

# TOWARD A COMMON DIMENSIONALITY IN WEST EUROPEAN POLICY SPACES

*Paul V. Warwick*

## ABSTRACT

Research on democratic government is currently hampered by the fact that, while theoretical work usually hypothesizes multidimensional policy spaces, empirical researchers have failed to reach a consensus on which dimensions characterize West European policy spaces (apart from the left-right dimension). In this paper, I present evidence that the expert ratings of political parties from Laver and Hunt's (1992) expert survey and the coding of party manifestos undertaken by the Comparative Manifestos Project both suggest the existence of three common dimensions in West European democratic systems: left-right, 'social control', and post-materialism. I also show that these dimensions are not characteristic of just a few systems but rather divide parties significantly in most or all of the 16 countries examined.

KEY WORDS ■ democratic systems ■ policy dimensions ■ policy spaces ■ West Europe

One of the most active areas of research on liberal democracies concerns the compositions, policies and survival prospects of coalition governments in West European parliamentary systems. This literature has been profuse both in empirical studies exploring possible causal influences on coalition behavior as well as in theoretical formulations, particularly formal theoretical formulations, designed to account for coalition outcomes. Despite this activity, how much we know with reasonable certainty remains unclear: the empirical work often focuses on hypotheses and relationships rather than on fully developed theories, while the theoretical literature tends to operate at a level of complexity and abstraction that makes empirical testing difficult. Ideally, what the topic needs is a stronger linkage between theory and testing.

Nowhere is the gap between theoretical and empirical work more

pronounced, and the need to redress it more evident, than with respect to the ideological or policy spaces that characterize parliamentary systems. At the theoretical level, much of the recent effort has been devoted to accounting for coalition behavior in multidimensional policy spaces. The focus on multidimensional spaces derives from the fact that, if policy spaces are one-dimensional, the Median Voter Theorem (Black, 1957) suggests that we ought to see policy dominance by the party containing the median legislator (the median party). In fact, the theorem implies that there would never be a need for governing coalitions to form at all since, even without controlling a parliamentary majority, the median party should always get its preferred policies enacted.<sup>1</sup> Clearly, this does not often happen in West European parliamentary systems: in the absence of a majority party, coalitions typically take office and their programs are not carbon copies of those of the median parties.<sup>2</sup>

Multidimensional policy spaces are therefore a reasonable assumption in most if not all of these systems. Some measurement efforts, moreover, have sustained the assumption of multidimensionality. For example, the pioneering work of the Manifestos Research Group (MRG) on post-war party manifestos in several West European systems (Budge et al., 1987) produced two policy dimensions for each of them. The problem is that there is relatively little scholarly agreement on these or any other proposed higher dimensions. This became very evident when Huber and Inglehart (1995: 82–3) conducted their expert survey of party positions in various countries: they found a surprising lack of consensus among their respondents, not only across countries but also within them, on relevant dimensions beyond the first or left–right dimension. Indeed, in only three European countries (Norway, Sweden, Switzerland) did more than one-third of country experts agree on the identity of a second dimension.

The lack of consensus on policy dimensions beyond the left–right dimension cannot be overcome simply by letting the data decide the issue. The empirical search for underlying dimensions is normally undertaken by data reduction techniques, such as factor analysis or multidimensional scaling, that incorporate a substantial risk of generating artifactual results. The danger is apparent in the MRG's initial analyses of party manifestos (Budge et al., 1987). The group's decision to retain two dimensions per system was essentially an arbitrary one: the factor analytic procedure it employed will normally generate as many factors as there are input variables. Granted, if most of the variance had been explained by a relatively small number of common factors (say, two or three), a strong case could have been made that they alone are sufficient to characterize the policy spaces of these countries. The manifestos data, however, do not possess this type of structure.<sup>3</sup> Moreover, the decision to perform a separate factor analysis for each country pushes the results in two directions that may not be warranted or desirable: it tends to produce country-specific rather than common or cross-national factors and, even where common factors are produced, they may not

accurately capture cross-national differences in the degree of party-system polarization. For theories in which outcomes are influenced by this consideration (e.g. Crombez, 1996; Sened, 1995, 1996), the latter trait can be particularly disadvantageous.

We thus face a vexing problem in the study of parliamentary systems.<sup>4</sup> If theoretical work is (justifiably) focused on multidimensional policy spaces, and if empirical researchers can identify and measure just one dimension with reasonable confidence, then it becomes extremely difficult to evaluate extant theories and to develop better ones. The consequence of this state of affairs is likely to be an unchecked accumulation of alternative explanations. The current popularity of formal models tends to accentuate this propensity, for many of the efforts that fall under this rubric are intended simply to show that various alternative sets of assumptions could lead to outcomes that correspond, roughly, to common features of reality; in other words, that they can generate minority, minimum winning, and oversized coalitions, relatively unstable as well as relatively stable coalitions, and so forth. With sufficient human inventiveness, it should be possible to come up with a very large collection of alternative assumption sets that all have this property. What is needed in order to contain and direct this process is the capacity to test theories rigorously and eliminate alternatives that are found wanting. For this to occur, however, good measurement of the basic raw material of most coalition theories – the policy positions of the parliamentary parties – is essential.

The problem posed by a lack of solid knowledge concerning the fundamental nature of West European policy spaces is thus a serious one. Nevertheless, the case I shall put forward in this paper is that the problem, while formidable, is not as intractable as it might appear. In fact, I will present evidence that three fundamental dimensions underlie both expert ratings of party positions and party manifestos in West European democratic systems. I shall demonstrate, moreover, that these dimensions represent axes of significant divergence among parties in almost all of the 16 systems to be examined here.

### **Expert Positions and Dimensions**

I begin the analysis with the verdicts of experts. There have been a number of expert renderings of party positions, some of them unidimensional in focus and others multidimensional. Sticking to just a single left–right dimension is certainly the safer way to go, since measurement reliability and validity seem to be well in hand. With respect to reliability, Huber and Inglehart (1995: 79) found that the left–right party positions derived from their survey of experts correlate very highly with those generated by Castles and Mair's (1984) expert survey conducted a decade earlier. Previously, Warwick (1994: 54) reported that the Castles–Mair party positions themselves correlate

strongly with party positions on Dodd's (1976) 'economic conflict' dimension, which was produced a decade before that. Lastly, Laver and Hunt (1992: 41) noted that party positions regarding public ownership, as estimated by their expert respondents, are strongly related to the Castles/Mair positions (among others). Expert-based party positions on the left-right dimension thus appear to be highly reproducible, especially when due allowance is made for changes over time. External validation for these estimates comes from evidence that they correlate very highly with party positions as inferred from the left-right self-placements of party supporters. Gabel and Huber (2000: 8), for example, report that the Huber/Inglehart and Castles/Mair estimates correlate at  $r = 0.88$  or above with mean left-right positions of party supporters, as revealed in the Eurobarometer and World Values surveys. Clearly, there is ample reason to believe that we have a very good empirical handle on the left-right dimension in West European politics.

The difficulties emerge when we attempt to go beyond that dimension. Dodd's (1976) economic conflict dimension was one of four dimensions he developed for West European party systems, the others being a clerical-secular dimension, an antisystem-prosystem dimension and various country-specific dimensions. This selection of dimensions and the placement of parties on them derives, however, from his own reading of the literature on European party systems and, apart from the economic conflict dimension, there is very little in the literature against which to evaluate his work. Laver and Hunt (1992) attempted to move beyond their own judgments by soliciting evaluations from a large sample of experts and by allowing their respondents to suggest policy issues relevant for their countries; nevertheless, the final selection of eight general issues appears to have involved substantial input from the authors.<sup>5</sup> The fact that Huber and Inglehart's (1995) attempt to identify a second dimension through an open-ended question failed to elicit meaningful scholarly consensus, even within individual countries, suggests that this degree of guidance was probably necessary.

Although Laver and Hunt's approach is 'guided', it has one particular feature that opens the door to further investigation. The feature in question is their adoption of a set of *issues* rather than a set of dimensions. Generally speaking, when we think of a policy dimension such as the left-right dimension, we think of an organizing device that subsumes a number of more specific issues. In other words, issues are the smaller pieces from which ideological dimensions are constructed. In this case, we have eight such pieces, which concern public expenditures, public ownership, relations towards the Soviet Union (the survey was conducted in 1989), the permissiveness of social policy, clericalism, urban interests, decentralization of decision-making and environmentalism. While there is no reason to believe that this list encompasses all the important political issues in West European systems - Laver and Hunt, in fact, reported positions for a few country-specific issues as well - it does appear to be relatively wide-ranging. A

valuable first step towards identifying common policy dimensions in these systems might therefore be to determine whether this set of issues can be organized into a smaller number of policy dimensions.

Party positions on each of the eight issues were scored on a 20-point scale, with the endpoints representing opposite perspectives on the issue.<sup>6</sup> Given the precision of the scale and the likelihood that the expert respondents would have interpreted it as an interval scale, it is reasonable to apply a metric method of data reduction to these data. The statistical method that will be used here is principal components analysis (PCA).<sup>7</sup> The method will be applied to the mean estimated positions of party leaders for parties in 16 West European democracies.<sup>8</sup> All parties in these systems were included except for those for which manifesto data are not available. The latter are excluded in order to maintain comparability with the analysis of the manifesto data undertaken in the next section; fortunately, these exclusions turn out not to affect the nature of the results in any significant way. All told, some 107 parties are included in the analysis.

As indicated earlier, in the extreme a technique such as PCA will produce as many factors or components as there are input variables. Data reduction, that is, the emergence of underlying common dimensions, can only be said to have taken place if a relatively small number of components (dimensions) turns out to account for a substantial portion of the original variables. This is precisely what occurs here: the principal components analysis of these data generates three components that together account for 89 percent of the variances of the original eight variables. These three components, moreover, appear to comprise a comprehensive list; if a fourth component were extracted, it would account for just 4.1 percent of the variance and would load none of the issues highly (above 0.4 in absolute value).

The more important matter, of course, is whether the analysis has produced interpretable components. Since we are concerned with identifying dimensions of political conflict that are independent of the left–right dimension, an orthogonal (varimax) rotation was applied to the initial solution.<sup>9</sup> The resulting loadings are presented in the top part of Table 1.

The pattern of loadings shown in Table 1 is surprisingly clear-cut. The first component, which has very high loadings (above 0.8) for public expenditures, public ownership and relations with the Soviet Union, appears to approximate a standard left–right dimension. In fact, all of these items were chosen by Laver and Hunt to capture aspects of that dimension. The clericalism, social-policy permissiveness and urban interests issues load highly on the second component, suggesting that they are aspects of an underlying dimension which has to do with what I shall term ‘social control’.<sup>10</sup> The essence of this dimension, I suspect, is whether society should impose norms or rules to control individual behavior or, alternatively, accommodate as much personal freedom and individualism as possible. This interpretation may seem clearer with the clericalism and permissiveness items than with the urban interests item, but it should be remembered that the opposition

**Table 1.** Principal components analysis of Laver and Hunt's eight cross-national issues

	<i>Rotated loadings</i>		
	<i>First component</i>	<i>Second component</i>	<i>Third component</i>
<i>A. Orthogonal (Varimax) Solution</i>			
Public expenditures (taxes vs. spending)	<b>.87</b>	.33	.24
Public ownership	<b>.89</b>	.37	.11
Friendliness towards the Soviet Union	<b>.84</b>	.30	.16
Permissiveness of social policy	.34	<b>.83</b>	.36
Clericalism	.39	<b>.83</b>	.18
Urban interests	.25	<b>.88</b>	-.16
Environmentalism vs. growth	.48	.11	<b>.80</b>
Decentralization of decision-making	.04	.06	<b>.95</b>
<i>B. Oblique (Oblimin) Solution – Pattern Matrix</i>			
Public expenditures (taxes vs. spending)	<b>.92</b>	.06	.04
Public ownership	<b>.94</b>	-.07	.08
Friendliness towards the Soviet Union	<b>.90</b>	-.02	.02
Permissiveness of social policy	.04	.29	<b>.84</b>
Clericalism	.14	.10	<b>.82</b>
Urban interests	-.01	-.22	<b>.94</b>
Environmentalism vs. growth	.43	<b>.72</b>	-.05
Decentralization of decision-making	-.12	<b>.98</b>	.06

Input data consist of party positions in 16 European countries, as rated in Laver and Hunt's (1992) expert survey.

of city and countryside often contains strong religious or moral overtones, as in Norway. Finally, the two items loading highly on the third component, decentralization of decision-making and environmentalism, point to its interpretation as a materialism–post-materialism dimension.<sup>11</sup>

The nature of the pattern produced here is, to be sure, a function of the issues selected by Laver and Hunt. For all we know, a different set of issues would have produced a different pattern. Whether the three dimensions can be taken as fundamental to political competition in these systems will be explored in the next section with the aid of party manifestos data. For the moment, however, two points should be noted. First, the three-dimensional configuration was not 'manufactured' by Laver and Hunt. While they did choose some of the issues to reflect aspects of the left–right dimension, they had four items in mind (the three that load on the first component plus social-policy permissiveness). Moreover, the remaining four issues were selected on the basis of the choices of respondents, rather than from any a priori rationale. Laver and Hunt, in short, did not select these eight issues so as to produce the three dimensions that emerge so clearly in Table 1.

The second point is that the policy differences represented on these dimensions appear to be surprisingly cross-national. This can be seen by examining the degree of dispersion or spread in the principal component (factor)

scores for the parties in the various systems. One method of assessing the degree of dispersion in a party system is to calculate the standard deviation of the scores for the parties in that system on each of the dimensions; such a procedure, however, risks over-estimating the property in question by not taking party sizes into account. For instance, a party system consisting of two large parties located in the center of a given policy dimension and two very small parties located at its extremes might appear to be quite dispersed if all four parties are counted equally; if their relative sizes are taken into account, however, the party system would look a good deal more concentrated. To avoid exaggerating the degree to which party systems are polarized on these dimensions, each party's score has therefore been weighted by its mean legislative 'seat share' (proportion of legislative seats) during the observation period.<sup>12</sup> The standard deviations were then calculated, by dimension and country, on these weighted scores and reported in Table 2.

In order to evaluate the levels of party-system dispersion shown in Table 2, some standard of comparison is needed. An obvious candidate is the degree of dispersion across the sample as a whole, which is shown for each dimension at the bottom of the table. If there is as much diversity in party positions within individual countries on a given dimension as there is across the entire sample, then within-country standard deviations should equal (or exceed) the overall standard deviation for that dimension. This, of course,

**Table 2.** Party system dispersion along LH components

<i>Country</i>	<i>Standard deviations of party scores on</i>		
	<i>First component (left-right)</i>	<i>Second component (social control)</i>	<i>Third component (post-materialism)</i>
Austria	.44	1.03	.88
Belgium	.93	1.44	.55
Britain	.99	.35	.65
Denmark	1.11	.88	1.10
Finland	.69	1.29	.83
France V	.88	.76	.83
Germany	.74	.82	.48
Greece	.79	.26	.33
Ireland	.40	.59	.35
Italy	.83	1.37	.90
Luxembourg	.89	1.46	.87
Netherlands	.87	1.15	.43
Norway	1.10	1.18	.92
Portugal	1.06	.63	.44
Spain	.48	.92	.77
Sweden	.90	.91	1.10
Entire sample	.83	.95	.77

Entries are standard deviations of party scores (positions), weighted by parliamentary seat shares, on the three LH principal components (see Table 1).

sets the bar very high: it is not at all clear that one should expect parties within a single system to have as much dispersion as the set of parties in all 16 countries in order for a dimension to be considered 'significant' in that system. Nevertheless, even by this standard, most countries are characterized by substantial differences in party positions on all three dimensions. In fact, there are only five instances (out of 51) where the standard deviation of party scores within a country is not at least one-half as great as the overall standard deviation. This suggests that we may be dealing with dimensions that have substantial cross-national relevance.

### **Party Manifestos and Policy Dimensions**

We have seen that a very clear-cut three-dimensional pattern emerges from the analysis of expert placements of parties on Laver and Hunt's eight policy issues. While the patterning is striking, it is important to bear in mind that it is contingent on both the choice of issues and the accuracy of the expert assessments of party positions. The evidence that experts and voters tend to agree, on average, about party locations on one of the dimensions gives us some confidence in the party positions in general, but there is no similarly compelling evidence to validate the choice of issues. In this section, we escape the constraints of researcher-selected issue domains and expert assessments of party positions by examining the dimensional structure of party manifestos.

The Comparative Manifestos Project (CMP) data set is the result of a collaborative effort by the Manifestos Research Group to code the electoral manifestos of most or all parties in all post-war elections in various liberal democracies, most notably the West European democracies. The 1997 version of the CMP data set is the one that will be used here. The methodology adopted by the MRG consists of recording the proportions of manifestos devoted to each of 54 (later 56) common categories (see Budge et al., 1987: 456–67 for details). The set of parties included in the CMP data does not correspond exactly with that in the LH data because (1) some smaller parties are not included in the CMP data set, and (2) the CMP data extend over the entire post-war period, whereas Laver and Hunt collected data only for parties in existence in 1989. The practice of performing the analysis on the 107 parties available in both data sets will be continued here; as before, this restriction does not affect the tenor of the results significantly.

The CMP data have one particular property that makes them very different from the LH data: the issue variables do not inter-correlate highly. This may be because parties spread their attention across a wide range of issues in their manifestos rather than focusing on just a few related priorities, or it may simply reflect the content analysis methodology, which identifies a large number of distinct issues and registers their importance as indicated by the amount of attention they receive.<sup>13</sup> In any case, the low levels of

inter-correlation tend to inhibit the emergence of common dimensions that can account for large amounts of variance.

Various approaches have been adopted to deal with this problem. The initial analyses (Budge et al., 1987) applied a two-stage factor analytic procedure to each country in which issues in each of seven issue 'domains' were analyzed separately and up to two factors from each of those analyses were retained as input into a higher-level factor analysis. A more recent alternative is to sum related coding categories in order to reduce the number of distinct issues under analysis. Budge and Laver (1992a: 26–9), for example, used exploratory principal components analyses to identify issues that loaded together consistently in a number of countries; by combining these items, they were able to reduce the number of variables to just 20. After further analyses revealed that 10 of these 20 grouped variables related to the left–right dimension, they created a measure of left–right position by subtracting the sum of the left-wing items from the sum of the right-wing items. Finally, they replaced the 10 left–right items with this new variable and re-did the principal components analyses. Although all the analyses were conducted on a country basis, this procedure enabled Budge and Laver to isolate two common dimensions, the second of which they identified as a 'new politics' dimension.

Both of these methodologies have sensible rationales, but neither can be said to have laid to rest the issue of how best to define and measure policy spaces with the CMP data. The first-mentioned methodology can be questioned both with respect to the appropriateness of the two-stage procedure employed, particularly the decision to analyze issues within each domain separately in the first stage, as well as with respect to the decision to retain no more than two factors at each stage; in addition, the production of country-specific dimensions may be unsuitable for some theoretical purposes, as we have seen. The latter procedure produces two cross-national dimensions, but as the authors note of the 'new politics' dimension, 'References to it comprise much less of the total manifesto than references to the variables comprising the left–right scale, however, while its interpretation is potentially ambiguous in certain countries' (Budge and Laver, 1992a: 29).

At least as a first stab at the analysis of the manifestos data, it would be desirable to impose as few constraints or data manipulations as possible. The fact that the CMP data do not yield large principal components does not mean that they yield uninterpretable ones, but it does mean that it may be difficult to know how many components to retain for interpretative and analytic purposes. Indeed, if the CMP data for the 107 parties are subjected to a principal components analysis, the 56 variables into which the manifestos have been coded yield up no fewer than 21 components with eigenvalues greater than 1 (the standard statistical criterion for retaining factors).<sup>14</sup> These 21 dimensions, moreover, account for not much more than one-half (58.4 percent) of the variances of the original variables; to account for, say, three-quarters of the total variance in the data would require a 32

dimensional space. Although it is possible to perform statistical analyses on 21 (or more) dimensional spaces – the authors of the Laver and Budge (1992) volume retain their 20 grouped variables as distinct dimensions in some of their analyses – one can legitimately question whether it is realistic to conceive of actors in West European party systems as navigating their way through policy spaces of this complexity.<sup>15</sup>

A more realistic approach might be to accept that the CMP data under-represent the degree of issue cohesiveness and use the results of the previous section as a guide in determining dimensionality. In the analysis of the LH data, we found that eight issue scales could be readily reduced to three underlying dimensions. Is it possible that these same dimensions are also present in the CMP data? Indeed, could they be the three largest dimensions in these data? To see if this is the case, the first three components from the principal components analysis of the CMP data were retained and subjected to a varimax rotation (as before). Table 3 shows the results.

To keep the presentation manageable, Table 3 lists the loadings of just

**Table 3.** Principal components analysis of party manifestos (CMP) data

	<i>Orthogonally rotated loadings</i>		
	<i>First component</i>	<i>Second component</i>	<i>Third component</i>
Military: Positive	<b>.41</b>	.07	-.07
Military: Negative	-. <b>43</b>	-.02	.17
Governmental efficiency	<b>.41</b>	.07	.12
Free enterprise	<b>.55</b>	-.26	.02
Incentives	<b>.41</b>	-.06	-.18
Nationalization	-. <b>47</b>	-.08	-.05
Economic orthodoxy	<b>.46</b>	-.34	-.02
Social justice	-. <b>42</b>	.03	-.09
Law and order	<b>.45</b>	.12	.09
Labor: Positive	-. <b>52</b>	-.14	.10
Internationalism: Positive	-.03	<b>.50</b>	.07
Decentralization: Positive	.11	<b>.44</b>	-.07
Technology and infrastructure	.20	<b>.44</b>	-.28
Environmental protection	-.02	<b>.55</b>	.15
Arts, sport, leisure and media	.10	<b>.59</b>	-.09
Education: Positive	.07	<b>.42</b>	-.31
Underprivileged minority groups	-.03	<b>.40</b>	.08
Anti-imperialism	-.22	.07	<b>.41</b>
Democracy	-.28	.08	<b>.50</b>
Productivity	.03	-.16	-. <b>43</b>
Marxist analysis	-.17	-.06	<b>.46</b>

Input data are the CMP data for 16 European countries in the post-war era. Although the analysis was performed on all 56 coding categories, only those with loadings of at least 0.4 in absolute value on one of the first three components are listed here.

those variables that have loadings of 0.4 or greater on at least one rotated component; these variables should provide the surest guides to interpreting the components. For reasons already discussed, we should not be particularly concerned with the fact that the three components together explain a relatively small amount of issue variance (14.9 percent). What matters is whether the three components are interpretable and, if so, which interpretations are warranted. Let us begin with the first component. The issues loading most strongly with positive signs involve favorable mentions of the military, the need for government efficiency, free enterprise, incentives (for business, the young, etc.), economic orthodoxy, and law and order. At the negative end of the component are nationalization, social justice, unfavorable mentions of the military and favorable references to labor. These sets of items appear to consist of standard right-wing and left-wing concerns, respectively; indeed, 8 of the 10 items were also included in Budge and Laver's left-right scale, discussed above. It seems likely, then, that this component captures the fundamental left-right dimension in European politics.<sup>16</sup>

The second component proves to be as readily interpretable as the first. The two strongest loading items are environmental protection and favorable mentions of the arts, leisure activities and the media. Concerns for the state of the environment and for aesthetic satisfaction are commonly considered to be aspects of a post-materialist value orientation. The other items with strong loadings on this component – positive mentions of internationalism, education and decentralization of decisions, as well as technology/infrastructure and underprivileged minorities – are also consistent with various aspects of post-materialism, in particular its commitment to peace, human rights, human development and participation. This component, then, may plausibly be interpreted as representing a materialism/post-materialism dimension.

The third component is not so readily labelled. Of the four items with strong loadings on it, two seem to have something to do with liberal or libertarian values: anti-imperialism and democracy. The other two items, however, are more puzzling; they consist of a positive loading for Marxist analysis and a negative loading for productivity. Moreover, certain items that one might have expected to figure in any dimension that involves social control, e.g. support for the national way of life and for traditional morality, do not play a large role in this component.

Overall, the pattern of loadings in Table 3 suggests that a three-component solution of the CMP data bears a substantial degree of resemblance to the three-component solution that emerged so clearly in the analysis of the LH data. The resemblance is particularly strong in the cases of the left-right and post-materialism dimensions, which emerge in both data sets in a relatively unambiguous way. Whether the other LH dimension, which I labelled 'social control', has anything to do with the remaining CMP dimension is a good deal less clear; the issues that load on the latter

tell us very little about its fundamental nature. Nevertheless, there is some reason to believe that the skepticism that has been expressed about the suitability of the manifestos data for generating policy dimensions and party positions may not be warranted. In the next section, the interrelationship between these two principal components solutions will be examined more closely in order to determine precisely how well they correspond.

### **Comparing Expert and Manifesto Dimensions**

The task before us now is to assess the degree of similarity between the principal component solutions that emerged from the analyses of the two sets of data. This task will be undertaken using the principal component (factor) scores for the parties on each set of principal components. Before we can do this, however, we must first deal with a basic dissimilarity between the data sets. For each party under examination, the CMP data set contains a separate coding of the manifestos issued at every post-war election in which the party participated. This means that most parties appear in the data two or more times (in fact, the 107 parties appear a total of 897 times). In contrast, each party appears just once in the LH data, its issue positions being those estimated for it at just one time-point, the time of the survey. To relate the two sets of party positions to each other, the CMP data must therefore be aggregated so as to produce a single score for each party on each CMP dimension. This will be done by calculating mean scores for each party across the elections it participated in.<sup>17</sup>

Aggregating the CMP data across time comes with a cost, to be sure: we lose the changes that have taken place in party positions over time. For this reason, it would not be an appropriate procedure for generating party positions in investigations that seek to incorporate this type of information. In the present case, however, we wish merely to assess the overall correspondence of the two data sets. An alternative strategy would be to discard most of the CMP data and use only the data derived from manifestos issued around the time of the Laver and Hunt survey. Gabel and Huber (2000: 98) found, however, that matching time-periods in this fashion actually weakens the correspondence between CMP-based and expert-based measures.<sup>18</sup>

The analysis will thus be conducted with six new variables, three of which are the scores for the parties on the LH dimensions and the other three, the mean party scores on the CMP dimensions. These six variables will be subjected to a second-stage PCA. The objective is to determine whether essentially the same three-dimensional space emerges from the six variables as appeared in the separate analyses of the two sets of data. This would be signaled by the generation of three components that (1) substantially account for the variances in the six variables and (2) are patterned such that each component is largely composed of corresponding variables from the first-stage analyses. The results of this analysis are presented in Table 4.

**Table 4.** Second-stage principal components analysis of LH and CMP components

	<i>Orthogonally rotated loadings</i>		
	<i>First component</i>	<i>Second component</i>	<i>Third component</i>
LH First component (left–right)	<b>.95</b>	–.06	–.06
CMP First component (left–right)	<b>.93</b>	–.04	.20
LH Third component (post-materialism)	–.06	– <b>.84</b>	.20
CMP Second component (post-materialism)	–.16	<b>.80</b>	.12
LH Second component (social control)	.13	.15	<b>.80</b>
CMP Third component (?)	–.06	.23	– <b>.78</b>

The principal components solution reported in Table 4 is remarkably clean in all important respects. For one thing, the three retained components account for a substantial 76.7 percent of the variance in the original six variables (additional components, moreover, all have eigenvalues less than 1). More important, the pattern revealed in the rotated loadings matches expectations very closely. The first component is composed primarily of the first components from the expert and manifesto analyses: their loadings are both above 0.9, while no other variable has a loading larger in absolute value than 0.16. Since each of those first-stage components was easily identifiable as a left–right dimension, it follows that this component can also be considered as representing that dimension. The same patterning occurs in the second component. It is dominated by the two first-stage components that were readily interpretable in terms of materialism/post-materialism. For this reason, it can also be plausibly interpreted in these terms. As for the remaining component in Table 4, it also shows strong loadings for just two variables, the social control dimension from the expert analysis and the third CMP component, whose nature was difficult to identify. The fact that they together define a single component in the second-stage analysis suggests that both partake of the same policy dimension.

Table 4 portrays the major finding of this paper, which is that a single three-dimensional policy space subsumes, in a clearly patterned way, both the first three CMP dimensions and the three dimensions that underlay Laver and Hunt’s eight policy issues. It is this close correspondence, plus the fact that three dimensions are sufficient to account satisfactorily for the Laver and Hunt issues, that justifies the retention of just three dimensions from the analysis of the CMP data; it also helps us to interpret the one CMP dimension whose nature was initially unclear.<sup>19</sup> Also consistent with a close correspondence between both sets of results is the tendency for the three CMP components, like their LH counterparts, to express significant diversity among parties in most of the countries examined. This can be seen clearly in Table 5, which presents the standard deviations of parties

**Table 5.** Party system dispersion along CMP components

<i>Country</i>	<i>Standard deviations of party scores on</i>		
	<i>First component (left-right)</i>	<i>Second component (post-materialism)</i>	<i>Third component (social control)</i>
Austria	.54	.52	.53
Belgium	.50	.59	.30
Britain	.86	.30	.21
Denmark	1.08	.50	.42
Finland	.73	.71	.62
France V	1.03	.60	1.15
Germany	.51	.42	.51
Greece	.47	1.05	.42
Ireland	.49	.45	.34
Italy	.39	.47	.64
Luxembourg	.64	.70	.60
Netherlands	.61	.51	.24
Norway	.87	.49	.47
Portugal	.52	.34	.94
Spain	.40	.16	.27
Sweden	.94	.58	.67
Entire sample	.73	.75	.72

Entries are standard deviations of party scores (positions), weighted by parliamentary seat shares, on the three CMP components.

(weighted by legislative seat shares) in each country on each CMP component. In just 8 of 51 instances is the standard deviation across parties in a country less than one-half the standard deviation for all parties in the sample.<sup>20</sup>

While the evidence presented thus far points to a strong resemblance between the analyses of the expert and manifesto data, it is appropriate to conclude the discussion with a couple of notes of caution. The first concerns the degree of independence among dimensions. All of the analyses undertaken to this point have specified independent or orthogonal dimensions. For the CMP data, the assumption of orthogonality turns out to have been a reasonable one. This can be seen by removing that restriction and allowing oblique or correlated components to be selected in the final rotation. If an 'oblimin' rotation is specified for the three components, the highest correlation coefficient is just 0.040 between the first and second components. In other words, allowing for correlated components in the CMP data produces a solution in which components remain virtually orthogonal.

This is not the case for the Laver and Hunt data. Here, the specification of an oblique (oblimin) rotation results in components that are much more highly inter-related. The most notable correlation occurs between the left-right and social control components ( $r = 0.597$ ). This association

probably emanates from the fact that the social control component incorporates party positions on clericalism and permissiveness, issues that have traditionally been linked to the Right and Left of the political spectrum, respectively. Similarly, the common tendency to see the Left as more sensitive to post-materialist issues is reflected in a sizeable correlation ( $r = 0.331$ ) between the left-right and post-materialism components. In addition, an examination of the rotated pattern loadings (shown in the lower part of Table 1) reveals that, notwithstanding the correlation between these components, the 'environment versus growth' issue still loads moderately well (0.43) on the left-right component, indicating that it is even more closely associated with the left-right scale. The only pair of components that are essentially independent of each other in the LH data are the social control and post-materialism components ( $r = 0.145$ ).

The experts thus see a good deal more association between these dimensions, and in particular between the left-right scale and both environmentalism and social control, than emerges in the analyses of party manifestos. For them, the left-right issue encompasses much of the other two dimensions, making it the dominant organizing principle.<sup>21</sup> It is tempting to treat the CMP data as the more objective sign-post in this matter and to conclude that the experts are over-estimating the degree of linkage among dimensions. This view cannot be sustained by the available evidence, however, since the lack of correlation among dimensions in the manifestos data may simply be a consequence of the low levels of inter-correlation among the CMP variables. As noted earlier, the latter could reflect nothing more than the way parties write manifestos or the way the MRG coded them.

The degree of correlation among the three dimensions thus remains to be determined. Its importance should not, however, be exaggerated. The inter-correlations among dimensions in the LH data are moderate at best. In consequence, the same three dimensions are produced with virtually equal clarity in both the oblique and orthogonal solutions (as a comparison of the top and bottom parts of Table 1 shows). Moreover, the correlations between party scores on corresponding components produced from the two solutions are all very high (above 0.9). This means that, for purposes of measurement, it does not make a great deal of difference whether components are conceived as correlated or independent.<sup>22</sup>

The second cautionary note concerns the simple correlations between party scores on corresponding components from the two data sets. Although party scores on the CMP and LH left-right dimensions are closely related to each other ( $r = 0.811$ ), this is not the case for the other two pairings of components. The correlation between scores on the LH and CMP post-materialism dimensions is fairly weak ( $r = -0.290$ ), as is that between scores on the LH and CMP social control dimensions ( $r = -0.379$ ). These modest levels of association, moreover, do not appear to be due to the fact that orthogonal dimensions were specified for the LH analysis; even using

oblique LH components, the correlations between scores on corresponding components are unimpressive.

The implication of this finding is that, while it is possible to produce a single post-materialism dimension to which both the CMP and LH post-materialism dimensions are closely related, and similarly for the social control dimension, the CMP and LH data are contributing relatively dissimilar parts of these combined dimensions. It may be the case, of course, that this phenomenon is simply a reflection of the fact that the expert and manifesto data are very different data sources providing different, but complementary, information on underlying dimensions. If this turns out to be the case, then combining both sources could result in the production of much better measures of party positions that are currently available. This won't be clear, however, until it has been shown that party positions derived in some such fashion constitute especially powerful tools for explaining coalition behavior. For now, this must remain no more than an intriguing possibility.

### **Conclusions**

The study of coalition government has been hindered by a theoretical consensus on the need for multidimensional models colliding with an empirical dissensus on what those dimensions might be in the various West European contexts. Efforts to address the problem by asking country experts to place parties on higher dimensions have faltered on the near-total disagreement over what those dimensions should be (Huber and Inglehart, 1995), while survey researchers, perhaps for the same reason, never venture beyond asking voters to place themselves on the left-right dimension. As for the third fundamental source for party positions, electoral manifestos, the lack of strong links among issues (as defined and coded by the MRG) has led to uncertainty over which and how many dimensions characterize the data and has encouraged researchers to apply various manipulations that render the validity of the outcomes open to debate.

The main thrust of the research undertaken here is to show that there may be more consistency among data sources, and across systems, than has hitherto been reported – and hence less cause for doubt about the CMP data than some have expressed. Indeed, the analyses of the Laver and Hunt expert ratings of party positions and the Comparative Manifestos Project's coding of party manifestos point to the existence of a common three-dimensional policy space in West European democratic democracies. The evidence for this space is quite strong. We have seen that a very clear and readily interpretable three-dimensional pattern underlies the eight LH issues and that a three-dimensional solution that resembles it in at least the first two dimensions can be generated from the CMP data in their original form. Both of these solutions, moreover, yield substantial inter-party diversity within as

well as across countries, suggesting that policy disagreements on these issues characterize most or all of the 16 systems examined. Finally, a second-stage principal components analysis found corresponding components from each of the initial analyses aligning themselves in a very clean three-dimensional solution that can justifiably be interpreted in the same terms: left-right, social control and materialism-post-materialism.

The analysis should nonetheless be taken as suggestive, a stimulus to further research rather than a definitive treatment in itself. For one thing, the fact that parties disagree on the three dimensions in almost all systems does not mean that these are the most important dimensions of policy disagreement and competition in those systems. It is useful to remember in this regard that, while a three-component solution substantially accounts for the eight LH issues, this is not true of the manifestos data. That data source undoubtedly contains an excessive amount of unique variance, but it does not follow that the 85 percent of variance not picked up in the first three components can be safely ignored. For that to make sense, we would need good reason to believe that all important sources of policy conflict and competition have been captured by the LH issues; the fact that Laver and Hunt included additional issues in four of the countries suggests that other matters are important at least in some settings.<sup>23</sup>

Another reason for caution is that we cannot be sure that it is appropriate to conceptualize the policy space in terms of orthogonal dimensions. The analysis of the LH issues clearly reveals sizeable correlations among policy dimensions, particularly between the left-right and social control dimensions. The fact that the CMP data yield components that are very close to orthogonal is not definitive evidence that the experts were wrong, since this outcome could simply be a manifestation of the low levels of intercorrelation typically found in the CMP data. Fortunately, however, it doesn't appear to make a great deal of difference for measurement purposes whether these components are correlated or independent.

A final cause for caution is that, while corresponding components from the analyses of the LH and CMP datasets align very clearly on the appropriate components of the second-stage analysis, neither the social control nor the post-materialism components from the initial analyses are closely correlated with each other. This means that the second-stage social control and postmaterialism dimensions pick up substantially different information from the two data sources. This may simply be a function of the very different natures of the two data sources and it may indicate that combining information from both sources would provide superior measurement of party positions on these dimensions than could be derived from either source by itself. But this remains to be shown.

In addressing these reservations, the key step will be to determine how well party positions on the three dimensions posited here, and derived from the two sources utilized here, contribute to explaining parliamentary and coalition behavior. This step is not as easily broached as it might appear, for

its success is conditional on our knowing which theories ought to perform well in this regard. In other words, we can't judge the data confidently until we know that we have good theories, just as we can't judge the theories convincingly until we know we have good data. What the present analysis has shown is that it may be reasonable to conceive of policy spaces in West European democratic systems as composed of various combinations of dimensions drawn from a common set of three and, secondarily, that currently available expert and manifesto data might yield good measures of party positions on these dimensions. It would certainly be a boon to the study of democratic government if the thorny issue of measuring policy spaces turns out to be so readily resolvable, but a good deal of further work will be required before we know whether this is indeed the case.

### Notes

I am indebted to Ian Budge for supplying the 1997 version of the Comparative Manifestos Project data. Neither he nor the other members of the MRG are responsible for the uses the data are put to here.

- 1 The other parties could, of course, remove the median party from power at any time and form a majority coalition by themselves, but they would gain nothing in policy terms since they would not be able to agree upon a better policy position to enact than the median party's policy position.
- 2 The major comparative investigation of coalition government programs is Budge and Laver (1992b: 427–8), which found that only one country (Germany) of the eight they examined had clear signs of policy domination by the median party.
- 3 The emergence of factors explaining large proportions of variance requires relatively high inter-correlations among the input variables. The variables generated by the coding of manifestos, however, tend to have very low inter-correlations. The group adopted certain stratagems to deal with this problem, which are discussed below.
- 4 The problem is well recognized; in fact, a workshop on the measurement of party positions was held at the ECPR Joint Sessions of Workshops in Mannheim in 1999. Incidentally, the term 'parliamentary' in the present context encompasses any system where the executive or cabinet depends on parliamentary support for its survival. Hence, it would encompass a hybrid regime such as the French Fifth Republic, which is usually classified as 'semi-presidential'.
- 5 Laver and Hunt (1992: 39) broke the standard left–right scale into four distinct components: public finance, public ownership, social/moral policy and foreign policy. The need to generate scales that correspond with the jurisdictions of single ministries, which is required for testing Laver and Shepsle's (1996) portfolio allocation theory, may have played a role in this. Four other issues were adopted on the basis that each had been 'identified by several authors as being critical in at least some of the countries to be studied'.
- 6 For six of the eight issues, the extremes are reported simply as 'pro' versus 'anti' (e.g. 'pro-decentralization of decisions' versus 'anti-decentralization of decisions').

- The remaining two issues represent trade-offs: 'increase taxes versus cut spending' and 'environment over growth versus growth over environment'.
- 7 Gabel and Huber (2000) have recently proposed a 'vanilla' method for the analysis of the manifestos data; this simply involves the use of principal factors rather than principal components analysis. All results reported here remain essentially unchanged if their method is used, but principal components produces clearer, more readily interpretable factor solutions, especially for the manifestos data. PCA will therefore be used for the analysis of both data sets.
  - 8 The countries are Austria, Belgium, Denmark, Finland, the French Fifth Republic, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, the United Kingdom and (West) Germany. Switzerland was not covered in the Laver and Hunt survey; Iceland was covered but has been omitted here because Laver and Hunt did not get party ratings for one of the eight issues (clericalism). Apart from any other advantages it might have, performing the analysis across systems is necessary in order to ensure reasonable numbers of cases (parties). Laver and Hunt (1992: 49–53) got around this problem by using the ratings of individual experts (rather than the mean ratings) as input data in country-level PC analyses, but at the cost of introducing inter-expert variance into the analysis. The applicability of cross-nationally derived dimensions to individual countries (as well as how these dimensions compare with Laver and Hunt's findings) will be discussed later.
  - 9 The results of an oblique rotation will be discussed in due course.
  - 10 This dimension is sometimes referred to as a libertarian/authoritarianism or social authoritarianism dimension. I prefer to avoid the term 'authoritarianism' because of its pejorative implications.
  - 11 The fact that the environment issue loads moderately well on the first component in Table 1 will be discussed later.
  - 12 The observation periods in question cover the elections for which manifesto data are available, which include virtually all post-war elections up to the mid-1990s. Seat shares at the time of the Laver and Hunt survey were not used as weights because of the evidence (discussed below) that the party positions estimated in the survey are 'generalized' rather than specific to that time. Since all weights are less than unity, the weighting scheme has been adjusted upwards to produce the same number of weighted as unweighted cases.
  - 13 Most of the categories were defined on the basis of the 'saliency' approach to electoral competition, which sees parties as concerned more with stressing the saliency of issues they are associated with than with staking out different positions on common issues. It has been suggested, however, that saliency may not be an appropriate basis for generating party positions (Harmel et al., 1995; Laver and Garry, 2000), although others (e.g. Gabel and Huber, 2000) do not share this pessimism.
  - 14 The rationale for this criterion is that eigenvalues greater than 1 indicate components or factors that account for more variance than that of a single input variable and hence have some claim to be contributing to data reduction.
  - 15 Gabel and Huber's (2000) investigation, although revealing that their factor analytic procedure produced more accurate left–right positions than either the methods discussed above, skirted this issue by confining itself to that one dimension.
  - 16 To some extent, this component also incorporates attitudes towards the

European Union; the loadings for both 'EU-positive' and 'EU-negative' are 0.32 and -0.34, respectively. Although there is a discernible trend toward increasing emphasis on the EU, this issue is still a very relatively small concern in party manifestos. On average, 3.3 percent of manifestos in the 1990s were devoted to the issue (up from 1.7 percent in the 1960s).

- 17 A different approach would have been to average variables by party first, then perform the initial PCA. My preference was to stick with the raw data for as long as possible, but the findings would have remained essentially the same if this alternative had been followed.
- 18 This may indicate that the expert respondents gave generalized rather than current estimates of party positions. Incidentally, it is this finding that justifies the decision to weight party scores by the mean party sizes in calculating party-system dispersion estimates from the LH components (Table 2).
- 19 Incidentally, if the CMP data are collapsed into Budge and Laver's 20 variables and then analyzed, the first three principal components would still align themselves with the LH components as in Table 4. The sole difference of note is that the third CMP component would be more readily identifiable in terms of social control: two of its three highest loading variables are 'freedom and human rights' and 'democracy', both of which receive negative loadings. As noted earlier, Gabel and Huber's vanilla method also produces the same pattern.
- 20 This record of within-system variation in party positions is less impressive than that produced for the LH data (Table 2), but it should be noted that both Warwick (1994: 56) and Gabel and Huber (2000: 102) find that the manifestos data tend to compress the range of policy dimensions, at least in some countries.
- 21 This is evident in the fact that, of the 89.0 percent of variance explained by the three LH components, about two-thirds of this can be attributed to the (unrotated) first component. Moreover, seven of these issues have loadings of 0.65 or greater on this component.
- 22 The correlations between scores on corresponding LH components produced by orthogonal and oblique rotations are as follows:  $r = 0.929$  between scores on the two left-right components;  $r = 0.950$  between scores on the social control components, and  $r = 0.990$  between scores on the post-materialism components. This degree of similarity between the results of oblique and orthogonal solutions is fortunate because, even if an oblique rotation is the correct specification, it can't be used here. The reason is that a second-stage PCA using oblique LH components would result in the LH social control component loading most strongly on the first or left-right component. This happens essentially because the CMP components do not show a similar degree of inter-correlation; the two social control components therefore go their separate ways. Thus, even if these dimensions really are inter-correlated, the nature of the CMP data causes us to treat them as orthogonal in order to demonstrate the correspondence between solutions.
- 23 The conclusion would also require that the issues align themselves in the same three dimensions in each system. While Laver and Hunt's country-level PC analyses may be compromised by the use of individual expert ratings as the units of analysis (see note 8), it is interesting to note that the first two dimensions they found in almost all of the systems can be clearly identified as left-right and post-materialist. Unfortunately, they seldom report a third dimension. Nevertheless, restricting the cross-national PCA to two components results in the emergence

of the same dimensions. This similarity suggests that the dimensions most relevant across all countries are often the ones most relevant within individual countries as well.

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PAUL WARWICK is Professor of Political Science at Simon Fraser University, Burnaby, British Columbia, Canada. His current interests focus on coalition governments in parliamentary democracies, about which he has published a number of recent articles and a book, *Government Survival in Parliamentary Democracies* (Cambridge University Press, 1994).

ADDRESS: Department of Political Science, Simon Fraser University, Burnaby, BC V5A 1S6, Canada. [email: warwick@sfu.ca]

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