

*Party Loyalty at Referenda and General Elections :
Evidence from Recent Irish Contests*

COLM McCARTHY
TERENCE M. RYAN

Précis: The paper explores the extent of voter loyalty to party at different kinds of electoral contest. Voter transition matrices are computed using an estimation technique based on a quadratic programming algorithm. The data come from recent referenda, General and Presidential Elections in the Republic of Ireland and some strong patterns are evident in the results. A large group of voters consistently abstains and loyalty to party seems higher at General Elections than at referenda or Presidential contests.

THE inspection of aggregate election result data reveals only the net changes which have occurred in voter preferences although greater interest should logically attach to the gross changes. Thus aggregate data might show that a party's vote has fallen from 40 per cent to 35 per cent. This could have occurred through a gross loss of 5 per cent and no gain, or through, for example, a 10 per cent loss and a 5 per cent gain. The availability of a cross-section of voting data, in the form of constituency-by-constituency returns, permits the estimation of a voter transition matrix which identifies the gross movements and several authors have reported estimates of such matrices in recent years.

In the next section the characterisation of electoral outcomes as transition problems is outlined and estimation methods are discussed. The third section reports estimates of voter transitions from recent elections in the Republic of Ireland. The fourth section considers the implied party loyalty rates followed by some concluding observations.

2. *Estimating Voter Transition Rates from Electoral Data*

The result of an election may be represented by a matrix R having n rows, one for each party, and m columns, one for each constituency. An artificial "party" is constructed for those abstaining; and, in the case of referenda, the "yes" and "no" voters are regarded as parties.

The 1969 General Election was won comfortably by Fianna Fail but a coalition of Fine Gael and Labour secured a majority in 1973. The Presidential Election shortly afterwards was contested by Mr. Childers of Fianna Fail and Mr. O'Higgins of Fine Gael, the latter also enjoying the endorsement of the Labour party.

The first of the three referenda held in 1972 concerned Ireland's entry into the European Community. Both Fianna Fail and Fine Gael supported entry but Labour, some minor parties and the trade union movement were opposed.

The second and third referenda were both held on the one day. The second concerned a proposal to reduce the age of enfranchisement from 21 to 18 and the third the deletion of certain references to religious organisations from Article 44 of the Constitution.

Data are available for all six of these contests for the same set of 42 constituencies which affords sufficient degrees of freedom for estimation.

We begin with the estimates of the voter transitions between the two General Elections:

TABLE 3.2: 1973 General election vs. 1969 General election
Voter Transition Matrix

		1969					γ
		NV	FF	FG	LAB	OTH	
1973	NV	·895	·068	·000	·028	·147	·096
	FF	·000	·900	·071	·122	·256	·232
	FG	·101	·000	·884	·077	·190	·213
	LAB	·000	·000	·000	·774	·000	·341
	OTH	·004	·033	·046	·000	·407	·119

(Columns may not sum to unity exactly, due to rounding errors).

The elements in each column show how the 1969 electors distributed their support at the 1973 contest. The column headed $\hat{\gamma}$ shows how the increase in the size of the electorate was distributed.

The main diagonal in this matrix suggests a high degree of party loyalty in the behaviour of the Non-Voter, Fianna Fail and Fine Gael groups, roughly 90 per cent of whom voted as before in 1973. The exception is Labour, which sustained a drop in overall support at this election, only 77 per cent of their earlier supporters remaining loyal to the party. The main beneficiaries of the decline in Labour support appear to have been Fianna Fail, with Fine Gael also attracting some ex-Labour voters. The greater FF share in Labour defections may reflect disenchantment with the Coalition arrangement amongst sections of Labour's support.

*Party Loyalty at Referenda and General Elections :
Evidence from Recent Irish Contests*

COLM McCARTHY
TERENCE M. RYAN

Précis: The paper explores the extent of voter loyalty to party at different kinds of electoral contest. Voter transition matrices are computed using an estimation technique based on a quadratic programming algorithm. The data come from recent referenda, General and Presidential Elections in the Republic of Ireland and some strong patterns are evident in the results. A large group of voters consistently abstains and loyalty to party seems higher at General Elections than at referenda or Presidential contests.

THE inspection of aggregate election result data reveals only the net changes which have occurred in voter preferences although greater interest should logically attach to the gross changes. Thus aggregate data might show that a party's vote has fallen from 40 per cent to 35 per cent. This could have occurred through a gross loss of 5 per cent and no gain, or through, for example, a 10 per cent loss and a 5 per cent gain. The availability of a cross-section of voting data, in the form of constituency-by-constituency returns, permits the estimation of a voter transition matrix which identifies the gross movements and several authors have reported estimates of such matrices in recent years.

In the next section the characterisation of electoral outcomes as transition problems is outlined and estimation methods are discussed. The third section reports estimates of voter transitions from recent elections in the Republic of Ireland. The fourth section considers the implied party loyalty rates followed by some concluding observations.

2. Estimating Voter Transition Rates from Electoral Data

The result of an election may be represented by a matrix R having n rows, one for each party, and m columns, one for each constituency. An artificial "party" is constructed for those abstaining; and, in the case of referenda, the "yes" and "no" voters are regarded as parties.

The matrix S may represent the result of a preceding election which must have been fought on the same set of constituency boundaries—if not, the techniques discussed here require modification. We need not require that the number of parties be the same, so S has l rows and m columns. Of course, in practice, l will often be equal to n .

Finally, if the numbers of people entitled to vote in the various constituencies have changed between the two elections, the $1 \times m$ vector g contains these net changes.

The transition in voter preferences between the two elections may be expressed by the matrix equation

$$R = TS + \gamma g \quad (2.1)$$

where T is the $n \times l$ transition matrix and γ an $n \times 1$ vector. The typical element of T , say t_{ij} , is the proportion of electors previously voting for the j -th party who now vote for the i -th party, while the γ vector shows how changes in the numbers entitled to vote are distributed among the parties.

The elements of T and γ must all be positive fractions and the sum of the elements of γ and of each column of T must be unity. The full set of *a priori* restrictions, including both exact and inequality constraints, is:

$$0 \leq t_{ij} \leq 1 \quad \text{all } i, j,$$

$$\sum_{i=1}^n t_{ij} = 1 \quad \text{all } j \quad (2.2)$$

$$0 \leq \gamma_i \leq 1 \quad \text{all } i$$

$$\text{and } \sum_{i=1}^n \gamma_i = 1$$

The simplest method of estimating the transition probabilities is to regard each row of (2.1) as a set of m observations on a regression equation of the form

$$r_{ij} = t_{i1}s_{1j} + t_{i2}s_{2j} \dots + t_{il}s_{lj} + \gamma_i g_j + e_{ij} \quad (2.3)$$

$$j = 1, \dots, m$$

where the e_{ij} are disturbance terms. This approach has been used by Hawkes (1969) amongst others but the simplicity of this approach is balanced against the risk of obtaining estimates which violate the constraints where unrestricted regression is used.

When the estimation criterion is the minimisation of the sum of the squared residuals, and when both the exact and the inequality constraints are imposed, the problem reduces to a quadratic program of a quite straightforward type. The use of quadratic programming techniques in the estimation of models of this kind was first proposed by Lee, Judge and Takayama (1965) and Theil and Rey (1966)

and an application to electoral data can be found in Irwin and Meeter (1969). In the latter study, the g -vector of changes in the size of the electorate happened to be zero, which simplifies the problem somewhat.

The estimates of voter transition matrices in the next section were estimated by the quadratic programming method and the programmes solved by the short form of the Wolfe algorithm (Wolfe (1959)). A more detailed discussion of estimation methods for voter transition problems is contained in our earlier paper, McCarthy and Ryan (1974).

3. Estimates from Recent Irish Elections

Before discussing the transition matrices estimated from the Irish data a few preliminary remarks are in order. The Irish Constitution requires that a referendum be held whenever a Constitutional amendment has received Parliamentary approval. Three such referenda, all successful, have been held during our data period. In addition, when more than one candidate is nominated for the Presidency, a national poll is taken. One such contest occurred between 1969 and 1973, in which years there were also elections to the Dail (lower house of the legislature).

The three principal political parties in the Irish Republic are Fianna Fail (FF), Fine Gael (FG) and Labour (LAB) and a full discussion of their ideological complexion can be found in Manning (1972). In the European Parliament, Fianna Fail sit with the French Gaullists as part of the European Progressive Democrat group, Fine Gael sit with the Christian Democrats and Labour with the Social Democrats. Thus the first two parties would appear to have classified themselves as centre-right parties and the latter as a social democrat party, although not everyone would subscribe to such a simple classification. Table 3.1 gives the percentage breakdown of votes at the six national elections held from 1969 to 1973—the additional abbreviations are *NV* for Non-Voters (the aggregate of abstainers and vote-spoilers), and *OTH* for Others, the aggregate of minor parties and independents.

TABLE 3.1: National election results, 1969, '73

	<i>NV</i>	<i>FF</i>	<i>FG</i>	<i>LAB</i>	<i>OTH</i>
	(%)	(%)	(%)	(%)	(%)
1969 General Election	24.0	34.7	25.9	12.9	2.5
1973 General Election	24.3	35.0	26.6	10.4	3.8
1973 Presidential Election	38.0	32.2	29.8	—	—
		<i>NV</i>	<i>YES</i>	<i>NO</i>	
		(%)	(%)	(%)	
1972 1st Referendum		29.7	58.4	11.9	
1972 2nd Referendum		52.0	40.6	7.4	
1972 3rd Referendum		52.1	40.4	7.5	

The 1969 General Election was won comfortably by Fianna Fail but a coalition of Fine Gael and Labour secured a majority in 1973. The Presidential Election shortly afterwards was contested by Mr. Childers of Fianna Fail and Mr. O'Higgins of Fine Gael, the latter also enjoying the endorsement of the Labour party.

The first of the three referenda held in 1972 concerned Ireland's entry into the European Community. Both Fianna Fail and Fine Gael supported entry but Labour, some minor parties and the trade union movement were opposed.

The second and third referenda were both held on the one day. The second concerned a proposal to reduce the age of enfranchisement from 21 to 18 and the third the deletion of certain references to religious organisations from Article 44 of the Constitution.

Data are available for all six of these contests for the same set of 42 constituencies which affords sufficient degrees of freedom for estimation.

We begin with the estimates of the voter transitions between the two General Elections:

TABLE 3.2: 1973 General election vs. 1969 General election
Voter Transition Matrix

		1969					γ
		NV	FF	FG	LAB	OTH	
1973	NV	·895	·068	·000	·028	·147	·096
	FF	·000	·900	·071	·122	·256	·232
	FG	·101	·000	·884	·077	·190	·213
	LAB	·000	·000	·000	·774	·000	·341
	OTH	·004	·033	·046	·000	·407	·119

(Columns may not sum to unity exactly, due to rounding errors).

The elements in each column show how the 1969 electors distributed their support at the 1973 contest. The column headed $\hat{\gamma}$ shows how the increase in the size of the electorate was distributed.

The main diagonal in this matrix suggests a high degree of party loyalty in the behaviour of the Non-Voter, Fianna Fail and Fine Gael groups, roughly 90 per cent of whom voted as before in 1973. The exception is Labour, which sustained a drop in overall support at this election, only 77 per cent of their earlier supporters remaining loyal to the party. The main beneficiaries of the decline in Labour support appear to have been Fianna Fail, with Fine Gael also attracting some ex-Labour voters. The greater FF share in Labour defections may reflect disenchantment with the Coalition arrangement amongst sections of Labour's support.

Finally, only 41 per cent of those voting for candidates in the "Others" group in 1969 continued to do so, but given the heterogeneity of this group, this is not surprising. All groups received some benefit from the increase in the size of the electorate, Labour somewhat more than the others. The large number of zero elements in this transition matrix is also rather striking.

The electoral law in the Republic of Ireland requires that elections be fought under a system involving multi-member constituencies and transferable votes. This of course does not apply to referenda or to Presidential elections or by-elections with one vacancy and just two candidates. For General Elections, the first preference vote totals seem the best indicator of party support and these have been used in the estimation of all the transition matrices.

However, a party can win support from another through attracting lower preference transfers of votes under the Irish system so the link between the voter transition matrix in 3.2 and the result of the election is more tenuous than would be the case under simple plurality electoral laws.

Cohan, McKinlay and Mughan (1974) have analysed the 1973 Irish results concentrating attention on the effects of the Fine Gael-Labour coalition agreement which urged voters to transfer lower preference votes within the coalition parties. They effectively demonstrate the importance of this pre-election pact in aiding the coalition victory. They call the improvement in lower-preference vote retention "secondary conversion" to distinguish it from movements in first preference votes, "primary conversion", which they argue was of little importance in 1973. This seems to be the case although there is less than full cancelling-out in the movement of voters evident in Table 3.2. Fianna Fail gained somewhat more on the swings than they lost on the roundabouts, but the Fine Gael-Labour alignment improved its performance over 1969, when there was no pre-election agreement, in the lower preference vote distributions.

The first of the three constitutional referenda held in 1972 concerned Ireland's proposed membership of the European Economic Community, and all the major parties and interest groups participated in the campaign. Fianna Fail and Fine Gael urged a "yes" vote, supported by business and farming interests. Labour campaigned against entry, backed by the trade unions and minor Republican parties. The voter transitions from the 1969 General Election are presented in Table 3.3.

TABLE 3.3: 1972 Referendum (EEC) vs. 1969 General Election

	<i>NV</i>	<i>FF</i>	<i>FG</i>	<i>LAB</i>	<i>OTH</i>	$\hat{\gamma}$
NV	.845	.221	.028	.029	.293	.225
YES	.050	.663	.967	.600	.547	.634
NO	.105	.115	.015	.371	.160	.141

The Non-Voter group again appears to have abstained at this referendum but the most surprising feature is the large percentage of Fianna Fail supporters who abstained (22.1 per cent) or voted NO (11.5 per cent). In contrast, 97 per cent of Fine Gael voters obeyed their party's advice to vote YES. The Labour group seems to have split roughly 60/40 in favour of entry even though the party led the campaign against.

In a study of the EEC referendum, Garvin and Parker (1972) conclude that "... the picture is one of a high voter consistency between 1969 and 1972", and that the voting pattern was a "... confirmation of the highly entrenched character of party loyalties in the Irish electorate". The estimates in Table 3.3, particularly in so far as the Labour vote is concerned, do not fully support this interpretation, in contrast to the pattern of high voter loyalty evident in the transition matrix for the 1969 and 1973 General Elections.

The second constitutional amendment carried in 1972 effected a reduction in the voting age from 21 to 18 years through the amendment of Article 16, and was supported by all the political parties. Indeed, the campaign was remarkable for the lack of any organised opposition to the proposed reduction in the voting age. On the same day, a second amendment was carried which deleted from Article 44 references to the major churches existing in 1937 when the Constitution was framed. The most significant of the deleted sections recognised the "special position" of the Roman Catholic church as the majority faith in Ireland. All the political parties supported this amendment and the churches did not intervene in the election campaign. Less than 50 per cent of the electorate voted at these two referenda, both of which were carried by majorities in excess of 5 to 1. Tables 3.4 and 3.5 display the transition matrices estimated for these two contests.

TABLE 3.4: 1972 Referendum (Art. 16) vs. 1969 General Election

	<i>NV</i>	<i>FF</i>	<i>FG</i>	<i>LAB</i>	<i>OTH</i>	$\hat{\gamma}$
<i>NV</i>	.856	.583	.251	.284	.604	.324
<i>YES</i>	.076	.418	.642	.502	.354	.568
<i>NO</i>	.068	.000	.108	.214	.043	.108

TABLE 3.5: 1972 Referendum (Art. 44) vs. 1969 General Election

	<i>NV</i>	<i>FF</i>	<i>FG</i>	<i>LAB</i>	<i>OTH</i>	$\hat{\gamma}$
<i>NV</i>	.831	.594	.257	.296	.606	.326
<i>YES</i>	.169	.324	.675	.486	.298	.653
<i>NO</i>	.000	.082	.068	.218	.096	.021

The elements in these two matrices are very similar, more so than might have been the case had the two referenda been held on separate days. The elements in the first row of both matrices are fairly large, reflecting the low turnout. Fine Gael and Labour voters participated to a greater extent than the supporters of Fianna Fail, but all the voting groups showed large majorities in favour of the amendments. The proportion of No-Voters amongst Labour supporters was, perhaps surprisingly, higher than with the other parties.

Finally, Table 3.6 contains the results for the 1973 Presidential election which was held shortly after the General Election of that year and was the first occasion on which the 18-year-old enfranchisement came into operation. Two candidates were nominated, Mr. Childers, a former Fianna Fail Minister and Deputy-Premier, and Mr. O'Higgins, a leading Fine Gael front-bencher. The Labour party, now part of the coalition government with Fine Gael, did not nominate a candidate, choosing instead to support Mr. O'Higgins.

TABLE 3.6: 1973 Presidential Election vs. 1973 General Election

		NV	FF	FG	LAB	OTH	$\hat{\gamma}$
Childers	(NV)	1.000	.017	.022	.346	.586	1.000
	(FF)	.000	.737	.275	.146	.272	.000
O'Higgins	(FG, LAB)	.000	.246	.703	.507	.142	.000

The non-participation of both the non-voter and net-change groups, the latter dominated by the accession of voters in the 18-21 age-group to the register, is the most obvious feature of this matrix, but perhaps more interesting is the large amount of vote switching which occurred between the major parties. About a quarter of both Fine Gael and Fianna Fail support crossed over to the opposing candidate—a far greater switch than at the General Election earlier in the year (see Table 3.2 above).

The Presidency in Ireland is a non-political and indeed a largely ceremonial office and it would appear that the electorate are swayed by the personalities of the candidates and the intensity of campaigning rather more than is the case at General Elections.

Finally, almost 35 per cent of Labour voters stayed at home, a reflection perhaps of their party's decision not to nominate a candidate. Those Labour voters who did participate split in favour of Mr. O'Higgins in roughly the same ratio as the supporters of his own Fine Gael party.

4. An Index of Party Loyalty

The estimation of the (gross) voter transition matrices enables one to address the issue of devising an overall index of party loyalty at each of the electoral contests under consideration.

Any such index should display the property of being directly comparable across elections even when the two voter transition matrices have different dimensionality. Thus, for example, the index derived from Table 3.2 should be comparable with that derived from Table 3.6 in order for one to be able to compare party loyalty in the two situations.

One convenient index which fulfils this criterion is the normalised sum of party loyalty coefficients. Thus suppose that K parties (renumbering them $1, \dots, K$) in the first election advise their supporters how to vote in the second election (K may be less than or equal to N). Let V_1, V_2, \dots, V_K be the total number of votes cast for each of the K parties on the first occasion, and let $t_{.j} = 1, \dots, K$ denote the loyalty rates as computed in the voters transition matrix. Then an aggregate index (μ) for the election as a whole may be computed as:

$$\mu = \sum_{j=1}^K \frac{V_j}{V} t_{.j}$$

where $V \equiv \sum_{j=1}^K V_j$ is the total number of votes cast on the first occasion for *all* the relevant parties.

Since $\frac{V_j}{V}$ which by definition lies between zero and unity is a weight on $t_{.j}$ which also lies between zero and unity, and since $\frac{V_j}{V} = 1$ it is clear that μ is an appropriately weighted average of the individual party loyalty rates.

TABLE 4.1: *Loyalty rates at five electoral contests*

<i>Electoral Contest</i>	<i>Party Loyalty Coefficient</i>
1972 1st Referendum (EEC)	·719
1972 2nd Referendum (Article 16)	·512
1972 3rd Referendum (Article 44)	·476
1973 General Election	·872
1973 Presidential Election	·691

For the first four of these contests, the loyalty index gives the proportion of major party voters from the 1969 election who voted again for their party, or in accordance with party instructions, at the ensuing contest. For the fifth, the index refers to the 1973 distribution of party support, this being the immediately preceding General Election in that case.

The table requires little comment above that contained in the discussion of the individual voter transition matrices. The General Election of 1973 saw over 87 per cent of major party support remain loyal to the party chosen in 1969. However, the 1973 Presidential Election and the EEC Referendum had loyalty

rates of just 69 per cent and 72 per cent respectively, while at the other two referenda only about 50 per cent remained loyal. The low loyalty rates are explained partly by abstention and partly by switches of allegiance, but the overall pattern is clear enough: at the legislative contest in 1973, voters, many of whom had deserted in the interim, remained by and large loyal to their 1969 choice. But previous party allegiance is unlikely to be as good a predictor of voter behaviour at non-legislative elections.

5. Concluding Remarks

One feature of the transition matrices estimated in section three is the apparent stability in the behaviour of the non-voting group. In no case did more than 16.9 per cent of those previously not voting (or spoiling their vote) participate in the subsequent poll. The average for the five cases considered was only 11.5 per cent and in one case it was zero. This rather suggests that a large minority of the Irish electorate, somewhere around 20 per cent of all those enfranchised, never voted during this period. It would be of considerable interest to know more about the demographic and socio-economic composition of this non-voting group.

A strong degree of loyalty among the major parties was evident at the 1973 General Election. However this appears to break down at referenda and Presidential contests. It has often been observed that voters may declare allegiance to a particular party in opinion surveys while differing from that party's view on specific issues. The Irish referenda permit this pattern to manifest itself at the polls and it appears that this does in fact happen. Moreover, when the leadership of a party backs a referendum unpopular with party supporters, this conflict seems to be resolved to some extent by abstention.

Finally, it is tempting to offer some generalisations about the nature of party support in Ireland. Labour appears to have the most volatile following, substantial numbers of their supporters, majorities in some cases, either not voting or voting contrary to the party's advice. Fine Gael and Fianna Fail seem to have more cohesive support, the former having a slight edge—the proportion of Fine Gael voters switching to the non-voter group is substantially lower than the Fianna Fail proportion, for example. But Irish voters are by no means staunch party loyalists; particularly at non-legislature contests, they consistently forsake party allegiance in significant numbers.

Institute of Public Administration, Dublin
Trinity College, Dublin

ACKNOWLEDGEMENTS

The authors wish to thank Patrick Geary and an anonymous referee for comments on an earlier draft of this paper, and June Ryan for programming advice. Participants at a seminar in University College Dublin in December 1975 made a number of helpful suggestions. The customary disclaimer applies.

REFERENCES

- COHAN, A., R. MCKINLAY and A. MUGHAN, 1975. "Coalition Formation as a Strategy in Affecting the Outcome of Elections: Conversion and Wastage Reduction in the Irish General Election of 1973", forthcoming in *British Journal of Political Science*.
- GARVIN, I. and A. PARKER, 1972. "Party Loyalty and Irish Voters: the EEC Referendum as a Case Study", *Economic and Social Review*, Vol. 4, No. 1.
- HAWKES, A., 1969. "An Approach to the Analysis of Electoral Swing", *Journal of the Royal Statistical Society, Series A*, Vol. 132.
- IRWIN, G. and D. MEETER, 1969. "Building Voter Transition Models from Aggregate Data", *Midwest Journal of Political Science*, Vol. 13.
- LEE, J., G. JUDGE and T. TAKAYAMA, 1965. "On Estimating the Transition Probabilities of a Markov Process", *Journal of Farm Economics*, Vol. 47.
- MANNING, M., 1972. *Irish Political Parties*, Dublin: Gill and Macmillan.
- MCCARTHY, C and T. RYAN, 1974. "Estimates of Voter Transition Probabilities from Recent Irish Data", *Institute of Public Administration*, Dublin: Discussion Paper No. 6.
- THEIL, H. and G. REY, 1966. "A Quadratic Programming Approach to the Estimation of Transition Probabilities", *Management Science*, Vol. 12.
- WOLFE, P., 1959. "The Simplex Method for Quadratic Programming", *Econometrica*, Vol. 27.