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Explaining the Irish Pattern of Social Fluidity: The Role of the Political

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Introduction

The empirical focus of this paper is the pattern of inter-generational social mobility in the Republic of Ireland as revealed through data collected in 1987, and the degree to which this has changed in comparison with results obtained from an earlier mobility survey undertaken in 1973. The conceptual starting point of the paper, however, is a concern to examine the broader question of the relationship between politics and social mobility using, as evidence, the Irish data.

It is clear that political decisions in areas concerned with economic policy and development can influence social mobility. In Ireland, for example, since the 1950s the state has been active in shaping the structure of job opportunities (Breen *et al.*, 1990). In some cases - as in, say, the subsidising of small farmers - the impact of policy on mobility patterns may be readily identifiable, but in other areas, such as public sector job creation or expenditure on training, an assessment will raise complex questions related to the probable outcomes that would have arisen in the absence of such interventions (Breen, 1990). Overall, then, we are in broad agreement with the view expressed by Goldthorpe (1990:417) that, while the effects of such structural change on mobility levels and patterns are substantial, it seems unlikely

that a useful sociological theory of occupational change or class structural change can be advanced. As a consequence

> ... class analysis must take a given structural context as its starting point and concentrate on the elucidation of the processes occurring within that context, mobility included. (Goldthorpe, 1990:412).

In assessing the impact of politics on social mobility we therefore focus attention not on overall (or 'absolute') rates of social mobility but, rather, on relative rates (or 'social fluidity'). The primary determinants of absolute rates are structural changes in a nation's occupational distribution over time. In mobility tables such shifts are reflected, albeit in a complex way and confounded with other effects, in the differences between the origin (fathers') and destination (sons') marginal distributions. Social fluidity, on the other hand, captures the degree of openness in inter-generational mobility net of structural effects as they are embodied in the marginal distributions of the table. In other words, by concentrating on social fluidity we can then assess the degree to which relative mobility chances and the level of inequality of mobility opportunity are a reflection of the ideology of a country's political regime and the policies pursued by governments, possibly over long periods of time. As is by now well known, the appropriate measure of such relative chances is the odds ratio. The odds in question are the odds of entering one destination class rather than

another, conditional on the sizes of those destination classes and a given class origin. An odds ratio is thus the ratio of two such odds, each of which is taken relative to a different class origin.[1]

The best known `theory' concerning politics and social fluidity is that of Featherman, Lancaster-Jones and Hauser (1975), the so-called FJH thesis. This states that "rates of social fluidity are basically the same in industrial societies with a market economy (and) a nuclear family system" (Erikson, 1988:3). The FJH thesis posits a similarity independent of politics. Studies such as those of Treiman (1970) reach a similar conclusion. These results are in contrast to the work of a number of earlier authors (such as Glass (1954)) who believed that politics and specific policy programmes could increase social mobility (Erikson, 1988).

Work undertaken in the late 1970s and 1980s has been equivocal on the relationship between politics and social fluidity. While many studies have shown that the FJH thesis does not hold when subjected to strict test (see Erikson, Goldthorpe and Portacarero, 1982; Breen and Whelan, 1985, among others), and that there are interesting and important cross-national deviations from a common pattern of social fluidity, there is little evidence regarding the causes of these deviations. In one study which specifically addressed this issue, Grusky and Hauser (1984) found that measures of inequality and social democracy did not explain such

deviations.[2] In their work on the CASMIN data set, Erikson and Goldthorpe (1987b) have reformulated the FJH thesis to allow for the possibility of the political helping to shape social fluidity:

> ... a basic similarity will be found in patterns of social fluidity ... across all nations with market economies and nuclear family systems where no sustained attempts have been made to use the power of the modern state apparatus in order to modify the processes, or the outcomes of the processes, through which class inequalities are intergenerationally reproduced. (Erikson and Goldthorpe, 1987b:162).

The phrase "sustained attempts" directs attention, in particular, to the impact of periods of socialist transformation in Eastern European societies and long-term social-democratic ascendancy in Sweden. Erikson and Goldthorpe's perspective, however, is clearly compatible with the notion of a continuum of levels of purposive action, implemented by the State through political decisions which affect

(i) inequality of condition and, in particular, equality of income;

(ii) the intergenerational transmission of wealth and the magnitude of the advantages associated with property;

(iii) equality of educational opportunity.

Our approach to the question of the link between politics and social mobility draws directly on these sorts of consideration. Ideally our empirical approach would be as follows. Given data on a set of countries

(or the same country at different times), we first model social fluidity in terms of a number of independent variables which we believe account for social fluidity in all industrialised nations. The cross-national variation in such fluidity would then be attributable to two things: first, variation in the strength of effect of these independent variables; and, secondly, cross-national differences in the distribution of these variables. These variables would, following our earlier discussion, measure such things as educational qualifications and the ownership of property and wealth - things which are, actually or potentially, open to modification by government action. Conditional on the correctness of our hypotheses about the specific factors determining social fluidity, this approach would shift the explanatory focus of cross-national analyses away from social fluidity *per se* towards variations in the distribution and relative strength of effect of the determinants of mobility and the causes of these.

Needless to say, in this paper we are constrained from implementing such an ambitious approach by the unavailability of the necessary data. Our data comprise mobility tables for Ireland in 1973 and 1987. Together with the 1987 mobility data we also have a good deal of other information concerning the respondents to the survey and their origins. We therefore begin by fitting a model which accounts for mobility in Ireland in 1987 in terms of a number of independent

variables. We then compare mobility in Ireland in 1973 (for which we do not have appropriate measured independent variables) with that in 1987 and ask whether such changes as we observe can be explained in terms of the changes we know to have taken place over the period in the independent variables we identify as important in accounting for mobility in 1987.

2. *Theoretical Models of Social Fluidity*

In this paper we take as our basic theoretical model that outlined by Goldthorpe (1980:99). Under this model the pattern of social fluidity is considered to be shaped by three factors. These are the relative desirability of different class destinations; the resources available to individuals within each origin class which help them gain access to more desirable destination classes; and barriers to movement between classes. Typically we think of resources as 'economic, cultural and social resources' (Erikson and Goldthorpe 1987a:64), while barriers to mobility would include the necessity to own the means of production; educational and other qualifications needed for entry to the occupations that comprise a class grouping; and so forth.

3. *Operationalising the Model*

The approach to modelling social fluidity outlined in the previous section has been operationalized previously by Erikson and Goldthorpe (1987a and b). Since our approach differs from theirs in some important respects,

we first describe their model before going on to outline our own.

In their `core model of social fluidity' (henceforth CMF), Erikson and Goldthorpe employ four types of effects to explain the observed pattern of relative mobility rates: "hierarchy effects" with two levels distinguished; "inheritance effects" distinguishing between an overall effect, an effect for those classes containing employers or self-employed, and an effect for farmers; "a sector effect" capturing movement into and out of agriculture; and affinity effects which are intended to "capture additional effects on mobility which derive from particular linkages or discontinuities between classes" (Erikson and Goldthorpe, 1987:67). The first such affinity term relates to the movement between the service class and that of agricultural workers and is intended to allow for factors which make exchanges between such classes, particularly improbable. The second affinity term covers instances where a higher propensity for immobility is attributed than would otherwise be the case.

All these effects are modelled as dummy variables. Thus there is no immediate relationship, in the CMF model, between social fluidity and factors which might be considered to influence social fluidity. In our model, by contrast, we seek, so far as possible, to explain social fluidity in terms of measured independent variables. We are able to do this for our 1987 data, though not for our 1973

data. In our 1987 data we have measures relating to destination and origin classes. We identify the former with the desirability of class destinations and the barriers to mobility into such destinations, and we identify the latter with resources for mobility.

Turning first to destination classes, here we have four possible measures. These are

Y1: gross mean household income in each destination class;

Y2: mean score in each destination class on a 20 item consumption scale;

Y3: mean percentage of men in each destination class permanently unable to work due to illness or unemployed at the survey date;

Y4: mean percentage of men in each destination having more than primary education;

Y1, Y2, and Y3 plausibly represent different aspects of the desirability of destinations, while Y4 is a measure of the barriers to class entry due to educational requirements.

Turning to our origin class measures, we use two measures:

X1: mean percentage of fathers in each origin class having only primary education;

X2: mean score in each origin class on a scale measuring the respondent's perceptions of his family's relative financial deprivation when he was growing up.

Both X1 and X2 can be viewed as measures of resources for mobility.

As yet we have said nothing about ownership of the means of production: this is clearly both a resource for mobility among men of farming, petit bourgeois and proprietorial

origins, as well as a barrier to entry among those from the remaining class origins. We operationalise these by using two further measures:

P1: the proportion of fathers in each origin class who are self-employed;

P2: the proportion of men in each destination class who are self-employed.

A very specific resource for mobility is demonstrated by the tendency for class inheritance. For all classes, an origin in a given class is a resource which improves one's chances of remaining in that class relative to the chances of men born in other classes entering that class. The reasons for this are diverse but they include such things as direct inheritance of the means of production; family tradition, and access to social networks. To capture this we fit a single parameter to the cells on the main diagonal of the table.

Within the model we include two further parameters which capture the special position of the agricultural sector. The first of these is a single parameter for farm inheritance over and above the general level of inheritance. The second captures the barrier to mobility into the agricultural sector. Note that this is a uni-dimensional barrier: it does not apply to movement out of agriculture. Indeed, we believe that to model a two-way barrier (into and out of agriculture) with the same parameter is likely to prove very misleading.

Finally, although we sought to capture the effects of ownership of the means of production as both a resource and a

barrier, we find that we require one additional parameter to capture the propensity of men of petit bourgeois and farm origins to move into the higher managerial, professional and large proprietor class.

We have, then, five variables which score our table's destinations and a further three scoring the origins. We could enter these into the model as terms formed by multiplying each origin score by each destination score, to give terms such as Y1X1, Y1X2, Y2X1, and so on. This would yield 15 terms, each using a single degree of freedom, and, indeed, we have fitted such a model. Such a model would tell us, for example, how each of the possible combinations of different desirability/barriers and resources measures influenced social fluidity. The model we discuss here, however, is rather more parsimonious. What we want is a model in which some measure of overall desirability/barriers and some generalised resource measure are used to shape the pattern of social fluidity. To arrive at such measures we simply took the first principal component of the origin scores, X1 and X2, as a measure of generalised resources (labelled X), and the first principal component of destination scores Y1, Y2, Y3 and Y4, to yield a measure of desirability and barriers (labelled Y). We excluded from the principal components analysis the more specific measures of resources and barriers associated with ownership of the means of production. These measures - P1 and P2 - were multiplied

together to form the variable P12 which captures the level of ownership of the means of production in each origin/destination combination.

Our final model includes, apart from the origin and destination main effects, the following variables:

XY: which captures the effect of generalised resources, desirability and barriers, conceptualised in a hierarchical fashion. Note that this term models the effects of desirability and barriers as varying according to the resources for mobility enjoyed by the different origin classes, and *vice versa;*

P12: a measure of ownership of the means of production in each origin/destination combination; SLP: the term for movement between *petit bouregois* or farm origins and the higher managerial, professional and large proprietor class. Together these terms capture the pattern of movement within the classes which own the means of production;

INH1: the term for overall class inheritance;

INH3: the term for farm inheritance, measured as additional to the level of overall class inheritance;

AGB: the term reflecting the barrier to movement into agricultural destinations from non-agricultural origins. We can write this model as

$$\log F_{ij} = \lambda + \lambda^{F} + \lambda^{S} + \lambda^{SLP} + \lambda^{INH1} + \lambda^{INH3} + \lambda^{AGB} + \alpha(XY) + P(12) \qquad (1)$$

where F_{ij} is the expected value in the ijth cell of the table, alpha is the parameter of association between X and Y and beta that between P1 and P2.

5. *Results*

We fitted this model to the 7x7 1987 Irish mobility table and also to a 14x14 mobility table. The definition of

the classes in each of these is set out in Table 1 of the earlier paper by Whelan *et al.*

Table 1 contains the results of applying model (1) to the 7x7 1987 Irish data. Panel A shows the goodness of fit relative to the independence model. Our model reduces the independence chi-squared by 96 per cent. By conventional criteria the model provides a good fit to the data (the 5 per cent critical value for chi-squared with 30 d.f. being 45.5).

In panel B we show the two principal component scores for origins (resources) and destinations (desirability/ barriers). The higher the principal component score the greater the resources for mobility (in the case of the row scores) or the greater the desirability of specific classes and the barriers associated with access to them (in the case of the column scores).

Panel C shows the parameter estimates for the six terms that shape odds ratios under the model.

We also fitted the model to the disaggregated 14-class table for 1987. The only adjustment we made was to add one extra parameter which captured mobility between the three farming classes (12,13 and 14). We refer to this as model (1a). For this table the independence model yields a likelihood ratio chi-square of 1543.0 with 169 degrees of freedom, while our model has chi-squared of 247.79 with 162 d.f. Although this falls marginally short of reaching the usual criterion for fitting the data (the critical value

Table 1: *Irish Mobility Data, 1987; 7-category classification*

A. Goodness of Fit

	Deviance	df
Independence Model	1112.9	36
Our Model (1)	40.72	30

B. Principal component scores

	Rows	Columns
Professional, Managerial and Administrative	1.78	1.71
Routine Non-manual	0.42	0.43
Small Employers and Self-Employed	0.39	0.73
armers	-0.24	-0.47
Technicians, Supervisors of Manual Workers and Skilled Manual	0.10	-0.17
Non-skilled Manual	-0.37	-1.05
Agricultural Workers	-0.75	-1.10

C. Parameter Estimates

estimate	s.e.	
0.2590	0.0633	INH1(2)
1.342	0.3360	INH3(2)
-1.799	0.2334	AGB(2)
0.7632	0.1328	SLP(2)
1.259	0.1718	BETA
0.5929	0.0485	ALPHA

of chi-square for 162 d.f. is approximately 198) the model nevertheless provides a remarkably good fit to the data, reducing the chi-square by 84 per cent of its value under independence while using only seven degrees of freedom.[3] Such a high level of fit to such a disaggregated table is very unusual and is evidence, we believe, of the validity and explanatory power of our model.

Table 2 shows the goodness of fit statistics, the principal component scores and the parameter estimates for this model. If we compare the parameter estimates for this model with those displayed in Table 1 their stability, over the two tables, is very striking. The overall inheritance parameter, agricultural entry barrier (which is negative as we should expect), the parameter for movement between property owning classes, and beta and alpha, are remarkably similar when estimated using either the 7x7 or 14x14 table. In all cases the parameter estimates have the sign and magnitude that we should expect.

The principal component scores in Table 2 show the value of moving to the highly disaggregated 14 class categorisation. The dichotomisation of class III into routine non-manual and rank and file service workers shows that the latter class is much more poorly placed than the former in terms of resources (where it ranks about equal with semi-skilled manual workers) and in terms of desirability/barriers. The distinction between semi-skilled and unskilled workers is important in terms of their

Table 2: *Irish 14 Category Mobility Table*

A. Goodness of Fit

	deviance	df
Independence Model	1543.0	169
Our Model	247.79	162

B. Principal Component Scores

	Rows	Columns
(I) Higher-grade professionals, administrators and office managers in large industrial establishments	2.01	-2.20
(II) Lower-grade professionals, administrators and official higher-grade technicians; managers in small industrial establishments: supervisors of non-manual employees	1.53	1.48
(IIIa) Routine non-manual employees in administration and commerce	1.15	1.22
(IIIb) Sales personnel; other rank-and-file service workers	-0.04	-0.06
(IVa) Small proprietors, artisans, etc., with employees	0.97	0.73
(IVb) Small proprietors, artisans, etc., without employees	0.54	0.07
(V) Lower-grade technicians; supervisors of manual work	0.61	0.31
(VI) Skilled manual workers	-0.49	0.04
(VIIai) Semi-skilled manual workers (not in agriculture)	-0.40	-0.06
(VIIaii) Unskilled manual workers not in agriculture	-1.88	-0.57
(VIIb) Agricultural and other workers in primary production	-1.10	-0.74
(IVci) Farmers; less than 50 acres	-0.99	-0.55
(IVcii) Farmers; 50-99 acres	-0.43	0.07
(IVciii) Farmers; 100+ acres	0.41	0.09

C. Parameter Estimates for our model

estimate	s.e.	parameter
0.4073	0.0395	INH1 (2)
2.177	0.3532	INH3 (2)
0.9653	0.3666	INH4 (2)
-1.823	0.2315	AGB (2)
0.3743	0.1294	SLP (2)
1.105	0.1655	BETA
0.4619	0.0322	ALPHA

resources and desirability although it is in the latter case that the difference is most extreme, with the unskilled class having the lowest score by a wide margin. Furthermore, when we distinguish between these categories it becomes apparent there is relatively little difference between the semi-skilled and skilled manual classes, but there is a considerable difference between them, on the one hand, and the unskilled workers and agricultural workers. This latter class display the lowest level of resources.

6. *Generalising the Model*

The model we have presented was developed as an attempt to operationalise the basic theoretical approach which sees social fluidity as determined by resources, desirability and barriers to mobility. However, it is possible also to model to provide a simple account of the factors shaping social fluidity. The model suggests that social fluidity is shaped by three basic things: first, a hierarchical, or vertical dimension, captured by the ordering of rows and columns (and corresponding to hierarchical measures of resources, desirability and barriers); second, the pattern of mobility flows related to the ownership of the means of production; and, thirdly, the barrier that exists to entry into the agricultural sector. We refer to this as the Agriculture, Hierarchy and Property (AHP) model. We believe that such a model can yield a parsimonious and theoretically meaningful account of the observed pattern of social fluidity in modern industrial societies (Breen and Whelan 1991).

How could we test this assertion? Given that data were available for other countries we could test a model such as the one reported in Tables 1 and 2. Furthermore, one important advantage of such a model would be that, by fitting separate independent variables (rather than principal component scores) we could provide an account of the various dimensions of social fluidity. However, the lack of appropriate independent variables for other countries (and, more particularly, for the Irish 1973 data) precludes any such amibitious undertakings. In this paper we restrict our attention to the Irish 1973 data. In order to test this hypothesis we instead ask whether a model that includes only agriculture, hierarchy and property effects fits these other data. To do this we develop a model that includes the barrier to movement into the agricultural sector from outside, a hierarchical effect, and a set of parameters that seek to model social fluidity among the owners of the means of production. In other words we can proxy the AHP model. For our hierarchical effect we turn to Goodman's Row and Column Effects Model II (RC2: see Goodman 1979; Breen 1984, 1985). This model provides a scoring of rows and columns so as to maximise the association between the row and column variables conditional upon other effects in the model. We also fit a single parameter, INH1, to the main diagonal of the table to reflect class inheritance. For our property effects we use a dummy variable, INH2, for inheritance among the *petit bourgeoisie,* and a variable for

inheritance among farmers, INH3, together with a single parameter, P, applied to cells representing movement between any pair of the property owning classes (i.e., cells 1,3;1,4;3,1;3,4;4,1;4,3 in the 7x7 table). Finally we add the parameter AGB for the barrier to movement into agriculture.

We write this model as:

$$\log F_{ij} = \lambda + \lambda^{F} + \lambda^{S} + \lambda^{P} + \lambda^{AGB} + \sum_{i=1}^{3} \lambda^{INHi} + \gamma u_i v_j \qquad (2)$$

where gamma is the parameter measuring association between the estimated row and column scores, u_i and v_j.

It is important to be clear on the role, within the model, of our very general specification of the hierarchical effect in terms of the RC2 model. Clearly, since this model scales the rows and columns so as to maximize the association between them then, if the AHP model fails to fit the data, it is most unlikely that a model which used known scores for rows and columns in the construction of the hierarchical effect (as in equation (1)) would provide an adequate account of mobility. Conversely, if the AHP model fits the data it leaves open the possibility that exogenous measured variables may also give rise to row and column rankings which, when combined as one or more hierarchical terms, would form part of a model that would also fit the data.[4]

In fitting this model we began by asking how well it compares with the more detailed model when applied to the 1987 Irish data. Detailed results of fitting the AHP model

to the 7x7 and 14x14 tables are available from the authors. In summary, however, for the 7x7 table the AHP model return a chi-square of 31.57 with 20 d.f. thus fitting the data using conventional criteria. This compares with a chi-square of 95.48 with 48 d.f. for Erikson and Godlthorpe's model (1987a and b) Core Model of Social Fluidity (CMS) model. Our model also provides sensible parameter estimates. it yields a rank ordering of rows and columns very similar to that shown in panel B of Table 1. The other parameter estimates show a positive overall inheritance effect, with significantly higher inheritance among the *petit bourgeoisie* and among farmers. There is a substantial barrier to movement into agriculture and a substantial tendency for movement between origin and destination classes which own the means of production. For the 14 category table the AHP model returns chi-squared of 228.95 with 162 degrees of freedom. Again this is a very good fit and the parameter estimates are very similar to those of Table 2.

6. *Ireland 1973 and 1987*

Our next step was to fit the AHP model to the 1973 Irish data. The results are shown in Table 3. When we did this we discovered that the pattern of class inheritance was somewhat different than in 1987. First, the level of class inheritance among skilled manual workers was such as to require the addition of another parameter, INH5, to account for this. Secondly, as panel C of Table 3 shows, when this parameter was included, together with INH2

Table 3: *Irish Mobility Data 1973, 7x7 Classification*

A. Goodness of Fit

	deviance	d.f
Independence Model	1181.2	36
Core Social Fluidity	66.9	28
Our Model (2b)	32.411	19

B. Estimated Row and Column Scores

	Rows	Columns
Professional, Managerial and Administrative	2.0593	1.6612
Routine Non-Manual	0.5918	0.6210
Small Employers and Self-Employed	-0.1863	-0.1595
Farmers	-0.7675	0.1655
Technicians, Supervisors of Manual Workers and Skilled Managerial	0.1670	0.0389
Non-Skilled Manual	-0.8326	-0.4245
Agricultural Workers	-1.0316	-1.9027

C. Parameter Estimates

estimate	s.e.	parameter
-0.1717	0.1116	INH1(2)
2.087	0.2578	INH2(2)
2.582	0.2542	INH3(2)
1.133	0.1927	INH5(2)
-1.935	0.2049	AGB(2)
0.9965	0.1352	P(2)
0.6205	0.05473	GAMMA

and INH3, the overall inheritance parameter, INH1, became insignificant. Thus, all class inheritance in the 1973 Irish data is confined to the *petit bourgeois*, farm and skilled manual classes.

The model adjusted to include this extra parameter - which we call (2b) - marginally fails to fit the data (though it does fit if we drop the non-significant parameter INH1), but is nevertheless a substantial improvement on the CMF model.

If we use the Core Model of Social Fluidity to compare the changes in the Irish mobility regime between 1973 and 1987 we are faced with a problem. A model which constrains all the social fluidity parameters to be constant across the two data sets provides as adequate a fit to the data as does a model which allows all these parameters to take different values in each table.[5] But the latter fails, by a long way, to fit the data. Aggregating the chi-squares from the CMF model applied to the 1973 and 1987 tables gives a chi-squared of 162.3 with 56 d.f. Clearly, if the nature of Irish social fluidity has changed between the dates of the two inquiries any such changes lie outside the scope of what is captured by the CSF model.

In order to determine what these changes might have been we use the AHP model to carry out a formal analysis of the change in the Irish mobility regime between 1973 and 1987 following the logic set out by Breen (1985).

The results of this analysis are given in Table 4. We

Table 4: *Change in Irish Mobility 1973-87, 7x7 Classifications*

A. Goodness of Fit of Models

	deviance	d.f
1. Common mobility model (homogeneous 2b allowing for differences only in sample size) 2c	313.7	67
2. Heterogenous absolute mobility, common social fluidity 2d	97.48	55
3a. Heterogenous absolute mobility and social fluidity using model 2b	63.98	38
3b. Heterogenous absolute mobility and social fluidity using model 2e	86.52	53

B. Decomposition of deviance

Total Mobility difference (1-3a)	249.72	29
Absolute Mobility difference (1-2)	216.22	12
Social Fluidity difference (2-3a)	33.50	17

C. Row and Column Scores (model 2e)

Rows	Columns
-2.027	-1.832
-0.590	-0.825
-0.069	0.157
0.762	0.193
0.029	0.023
0.662	0.760
1.233	1.523

D.Parameter Estimates

	estimate	s.e.	parameter
Common			
	1.795	0.1834	INH2(2)
	2.551	0.1958	INH3(2)
	1.001	0.0881	P(2)
	-1.749	0.1535	AGB(2)
	0.4995	0.0298	BETA

Heterogeneous

1973		1987		
estimate	s.e.	estimate	s.e.	
-0.0387	0.0894	0.1784	0.0808	INH1(2)
0.9237	0.1770	0.2007	0.1499	INH5(2)

begin by fitting a common (homogenous) model (model 2b) to the two Irish mobility tables, using only one parameter to allow for the different sample sizes of the two inquiries. We label this model 2c. The reason for fitting such a model is that, conditional on model 2b being true of both tables, we can relax successive homogeneity constraints to determine the relative contribution of different factors to an account of the changes in Irish mobility. Model 2c is a common mobility model or a `no mobility difference' model. It clearly falls a long way short of fitting the data. At the other extreme, if we fit model 2b to each table separately (a completely heterogeneous model) this returns a total chi-squared value of 63.98 with 38 degrees of freedom. This is a model which allows all mobility effects to differ between 1973 and 1987. This is shown in line 3a of Table 4. What we want to explain in our comparative analysis, however, is the difference in the chi-squared values of these two models - the completely homogeneous model, 2c, and the completely heterogenous model. This has a value of 249.72 and is associated with 39 degrees of freedom as shown in panel B of Table 4. We term it the total mobility difference chi-squared.

Our next step is to allow the origin and destination effects - but not the interaction effects which shape odds ratios - to vary between the two tables. This model is labelled 2d, and has chi-squared of 97.48 with 55 d.f. as shown on line 2 of Table 4. The difference between this

model and 2c has chi-squared of 216.22 using 12 d.f. (line 2 of panel B in Table 4). Since model 2d retains homogenous odds ratios, this additional chi-squared value is attributable to structural mobility - defined to mean the effect of a change in only the marginal distributions of the table. Model 2d is not far short of fitting of the data, and accounts for 87 per cent of the mobility difference chi-squared. In other words, a model which says that all the difference between the 1973 and 1987 mobility tables is caused by changes in the origin and destination effects, and is in no way due to a change in social fluidity, very nearly fits the data.

That it does not suggests that there has been some change in social fluidity. Indeed, line 3, panel B of Table 4 shows that this is associated with a chi-square of 33.50 which represents 13 per cent of the total mobility difference chi-square value. The question then is, how, and where, has this come about? In model 2b there are four sets of effects which affect social fluidity. These are the estimated row and column scores and their associated parameter, gamma; the four inheritance effects; the agricultural barrier; and the term for mobility within the property owning classes. We find that, of these, a model which allows only two of the four inheritance effects to vary between the two tables fits almost as well as a model which allows all four sets of effects to vary. This model (2e in Table 4) has chi-squared of 86.52 with 53 d.f. as shown on line 3b of Table 4. In

Panel D of Table 4 we show the estimates of those parameters which shape social fluidity.

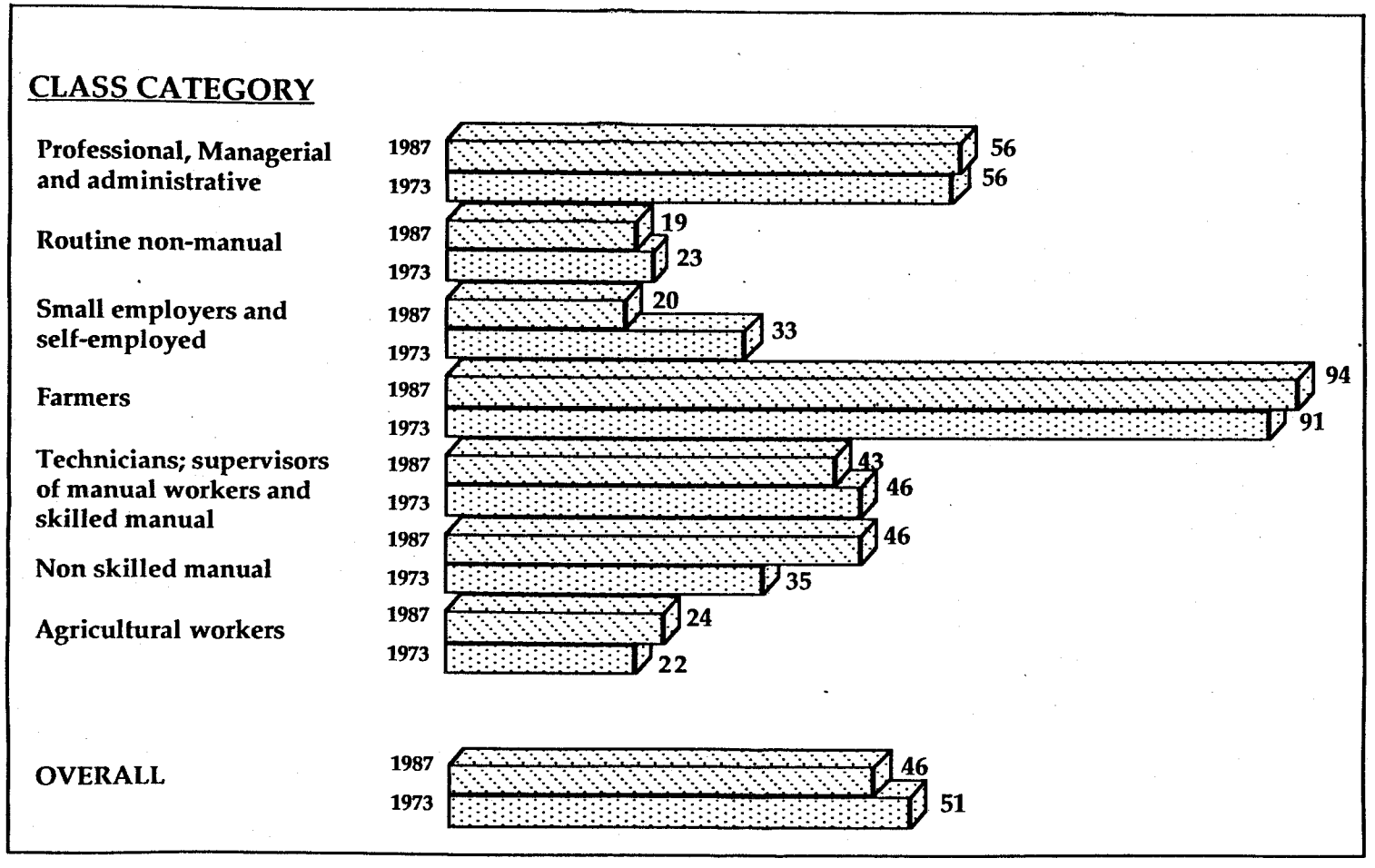
The first parameter estimates relate to those which are constant over time, namely the row and column association (the scorings are also constant and are shown in panel c), the agricultural barrier parameter, the parameter, P, reflecting internal mobility among the classes which own the means of production, and the inheritance parameters for the *petit bourgeoisie* and for farmers. Below that we give the 1973 and 1987 values of the parameters which change over time.

The only source of change between the two surveys is in the inheritance of class position. The distinctively high levels of class inheritance among the skilled manual class disappear between 1973 and 1987, but the overall level of class inheritance increases somewhat. These parameter changes reflect, to some extent, changes in the likelihood of movement out of the class of origin, though they are, of course, partial effects which are not independent of the other effects in the model. In the 1973 data, 42 per cent of cases are found in the diagonal cells, compared with 37 per cent in 1987. A more useful measure, which takes account of the change in origin and destination distributions, is the number of cases on the diagonal expressed as a percentage of the maximum possible number. This is shown in Figure 1.[6] This yields a value of 51 per cent in 1973, 46 per cent in 1987. These figures suggest that the overall level of class

FIGURE 1

Number of Cases on Main Diagonal as Percentage of the Maximum Possible:

Ireland 1973 and 1987, 7 category classification



inheritance has been most influenced by structural changes and that, controlling for these, the fall in the likelihood of class inheritance is a less important feature than the change in its distribution. The figures in Figure 1 show that immobility has fallen to any appreciable extent only among the *petit bourgeoisie,* and indeed has risen among the semi-skilled and unskilled manual class. There has been virtually no change elsewhere. It is important to note, furthermore, that two of the inheritance parameters shown in Table 4 - relating to the *petit bourgeosie* and farmers - do not change significantly between the two inquiries. This indicates that, relative to levels of class inheritance in other classes, these two classes have maintained their level of class inheritance.

7. *Conclusions*

7a. *Theoretical and Methodological*

In this paper we have sought to operationalize the resources/desirability/barriers model of social mobility using, as far as possible, measured independent variables. We discussed how such variables might be introduced into mobility table analyses. We successfully applied the model to the 1987 Irish mobility data, using both a seven and a fourteen class classification.

This led us to formulate a more general mobility model which has three basic components. These are

1. hierarchical effects;
2. property effects;

3. a barrier to mobility into agriculture.

We suggested that a model based on these three components would give a good account of mobility in modern industrialised societies.

There is a long standing dichotomy between `class-based' approaches to studying social stratification and those approaches, which, following Blau and Duncan (1967), assume a continuum of positions in society ranked in terms of status and/or prestige (see also Kelley, 1990). We concur with Goldthorpe's conclusion that, when individuals are thought of as distributed across sets of positions that are defined which cannot be adequately characterised in terms of movement along a vertical dimension. Despite this, there is no reason why a class perspective is incompatible with an emphasis on the importance of hierarchy as one crucial dimension of the mobility space. Erikson and Goldthorpe (1987a and b) characterise hierarchical effects in terms of a couple of discrete steps. Indeed for Ireland where one of their hierarchical effects (HI1) is deleted this reduces to one step. Hout's (1989:153) analysis employing a prestige measure leads him to conclude that Erikson and Goldthorpe understate the importance of hierarchy in Ireland. It is possible to view continuous and discontinuous models of mobility simply as alternative descriptions of the same reality. We believe, however, the AHP approach mobility space. Indeed, we believe demonstrates that it is possible to incorporate, in a model,

both continuous hierarchical and discontinuous non-hierarchical effects both of which are conceptualised in terms of class rather of, say, status attainment. Furthermore, if we are to move towards incorporating, into mobility analyses, independent measured variables of characteristics of classes, it is difficult to see how we can avoid hierarchical rankings.

A crucial illustration of the superiority of the AHP model over the Erikson and Goldthorpe CMF model is that whereas the former provides a means of describing the distinctive Irish social mobility regime in terms of general theoretical dimensions, the CMF model does not. Rather, Erikson and Goldthorpe (1987b:154-5, 160) find it necessary to explain the departures of the Irish data from the expectations generated by their core model in terms of idiosyncrasies.

A final feature of our model is that it is very parsimonious. Model (1a), for example, when applied to the 14 category table, accounts for virtually all the independence chi-square with only seven degrees of freedom. All the models we use either fit the data or could be made to do so with the addition or subtraction of one or two parameters.

We believe that, in cross-national or inter-temporal comparisons it is important to develop models which fit, or very nearly fit, the data, using conventional criteria. The reason for this is that, given such a model, comparison will

be rendered relatively straighforward by seeing how far, and which, parameters of the model can subsequently be constrained to be cross-nationally equal (Breen, 1987, pp. 76-77).

The alternative is to employ a model which does not fit the data and examine the residuals to determine how the mobility regime differs between countries or inquiries. The difficulties with this are two-fold. First, the residual from such a model will include both systematic effects that were omitted from the model and sampling and other error. The model itself cannot disentangle these. Second, as our discussion of the CSF model applied to the Irish data for 1973 and 1987 illustrated, if the dimensions of difference between two or more mobility tables lie outside the fitted model, then the model is of no utility in telling us how - and, more importantly, why - the tables differ.

7b. *Substantive Conclusions: Changes in Irish Social Mobility 1973 to 1987.*

Changes in the Irish mobility regime between 1973 and 1987 were quite modest. Most of the change in mobility was a change in the pattern of absolute mobility, accounting for 87 per cent of the change. There was, as a result, a high level of constancy in social fluidity. The lack of significant change in the row and column scores indicates a stable situation relating inequality in resources and attractiveness/barriers and in the association between them. Changes in the pattern of social fluidity were confined to

class inheritance: the overall inheritance parameters for classes other than farmers and the *petit bourgeoisie* tended to become more equal, though there was no evidence that the relative advantage enjoyed by these latter two classes in passing on the ownership of the means of production was in any way diminished.

If we are to look for explanations of why the period 1973-87 shows so little change we must begin by recognising that the full working through of any policy induced changes, in terms of their impact on origins and destinations, might well take another twenty years. Yet there is a variety of policy effects which can be plausibly be hypothesised. A detailed examination of the relationship between changes in income, inequality and taxation will form a central objective part of our future work. It is, however, clearly beyond the scope of an already over-long paper. It is perhaps worthwhile, though, pointing to a couple of specific conclusions and one of a more general methodological kind.

Our failure to observe any change in the gamma coefficient in our models between 1973 and 1987 provides strong evidence for the validity of our earlier conclusions based on rather more limited evidence that the transformation of the Irish educational system has had very little impact on the level of social fluidity in the society (Whelan and Whelan, 1984; Breen, *et al.*, 1990).

Some policies it seems, though, have had an impact. In particular the retention of advantage by *petit bourgeoisie*

and farmers, is consistent with our understanding of the impact of policy in the area of taxation and redistribution. Over the period in question there was a relatively marked decline in the revenue shares from tax on property, inheritance tax and Corporation income tax. Property tax declined through a series of electoral promises that led ultimately to the removal in 1978 of all taxes on domestic dwellings. The career of capital taxation was even more dramatic. Until 1973 estate duties were the only form of capital taxation in Ireland. After 1973 a series of reforms were attempted as part of the agreement that led to the formation of the Fine Gael/Labour Coalition Government of 1973-77. Capital Acquisition Tax (1974) and an ill-fated Wealth Tax (1975) were introduced to replace the old estate duties, and a Capital Gains Tax was directed at profits from speculative activities. The central aim of these changes was to introduce greater equity into the tax system.

In practice, these reforms were so structured that they failed to introduce greater equity into the tax system. Such was the opposition to the proposal for a Wealth Tax that the package finally implemented was ineffectual. Other forms of capital taxation were effectively neutralised by generous exemptions, provisions for indexation with inflation and tapering relief. The total contribution of capital taxation to government revenue fell precipitously, even before Fianna Fail removed the Wealth Tax in 1978. The old estate duties had been more than three times as effective as a revenue

source than the taxes that replaced them were in 1985. Ireland's distinctive tax profile is very much a product of State policy. Tax revenue from capital or corporate income was limited in the pursuit of economic expansion and more recently rationalised as a basis for job creation (Breen, *et al.*, 1990: Chapter 4).

Rottman and Reidy's (1988) analysis of the impact of taxation and transfers between 1973 and 1980 showed that farmers enjoyed a unique relationship with the cash transfer system. Regardless of their income levels, all farm categories received substantially more in cash transfers than their households paid in taxation. Once direct transfers and taxes were taken into account, non-agricultural proprietors were, on average, worse off in 1980 if they belonged to the `large proprietor' category and better off, quite significantly so, if they were `small proprietors'. In contrast, all categories of employees, except unskilled manual workers, were worse off. The tax advantages conferred by property ownership is most starkly illustrated by the fact that in 1980 large proprietors and unskilled manual workers shared a common tax rate of 16 per cent. Cash transfers were allocated among classes on a progressive basis but taxes were only weakly progressive. In practice, this had two main effects. First, for employees State actions left income differences based on the market largely unaltered. Second, State policies generally acted to improve the relative financial situation of families earning their income mainly

through family property.

The most general conclusion which we wish to draw from our analysis follows from the fact that the distinctiveness of the Irish social mobility regime can be described in terms of general dimensions derived from an explicit theory of the mobility process. As a consequence of this, it should be possible in principle to provide a genuinely macro-sociological explanation of the Irish case. However, as we move away from `single number' approaches to describing mobility regimes, it becomes clear that comparative analysis which relies on crude overall measures of inequality, education or political systems has little to offer. Thus, any comprehensive assessment of the impact of politics in Ireland would need to take into account that in areas such as education the State's role is often indirect, with the State acting as financier and paymaster but with private institutions making key decisions on how the money will be used. The Irish experience where progressivity in personal income tax and in cash transfers produced little impact on the pattern of inequalities because of other features of the structure of taxation, demonstrates the need to go beyond the issue of expenditure and consider control, financing and distribution of benefits. Expenditure can then be viewed as part of a set of State interventions capable of altering life chances. Here, it would appear that we can draw useful lessons from the literature relating to political influences on the welfare state which points to the limitations of

simple measures of policy outcomes and the complexities involved in assessing the impact of political partisanship and the structure of party systems (Shalev, 1983; Myles, 1984).

Footnotes

1. For example, a typical odds-ratio would measure the chances of a man born in the skilled manual class remaining in that class rather than moving to the agricultural labourer class, relative to the chances of a man born into the agricultural labourer class moving into the skilled manual class rather than remaining in the agricultural labourer class. Thus social fluidity is seen in terms of competition among men of different origins for particular destinations.

2. However, there are reasons to view this result with caution. Grusky and Hauser analysed mobility in 16 countries in the form of a set of 16 three category classifications - white collar, blue collar and agriculture. Such a crude classification obscures potential differences in class - as opposed to sectoral - mobility. Furthermore, their explanatory variables - such as social democracy and inequality - are, at the same time, crude approximations to what they sought to measure while probably being too general in themselves (even if they had been measured without error) to capture important political dimensions of difference between the countries in the study.

3. A model which fitted this data at the 5 per cent level would reduce the independence chi-squared by 88 per cent or more.

4. Our belief that this would be so derives not least from the fact that, if we had measured variables scoring rows and columns we could enter 11 such pairwise effects (e.g., X1Y1; X1Y2; and so on, as described earlier) without exceeding the degrees of freedom used by the RC2 specification.

5. The difference between the two models has chi-squared of 5.6 with eight degrees of freedom.

6. Let n_{ij} be the number in the ij th cell, n_{i+} the total in the ith row and n_{+j} the total in the jth column. The measure reported in the text is then

$$100 n_{ii} / \min(n_{i+} ; n_{+i})$$

summed over all i.

APPENDIX: SOME MOBILITY MODELS EXPLAINED

1. *Quasi-Perfect Mobility (QPM)*

The perfect mobility (PM) model says that all odds ratios are equal to one: in other words, in the competition for any destination class, being born into any particular origin class is no more advantageous than is being born into any other. The QPM model modifies this slightly to say that being born into a given class confers an advantage in competition for entry into that class but not in the competition for entry into any other class.

2. *Levels Models*

A levels model allocates all cells in a mobility table into k mutually exhaustive and disjoint sets (i.e., each cell is allocated to one and only one level) by means of a set of dummy variables. The result is that odds ratios formed from cells drawn from the same level will be equal to one, while odds ratios formed from cells drawn from one or more levels will not. The model thsu posits equality of competition for pairs of origins and destinations in the same level and inequality of competition for pairs of origins and destinations drawn from different levels.

3. *Models which score rows and columns*

In the uniform association (UA) model the odds ratios can be written in terms of scores applied to the rows and columns of a table. Let x(i) be the score for the ith origin class, y(j) the score for the jth destination class. Then any odds ratio depends upon the distance apart, in terms of their x and y scores, of the cells involved, weighted by a parameter (call it beta) which measures the strength of the association between x and y. In the RC2 model not only is beta estimated but so are the x(i) and y(j) so as to maximize the association between the scored origins and destinations. In such models origin classes which have high scores have the highest relative chance of entering highly scored destinations. Equally, low scoring origins have a higher relative chance of entering low scoring destinations. Thus the scores derived from models like RC2 lend themselves to interpretation in terms of an origin hierarchy of relative advantage in access to destinations which themselves are scored in terms of relative exclusivity in drawing their inflow disproportionately from more advantaged origins.

4. *Erikson and Goldthorpe's Core* Model of *Social Fluidity (CSF)*

This is a variant of the levels model in which cells of the table are allocated to mutually exhaustive nut not necessarily disjoint levels. Erikson and Goldthorpe develop the CMF model as a set of overlapping levels models. Unlike the original levels models, each of Erikson and Goldthorpe's levels is meant to reflect the operation of a specific set of influences on social fluidity. So, two of their levels attempt to capture hierarchical mobility processes, others seek to model inheritance effects, and so forth. Each levels model is fitted using a single dummy variable. Odds ratios under this model depend upon the set of levels into which the cells in question fall.

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