Dynamics of Left-Right Party Positions:

Separating Systematic Movements from Noise

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We investigate whether it is feasible to use the Comparative Manifesto Project (CMP) data on party positioning to take account of party movements along the left-right dimension. At issue are answers to two questions. Are there discernable dynamics in party positions? And, if so, is it possible to separate systematic party dynamics from measurement error so as to make effective use of the CMP data? The answer to both questions is yes. Our analysis of 81 parties across the post-War period detects systematic movements in the left-right positions for one third of the parties. Our analysis of measurement error reveals that, as measured by the CMP, about 65% of the variance in party positions records reliable long-term differences across parties, another 16% records systematic movements, and the remaining 19% is error. We conclude with discussions of what one should make of this mix of stability, movements, and error and what one should do about it when using the CMP data to analyze substantively important questions about politics and policy. Of particular importance are our recommendation to be ever mindful of the two possible sources of error—a faulty instrument and erratic behavior on the part of parties themselves—and our suggestion for how to separate or combine those possibilities depending on one's theoretical concern.

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The left-right and other policy locations of political parties provide essential information for analyzing and evaluating the democratic process. Unless parties offer identifiable positions distinct from one another, it is difficult to imagine how voters can use elections to influence public policy. And, while popular influence comes through routes other than elections, it is more so through elections than through any other mechanism of popular communication that democracy makes good on its promises of equality and inclusiveness in popular decision making.

Motivated by this and similar reasoning, political scientists have put substantial effort into identifying the ideological and policy positions of parties. High quality expert surveys have been used to identify party ideological and policy locations (Castles and Mair 1984; Laver and Hunt 1992; Huber and Inglehart 1995; Ray 1999). As well, the Comparative Manifesto Project (CMP) has enlisted specialists in over 50 countries to content analyze party manifestos for the purpose of placing parties along specific policy dimensions and along a more general left-right dimension (see, e.g., Budge et al. 2001; Volkens 2001). There is also a promising program underway to create a computer-based content analysis of party manifestos and other documents (see Laver and Garry, 2000; Laver, Benoit, and Garry n.d.). One product of all this work is a fairly well established consensus on where parties are generally located, most particularly along a left-right dimension.

An important question remains. How can we observe the dynamics of party positions? Over a decade, the changes in party locations identified by expert surveys are minimal. If party positions have changed, the almost static measurements by the existing expert surveys cannot indicate by how much. The CMP data do allow for observing movement but may fall prey to another problem. With each new election there is a new manifesto and consequently new content analysis. The CMP records such large movements for individual parties that one wonders whether its record of movements is more a matter of noise than real change.

Our purpose is to establish a framework that provides for reliable observation of party dynamics along the left-right dimension. In the next section we survey the problems one encounters when attempting to take account of the dynamics of party positioning. The existing evidence points decidedly in the direction of saying that the CMP is the most plausible source of information for observing changes in party position taking. In the second section, then, we investigate the dynamics of party left-right positions as revealed by the CMP data over the post-War period. This analysis indicates that one third of the parties show systematic changes in their positions. The third section leans on the findings in section two and constructs two approaches for reliable measurements of party left-right positions, one based on Jerry Hausman's regression strategy for identifying and dealing with measurement error (Hausman 1978) and a second based on a moving average strategy. We estimate that between 19 and 20% of the CMP variance is error variance. We conclude with a discussion of two important considerations: (1) whether the source of the error is attributable to the erratic behavior of parties or faulty measurement instruments, and (2) how to use the CMP data to locate parties' left-right positions through time in a reliable and valid way.

Problems when Measuring Party Position Dynamics

A fairly well established body of literature has developed that tells us about the left-right positions of parties. For many years, students of comparative politics used the relationship between parties and societal cleavages to classify parties by type (Lipset and Rokkan 1967) or family (Mair and Mudde 1998), and those classifications have proved to be empirically useful (e.g., Cameron 1978; Cusack 1997; Rueda and Pontusson 2000). There are downsides to classification categories, however. One is that the categories are admittedly rough indicators of party left-right positions, painting all the parties within a type or family in the same color. Another is that the classifications are static.

One way to refine the categorizations has been to survey country experts and ask them to place parties along a left-right (Castles and Mair 1984; Huber and Inglehart 1995) or other policy dimension (Laver and Hunt 1992). Expert surveys have refined the distinctions between parties that share a familial lineage, so that, for instance, German and Norwegian social democratic family members are not treated as the same. As for the question of party dynamics, given that expert surveys have been conducted at different times, there seemed to be the possibility that the locations assigned at those different times could be used to gauge party policy dynamics (Knutsen 1998). However, it now appears that, aside from a modest degree of measurement error in the expert scoring, the surveys place the parties in essentially the same left-right positions through time, as if all party locations were completely stable (McDonald and Mendes 2001, 100).

The problems created by static measurements of party positions come to the fore when expert survey data are used to investigate such issues as the role that policy positioning by parties plays in government formation. In their study of coalition governments, Wolfgang Müller, Kaare Strøm, and their colleagues explicitly assume that the mean left-right party positions, based on a subset of Laver-Hunt policy placements, are "invariant over time" (Müller and Strøm 2000, 9). Using that assumption, they identify outcomes such as the median party in parliaments throughout the post-War period, with full knowledge and forthright acknowledgement that the assumption will generally but not always serve them well. In his study of democratic elections, G. Bingham Powell, at least by implication, also uses those fixed positions to calculate left-right positions of governments at different times (Powell 2000, 169).[1]

An alternative to the expert survey data is party position data derived from the Comparative Manifesto Project (CMP). Matthew Gabel and John Huber (2000) have shown that their factor analytic measure of left-right positions using the CMP data provides a reasonable match to expert and mass survey positioning of parties. McDonald and Mendes (2001) reported

[1] Powell (2000, 273) was careful to use the Castles and Mair (1984) data for 1977-87 governments and the Huber and Inglehart (1995) data for 1988-98 governments. However, these two expert surveys appear to have located the parties at essentially the same positions except for measurement error (McDonald and Mendes 2001, 100). The positions assigned by the two sets of experts are thus essentially fixed across time.

that the CMP disagrees with expert placements for a handful of parties but otherwise the average CMP left-right scores in the latter years of the twentieth century place parties in essentially the same left-right positions that experts have reported in the three surveys previously cited. Briefly stated, the CMP data can be used as valid measures of party left-right position taking, at least to the extent that expert and mass surveys have tapped the left-right positions of the parties.

Since the CMP data are available for Western-democratic party systems over the post-war period, they may offer a tractable way to analyze party dynamics. Over a decade, about 20 percent of the reliable variation in parties' left-right positions as scored by the CMP appears due to a systematic substantive shift in party positions (McDonald and Mendes 2001, 106-7). Thus 80 percent of the reliable variation records stable differences across parties, and 20 percent of the reliable variation is the result of parties changing their positions in patterned ways. But, the 80 to 20 split of stable and change variation are percentages of the reliable variation. How much of the total variation itself is reliable?

Robert Erikson, Michael MacKuen, and James Stimson employed the CMP data to indicate the liberal-conservative positions of the two major American parties (Erikson, MacKuen, and Stimson 2002). They suspected noise in the data and thus found it more plausible to estimate party positions as a series of weighted moving averages rather than to take at face value the position of each party as given by the CMP (see also Stimson, n.d.). More generally, when HeeMin Kim and Richard Fording used the CMP data to locate the positions of median voters, through time in 25 different countries, their results lead implicitly to concerns about potential noise in the CMP data (Kim and Fording 1998; 2001).

To calculate annual values, Kim and Fording found it convenient to assume that median voter positions within a nation change slowly. Armed with that assumption, they used a linear interpolation from one election year to the next as the reasonable estimate of a median voter's position between elections (Kim and Fording 1998, 80).

Assuming slow movement of median voter positions seems eminently plausible. It implies that once the median voter has moved to the right, say, the median voter position at the next election is more likely to be located in the vicinity of that rightward position than it is to be located just anywhere in the left-right space. In short, slow movements mean there is a degree of predictability from one election to the next. Unfortunately, Kim and Fording's own results do not square especially well with their assumption.

We have estimated a set of autoregressive equations, one per country, for the across-time median voter positions during the period of the early 1950s through 1995 in each of the 17 nations that we will be investigating below.[2] With slow movements implying predictability of median voter positions from one election and the next, one expects that the slope of an autoregressive equation will be statistically significant. This is not the case. For only two of the 17 countries (Italy and Australia) is that slope statistically significant ($p < .05$, one tail test); in the 15 other countries there is not a reliable relationship between the position where a country's median voter is located in a current election and where it was located at its previous election.

Arguably the lack of predictability could be due to very small variances, which make the mean as good a predictor as almost anything else. That is not the problem, however. Italy, one of the two nations for which there is a statistically significant relationship, is the nation with the smallest variance in the Kim-Fording location of median voters. The general problem, we suspect, is that there is too much noise in the CMP party positions.

The Dutch case helps to illustrate the reasonableness of this suspicion. It is generally accepted that from a center-right position in the 1950s the Dutch electorate moved leftward in the

[2] When examining the Kim-Fording calculations to assure their accuracy for our purposes in relation to another project, we reasoned that it was necessary to make one adjustment. When the farthest left or farthest right party in a system is involved in the formula, Kim and Fording allow the CMP's logically extreme scores of –100 or +100 to mark the endpoint where voters of that party are located. We find this implausible, and we find its effect on the calculation undesirable. In particular, –100 and +100 endpoints artificially stretch the distribution of voters around a party's position. Therefore, rather than assume a party's voters are so widely dispersed, we assume they are distributed in a symmetrical interval around the party's position. For example, for a leftmost party at –15 and a 0 midpoint between it and an adjacent party on the right, we assume the left boundary of that party's voters is –30. We use our recalculated Kim-Fording

1960s and for most of the 1970s, and thereafter, from the early 1980s into the 1990s, it showed a tendency to move rightward. Surely we would want the Kim and Fording measure to indicate those movements. We see in Figure 1 that they do in terms of the general contours. However, there is enough of a non-smooth, saw tooth pattern in the median voter series that the predictability from one election to the next is unreliable at conventional levels of statistical significance.

[Figure 1 about here]

An obvious consequence of unreliable measurement is to create uncertainty. When, for example, one tries to identify the party of the median parliamentarian using the CMP data and those data are less than wholly reliable, there will be uncertainty about the identification (see, e.g., Budge and Laver 1992, 427-28). Further, when one uses CMP-derived measures of median voter and government locations as independent variables—e.g., as causal forces for explaining policy adoptions—and, again, those data are less than wholly reliable, then the estimated effects will be unreliable and biased downward (i.e., they will understate the true causal impact). What we want, of course, are reliable cross-time measurements of party positions.

Party Positions and Their Dynamics

Party Positions

We investigate the left-right locations of 81 parties in 17 Western nations. All data are taken from the CMP98 data set (Budge et al. 2001). The left-right scoring is the one developed by Michael Laver and Ian Budge (1992) and later adopted by the CMP. A party's left-right position is constructed by summing party emphases on 13 right-item policy categories and then subtracting the sum of party emphases on 13 left-item policy categories (Budge et al. 2001, 22). The Appendix below provides a listing of parties and associated descriptive statistics. Except as noted for two Danish parties and with allowance for the special circumstances of Belgium, France, Italy, and the Netherlands described below, the 81 parties include those for which we have data on

scores in the analysis reported here. Our recalculations cover the period from a country's first election in the

coded manifestos in consecutive elections totaling more than half of a nation's elections from the late 1940s through 1998.[3] The Belgian parties split along the lines of language during the period 1968-77, and we treat the pre- and post-splits as separate party systems. Parties during France's Fifth Republic, but not during the Fourth Republic, are included. The analysis of Italian parties stops in 1992 after which many of the Italian parties reconfigured. Finally, the three separate Christian parties in the Netherlands combined at the time of the 1977 Dutch election to form the CDA; the three parties and the CDA are treated as four separate parties.

Figure 2 provides an overview of party positions as scored, on average, by the CMP. Each party is located according to its mean position on the CMP left-right score calculated over all elections of the post-war period. This is a way of using the CMP data that assumes party left-right positions are static. The figure also provides a perspective on the distinctiveness of party positions within each party system. Shaded and boxed parties have positions that, while numerically distinguishable in their mean values, are not reliably distinguishable given their over-time variation. As a summary statement of distinctiveness, the R^2 values in the right-most column indicate how much of a party system's total variation for its parties on the left-right dimension is between parties, as opposed to how much is within-party variation across-time. From top to bottom, the nations are ordered according to the number of distinct party clusters (Denmark has 5, Sweden and Norway 4, … Italy 2) and secondarily by their R^2's.

[Figure 2 about here]

The first issue is whether such a static representation as portrayed by the mean values, in the face of the over-time variation of each party's position, is a reliable characterization. It is not.

1950s through elections in 1995.

[3] Some of the manifesto data in CMP98 are estimated, based on a party's manifesto at an earlier election. Such carryover data present problems for the analyses reported below. Two undesirable effects are that variance is artificially reduced and autocorrelation is artificially created. Therefore, we exclude carryover manifestos. The exclusion is usually for one election at the beginning or end of a party's series. The single election exclusions are the Belgian PVV in 1995, the Belgian FDF in 1965, the Belgian VU in 1958, the Canadian SC in 1972 and 1974, all Danish parties in 1998, all Norwegian parties in 1997, and the Swiss SVP in 1947. Dropping the 1998 Danish data caused observations on the Danish CD and KF to go from 11 of 22 (half) to 10 of 21 (less than half). Still, we decided to keep both Danish parties in the analyses. In the case of the French Conservatives, the entire series had to be excluded because several of its manifestos are

Regressing the observed positions onto the party mean values reveals a slope of 1.0, as required by definition. The R^2, however, is only .649. That means that only about two-thirds of the systematic variance in the data is coming from differences in means across parties. The remaining one-third is either noise or real movements in party positions. If the movements are all or mostly noise, then the CMP is a not very reliable statement (so far as we can tell from both expert surveys and the CMP means) of static party position taking. If it reflects all or mostly real party dynamics, then static portrayals of party positions are not in that case valid statements of where parties stand across time on the left-right dimension. We turn now to an investigation of party dynamics.

Party Left-Right Dynamics

We need to assess whether evidence of systematic change in party positioning exists. We make the assessment by estimating an autoregressive equation on each party's series of positions. Party positions that shift over the long run, such as those forming a trend, will result in an autoregressive equation that indicates a party's long-run expected value (a sort of dynamic mean) is different from its mean as reported in Figure 2 above.[4] A party that changes by drifting away from its mean position for a sustained period but later coming back to it, a characteristic of cyclical movements, will result in an autoregressive equation with patterned change that leaves the long-run expected value and the mean close to one another. Finally, results from an autoregressive equation that indicate the mean is a reasonable description regardless of a party's position at the previous election are situations where parties are moving as-if randomly around their respective mean positions, neither trending nor drifting.

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recorded as estimates. Finally, the manifesto of the United Socialists in Italy for the 1968 election is the 1968 score that we assign individually and separately to the PSI and PSDI.

[4] As we explain immediately below, the dynamic mean is distinguishable from a commonly-referred to mean by estimating an autoregressive equation and seeing whether the slope is zero. If the slope is zero, then the mean value of Y at any given time is estimated to be equal to the autoregressive intercept; if the slope is different from zero, then the mean, which is estimated to vary, is estimated by the intercept divided by one minus the slope. For excellent discussions of substantive interpretations of autoregressive equations in the context of politics, see Spafford (1971) and Price and Sanders (1993).

To describe in more detail how the autoregressive equation can be used to identify what we label as *changers, drifters*, and *homeostatic wanderers,* we start with the equation as applied to any one party's left-right position. It takes this form:

$$LR_t = \alpha + \beta\, LR_{t-1} + \varepsilon_t .$$

where LR_t is a party's left-right position for the current election; LR_{t-1} is that party's left right position at the previous election; α is the intercept; β is the slope; and ε_t is (assumed to be) a set of well behaved (homoscedastic and nonautocorrelated) errors in party positions at the current elections. When the estimated value of β is not distinguishable from zero, it indicates that the movements around the party left-right mean are, so far as we can tell, random deviations from which a party can be expected to return to its typical (mean) position at the next election. When β is distinguishable from zero and in the interval –1 to +1 (all of our estimates are in that interval), party movements show signs of sustained changes through time. For example, a statistically significant slope of .75 indicates that a deviation from the party's long-run typical left-right position is expected to move toward (but not to) that position at the next election. The speed at which it approaches that long-run typical position is $(1 - \beta)$. In the case of the example $(1 - \beta)$ is 1 – .75, or .25; therefore that party is expected to move one-quarter of the way from where it was at the last election toward where it is expected to be in the long run. The difference between where we can expect a party to be in the long run and where it is on average (as in Figure 2) is one way to describe how and by how much the party has changed. To estimate where a party's left-right position will be in the long run, all that is needed is to divide the intercept by the value of one minus the slope—i.e., $[\alpha / (1 - \beta)]$ (see Spafford 1971; Price and Sanders 1993).

As we shall see, there are parties for which the slope is distinguishable from zero and the difference between the mean and the party's long-run expected position is large. We call these parties *changers*. There are also instances of parties with slopes distinguishable from zero but with small differences between each one's mean value versus its long-run expected value. These are

parties that drifted one way, then the other—going through cycles of reliably predictable and moderately sustained movements. We call these parties *drifters*. Finally, there are parties that diverge from and converge toward their mean values in an essentially unpredictable manner. For these parties, their movements away from their mean positions are expected to be short-lived, with an expectation of each one returning to its mean position at the next election. We call these parties *homeostatic wanderers.*

For a party with patterns of change that show a shift to a new position, as would be true for a party whose positions form a trend, we have said there is a large difference between its mean left-right position and its long-run expected left-right position. Figure 3 is a histogram that displays these differences for each of the 81 parties. The slope, intercept, mean, and long-run expected value for each party are provided in the Appendix. Not many parties show much difference. Only 10 of the 81 parties (12.3%) have expected long-run positions that differ from their respective mean positions by more than $\pm$4 points. Two of those 10 parties—the Dutch CDA and Italy's PSI—show changes larger than $\pm$4, but their changes are based on estimated slopes that we deem to be unreliable.[5] That leaves eight parties that have changed their left-right positions through time in a reliably estimated manner; these eight are our so-called *changers*.

[Figure 3 about here]

[5] We take what could be considered a liberal approach to a decision rule for reliably estimated relationships, but what we have done in fact is to take account of the effect of measurement error. Errors in an *X* variable reduce the magnitude of an estimated slope, and errors in both the *X* and *Y* variables are likely to increase the slope's standard error. Given that a *t*-ratio is (b / s_b), the effect of measurement errors makes tests of statistical significance at conventional levels (e.g., $p < .05$) prone to Type II errors. Therefore, we loosen the conventional standard of, say, $p < .05$ so that reliably predicted behavior is deemed to exist when a slope's *t*-value has a magnitude such that $t < -1.5$ or $t > 1.5$. For readers who wish to use a different standard, the slopes and standard errors are reported in the Appendix. Twenty-one parties show a statistically significant relationship at conventional levels, compared to 27 using our looser 1.5 t-value. Note that the liberal decision rule has no effect on our subsequent analyses and evaluations, except to cause us to provide detailed descriptions of change for 27 instead of 21 parties in Tables 1 and 2.

Tests of statistical significance could also be affected by autocorrelated errors. We have checked for autocorrelation for each of the 81 party series. When a lagged value of Y is on the right hand side, the test (e.g., Durbin's *h*) is a large sample test and is not especially powerful. With our small samples of between 6 and 21 elections for any one party, about half of the tests are not calculable. However, we can and have calculated values of *rho* for all parties (see the Appendix). We find an estimated *rho* between $\pm$ .25 for 72 of the 81 parties. Therefore, in no more than few cases could it be said that a concern about autocorrelation is warranted.

The eight *changers* are listed in Table 1. There, too, we provide a description of the pattern of change along with each party's mean value over the period, its so-called target position (which is where, based on our analysis, we expect the party left-right position to settle over the long run), and its left-right position by decade. The first thing to notice is that of the eight *changers* four no longer existed in the same organizational form in the late 1990s. Two Italian parties, the PSDI and PRI, each of which had been moving to the right, were themselves transformed when the party system as a whole changed after the 1992 election. In addition, two other *changers* are Dutch Christian parties—ARP and CHU—that combined, also with the Catholic KVP, to form the Christian Democratic Alliance (CDA) in the 1970s. The movements of both Dutch (Protestant) Christian parties show a trend leftward, and after they merged into the CDA they held a center-left position (see the CDA mean in Figure 2). That leaves four parties that have different left-right positions in the 1990s compared to where they stood in, say, 1960. Patterns of change for these four are consistent with what informed observers of these parties tell us was happening throughout the period. The Austrian FPÖ is reported to have placed itself to the left during the 1960s in order to gain favor with the SPÖ for government coalition bargaining purposes, then gave up that strategy and moved strongly to the right (Müller 2000, 87). Mair (1986) reports that Fine Gael took noticeable steps to the left during the 1960s and 1970s and stood clearly to the left of Fianna Fáil during that time. Hanne Marthe Narud and Kaare Strøm said of the leftward drift of Norway's SP that "the party's opposition to European integration has gradually generalized into a greater skepticism towards market economies" (Narud and Strøm 2000, 164). Finally, the Democrats in the United States, most especially under the leadership of President Clinton but presaged by smaller movements toward the center during the 1980s, is generally understood to have moved to the center (see, e.g., Erikson, MacKuen, and Stimson 2002).

[Table 1 about here]

Nineteen parties are classified as *drifters*, more than twice the number of *changers*. The *drifters* are listed in Table 2. Recall that our classification criterion for *drifters* versus *changers* is that, while a *drifter's* position undergoes predictable and sustained changes, in the long run its left-right position is not much different from its mean position over the entire period. This is reflected in the column in the middle of the table, where the mean and (long-run) target values are reported. One general pattern of drift covers the Anglo-American parties. In Australia, New Zealand, UK, and U.S., the *drifters* each moved toward the right, a movement that also describes the U.S. Democrats in Table 1. The reason many of these appear to be *drifters* rather than *changers* is that along the way their movements were erratic enough as not to provide a firm basis for describing them as trends. Among the *drifters* in Belgium (if we were to add in the combined liberals of the 1950s and 1960s), the Netherlands, Norway, and Sweden, the movements follow a pattern where the 1960s and 1970s show leftward shift followed by rightward shifts during the 1980s and 1990s. Four other parties did not head toward the right side of the spectrum during the 1980s and 1990s—the Irish FF, Danish CD and KrF, and the Swiss CVP. Fianna Fáil moved rightward in the 1960s and 1970s only to move leftward toward the center in the 1980s and 1990s. The two Danish parties , CD and KrF, started on the right, both having won seats for the first time in the time of the traumatic 1973 Danish election, and tended to move slightly leftward toward a center-right position. The Swiss CVP appears to have moved erratically but decidedly to the left over the entire period.

[Table 2 about here]

The modal outcome is that of the *homeostatic wanderers*. There are 54 of them, 66.7% of all the parties analyzed (their results from our autoregressive estimations can be seen in the Appendix). These are parties that, as the wandering portion of their label suggests, have moved around without developing patterns of sustained change across time. We say of them, then, that, so far as we can tell from the autoregressive estimations, their movements are as-if random. Of

course, the "homeostatic" qualifier in the label indicates that a party's wandering is anchored in a meaningful position, presumably to their leaders as well to voters.

It is proper to ask whether the wandering is untethered or homeostatic. A set of completely random numbers will have a mean; hence having a mean can hardly be a justification for inferring that these parties have an identifiable ideological home. The inference of homeostasis will have to rest on how widely these parties wander away from their respective mean positions. The standard deviations around the mean positions of *homeostatic wanderers* are actually slightly smaller on average than the standard deviations around the regression lines of the *changers* and the *drifters*. Among the 54 *homeostatic wanderers*, the average standard deviation is 12.4; for the *changers* and *drifters*, the average standard deviation around their regression lines (average s_e values) is 13.4. In that sense, the unpredictable variation of the *homeostatic wanderers* based on their means is slightly less than the unpredictable variation based on the otherwise predictable movements of the *changers* and *drifters*. In short, a mean position of a *homeostatic wanderer* generally characterizes its positions as well as a regression equation characterizes a position of a *changer* or *drifter*.

Constructing Reliable Measurements of Dynamic Party Positions

The evidence indicates that one third of our observed parties changed their left-right positions in systematic ways. It also indicates that around our best estimate of a party's position through time there is, by definition of the autoregressive equation, something on the order of 13 standard deviation units of error. Given the systematic change, it is necessary to try to capture the dynamic aspects of party positioning; given the estimated error, it is desirable to try to rid the measurements of their noise.

Hausman Approach

Hausman's approach to measurement error offers a promising avenue for improving reliability of the CMP measurements while retaining the party dynamics. Hausman reasons that

predicted values (*Y-hats*) from regression analysis provide a statement of an outcome without the measurement noise, because the noise of the measurements is relegated to the error term of the equation (Hausman 1978; see also Pindyck and Rubinfeld 1991, 160-62; Johnston and DiNardo 1997, 153-56). In the context of our autoregressive equations, the matter is slightly more complicated and therefore requires an adjustment. Our dynamic estimates place the supposedly somewhat noisy measure on the left-hand side *and* on the right-hand side. We do not so much want to employ the estimated dynamics of the process to predict a party's position in a next election from what it was in the previous election as we want to use those estimated dynamics to smooth the errors in the measurements as such. For each of our 81 parties, therefore, we create a set of smoothed estimates by applying the dynamics estimated from the autoregressive equation to a party's current election CMP score. These are approximations of what the party positions would look like were it not for the noise in the measurements.

Figure 4 offers an intuitive sense and visual depiction of how the smoothing of measurement error and retention of party dynamics operate. The left graph, Figure 4a, shows the time sequence development of both the observed and predicted values of Austrian FPÖ's left-right positions. The CMP observed scores and the predicted (smoothed) values both track the slightly leftward and then strongly rightward movement of the FPÖ (see Müller 2000, 87). Lest one think that applying the estimated dynamics to the CMP scores does hardly anything more than reproduce the CMP values themselves, as they very nearly do for the FPÖ, the graph on the right, Figure 4b, shows the predicted values for the Norwegian DNA. The DNA is one of the parties we labeled as a *homeostatic wanderer*. With respect to it, we estimated virtually no predictable dynamic movement in left-right position-taking (see the DNA equation reported in the Appendix), and, thus, the smoothed values track through time a steady left position, with, by implication, the variation around it being something we could reasonably consider to be error.

[Figure 4 about here]

Considered over all the parties, the association between the predicted values generated by applying the estimated dynamics in order to smooth the CMP data and the observed CMP data has an R^2 of .806. This is a reliability estimate for the data. Eighty to 81 percent of the observed variance is reliable; the balance, 19 to 20 percent, is error variance. We can go one step further. Over all 81 parties, we earlier reported an estimated R^2 of .649 for association between the mean and the observed data. In summary, therefore, we can say that 64.9 percent of the variance in the CMP data records stable differences across party positions, 15.7 percent records change, and 19.4 percent records error. By implication, 19.5 percent of the reliable variation throughout the post-war period is reliable dynamic variation (i.e., [.157/.806] x 100).

Moving Average Approach

The Hausman approach carries us a long way by providing a solid sense of the stability, dynamics, and error in measuring party positions via the CMP. There is something costly about this approach, however, and there is something else theoretically unappealing, at least intuitively. The approach is costly in the sense that it only applies to parties for which we have a long enough series to estimate whether the party has developed a systematic dynamic. The approach is theoretically unappealing in the intuitive sense that with each new data point added to a party's series we are liable to have to change our view of where the party stood at each other election. Re-estimation of British Labour's left-right position in the aftermath of Tony Blair's selection as leader, for instance, will change the coefficients of the autoregressive equation and thereby create different statements of where Labour was located in, say, 1974. To confront these concerns, our strategy is to (1) accept the Hausman-based estimates as good, (2) create a less costly and more theoretically appealing alternative, and (3) judge the quality of the alternative by how well it matches the Hausman-based estimates.

An alternative that we find to be a reasonable approximation is a three-election moving average of observed CMP scores, where the average is taken to be an estimate of a party's position for the middle election of the three. The purpose of centering the average on the middle election is

that for parties changing in a systematic way centering the average on the middle election stays true to the timing of the movement.[6]

The relationship between the Hausman-style scoring and the moving average is,

$$L\text{-}R_{it}\,MA3 = -.32 + 1.01\ LR_{it}\,Hausman, \quad \text{with } R^2 = .896;\ s_e = 6.80.$$
$$(.23)\ \ (.01)$$

$L\text{-}R_{it}\,MA3$ is the three-election moving average for party i at time t; $LR_{it}\,Hausman$ is the left-right Hausman-based score for the same party at the same election. If the noise in the Hausman-based measure is essentially zero, then the reliability of the moving average is .896. This means the moving average cuts in half the unreliability of the observed CMP scores. We discuss below the issue of on what basis the moving average could be judged to be as good as the Hausman-based measurements; for now, however, we can say that a 90 percent reliability figure as a tradeoff to the practical difficulties of the Hausman approach seems to us reasonable.

Finally, we can consider what effect the moving-average measurements have on estimating positions of median voters. Earlier we reported that using the election-by-election observed CMP scores under the Kim-Fording approach to locating median voters, there was not much predictability of a country's median voter's position from one election to the next. In only two of the 17 countries that we have been analyzing are there statistically significant relationships between a median voter's position in a current election and the previous election. Using the three-election moving average, 14 of the 17 countries show a statistically significant relationship—Denmark, Germany, and France are the exceptions. This is not a test of the veracity of the moving-average measurements, inasmuch as we adopted the moving-average approach with

[6] An initial reaction of several colleagues has been that it would be more appropriate to score the moving average for the current election as the CMP scores from the two preceding elections and the current election (i.e., *t–2, t–1* , and *t*), rather than from the preceding, current, and next election (i.e., *t–1, t*, and *t+1*). We disagree, and once we explained why the colleagues conceded the point. The problem with using an average from elections at *t-2, t-1* and *t* is that it systematically understates the position of a party that is changing. For instance, imagine that a party moves from a center-left position to a decidedly right position over five elections in the 1980s and 1990s in a sequence of left-right scores, such as –6, 0, 6, 12, and 18. A moving average for the t_3 score based on the two preceding elections and election and t_3 would have an average of 0, and at t_4 the average is 6. In effect, calculating the moving average in that way knowingly lags one election behind the observed positions.

foreknowledge that it would address the counter-theoretical finding of unstable median voter positions. Rather, the 14 of 17 statistically significant relationships show the moving average measurements by and large do resolve the empirical and theoretical mismatch, as was intended.

Discussion and Evaluation

There is a systematic dynamic in some parties' position taking. It also needs to be said that there is also a good deal of stability in party positions. Third, taking the CMP at face value, there is a sizable proportion of noise. What is one to make of all of this? And what is one to do about it?

What one makes of the stability, change, and noise in measured party positions and what one does about it depends on the theoretical concern and empirical conditions of a particular investigation. Data are to be selected consistent with a theoretical concept at hand. Trite as this may sound, it appears to us to be much less than self-evident. Take as an example the proposition that expert survey data are better than CMP data or vice versa. Such a claim is disconnected with any theoretical concern. It is not so much that one is good and the other bad, or one is good but the other better. Such claims are standard-less. Rather, one set of data is more and another less consistent with a theoretically anchored investigation.

Concerning parties, some theoretical interests reside with the ideological standing of parties with respect to their longstanding core principles. This, we surmise, is what gives rise to the results found in expert surveys; that is, the experts (on average, across the several experts from each country) are recording the longstanding core principle positions of parties. In the case of the CMP data, measuring the concept of longstanding core ideological party principles might best be approximated by mean values across one or two decades. Thus, for instance, if one wanted to investigate whether a party's ideological position predicts particular policy stands among its adherents—say, for a member of the European Parliament who sits among one of the transnational parliamentary party groupings somewhat detached from the daily twists and turns of domestic

political debates or for a member of the mass public who is likely to have a general, not specific, idea of his or her preferred party's position taking (Pierce 1999)—it would be wise to use party locations measured as longstanding core principle as the indicator of a national party's ideological position. For theoretical concerns that involve party and partisan activity closer to home and in the sometimes strategic maneuvering of electoral politics (Budge 1994; Adams 2001), however, taking account of the shorter run dynamics will usually have importance.

Taking account of the shorter run dynamics poses an especially important and interesting question about the sources of measurement error. The label "measurement error" tends to make one think first of a faulty instrument, but that is not necessarily the inference one should draw. When Philip Converse originally estimated and later elaborated on his thesis of *non-attitudes* among the American mass public, he did so by estimating the degrees of measurement error in mass attitudes (Converse 1964; 1970; Converse and Markus 1979). Having found a good deal of measurement error, Converse's inference indicted the public's unstable attitudes as the source of the error. It was not until a decade later that Chris Achen pointed a finger at the survey instruments as a source of the error (Achen 1975; see also Pierce and Rose 1974; for a discussion of this issue and a third interpretation see Erikson 1979, especially 90-91 and 110).

The inferential difficulty, when trying to decide between attributions to a faulty instrument versus to erratic behavior as the source of error, arises because using a test-retest analysis to model measurement error, as Converse had done and as we have done here, requires one to have in mind a model of 'true behavioral change' in order to be able to separate noise in the measurements from change in the behavior (Heise 1969). Typically, the implicit model of "true" behavior change is a Markovian process. This is the model implicit in the interpretations we put to our autoregressive equations. In effect, the assumption says that when behavior truly changes it does so systematically (i.e., in predictable ways). It then adds by implication that to the extent behavior is not predictable the remaining portion of the measured signal is noise.

Taking account of the dual possibilities that measurement error may be attributable to faulty readings of totally solid behavior but, alternatively, may be attributable to accurate readings of somewhat erratic behavior, it is interesting to ask which possibility is a more plausible interpretation of the CMP record of party left-right positions. Few will doubt that noise comes into the CMP scores from the loose way in which words are used, misinterpretations by a coder of a manifesto, the exclusive reliance on 26 left-right CMP categories and exclusion of the 30 others, coding transcription errors, and input errors (see Volkens 2001). But few will also doubt that party positions sometimes change in erratic ways. Seldom does one find characterizations of parties as totally solid, dependable, and (if one will) reliable political actors. More typical are characterizations that a party "cannot be defined in terms of its principles" (Schumpeter 1942, 283), is "ever hungry for new members" (Michels 1949, 374), is motivated by a specific goal of maximizing votes (Downs 1957, 30), and engages in political strategy that "appears to center on finding out what the public wants to hear and marketing the product accordingly" (Farrell and Webb 2000, 122).

We cannot know for sure at this time how much of party position taking noise is coming from faults in the measurement process and how much resides with the behavioral manifestation of erratic party wavering in a manifesto. We strongly suspect, however, that the matter is not a wholly either/or proposition; the truth probably lies somewhere in-between. For that reason, we are inclined to advise analysts that if they have to choose one procedure for measuring party positions when recordable dynamics in policy positions hold theoretical importance, the preferred method is the three-election moving average. For example, in applications that seek to (1) estimate ideological positions of governments from weighted averages of party positions, or (2) calculate median voter positions, or (3) identify a parliamentary median we suggest, the moving average is, at this time, the preferred measurement. They stay true to the central tendencies of the party positions, capture the dynamics of parties that are changing in systematic ways, and handoff

about half of the observed noise to measurement error as if it were an instrument problem but retain the other half of the error as a record of the wavering position taking of parties.

Finally, we would advise analysts to remain self-consciously aware of the measurement error and its two possible sources, for in certain types of analyses it will be feasible to incorporate two or more measurement possibilities. If, for example, one is estimating the effect of policy position taking of governing parties on policy adoptions, the party position measured by a moving-average and by observed CMP scores can both be included as independent variables. Michael McDonald, Ian Budge, and Richard Hofferbert (1999) did something similar. They investigated policy position-taking by U.S. presidents over the post-war period by estimating whether both longstanding core party principles, measured as a party's post-war left-right mean, and shorter run election-to-election party position taking, both independently affected policy stands of Democratic and Republican presidents. Their analysis showed that each did have an independent effect. Thus, with election-to-election CMP scores showing an effect over and above the effect estimated from the average party positions, there is evidence that the seemingly erratic left-right movements by the parties are something more than noise from a faulty instrument. Those movements have observable consequences. Noise, by definition, bears no relationship to anything. When the substantive question at hand would be informed by estimating a two- or threefold mix of longstanding core principle, systematic change, and election-to-election (seemingly) erratic movements, and the research design permits the use of all three, researchers can, and often should, employ that mix.

Conclusion

Left-right positions of some parties do change and drift in discernable ways. That makes the CMP data, or similar data, necessary for analyses involving party positions over an appreciable amount of time. As well, however, the CMP data contain error, as much as 20 percent of all the observed variance. That makes it necessary to be conscious of the error and the potential effects it can have on one's inferences. It also makes it necessary to take care to adopt the measurement

consistent with one's theoretical concept and, when possible, to employ analytical strategies that allow one to test whether the source of the error is a noisy instrument or erratic party behavior. Given consciousness and care, we conclude, the CMP data offer sound opportunities to learn a good deal about the political and policy roles of parties.

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Table 1: Identification of and Descriptions of Movements by *Changers*[a]

Country	*Party*	*CMPid*	*L-R Mean* & *L-R Target*	*Pattern of Change* *Numerical Value of L-R Mean by Decade*
Austria	FPÖ	42420	2.5 14.2	Started center, moved left, then steadily back to center and continued on past center to right 50s = +4.5 60s = -26.8 70s = -13.8 80s = +4.6 90s = +39.5
Ireland	FG	53520	11.1 6.5	Started right, moved steadily to center-left until 80s, then moved to center-right 50s = +46.6 60s = -2.0 70s = -17.6 80s = +2.8 90s = +9.3
Italy	PSDI	32330	-12.2 -4.5	Started left and moved rather steadily toward and to center 50s = -28.5 60s = -24.1 70s = -5.3 80s = +3.5 90s = +2.3
Italy	PRI	32410	-0.7 15.3	Started left-center and moved, in step-like manner, rather steadily to right 50s = -17.0 60s = -10.0 70s = -1.0 80s = +22.8 90s = +36.7
Netherlands	ARP	22523	5.0 -29.6	Steady movement from center-right to center-left when it ended in early 70s 50s = +16.1 60s = +1.6 70s = -16.1 80s = ~~~ 90s = ~~~
Netherlands	CHU	22525	8.9 -3.1	Started right, moved to center in the 60s and ended in center-left in the early 70s 50s = +21.5 60s = +4.0 70s = -17.7 80s = ~~~ 90s = ~~~
Norway	SP	12810	-5.3 -17.3	Started right-center, moved steadily and quickly left, reaching left-center by mid-60s and stayed there 50s = +18.8 60s = -12.7 70s = -16.6 80s = -15.7 90s = -15.6
U.S.	DEM	61320	-12.8 -1.9	Started left-center into the 1980s, then moved steadily to and through center to center-right 50s = -19.1 60s = -15.6 70s = -20.4 80s = -14.1 90s = +10.5

Source: Estimations and compilations by authors based on CMP98 data (Budge et al. 2001).

[a] A changing party takes left-right positions in a manner that change predictably from one election to the next and show estimated long-run left-right position away from its mean left-right position over the post-war period (beyond $\pm$4 points). For details on the estimation of patterns of change and their magnitudes, see the Appendix.

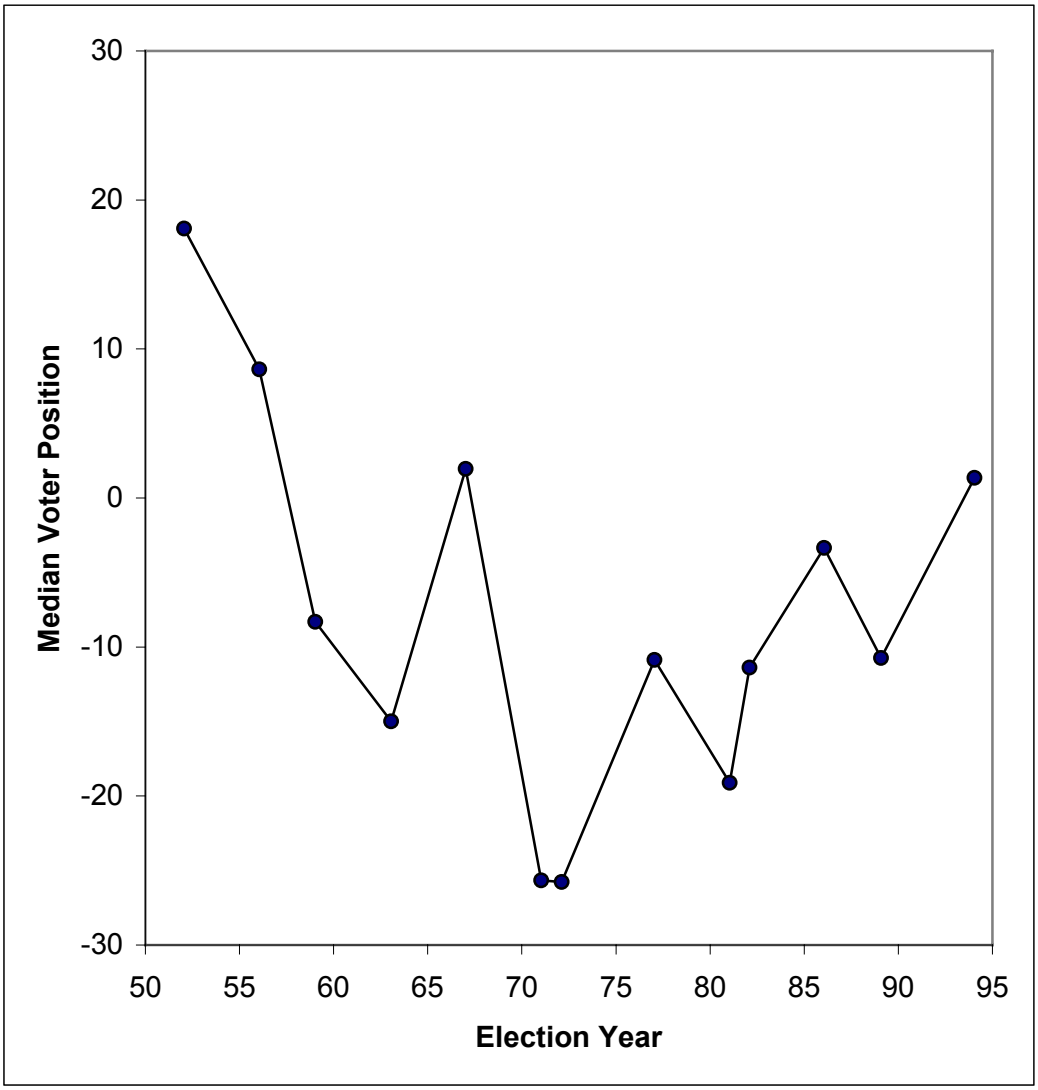
Table 2: Identification of and Descriptions of Movements by *Drifters*[a]

Country	*Party*	*CMPid*	*L-R Mean*	*L-R & Target*	*Pattern of Drift* *Numerical Value of L-R Mean by Decade*
Australia	LAB	63320	-11.1	-7.3	Started left, stayed left through the 70s, drifted to varied positions at and around the center 50s = -22.5 60s = -14.2 70s = -22.1 80s = +3.2 90s = +5.6
Belgium	CVP	21521	-1.9	1.5	Started center-left in late 60s, moved steadily to center-right in 80s, and moved to center 50s = ~~~ 60s = -12.8 70s = -8.2 80s = +7.7 90s = +1.7
Belgium	VU	21913	-2.9	-3.4	Started center, veered to center left in late 60s, climbed back center-right and moved to center 50s = ~~~ 60s = -5.8 70s = -8.4 80s = +4.7 90s = -2.9
Canada	PC	62620	4.2	6.2	Center until mid-70s and drifted to right-center thereafter 50s = -2.4 60s = -0.6 70s = +2.3 80s = +14.9 90s = +17.6
Denmark	CD	13330	21.9	21.3	Started right (70s), stay right in 80s and moved to center in 90s 50s = ~~~ 60s = ~~~ 70s = +26.7 80s = +25.1 90s = +6.0
Denmark	KrF	13520	20.3	18.6	Started right (70s), moved to center-right in 80s, and stayed 50s = ~~~ 60s = ~~~ 70s = +30.0 80s = +12.2 90s = +12.3
Ireland	FF	53620	6.4	8.3	Started center, moved right in 60s and 70s, jumped back to center in late 70s and stayed center 50s = +8.0 60s = +22.4 70s = +26.5 80s = -10.2 90s = +0.7
Netherlands	PvdA	22320	-25.0	-25.5	Started left (60s), moved steadily left in 60s and 70s, and back toward and to center-left in 80s and 90s 50s = -21.3 60s = -27.6 70s = -43.3 80s = -22.5 90s = -8.9
Netherlands	D'66	22330	-18.3	-18.3	Started left (60s), moved further left in 70s, and to center-left in 80s and 90s 50s = ~~~ 60s = -18.3 70s = -30.8 80s = -11.7 90s = -13.0
N. Z.	LAB	64320	-24.4	-24.5	Started left, moved steadily toward center in 60s and 70s, drifted unsteadily back to left in mid-80s and 90s 50s = -34.6 60s = -29.4 70s = -16.4 80s = -11.2 90s = -22.2
Norway	KF	12520	0.1	-2.4	Started center-right, drifted steadily to center-left til 90s, and jumped back to center 50s = +15.7 60s = -4.5 70s = -5.2 80s = -13.8 90s = +2.0
Norway	Høyre	12620	4.2	3.2	Started center-right, drifted steadily toward center-left from 60 til mid-70s, and moved back to center-right 50s =+16.4 60s = 0.0 70s = -14.2 80s = -2.3 90s = +14.4
Sweden	SDP	11320	-23.2	-20.6	Started left, moving a little further left in 60s, jumped to center-left in early 70s, drifted back left, only to move to center in 90s 50s = -32.7 60s = -46.0 70s = -18.9 80s = -21.2 90s = +4.7
Sweden	FP	11420	-4.2	-6.4	Started center-right, jumped to left in 60s, and gradually drifted back to center-right 50s = +10.8 60s = -33.4 70s = -15.6 80s = +3.3 90s = +12.5
Sweden	MSP	11620	36.9	34.9	Started right, moved to center-right in 70s, moved back to right 50s = +51.8 60s = +40.3 70s = +14.0 80s = +40.5 90s = +40.5
Sweden	CP	11810	-3.3	-0.7	Started center drifting right, swung center-left in 60s and stayed until early 80s, drifted to center-right 50s = +2.5 60s = -6.5 70s = -16.2 80s = -6.8 90s = +12.9
Switzerland	CVP	43520	10.1	6.6	Started right, jumped to center in mid 60s and stays center 50s = +25.1 60s = +19.9 70s = +1.2 80s = +0.6 90s = -6.8
U. K.	CON	51620	7.9	10.5	Started variably though slightly left, drifted toward center-right through 60s and 70s and to right in 80s and 90s 50s = -8.0 60s = +0.8 70s = +11.0 80s = +29.7 90s = +26.8
U. S.	REP	61620	13.9	15.9	Started erratically around center, more reliably center in late 60s and 70s, and moved right in 80s and 90s 50s = +7.0 60s = +4.3 70s = +3.7 80s = +28.5 90s = +27.3

Source: Estimations and compilations by authors based on CMP98 data (Budge et al. 2001)

[a] A drifting party takes left-right positions in a manner that change predictably from one election to the next but has an estimated long-run left-right position close to its mean left-right position over the post-war period (within ±4 points). For details on the estimations of patterns of drift, see the Appendix.

Figure 1: Across-time Positions of the Dutch Median Voter as Calculated by the Kim-Fording Measurement



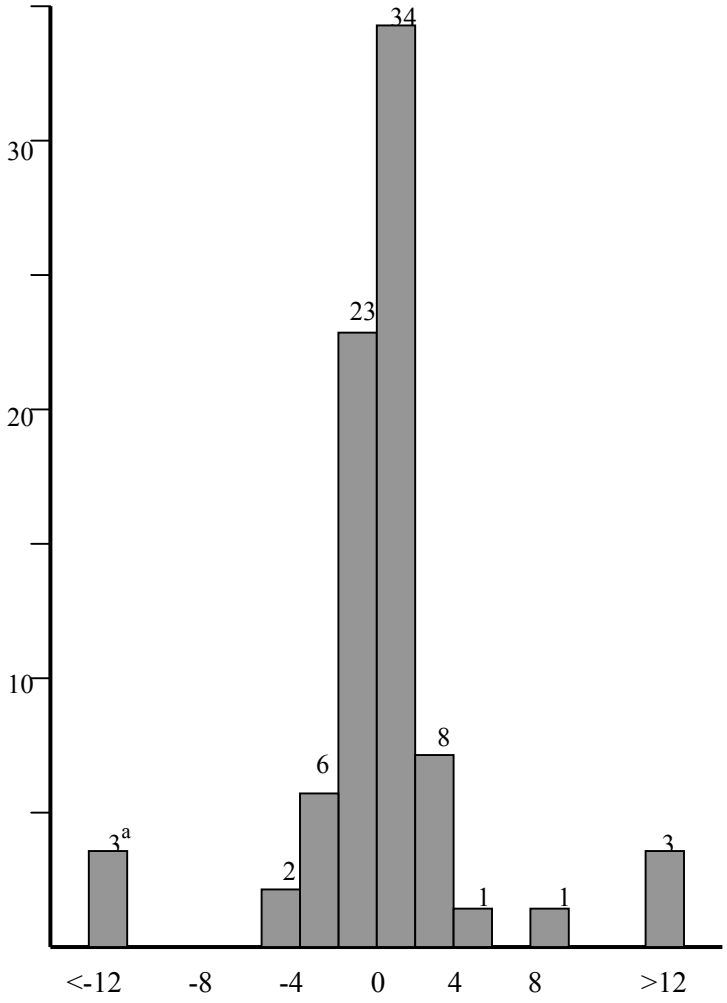
Autoregressive equation:

$$MV_t = -7.3 + .29\ MV_{t-1}, \text{ with } R^2 = .13, \text{ and } s_e = 10.5.$$
$$(3.7)\ \ (.24)$$

Results not statistically significant, $t = 1.21$ ($p > .10$, one-tail test).

Figure 2: Contained in separate file, see *PtyDynFig2.doc*

Figure 3: Histogram of the Difference between a Party's Mean and Long-run Expected Left-Right Position



Source: Compiled by authors from CMP98 data (Budge et al. 2001).

[a] One large leftward changer (-34, Dutch ARP) is not fully depicted in this representation; it is one of the three in the category of < -12.

Figure 4: Examples of the Correspondence between Observed and Estimated Left-Right Positions of Two Parties, One with a Systematic Dynamic (Austrian FPÖ) and Another with no Systematic Dynamic (Norwegian DNA)

Figure 4a: Austrian FPÖ Observed and Predicted Left-Right Positions

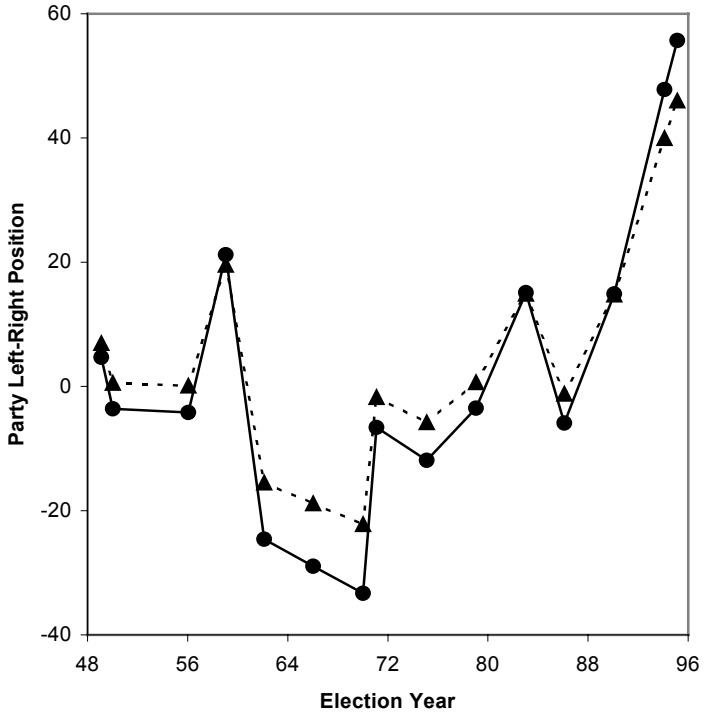
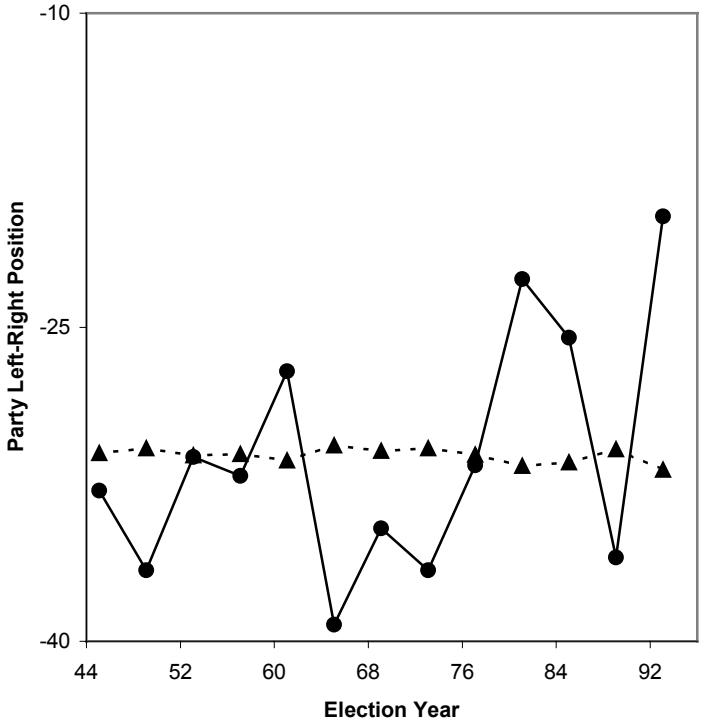
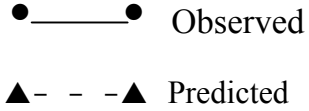


Figure 4b: Norwegian DNA Observed & Predicted Left-Right Positions





Appendix

Country	Party	CMPid	N	Mean	std dev	a	s_a	b	s_b	t	rho	Target
Australia	LAB	63320	22	-11.1	16.7	-2.79	4.44	.620	.232	2.67	.07	-7.3
	LIB	63620	22	22.0	17.3	15.76	6.12	.336	.229	1.47	.03	23.7
	CP	63810	22	27.2	20.5	22.20	7.56	.165	.230	0.72	.02	26.6
Austria	SPÖ	42320	15	-14.1	14.9	-13.32	7.61	.047	.379	0.12	.19	-14.0
	FPÖ	42420	15	2.5	25.4	3.33	5.74	.766	.277	2.77	.01	14.2
	OVP	42520	15	16.9	18.1	10.19	6.39	.367	.282	1.30	.07	16.1
Belgium	PSB/BSP	21320	11	-24.4	13.7	-36.04	8.45	-.438	.304	-1.44	.23	-25.1
	SP	21321	6	-21.1	7.1	-19.86	11.87	-.017	.512	-0.03	-.14	-19.5
	PS	21322	6	-13.4	8.3	-20.71	4.37	-.401	.328	-1.22	-.17	-14.8
	PLP/PVV	21420	8	20.8	11.6	28.55	9.65	-.355	.424	-0.84	.21	21.1
	PVV	21421	8	13.3	15.3	9.81	10.17	.349	.496	0.70	.50	15.1
	PRL	21422	8	6.5	11.9	4.62	5.53	.419	.402	1.04	.32	8.0
	PSC/CVP	21520	7	3.0	12.8	-2.29	2.14	.190	.419	0.45	.18	-2.8
	CVP	21521	10	-1.9	10.1	0.49	2.45	.674	.240	2.81	.06	1.5
	PSC	21522	10	-4.5	10.8	-1.48	3.66	.471	.316	1.49	.08	-2.8
	FDF	21912	9	-3.7	5.0	-5.31	2.25	-.303	.369	-0.82	-.14	-4.1
	VU	21913	12	-3.6	12.0	-2.14	3.58	.501	.286	1.75	.09	-4.3
Canada	NDP	62320	17	-33.1	9.6	-26.72	9.05	.188	.262	0.72	-.01	-32.9
	LIB	62420	17	-2.5	9.5	-2.68	2.55	.152	.263	0.58	-.02	-3.2
	PCP	62620	17	4.2	10.8	3.22	2.54	.477	.223	2.14	-.03	6.2
	SC	62951	9	-1.0	16.5	1.84	6.07	.180	.374	0.48	.02	2.2
Denmark	DKP	13220	17	-31.7	12.4	-23.19	8.49	.295	.254	1.16	.00	-32.9
	SF	13230	15	-31.8	12.4	-25.71	5.81	.110	.168	0.65	.19	-28.9
	SD	13320	21	-16.3	11.0	-15.64	4.74	.002	.237	0.01	.04	-15.7
	CD	13330	10	21.9	16.5	8.34	9.57	.608	.337	1.80	.22	21.3
	RV	13410	21	-8.6	9.9	-8.40	3.06	-.018	.233	-0.08	.03	-8.3
	VEN	13420	21	21.0	14.6	22.93	6.30	-.090	.275	-0.33	.14	21.0
	KrF	13520	11	20.3	10.5	7.89	7.40	.575	.314	1.83	.15	18.6
	KF	13620	21	25.9	16.4	28.17	6.86	-.036	.221	-0.16	-.04	27.2
	FP	13951	10	28.2	14.5	34.06	11.11	-.154	.376	-0.41	.03	29.5
	RF	13952	17	11.4	10.0	12.23	4.55	-.048	.298	-0.16	.19	11.7
France	PCF	31220	11	-36.7	9.8	-41.78	7.74	-.151	.212	-0.71	-.30	-36.3
	PS	31320	11	-28.8	14.0	-14.92	10.65	.443	.315	1.41	-.09	-26.8
	Gaul	31621	11	15.8	12.6	14.43	7.30	.081	.351	0.23	.07	15.7
Germany	SPD	41320	14	-15.1	9.1	-12.28	6.23	.156	.344	0.45	.21	-14.5
	FDP	41420	14	0.4	11.3	0.61	3.14	-.365	.278	-1.31	.00	0.4
	CDU-CDS	41521	14	10.9	18.2	12.77	5.86	-.011	.293	-0.04	-.05	12.6
Ireland	LAB	53320	16	-22.1	10.5	-21.61	7.59	.028	.303	0.09	.24	-22.2
	FG	53520	16	11.1	26.2	3.91	6.47	.399	.227	1.76	-.06	6.5
	FF	53620	16	6.4	22.4	5.10	5.80	.386	.249	1.55	.02	8.3
Italy	PCI	32220	12	-15.1	12.3	-16.35	8.61	-.108	.436	-0.25	-.04	-14.8
	PSI	32320	12	-15.6	14.8	-6.15	7.21	.449	.329	1.36	.04	-11.2
	PSDI	32330	11	-12.8	16.2	-2.08	5.28	.582	.252	2.31	-.34	-5.0
	PRI	32410	12	-0.7	21.9	3.03	5.49	.802	.290	2.77	-.02	15.3
	PLI	32420	12	6.4	17.2	6.72	5.76	-.141	.317	-0.44	.44	5.9
	DC	32520	12	0.7	11.5	-1.90	2.23	.254	.198	1.28	.15	-2.5
	MSI	32710	12	9.7	17.2	8.59	6.53	.238	.360	0.66	.03	11.3
Luxembourg	KPL	23220	11	-41.4	14.1	-32.32	15.11	.216	.345	0.63	.04	-41.2
	LSAP	23320	12	-30.4	12.7	-27.56	10.93	.053	.324	0.16	.10	-29.1
	DP	23420	10	-4.6	12.0	-2.36	4.67	.354	.411	0.86	.11	-3.7
	CSV	23520	12	-5.5	15.9	-8.68	4.03	-.019	.251	-0.08	.24	-8.5

Country	Party	CMPid	N	Mean	std dev	a	s_a	b	s_b	t	rho	Target
Netherlands	PvdA	22320	16	-25.0	12.0	-12.56	6.62	.507	.238	2.13	.03	-25.5
	D66	22330	10	-18.3	11.6	-8.57	6.98	.531	.320	1.66	.08	-18.3
	VVD	22420	16	13.4	8.4	13.54	4.46	-.037	.277	-0.13	.00	13.1
	CDA	22521	7	-8.5	6.3	-3.02	5.50	.515	.494	1.04	.15	-6.2
	KVP	22522	9	-1.9	14.5	-2.48	5.62	.291	.408	0.71	-.02	-3.5
	ARP	22523	9	5.0	14.6	-3.50	3.39	.882	.229	3.85	-.22	-29.6
	CHU	22525	9	8.9	17.5	-0.95	6.70	.697	.348	2.00	-.26	-3.1
New Zealand	LAB	64320	18	-24.4	11.1	-9.88	5.63	.596	.217	2.75	.07	-24.5
	NP	64620	18	2.9	13.1	2.67	3.44	.180	.257	0.70	.08	3.3
	SC	64951	13	-19.7	13.2	-23.33	7.40	-.190	.310	-0.61	.21	-19.6
Norway	SV	12221	9	-38.8	6.6	-25.31	16.68	.337	.415	0.81	.22	-38.2
	DNA	12320	13	-31.2	5.9	-32.99	12.66	-.060	.389	-0.15	.17	-31.1
	VEN	12420	13	-19.1	10.6	-13.78	7.19	.286	.320	0.89	.07	-19.3
	KF	12520	13	-0.1	13.6	-0.96	3.01	.655	.222	2.95	.15	-2.8
	HØYRE	12620	13	3.5	12.3	1.12	3.24	.516	.267	1.93	.11	2.3
	SP	12810	13	-4.5	17.2	-5.11	1.67	.708	.097	7.30	.65	-17.5
Sweden	VP	11220	17	-41.1	5.3	-33.31	11.24	.184	.269	0.68	-.01	-40.8
	SDP	11320	17	-23.2	19.7	-10.01	7.34	.513	.237	2.16	-.12	-20.6
	FP	11420	17	-4.2	24.5	-3.27	5.56	.492	.226	2.18	.14	-6.4
	MSP	11620	17	36.9	17.4	21.58	9.55	.382	.235	1.63	-.10	34.9
	CP	11810	17	-3.3	12.3	-0.21	2.58	.706	.208	3.39	.07	-0.7
Switzerland	SPS	43320	13	-20.1	13.8	-26.56	5.62	-.198	.230	-0.86	-.42	-22.2
	FDP	43420	13	19.0	12.4	21.22	6.98	-.082	.326	-0.25	.20	19.6
	CVP	43520	13	10.1	16.3	2.40	4.65	.635	.239	2.66	.13	6.6
	SVP	43810	12	9.9	13.0	9.91	5.03	-.044	.310	-0.14	-.02	9.5
United Kingdom	LAB	51320	15	-25.8	13.8	-31.31	11.54	-.210	.385	-0.55	.23	-25.9
	LIB	51420	15	-8.4	12.9	-9.54	4.44	-.118	.287	-0.41	.06	-8.5
	CON	51620	15	7.9	18.8	2.04	3.57	.806	.185	4.36	.31	10.5
United States	DEM	61320	13	-12.8	11.5	-0.35	4.79	.817	.275	2.97	-.06	-1.9
	REP	61620	13	13.9	14.5	8.21	5.41	.484	.281	1.72	.03	15.9

Table entries for each of the 81 parties include:

CMPid, the Comparative Manifesto Project party identification numerical code; party family is indicated by the third digit of the code—i.e., communist = 2; socialist/social democrat/labor = 3; liberal = 4; Christian = 5; conservative = 6; agrarian = 7; nationalist = 8; special interest/ethnic/regional = 9.

N, number of consecutive elections for which there are coded left-right positions

Mean, mean left-right position (left is negative; right is positive)

std dev, standard deviation of left-right position

a and $\mathbf{s_a}$, intercept and its standard error for dynamic equation estimate, where for each party the estimated equation is $LR_t = a + bLR_{t-1} + e_t$

b and $\mathbf{s_b}$, slope and its standard error for dynamic equation estimate, where for each party the estimated equation is $LR_t = a + bLR_{t-1} + e_t$

t, t-value for the slope coefficient

rho, residual autocorrelation calculated as 1 – d/2, where d is Durbin-Watson d

Target, estimated left-right position in the long run, calculated from the dynamic equation; target = a / (1 – b)