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Postmaterialism and the Australian Party System

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Postmaterialism and the Australian Party System

In this paper we explore the positioning of Australian political parties at the 2001 federal election using data from the Australian Election Study and discuss some of the strategic implications. We focus on some of the attitudes of Senate voters for the various parties, concentrating on how Inglehart's postmaterialism measures can be used to supplement more traditional left-right descriptions of the party system. In order to make some assessment of the significance of the electoral context we make some comparisons with the 1998 election and also examine party positioning in relation to other sets of attitudes about potentially salient issues.

Postmaterialism and the Australian Party System

Introduction

The question of how best to describe and explain changes in the Australian party system has assumed a good deal of significance since the advent of the One Nation Party (ONP) following the election of Pauline Hanson at the 1996 federal election (after she had been disendorsed during the election campaign by the Liberal Party). However, broader questions about the nature of developments in the party system have, of course, been around for much longer than this in the post-WWII period, beginning with the DLP in the 1950s. Later on, they became more prominent after the formation of the Australian Democrats in 1977. The development of various regional Green parties (and the subsequent formation of the Australian Greens) has been another relevant feature of the system.

Questions about party system change have also, of course, been discussed in other, broader settings. There have been significant amounts of debate in Europe, where Green and populist anti-migrant parties have achieved a fair deal of electoral success in some countries. Although his argument is not restricted to electoral politics, one of the most influential accounts of related factors in the international context has been provided by Ronald Inglehart (1977; 1990; 1997), whose earlier account draws on Maslow's theory of a needs-hierarchy to argue that postmaterialism will play an increasing role; more recently (1997) he has broadened his argument into a consideration of 'postmodernization'.

In the Australian context, the increase in the vote for the Australian Democrats at the 1990 federal election combined with the prominence of environmental issues in that campaign to raise the question of the influence of postmaterialism in Australia to some prominence. Gow (1990: 71), however, concluded that "...economic voting provides a more coherent account of non-Labor voting in the 1990 election." Part of his argument relies on the extent of first preference votes for the minor parties and, in that context, we can observe that the combined House of Representatives vote for the ALP and the

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Liberal-National coalition, which had hovered around 90 per cent between 1955 and 1972 (and reached as high as 96 per cent in 1975) had fallen to around 80 per cent in both 1998 and 2001.

In more recent analyses, some aspects of Gow's approach are criticized by Blount (1998), who argues that the postmaterialist effect actually manifests itself in the Senate vote for minor parties. In turn, Western and Tranter (2001) criticize some of Blount's analytical techniques and use multinomial logistic regression to find that postmaterialists vote disproportionately for both the Australian Democrats and the Greens in both the House and the Senate, but that the effects are small.

In the context of ONP, discussions of their support base have drawn on both economic insecurity and attitudes towards race and immigration, although the latter seem to have been more significant than the former at the 1998 election (Charnock 1999; Goot and Watson 2001; McAllister and Bean 2000).

Their position at the 1998 election with regard to postmaterialism was, as noted by Western and Tranter (2001), rather unusual inasmuch as ONP voters were also disproportionately postmaterialist. Analysis in Charnock and Ellis (2001) also demonstrates this and suggests that the probable explanation lies in measurement flaws with the four-item postmaterialism measure used in the 1998 AES, as argued in another context by Warwick (1998). Charnock and Ellis (2001) consequently also develop a broader index of postmodern attitudes in line with Inglehart's more recent work and use it and an index of left-right attitudes to explore the structure of the Australian party system. The findings show a structure which is broadly consistent not only with Inglehart's recent work but also that of Kitschelt (1994; 1995) about party competition in Europe.

The highly-charged context in which the 2001 federal election occurred provides an excellent opportunity to examine the stability of the structure of party competition revealed by the analyses in Charnock and Ellis (2001). Consequently, one of our main purposes in this paper is to study how closely the structure was replicated at the 2001 election. There is also an opportunity to address some of the measurement aspects of

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Inglehart's very widely-used postmaterialism indices, because the 2001 Australian Election Study (Bean et al 2002) incorporated the full 12-item battery rather than just the 4-item version which showed the anomalous results for ONP when it was asked in the 1998 AES.

Data and measures

Our analyses are based on data from the 2001 Australian Election Study (Bean et al. 2002)¹ and are based on Senate vote. This is partly because the multi-member, quota-preferential voting system in the Senate is more 'minor party-friendly' because of its more proportional outcomes than the House of Representatives, but also because there is greater consistency in choice offered to voters in the Senate. In the House, voters in each of the electoral divisions (of which there were 150 in 2001) face differing choices, with (apart from the possible importance of constituency-specific issues and personalities) not all parties offering candidates in every contest. A particularly significant consequence of this is that it becomes impossible to separately analyse voters for the National and Liberal parties. This has the obvious disadvantage of not being able to make comparisons between voters for the two coalition partners, but there is also another related disadvantage with regard to ONP. Since ONP initially obtained much of its support in previously National areas, not being able to deal separately with National voters also limits the usefulness of characterisations of ONP voting support².

Left-Right economic ideology

With the questions available in the 2001 AES and in keeping with the measure used in Charnock and Ellis (2001), we formed an index³ based both on individual self-placement on a left-right scale and also on responses to some relevant individual questions, specifically:

D14P4	Income and wealth should be redistributed
D14P2	Trade unions have too much power
D14P5	Stricter laws to regulate trade unions

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E1 Choice between taxes and social services
B10OWN Own left-right position

The index was scaled to have a range of values from 0 to 1, with 0 indicating extreme left-wing and 1 indicating extreme right-wing.

Postmaterialism

Although the measurement and interpretation of postmaterialism are topics of some controversy in the political science and other literature (for example, see the recent debate in the *American Political Science Review* (Clarke et al 1999; Davis and Davenport 1999; Inglehart and Abramson 1999)), there are two standard measures of postmaterialism (see the appendix for details). The first (which was the earliest one used) is based on a single ranking exercise, with four national aims (two materialist and two postmaterialist) from which to select. The second is based on three such questions, making a total battery of twelve items.

The four-item battery results in classifications of survey respondents as “materialist”, “postmaterialist”, or “mixed”. The standard way of aggregating this figure by group (party, country, etc) is to cite the difference between the percentage of postmaterialists and the percentage of materialists (e.g. Inglehart 1997: 136). As outlined in the appendix, the twelve-item battery results in a score ranging from zero (completely materialist) to five (completely postmaterialist) (Inglehart 1997: 130). Inglehart (for example, see Inglehart 1997: 145, 151) seems to prefer to aggregate this in a similar manner to the one used for the four-item battery and cites the difference between the percentages of ‘high’ postmaterialists (scores of three or more) and ‘low’ postmaterialists (score of zero); we have chosen to cite mean scores instead (though we found in our analyses that the two approaches actually resulted in very similar interpretations).

The choice of rival aims offered in the four-item battery (used in the 1998 AES) is as follows (with the first and third aims regarded as materialist):

- maintaining order in the nation;

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- giving people more say in important government decisions;
- fighting rising prices;
- protecting freedom of speech.

Warwick (1998) argues that the four-item measure is actually revealing a ‘pro-democracy’ orientation. The finding (Charnock and Ellis 2001) that ONP voters in 1998 were disproportionately postmaterialist by this measure seems to bear this out. In the Australian context at the time, ONP voters were often characterised as anti-elite, feeling left out of the Australian political and economic landscape, and opponents of “political correctness” as a form of implicit censorship of “ordinary Australians”, and it is perhaps unsurprising that many were inclined to believe that the second and fourth of the aims were important ones for Australia. The different electoral context in 2001, however, might well lead to different choices for the most important aims. If so, the dependence of the four-item measure on context would provide another argument against its validity. One would expect, however, that the 12-item measure would be more robust.

Postmodernism

While Inglehart (1997) argues that the postmodern dimension of politics is strongly associated with the postmaterialism-materialism divide, he does also recognise that a broader consideration of postmodern politics will sometimes be necessary.

While he does not have a standard operationalisation of postmodernism, one way to do so is directly in terms of key aspects involved in Inglehart’s suggested new dimension.

Accordingly, drawing on the data available in AES2001 and giving specific attention to the importance of Aboriginal issues in the Australian context, we followed the approach adopted in Charnock and Ellis (2001) and created 5 indices (see below) to measure individuals’ positions on cultural permissiveness, xenophobia, rights for minority or oppressed groups and environmental priorities. As with the left-right economic ideology index, each index was scaled to range from 0 to 1, with 1 indicating the most postmodern stance.

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Cultural permissiveness (PERMIS)

- E2NUDSEX Nudity & sex in films and magazines
- E3 Feelings about abortion
- E4DEATHP Death penalty should be reintroduced for murder
- E4LAWBRK Stiffer sentences if break law
- E4MARIJ Decriminalise smoking of marijuana
- E10P5 Importance of traditional ideas of right and wrong

Attitudes to immigrants (IMMIG)

- E2MIGEO Equal opportunities for migrants
- F6 Number of immigrants increased
- F7P1 Immigrants increase crime
- F7P3 Immigrants take jobs from Australian born

Environmentalism (ENV)

- E5P1 Env concern - pollution
- E5P2 Env concern – waste disposal
- E5P3 Env concern – logging of forests
- E5P4 Env concern – destruction of wildlife
- E5P5 Env concern – soil degradation
- E6 How likely to join env group

Attitudes towards Aborigines (AB)

- E2ABLAND Aboriginal land rights
- E2ABOR Government help for Aborigines
- G10P6 Recognise aspirations of Aborigines
- G10P9 Aborigines' right to self-government

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Attitudes towards equal opportunities (EEO)

E2EQUOP	Equal opportunities for women
E4OPP	Increase business opportunities for women
E10P2	Importance of EEO in hiring and promotion
E10P3	Importance of special effort to protect minorities
E10P4	Importance of equality between men and women

The implication of Inglehart's ideas is that attitudes towards these kind of issues actually flow from a fairly coherent underlying value orientation and so, if Inglehart's thesis is correct, these attitudes should to a reasonable degree be able to be summarised in a single dimension⁴. Accordingly, in addition to looking at the five indices separately, we can also calculate a single "postmodern attitudes" index, based on all 25 questions. It then becomes an empirical question as to whether using the five separate indices adds anything of significance to our understanding of voting behaviour, when compared to using the single combined postmodern attitudes index.

Given the context of the 2001 election, we also investigated the significance of attitudes to defence/security issues and cultural pluralism. The corresponding indices are as follows⁵:

Defence (DEF)

E2TERROR	Australia support fight against terrorism
E4MILITR	Australia have compulsory military service
F4	Govt spend more on defence
F5P5	Australia provide military for war on terrorism

Pluralism (PLUR)

E4ASYLUM	Asylum seekers turned back
G10P2	Distrust people try to be different
G10P5	People come here should be more like Australians
G10P8	Important new migrants learn to be Australian

The inclusion of E4ASYLUM in the second index (rather than in the Defence one) is perhaps surprising, but is justified by factor analyses that show this is where it seems best-placed. This perhaps is explained by the view that asylum seekers are not a security threat but are ‘queue jumpers’.

Results and Discussion

We begin with an examination of the relationship in 2001 between postmaterialism (using both the four- and twelve-item batteries) and left-right attitudes (see Figures 1 and 2).

Figure 1
Postmaterialism (four-item measure) and Left-Right economic positions of Senate voters 2001

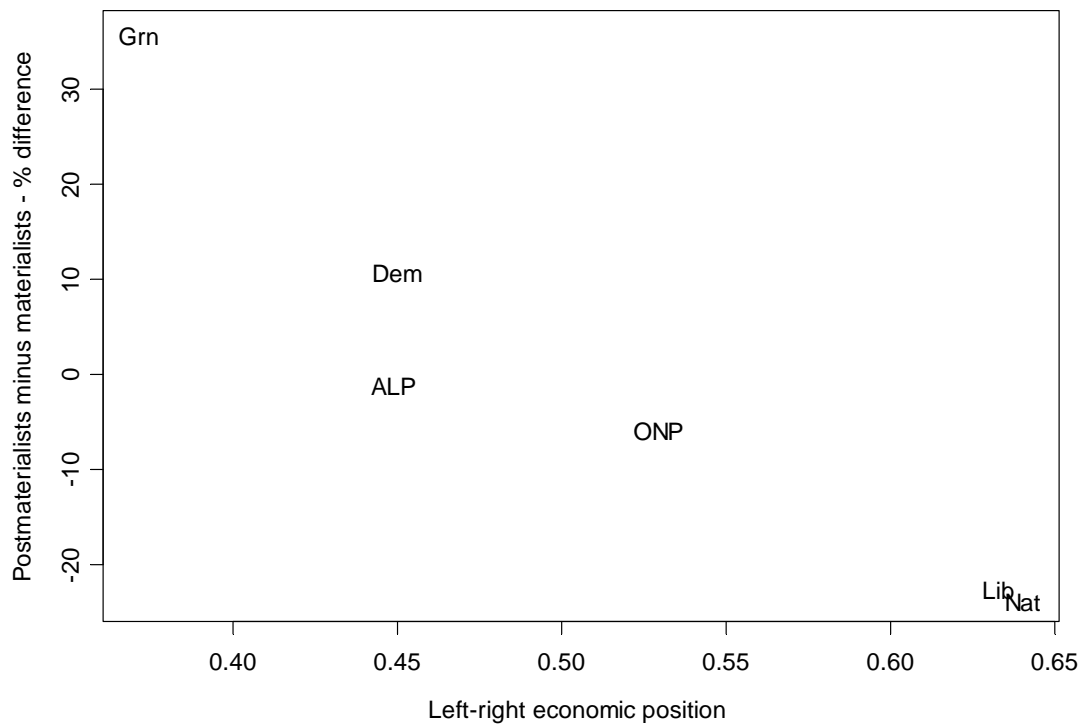
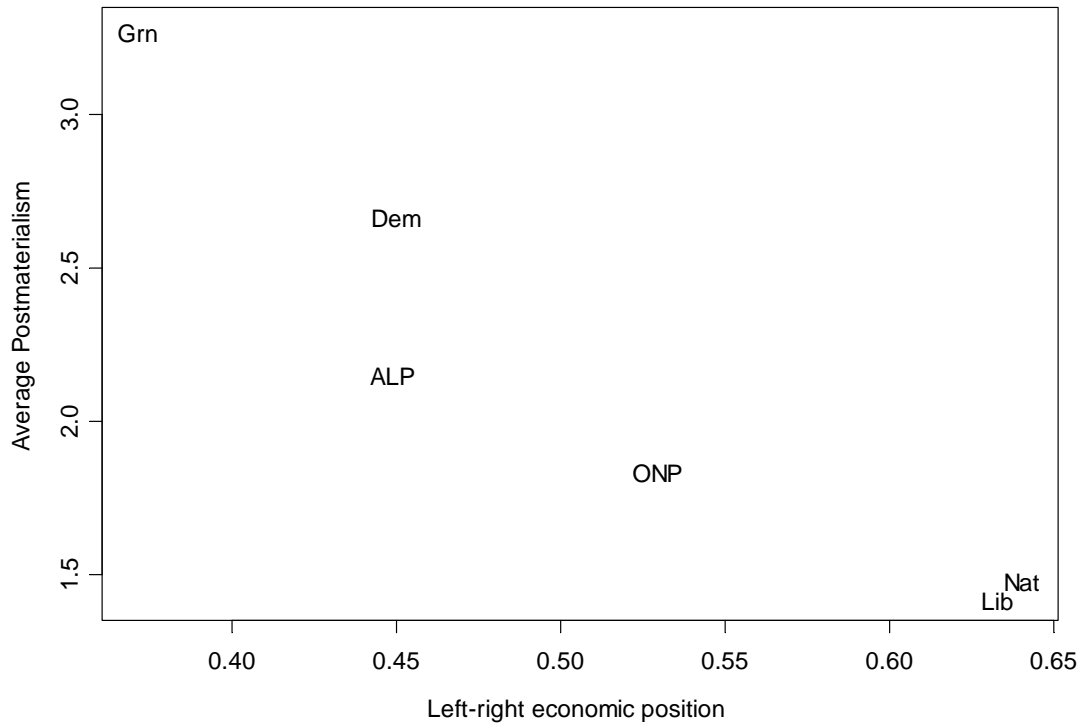


Figure 2
Postmaterialism (twelve-item measure) and Left-Right economic positions of Senate voters 2001



Both Figures show essentially the same features, with the overall pattern being similar to the diagonal structure in comparable two-dimensional attitudinal space found in Europe by Kitschelt (1995). The fact that parties' voters are (on average) located at positions approximately along the diagonal is quite significant. First, it supports Inglehart's more recent argument (following Kitschelt) that the practical impact of the 'new politics' dimension is not orthogonal to the more traditional left-right dimension (see, for example, Inglehart 1997: 246).

Second, it suggests that it might be useful to regard party competition as now taking place along a new axis, but one which is located within a two-dimensional space (as opposed to

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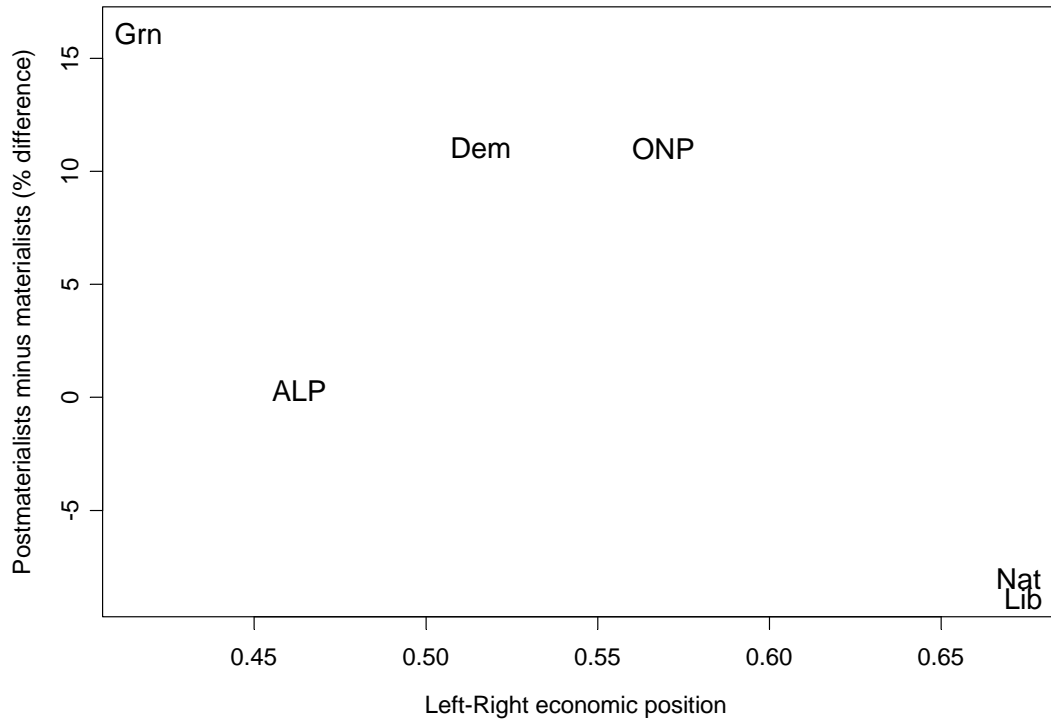
descriptions locating competition along a single, left-right dimension). It is clear, for instance, that describing ONP as a 'far right' party (as is very commonly done) is a quite inadequate way of understanding their support and can only serve to mislead. Their supporters were, in fact, more centrist in terms of left-right attitudes in 2001 than were those of either the Liberal or National parties.

On these two dimensions there was essentially no difference between Liberal and National Senate voters in 2001. ONP voters were more centrist on left-right issues and somewhat less materialist. Democrats voters occupy a slightly left of centre position on economic issues but are very slightly more postmaterialist than the ALP. Greens voters are both the most postmaterialist and also the most left-wing party, and the Greens seem better described as a left-libertarian party than by Inglehart's depiction of postmaterialists who have little interest in classic left redistributive agendas.

As far as stability over time is concerned, Figure 3 below (based on Charnock and Ellis 2001) demonstrates many similarities with 1998, including the fairly centrist position of ONP voters. However, as Figure 3 also shows, the four-item postmaterialism measure quite counterintuitively shows ONP voters as being disproportionately postmaterialist in 1998 and, indeed, shows almost as many postmaterialists as materialists among Liberal and National voters. As argued in Charnock and Ellis (2001), this seems to reinforce the argument that the four-item measure does not measure what it is intended to. Since the twelve-item battery was not asked in the 1998 AES, however, there is no point of comparison for the more extensive measure.

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Figure 3
Postmaterialism (four-item measure) and Left-Right economic positions of Senate voters 1998



Source: based on Charnock and Ellis (2001)

As observed above, the twelve-item battery was not asked in the 1998 AES. Therefore, in order to obtain some evidence about the stability of the structure of party competition between 1998 and 2001 based on something more reliable than the four-item postmaterialism measure, we show in Figure 4 the results of regarding the second relevant dimension as a postmodern attitudes one, along the lines of Inglehart's more recent work.

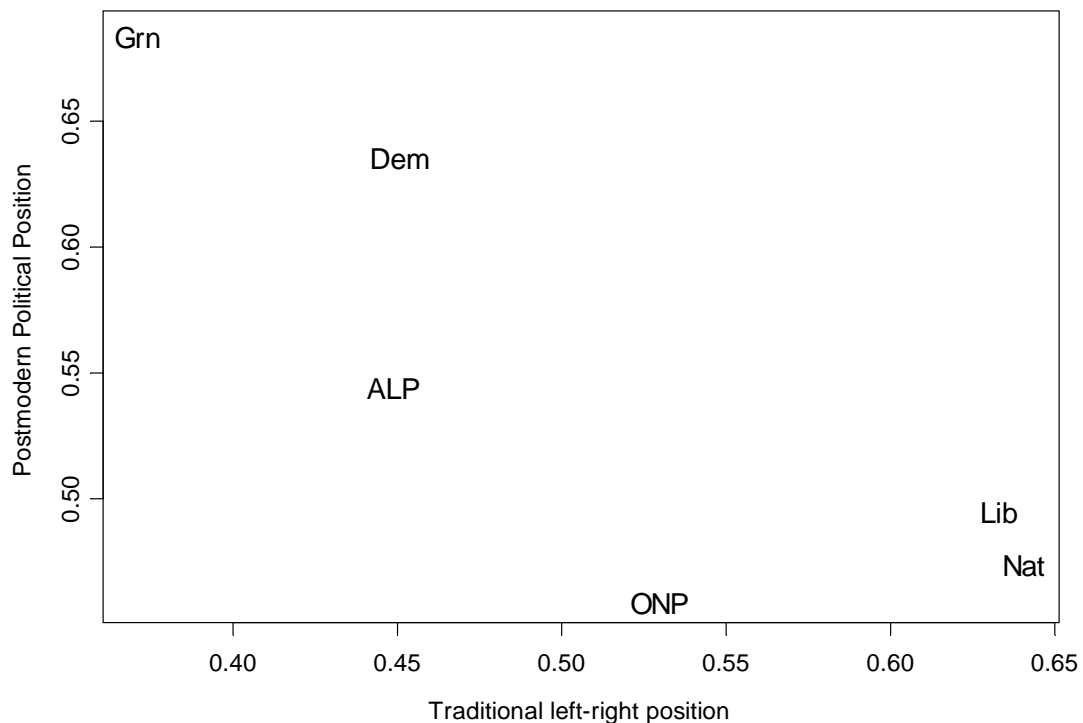
This Figure does, in fact, reveal a very similar structure to a comparable analysis for the 1998 election (Charnock and Ellis 2001). It seems, therefore, that the structure of party competition at the two elections was quite stable, and this encourages us to examine later

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in this article some of the implications of this structure. Here, however, we note that one of the main features is that differences between ALP and coalition voters are mainly defined by the left-right dimension, although there are also some smaller differences between them in terms of the postmaterialism/postmodern attitudes dimension.

Figure 4

Postmodern attitudes and Left-Right economic positions of Senate voters 2001



Individual voting models

In order to supplement the graphical representations of party competition, we now proceed to estimate models relating individual voting to the various indices. We include the same models as in Charnock and Ellis (2001), and add some others that use the 12-item postmaterialism measure. In addition to a null model (to obtain a baseline for assessing the other models), we present complete details of six models: one with only the left-right economic index (model A1), one with only the single 12-item postmaterialism measure (model A2), one with only the postmodern attitudes index (model A3), a model

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with both the left-right index and the 12-item postmaterialism measure (model B1), a model with both the left-right index and the postmodern attitudes index (model B2), and one with the left-right economic index and all five of our separate indices for the different components of postmodern attitudes (model C). Examination of these models allows us to assess both the relative importance of left-right, postmaterialism and postmodern attitudes, and also whether the five separate indices add much over the single postmodern index.

We use multinomial logistic modeling (see, for example, Long 1997). In this form of modelling, one category of the dependent variable is set as a reference category. As above, we study Senate vote, and we make Liberal vote the reference category. As noted earlier, studying Senate vote allows us to meaningfully separate Liberal from National voters, and thus examine differences between the two coalition partners, something that is not often done in Australian voting analyses.

Tables 1 to 7 show the results of our main models (null and models A1, A2, A3, B1, B2 and C as outlined above). Unbracketed numbers are the estimates of the size of the coefficient compared to Liberal voters; bracketed numbers are the corresponding standard errors. On standard interpretation and presentation of results, an estimate of a coefficient that is roughly twice the size of its standard error can be described as statistically significantly different from zero (i.e. significant evidence of a difference from the Liberals on this attitudinal index).

A negative coefficient for the 'left-right economic' variable indicates Left-wing voters are more likely to vote for that party than for the Liberals; a negative coefficient for the various postmaterialism and postmodern indices indicates postmaterialist/postmodern voters are less likely to vote for that party than for the Liberals. Coefficients should be interpreted as showing the association between the variable and vote once the other variables in that particular model have been controlled for. Thus, looking at the bottom row of Table 6 (Model B2), we see that, having controlled for left-right economic position (for which being more left-wing increases the odds of voting for ONP rather than

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the Liberals), having less postmodern attitudes increases the odds of voting ONP compared to the Liberals.

Table 1: Null Model for 2001 Senate vote

	Intercept Est. (s.e.)
ALP	-0.19 (0.06)
Nat	-2.23 (0.12)
Dem	-1.44 (0.09)
Grn	-1.66 (0.10)
ONP	-2.03 (0.11)

AIC: 4821.3 n: 1666

Table 2: Model A1

	Intercept Est. (s.e.)	Left-Right Economic Est. (s.e.)
ALP	4.15 (0.27)	-7.99 (0.47)
Nat	-2.25 (0.56)	0.03 (0.86)
Dem	2.70 (0.33)	-7.52 (0.62)
Grn	3.64 (0.33)	-10.33 (0.69)
ONP	0.42 (0.44)	-4.15 (0.76)

AIC: 4276.0 n: 1666

Table 3: Model A2

	Intercept Est. (s.e.)	Postmaterialism(12-item) Est. (s.e.)
ALP	-1.17 (0.11)	0.55 (0.05)
Nat	-2.30 (0.21)	0.05 (0.11)
Dem	-3.22 (0.21)	0.89 (0.08)
Grn	-4.61 (0.28)	1.28 (0.09)
ONP	-2.57 (0.21)	0.33 (0.10)

AIC: 4490.0 n: 1666

Table 4: Model A3

	Intercept Est. (s.e.)	Postmodern attitudes Est. (s.e.)
ALP	-2.43 (0.30)	4.29 (0.55)
Nat	-1.46 (0.60)	-1.58 (1.21)
Dem	-7.31 (0.50)	10.46 (0.82)
Grn	-9.51 (0.60)	13.45 (0.93)
ONP	-0.46 (0.54)	-3.27 (1.13)

AIC: 4417.7 n: 1666

Table 5: Model B1

	Intercept Est. (s.e.)	Left-Right Est. (s.e.)	Postmaterialism Est. (s.e.)
ALP	3.36 (0.31)	-7.53 (0.49)	0.31 (0.06)
Nat	-2.39 (0.63)	0.12 (0.88)	0.06 (0.12)
Dem	0.52 (0.43)	-6.07 (0.65)	0.70 (0.08)
Grn	0.25 (0.50)	-8.00 (0.73)	0.98 (0.10)
ONP	-0.15 (0.53)	-3.83 (0.79)	0.23 (0.10)

AIC: 4139.1 n: 1666

Table 6: Model B2

	Intercept Est. (s.e.)	Left-Right Est. (s.e.)	Postmodern Est. (s.e.)
ALP	3.38 (0.48)	-7.98 (0.49)	1.47 (0.66)
Nat	-1.19 (0.94)	-0.26 (0.88)	-1.80 (1.29)
Dem	-3.68 (0.77)	-5.11 (0.68)	9.10 (0.96)
Grn	-4.08 (0.89)	-7.03 (0.79)	10.57 (1.09)
ONP	3.20 (0.77)	-4.88 (0.78)	-4.90 (1.18)

AIC: 4046.1 n: 1666

Table 7: Model C

	Intercept Est. (s.e.)	Left-right Est. (s.e.)	PERMIS Est. (s.e.)	IMMIG Est. (s.e.)	ENV Est. (s.e.)	AB Est. (s.e.)	EEO Est. (s.e.)
ALP	3.47 (0.50)	-8.07 (0.51)	0.08 (0.49)	-1.51 (0.37)	-0.36 (0.36)	1.61 (0.39)	1.40 (0.41)
Nat	-1.05 (0.95)	-0.22 (0.90)	-1.14 (0.96)	-0.64 (0.69)	-0.97 (0.66)	0.27 (0.76)	0.29 (0.74)
Dem	-3.46 (0.79)	-4.92 (0.70)	1.90 (0.68)	1.44 (0.56)	1.91 (0.58)	2.28 (0.58)	1.24 (0.61)
Grn	-5.26 (0.99)	-6.56 (0.79)	2.87 (0.78)	-0.15 (0.63)	5.09 (0.83)	3.37 (0.67)	0.44 (0.70)
ONP	1.95 (0.82)	-4.56 (0.79)	0.66 (0.87)	-3.14 (0.66)	0.67 (0.63)	-1.76 (0.69)	-0.45 (0.67)

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AIC: 3974.5 n: 1666

The initial models (A1, A2 and A3) essentially confirm the picture of party support differentiation previously obtained from Figures 1, 2 and 4, but they also demonstrate (by comparison of the measures of model fit with those from the null model) that the association between voting and the left-right economic index is overall of more significance than is that with either the postmaterialism or postmodern index (though these, also, are certainly of importance).

For example, including only the left-right index (model A1) reduces AIC⁶ by 545, whereas including only the postmaterialism 12-item measure (model A2) reduces AIC by just over half as much (331) and including only the postmodern attitudes index (model A3) reduces AIC by 404. However, both dimensions are important: including both reduces AIC by a total of 682 (model B1) or 775 (model B2) from the null model. The coefficient estimates also clearly show that the left-right economic dimension continues to be primary for differentiating the ALP and Liberal parties from each other.

In 1998, in contrast, a model that included only postmaterialism (based on the 4-item battery) as an explanatory variable resulted in a reduction in AIC of only 14 over the null model.

Separating the postmodern index into its five sub-indices (model C) does enhance the model compared to model B2, although the extra improvement in model fit is overall relatively small. There is an extra reduction in AIC of 72 compared to the single postmodern attitudes index, indicating that the addition of the single, combined postmodern index captures most of the improvement by itself. Nevertheless, there are other detailed differences between some of the parties that are apparent when the five sub-indices are included and some of these are of interest because they enable a finer-grained picture to be obtained⁷. For example,

- Although there was a general tendency for being more postmodern to increase the chances of voting ALP compared to Liberal, the opposite was the case for attitudes towards immigrants when the other attitudes are controlled for. This was also true at the 1998 election, thus reinforcing for the ALP the dilemma (observed

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in Charnock (1997) that results from the fact that Asian migrants in particular give them disproportionate support.

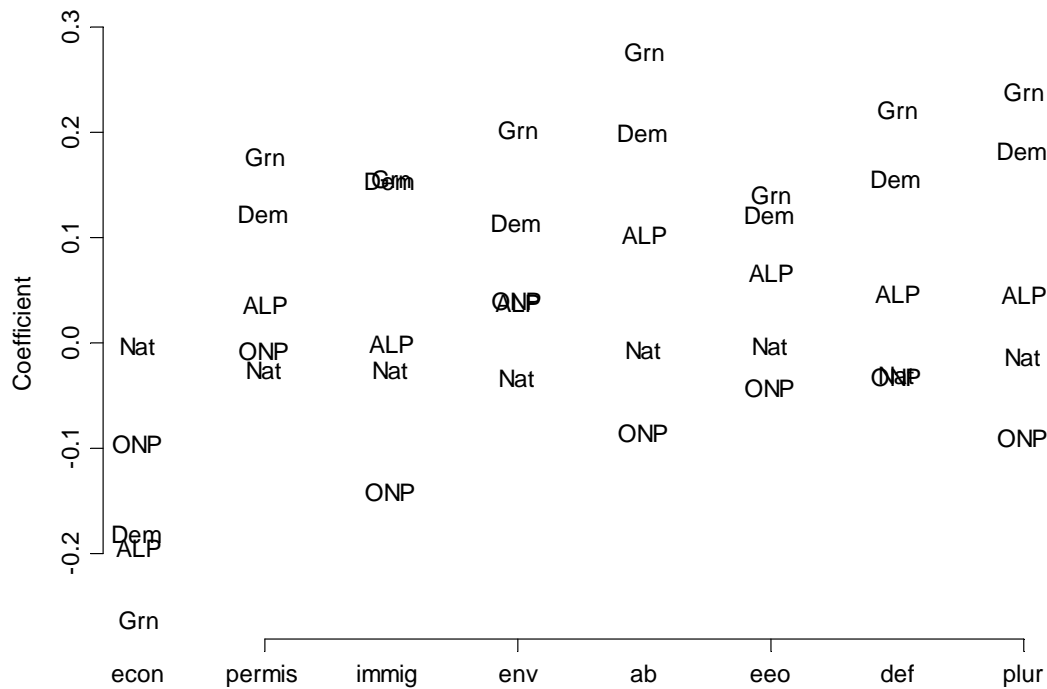
- Being more postmodern has an overall tendency to increase the chances of voting Australian Democrats rather than Liberal, and the same was also true in 2001 at the level of each of the separate sub-indices. Compared to the ALP, being economically more right-wing and more supportive of environmental issues, more culturally permissive and more favourably inclined towards immigrants also significantly increase the chances of voting Democrat.
- Once the other attitudes are controlled for, the impact on voting of attitudes towards immigrants and EEO does not differentiate between Green and Liberal voters. On the surface this may seem surprising, but appears to be a stable feature since it was also true in 1998. The strand in Green thought that links environmental pressure with population growth and immigration may be important here.
- Compared to voting Liberal or National, being more economically left-wing significantly increases the chances of voting for the One Nation Party, but has the opposite effect on the chances of voting for ONP compared to voting for the ALP. In descending order of size, less postmodern attitudes towards immigrants and aboriginal issues significantly increase the chances of voting for ONP compared to Liberal. The same is also the case for voting ONP compared with voting ALP, In addition to the left-right difference noted above, the main differentiating factor in voting ONP rather than National is a much stronger association with more negative attitudes towards immigrants and aborigines.

Whether focusing on the separate sub-indices or on the combined index, a major conclusion from these models is that either a postmaterialism or postmodern political dimension is of importance in helping understand Senate vote. Interestingly, the position

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of ONP voters in 2001 is still shown as being more postmaterialist than that of coalition voters, though the difference is much smaller than in 1998. The broader measure of postmodern attitudes, however, shows ONP voters as having the least postmodern attitudes. Which of the two conceptualizations of the second dimension is more useful could be a matter of debate. Statistically, however, the postmodern attitudes index improves model fit more than does either of the two postmaterialism measures. Decomposing the postmodern political dimension into five sub-components allows an even finer characterization of differences between parties.

The SUR results can also be presented graphically (see the Appendix). Despite their apparent contextual importance at the 2001 election, it is clear that the defence and cultural pluralism indices add little to the picture of party competition obtained from the other attitudinal sub-indices. The ordering of party voters is, in almost all cases, Green; Democrat; ALP; Liberal/National; ONP.



Attitudinal consistency, Distances between parties and Strategic implications

From a strategic point of view, although the picture we have been able to draw up to this point is certainly very useful for differentiating between the parties, it is essentially based on average attitudinal positions. Another interesting and practically important issue is to examine how much attitudinal variation is present among the voters for each party, and how large are the average distances between the parties' voters. To the extent that the attitudes being studied here are ones that have an impact on voting behaviour, we can use this information as a guide to how much scope there is for parties to attract voters from (or lose voters to) other parties. It will also give us a rather more precise indication of what we might describe as parties with the most "closely ideologically aligned" supporters.

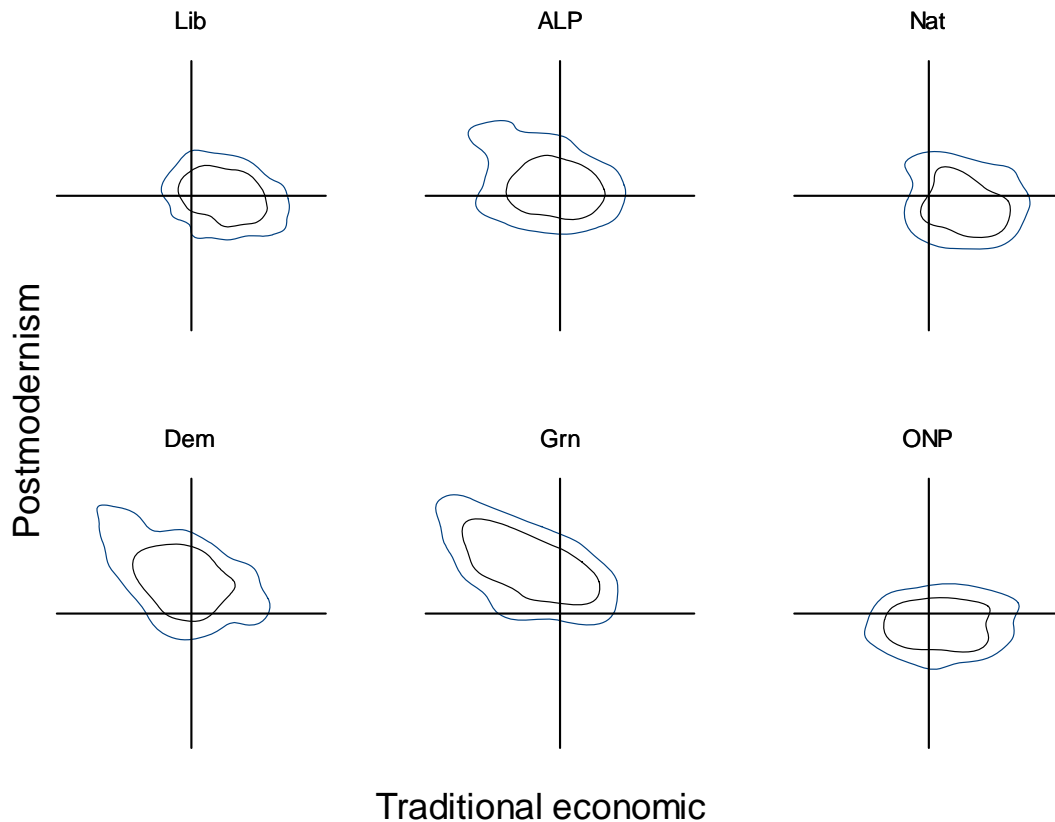
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Since our multinomial logistic modelling has shown that using the five separate postmodern sub-indices (model C) improves model fit by a relatively small amount compared to the models (B1 and B2) with the left-right economic attitudes index and the postmaterialism/combined postmodern attitudes indices, we reduce complexity by restricting ourselves to examining the two-dimensional space formed by the left-right and postmodern attitudes' indices. This also has the advantage of allowing us to make visual comparisons.

The inner and outer contour lines in Figure 6 below enclose 40% and 80% respectively of the estimated population voting for each party⁸. We have inserted the axes around a central point (0.5, 0.5) in order to more readily make visual distinctions between left- and right-wing voters, and between more or less postmodern voters.

It is immediately obvious that there is a considerable degree of crossover between the supporters of the various parties, despite the degree of separation between the centres of density for each party previously indicated in Figure 4 (and Figures 1 and 2 when using the two postmaterialism measures). This is, of course, important because it gives rise to potential vote switching between parties.

Figure 6
Intra-party Variations in Postmodern political and Left-Right economic
Position of Senate voters 2001



Note: inner lines enclose 40% and outer lines 80% of the estimated voting population for each party

As in 1998, the general pattern is for the core of voters for all parties to have quite coherent attitudes, but for this to be less so for remaining voters (much less so for Democrats and Greens voters especially). The most internally consistent attitudes were held by voters for the two coalition parties, closely followed by ONP and the ALP, while voters for the Greens and Democrats clearly did not have attitudes that were as consistent as those of other parties. One especially interesting finding here is that the attitudes of ONP voters were much more consistent than the Greens and Democrats and were, in fact,

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a little more consistent than those of ALP voters. Again, to the extent that these attitudes are significant in determining voting behaviour, the position of the ALP seems slightly weaker than the Liberals, though the extent of the intra-party variations for most of the parties is fairly large. More detailed numerical analysis of intra-and inter-party average distances confirms that, as also the case in 1998 (Charnock and Ellis 2001), voters for the more right-wing parties (Liberals, Nationals and ONP) were more ideologically coherent in 2001 than those voting for the other parties (ALP, Democrats, Greens).

Conclusion

Some of the conclusions we draw from our analyses relate to issues about comparisons between findings from the 1998 and 2001 elections; others are unique to 2001. In the case of the former, our analyses clearly demonstrate that in both 1998 and 2001 a single, left-right economic dimension was insufficient to adequately describe voter differences between Australian parties, although it does remain the main aspect dividing ALP from Liberal Party voters.

Whether we choose to conceptualise the second required dimension in terms of postmaterialist attitudes or the somewhat broader postmodern attitudes is not a matter of enormous empirical consequence in 2001 since both result in fairly similar descriptions of the patterns of party competition, although there are a few differences (especially in relation to ONP). This is unlike the situation in 1998, when the 4-item postmaterialism measure incongruously showed ONP voters to be disproportionately quite postmaterialist, suggesting (as have other writers) that it is too contextually bound to be a reliable measure of postmaterialism. The 12-item postmaterialism measure was not asked in the 1998 AES, so we cannot draw any conclusion from this analysis about its validity; on the surface, however, it would seem unlikely to be as unreliable in measuring postmaterialism as the simpler 4-item measure.

In both 1998 and 2001, it was the left-right dimension that was of more overall importance as far as measures of model fit are concerned; this is largely a consequence of the above-noted fact that it is this dimension that primarily serves to differentiate between

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the two largest blocs of voters, those for the ALP and the Liberal Party. However, considering the structure from another perspective, our findings at both elections indicate the existence of a new axis of party competition. This axis, though, appears as a diagonal line in the two-dimensional attitudinal space, much as in Kitschelt's description of the structure of European party competition and not dissimilarly to Inglehart's more recent arguments.

Breaking the postmodern attitudes index down into its subcomponents gives an even more detailed picture of differentiation of voter support, particularly between the minor parties, although for the reason mentioned in the previous paragraph it does not add a great deal in terms of improvement in measures of overall model fit.

Although the two elections occurred in very different contexts (one very much focused on the proposed GST and the other apparently strongly influenced by considerations of international terrorism and the issue of asylum seekers in the context of the MV Tampa incident), our analyses show that the structure of party competition was very similar at both Senate elections.

To us, this suggests that the strategic nature of the Australian party system has now developed to a point where the competition (at least in the Senate) offers far more complex possibilities. Although the Senate vote for ONP dropped between 1998 and 2001 (from 9.0 per cent to 5.5 per cent), it is nevertheless plausible that there is a long-term place for them in the party system provided, of course, that the party manages to achieve a degree of organizational stability.

There are significant amounts of intra-party variation in attitudes. As a result, there are quite large degrees of overlap between the voters for the various parties, again opening up the possibility of vote-switching between parties. In this regard, we found in both 1998 and 2001 that the greatest degree of internal coherence was to be found among the three more right-wing parties (Liberal, National, ONP), which would seem to be a factor tending to give them a firmer support base.

At both elections, we also found a rough clustering of voters into two camps: one (Greens, Australian Democrats, ALP) more left-wing and postmaterialist (or postmodern) and the other (Liberal, National, ONP) more right-wing and less

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postmaterialist/postmodern. This finding gives added significance to the question of whether or not the coalition parties should direct high-order preferences towards ONP. This clearly requires very careful consideration on the part of the Liberals and Nationals and also might be seen to have a bearing on another related issue, that of whether the Liberals and Nationals should formally amalgamate.

In tactical terms, the parallels between the two camps are not complete. The ALP is not the most left-wing of its 'cluster', whereas both the Liberals and Nationals are more right-wing than ONP. This places ONP in a different position from the Greens, for example, since ONP has the potential to act as a 'bridge' between the ALP and the coalition parties.

Our analysis is also relevant to debates over the positioning of the Australian Democrats, since the location of the main density of voters in the two-dimensional attitudinal space does not seem conducive to the long-term presence of two parties to the left of the ALP. However, regardless of the debates about where particular parties should position themselves one thing that is clear is that the strategic complexity of the Australian party system has increased and that future federal politicians seem certain to be condemned to "live in interesting times."

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Notes

1. The 2001 Australian Election Study had a completed sample size of 2010 respondents. The data are available from the Social Sciences Data Archives (<http://ssda.anu.edu.au>) at the Australian National University (SSDA Study Number 1048).
2. Although the Liberals and Nationals ran joint tickets in some states, AES respondents in those states were able to (and did) identify themselves as having voted for the separate parties.
3. Using multi-variable indices helps in dealing with issues arising from missing data. We used imputation of missing data, with very similar results being obtained from different imputation methods.
4. Evidence in support of this is provided by the facts that almost all of the 25 items have significant loadings on the first principal component, and that this component by itself explains 24 per cent of the total variance.
5. Reliability coefficients for the various indices were as follows: Left-Right Economic (0.65); Combined Postmodern (0.84); PERMIS (0.57); IMMIG (0.81); ENV (0.85); AB (0.81); EEO (0.70), DEFENCE (0.64), PLURAL (0.74).
6. AIC, "Akaike's Information Criterion" is an indicator of goodness of fit that is widely used to compare rival models if they differ only in the choice of explanatory variables. AIC consists of the model deviance penalised by adding twice the number of parameters in the model.
7. Also see the appendix for an odds ratio-based presentation of the model C results.
8. The contour plots are based on bivariate normal kernel density estimates smoothed using locally weighted regression. For the former, see the software associated with Venables and Ripley (1999).

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Appendix

Postmaterialism indices

One of Inglehart's two materialism-postmaterialism indices (used in the earliest research) is based on a four-item battery; the other index is based on a twelve-item battery, which consists of 3 separate ranking exercises, the second of which is effectively the four-item battery (Inglehart 1997: 355). Each of the ranking exercises is prefaced with the question "There is a lot of talk these days about what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? And which would be the next most important?"

The options for the first question are: "maintaining a high level of economic growth; making sure that this country has strong defence forces; seeing that people have more to say about how things are done at their jobs and in their communities; trying to make our cities and countryside more beautiful".

The options for the second question (which is effectively the four-item battery) are: "maintaining order in the nation; giving people more say in important government decisions; fighting rising prices; protecting freedom of speech".

The options in the third question are: "having a stable economy; progress towards a less impersonal and more humane society; the fight against crime; progress towards a society in which ideas count more than money".

From the twelve-item battery, a postmaterialism index is created from the number of the six options chosen which are postmaterialist rather than materialist – the distinction should be fairly obvious to the reader, except in the case of "trying to make our cities and countryside more beautiful", which Inglehart does not include on the side of postmaterialism because of (for him, disappointing, since it was designed to measure an element of postmaterialism) low correlation with the other postmaterialist options, apparently tapping instead into fears about urban crime. Consequently, Inglehart does not include this item in his postmaterialist index, which thus ranges from zero (completely materialist) to five (chose all the available postmaterialist options).

Odds ratio changes presentation of Model C

An alternative presentation of the results of multinomial logistic regression models is based on odds ratios. Since this involves comparisons of all pairs of parties, it generates large sets of numbers and so we only give such a presentation for our most complex model (C).

The following table shows, for each pair of parties, the proportional increase in the voting odds for an increase of 0.1 in the indicated index. Two examples illustrate how the table can be interpreted: first, moving 0.1 along the economic index to the right will increase the odds of voting Liberal rather than Labor by about two and one quarter-fold (2.24 times) over what they would have been otherwise; second, moving 0.1 in the postmodern direction of the permissiveness index will reduce the odds of voting Liberal rather than Green to three-quarters (0.75 times) what they would have been otherwise.

	Left-right	PERMIS	IMMIG	ENV	AB	EEO
Lib/ALP	2.24	0.99	1.16	1.04	0.85	0.87
Lib/Nat	1.02	1.12	1.07	1.10	0.97	0.97
Lib/Dem	1.64	0.83	0.87	0.83	0.80	0.88
Lib/Grn	1.93	0.75	1.01	0.60	0.71	0.96
Lib/ONP	1.58	0.94	1.37	0.94	1.19	1.05
ALP/Nat	0.46	1.13	0.92	1.06	1.14	1.12
ALP/Dem	0.73	0.83	0.74	0.80	0.94	1.02
ALP/Grn	0.86	0.76	0.87	0.58	0.84	1.10
ALP/ONP	0.70	0.94	1.18	0.90	1.40	1.20
Nat/Dem	1.60	0.74	0.81	0.75	0.82	0.91
Nat/Grn	1.89	0.67	0.95	0.55	0.73	0.99
Nat/ONP	1.54	0.84	1.28	0.85	1.22	1.08
Dem/Grn	1.18	0.91	1.17	0.73	0.90	1.08
Dem/ONP	0.96	1.13	1.58	1.13	1.50	1.18
Grn/ONP	0.82	1.25	1.35	1.56	1.67	1.09

Alternative approach to modelling attitudes and vote

Instead of modelling how Senate vote depends on the attitudes measured by the various indices, we could consider a reverse model where the response vector consists of the attitudes on the various scales (we use the same ones as in model C in the text, and add the defence/security and pluralism scales in order to see whether attitudes about the immediate electoral context reveal other differences), and vote is instead the explanatory variable in the model. For descriptive purposes, this approach has the advantage of countering possible criticisms of the specification of our models of vote.

Using seemingly unrelated regression (SUR) shows a statistically significant overall relationship between senate vote and score on each index. In table 8 below, the position of each party shows how their score, on average, differs from that of the Liberal party, chosen as a reference point.

Table 8: Attitudinal locations of Senate voters for different parties

	Left-Right	PERMIS	IMMIG	ENV	AB	EEO	DEF	PLUR
Reference(Lib)	0.6343	0.3835	0.4308	0.6514	0.3704	0.5985	0.3527	0.3710
<i>se</i>	0.0061	0.0060	0.0080	0.0073	0.0077	0.0071	0.0064	0.0074
ALP	-0.1916	0.0396	0.0022	0.0413	0.1057	0.0693	0.0497	0.0490
<i>se</i>	0.0091	0.0089	0.0119	0.0108	0.0115	0.0105	0.0095	0.0110
Nat	0.0007	-0.0226	-0.0228	-0.0305	-0.0032	0.0007	-0.0272	-0.0102
<i>se</i>	0.0195	0.0192	0.0257	0.0234	0.0248	0.0227	0.0205	0.0238
Dem	-0.1787	0.1257	0.1569	0.1169	0.2021	0.1242	0.1587	0.1852
<i>se</i>	0.0139	0.0137	0.0183	0.0166	0.0176	0.0161	0.0146	0.0169
Grn	-0.2597	0.1796	0.1590	0.2057	0.2791	0.1432	0.2240	0.2416
<i>se</i>	0.0153	0.0150	0.0201	0.0182	0.0193	0.0177	0.0160	0.0185
ONP	-0.0924	-0.0050	-0.1389	0.0426	-0.0820	-0.0394	-0.0296	-0.0876
<i>se</i>	0.0179	0.0176	0.0235	0.0214	0.0226	0.0207	0.0187	0.0217

For the most part, this table shows similar features to those seen in the multinomial logistic model C. There are a few differences that result from the differing logic of the two approaches: whereas the coefficients in the multinomial model measure the impact on voting of the attitudes measured by each index when the other indices are controlled for, no such controls occur in the reverse model estimated by SUR.

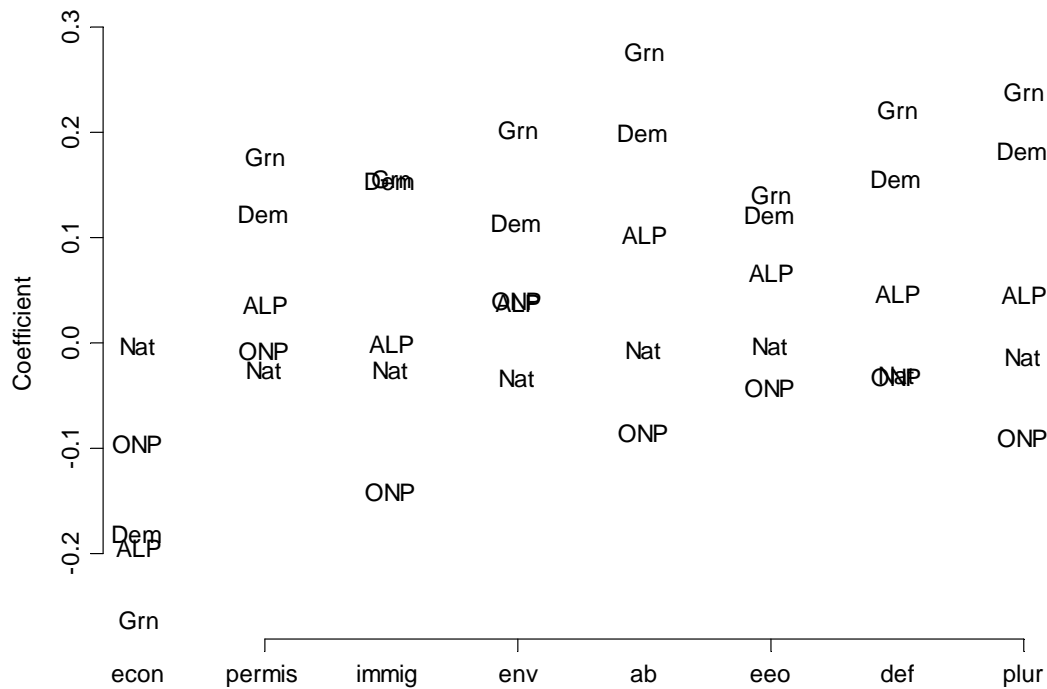
The two most significant differences relate to ALP and Green voters and the IMMIG index. In the case of the former, whereas the multinomial model showed that having more

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postmodern views on immigrants significantly reduced the chances of voting ALP rather than Liberal (once other attitudes were controlled for), the SUR modelling shows no significant difference between ALP and Liberal voters in attitudes towards immigrants. In the case of the latter, while the multinomial model showed no significant effect of attitudes towards immigrants on voting Green rather than Liberal, (once other attitudes were controlled for), the SUR modelling shows Green voters to have significantly more favourable attitudes towards immigrants than those of Liberal voters.

In both instances, it is the effect of controlling for the other attitudes that makes the difference: for example, although Green voters overall are more favourable towards immigrants than Liberal voters, the extent of this is smaller than would be expected on the basis of their other attitudes.

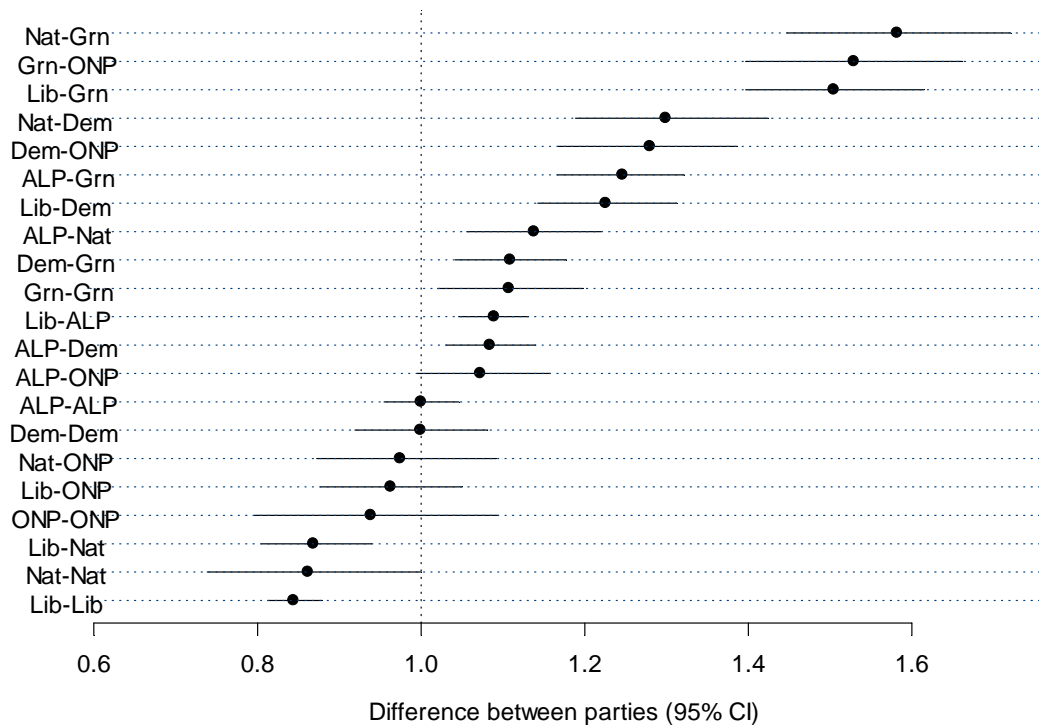
The SUR results can also be presented graphically (see the Appendix). Despite their apparent contextual importance at the 2001 election, it is clear that the defence and cultural pluralism indices add little to the picture of party competition obtained from the other attitudinal sub-indices. The ordering of party voters is, in almost all cases, Green; Democrat; ALP; Liberal/National; ONP.



It is possible to calculate the distance between any two individuals in this two-dimensional (left-right economic and postmodern attitudes) space, and we can use this as the basis for giving another measure of attitudinal consistency within parties and also of distances between parties. Figure 7 shows the mean distances between individuals voting for one party and individuals voting for another party. To make interpretation simpler, these mean distances are standardised to make the ALP-ALP within-group mean distance equal to one. The horizontal lines in Figure 7 show 95% confidence intervals that give some idea of the statistical uncertainty of any interpretation.

Figure 7
Mean distance between individuals in different Senate vote groupings 2001

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Note: the central dots are the estimated mean distances between groupings and the horizontal lines show 95% confidence intervals for the mean distances (based on 2000 bootstrap repetitions)

Comparison of the intra-party average distances shown in Figure 6 confirms the visual impression obtained earlier from Figure 5 that voters for the more right-wing parties (Liberals, Nationals and ONP) are more ideologically coherent than those voting for the other parties (ALP, Democrats, Greens). Presumably, this must help to provide a more secure core of voters for these parties.