science Data Archives
1984	J. Kelley, R. Cushing, and B. Headey. 1984. <i>Australian National Social Science Survey</i> (ICPSR 9084). Ann Arbor, Michigan: Inter-university Consortium for Political and Social Research
1987	I. McAllister and A. Mughan. 1987. <i>Australian Election Survey</i> (SSDA Study No. D0445) Canberra: Australian National University, Social Science Data Archives
1990	D. Gow, R. Jones, I. McAllister and E. Papadakis. 1990. <i>Australian Election Study</i> (SSDA Study No 570). Canberra: Australian National University, Social Science Data Archives
1993	R. Jones, I. McAllister, D. Denemark and D. Gow. 1993. <i>Australian Election Study</i> (SSDA Study No 763). Canberra: Australian National University, Social Science Data Archives
1996	R. Jones, I. McAllister and D. Gow. 1996. <i>Australian Election Study</i> (SSDA Study No 943). Canberra: Australian National University, Social Science Data Archives
1998	C. Bean, D. Gow and I. McAllister. 1998. <i>Australian Election Study</i> (SSDA Study No 1001). Canberra: Australian National University, Social Science Data Archives
2001	C. Bean, D. Gow and I. McAllister. 2001. <i>Australian Election Study</i> (SSDA Study No 1048). Canberra: Australian National University, Social Science Data Archives
2004	C. Bean, I. McAllister, R. Gibson, and D. Gow. 2004. <i>Australian Election Study</i> (SSDA Study No 1079). Canberra: Australian National University, Social Science Data Archives

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