

Madden, David

Working Paper

The base of party political support in Ireland: A new approach

UCD Centre for Economic Research Working Paper Series, No. WP16/10

Provided in Cooperation with:

UCD School of Economics, University College Dublin (UCD)

Suggested Citation: Madden, David (2016) : The base of party political support in Ireland: A new approach, UCD Centre for Economic Research Working Paper Series, No. WP16/10, University College Dublin, UCD School of Economics, Dublin

This Version is available at:

<https://hdl.handle.net/10419/175469>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

UCD CENTRE FOR ECONOMIC RESEARCH

WORKING PAPER SERIES

2016

**The Base of Party Political Support in Ireland:
A New Approach**

David Madden, University College Dublin

WP16/10

August 2016

**UCD SCHOOL OF ECONOMICS
UNIVERSITY COLLEGE DUBLIN
BELFIELD DUBLIN 4**

The Base of Party Political Support in Ireland: A New Approach

David Madden

(University College Dublin)

July 2016

Abstract: Party politics in Ireland has been characterised as politics without a social base. This paper calculates political concentration indices for party support in Ireland showing how support for a particular party is concentrated according to identifiable dimensions such as income, education and age. Using data from the European Social Survey, these indices are calculated with respect to elections in 2002, 2007 and 2011. There is evidence of a clear social base emerging after the 2011 election with support for the Fine Gael party concentrated amongst the richer and more educated, while support for Sinn Féin is concentrated amongst lower income and less educated. Preliminary data from the 2016 election is consistent with these developments.

Keywords: Party support, social base, concentration index.

JEL Code: D72

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Corresponding Author: David Madden,
School of Economics,
University College Dublin,
Belfield,
Dublin 4,
Ireland.

Phone: 353-1-7168396

E-Mail: david.madden@ucd.ie

The Base of Party Political Support in Ireland: A New Approach

1. Introduction

Ireland has traditionally been regarded as something of an unusual case in terms of the base for party political support. In 1974, John Whyte famously characterised the Irish system as “politics without social bases” (Whyte, 1974). This view was subsequently refined by Laver (1986a, 1986b, 1987) who instead suggested Ireland as having politics with “some social bases” and also Breen and Whelan (1994) who suggested a role for class origins and class mobility as well as social class in understanding party support base in Ireland. As pointed out by Laver (1987) part of the reason for the apparent lack of social base to party support in Ireland may be explained by the actual data available. In the absence of a formal election study, analysis relied either upon constituency level voting data or else surveys run by private polling companies. Studies using the former source of data ran the risk of ecological fallacy (inferring individual level behaviour from data at a higher level of aggregation) while analysis using the latter data was hampered by the fact that the social classification used by the polling companies may have been inadequate to pick up the social base to voting.

The availability of a suitable data source was overcome with the first full election study in Ireland carried out for the 2002 election (Marsh et al, 2008). However their conclusions continued to offer at least partial support to Whyte’s view. They state:

“Our own findings, based on arguably better measures of class and a more comprehensive set of other socio-demographic and attitudinal measures, qualify [Whyte’s] remark still further, but in essence it remains true”. (Marsh et al, 2008, p.215).

Differences between the parties were observable in terms of the educational level of their voters and there were also rural-urban differences but in terms of social class, the parties exhibited considerable similarity. Marsh et al (2008) added the qualification that newer parties (in 2002) seemed less broadly based. However since 2002, of those “newer” parties the Progressive Democrats have disappeared and the Greens lost heavily in the 2011 election and are not considered in this study. Of the parties viewed as “new” in 2002 only Sinn Féin remain.

The first election following the collapse in the economy in 2008, the election of 2011, has been labelled Ireland's earthquake election (Gallagher and Marsh, eds. 2011), with Fianna Fail, consistently the most successful Irish party, losing heavily. Yet, despite this election being the third most volatile in long-standing European democracies since 1945 (Marsh and Mikhaylov, 2012), and the most volatile in the absence of a new party, the result did not materially alter the depiction of Ireland as a country with relatively little relationship between socio-demographic groups and party choice. Fianna Fail lost heavily across all social classes. The two parties, Fine Gael and Labour, who formed the new government, gained support across all virtually classes (the single exception being Labour's support amongst farmers which remained unchanged).

We address the issue of the base for party political support in Ireland taking a different approach, one borrowed from the health economics literature.¹ Concentration indices in economics have been used to examine the extent to which a particular phenomenon or behaviour is "concentrated" amongst those who rank highly according to a given dimension (the ranking variable). To give a more concrete example from health economics, a concentration index can be used to summarise the degree to which a certain condition such as, say obesity, is concentrated according to income. In the same way a concentration index can provide a single summary measure to show how much voting for a particular party is concentrated according to income. We use data from the European Social Survey (ESS) to calculate political party concentration indices (PPCI) for Ireland. We have (self-reported) data on how individuals voted in the last election and since we also have information upon income, years of education and age it is possible to calculate PPCIs for support for the major political parties in Ireland using income, education and age as ranking variables. Since the ESS surveys go back as far as the mid-2000s, it is possible to calculate PPCIs with respect to the elections of 2011, 2007 and 2002 and thus obtain some sense of how they have changed over time. There is no wave of the ESS available yet which covers the 2016 election. However, in our concluding section of this paper we discuss what results are available for this election in the light of the approach taken in this paper.

We calculate concentration indices for reported voting and party affiliation for five waves of the European Social Survey covering a period from about 2005 to 2015 which incorporates

¹ While concentration indices have a wide range of applications, they are probably most frequently encountered in health economics.

three general elections. We find relatively little concentration of reported voting with respect to income for any party in the early part of this period, but following the general election of 2011 it appears as though reported voting for Fine Gael becomes more concentrated amongst those with higher income, while that for Sinn Fein becomes more concentrated amongst those with lower income. This pattern is also observed with respect to stated party affiliation. When we examine concentration with respect to education and age the results are more stable over time. Fine Gael reported voting and affiliation is concentrated amongst those with greater education (measured in terms of years of education), while that for Fianna Fail and Sinn Fein is concentrated amongst those with less education. The results for age show a greater concentration amongst the old for Fianna Fail and Fine Gael and a slight concentration amongst the young for Sinn Fein. Preliminary evidence from the 2016 election confirms these trends.

This work differs from much of the work cited above in that party support base is analysed with respect to income and education, rather than social class. Nevertheless it offers the clear advantage of providing a single statistic which summarises the support base. Given the correlation between income, education and social class, it also seems likely that results for income and education might well be echoed in results for social class. Unfortunately, it is not feasible to apply this type of analysis to social class as (i) social class does not have a clear ranking, and so cannot act as a ranking variable and (ii) social class typically breaks down into five or less groups and this is an insufficient number for this type of analysis (the recommended minimum number of groups for the ranking variable is about ten, Clarke and Van Ourti, 2010).²

It is important to point out that the analysis in this paper merely examines the extent to which stated party support is correlated with variables such as income and education. We do not analyse whether party policies/manifestos are directed towards certain groups or where different parties might be located along a traditional left-wing/right-wing spectrum (for an analysis with respect to the 2011 election, see Suiter and Farrell, 2011). It is also important to bear in mind that concentration indices are calculated independently of the underlying

² We also note the intriguing studies by Byrne and O'Malley (2011, 2012). Following an analysis of the surnames of members of parliament in Ireland since the first independent parliament, they suggest that the principal political cleavages date from the Anglo-Norman invasion of the 12th century and hence suggest an ethnic basis for party support.

level of support for a party. Thus they tell us the extent to which support is concentrated with respect to a given ranking variable (such as income or education) but they are not influenced by the average *level* of support for that party.

The remainder of this paper proceeds as follows: in the next section we explain in more detail how to calculate concentration indices. In section 3 we describe our data and section 4 provides results. Concluding comments are presented in section 5.

2. Party Political Concentration Curves

Suppose we have a variable which measures support for political party k by individual i , s_i^k . Then if r_i is the fractional rank of individual i in the income distribution (or whatever ranking variable is being used), the concentration index for political party k ($PCCI^k$) is

$$PCCI^k = \frac{2\text{cov}(s_i^k, r_i)}{\bar{s}^k}$$

where \bar{s}^k is the mean value of support for party k (Kakwani et al, 1997). $PCCI^k$ can take on a value from -1 to +1, where a negative (positive) value indicates that support is concentrated among the relatively poor (rich).

The analysis above assumes that the party support variable is continuous. In reality, support is measured via the decision whether or not to vote for the party, and so s_i^k is a binary variable which takes on values of 0 or 1. This does not fully capture the voting process in Ireland, which uses a single transferable vote (STV) system where voters express preferences for candidates via a ranking 1, 2, 3 etc. Our study only measures the “1” ranking. This is unavoidable as our data only includes information on the first ranked party for each voter.

As an additional measure of party support we also use the answer to a question concerning which party an individual feels “close to”, and this is also measured as a binary variable. In the case of binary data a normalisation must be applied to the index (since the bounds would not be -1 and +1). Erregeyers (2009) suggested a normalisation of $PCCI_n^k = 4\bar{s}^k PCCI^k$, which we apply here.

3. Data

Our data comes from a number of rounds of the European Social Survey (ESS). The ESS is a cross-national survey carried out approximately every two years. It measures attitudes, beliefs and behaviour patterns in more than thirty nations for individuals aged 15 and over, in addition to collecting basic demographic information such as age, gender, education etc.

The sample size for Ireland for each round of the ESS ranges from 1700 to about 2500, and in all but one cases exceeds 2000. As we explain below, it is necessary to drop some observations who either do not or cannot provide voting information (usually around 30-35 per cent of the sample) which reduces the sample size and makes it more difficult to achieve precision in the calculation of PCCIs. To combat this we merge rounds of ESS which share the most recent general election. Thus for Ireland the most recent general election was in early 2011. On that basis we can merge rounds 5, 6 and 7 of the ESS, all of which were carried out after this election, and this increases our sample size approximately threefold.³ For the 2007 election we can use round 4. Using round 3 is problematic as the period of fieldwork took place before and after the election, and hence we do not use wave 3. For the 2002 election we use round 2 (income data is not available for round 1). Thus in our results section we present results for waves 2 and waves 4-7 of the ESS and also, where appropriate, for merged waves.

We are concerned with measuring party political support, and the principal source of information we have on this comes from the answers to the question: *did you vote in the last national election?* Those who answer “yes” to this question then answer the question: *which party did you vote for in that election?* We choose to measure the PCCI for the four main parties in Ireland: Fianna Fáil (FF), Fine Gael (FG), the Labour Party (Lab), and Sinn Féin (SF) and create a binary variable for each party.

Just under 30 per cent of respondents to the question on voting state that they did not vote. Of that group, slightly less than one third would not have reached the age of voting at the time of the election. The remainder are predominantly lower income and we drop all

³ There is often a time lag between the stated year of the survey and when the actual fieldwork is carried out. Thus the fieldwork for the 2010 survey in Ireland was carried out *after* the February 2011 election.

observations who do not vote. We also drop observations who either refuse to answer how they voted or who did not know.

One issue which arises when using such data is the extent to which self-reported voting is measured with error. Error may arise because people genuinely forget who they voted for (such error should not bias our results assuming its incidence is randomly distributed across the population). However, bias may not be random if recall draws people more towards their current political preference, or if it draws them towards the larger and more successful political parties (Himmelweit et al, 1978). It is also likely to be the case that error will increase the further away from the event in question (van Elsas et al, 2014). Himmelweit et al (1978) suggest that recall error may be at least as high as 10 per cent when dealing with the most recent election and up to 20 per cent for more distant elections.

Have we any way of assessing the degree to which this is a serious issue with our data? We can compare declared voting for the 2011 election from our three combined waves of data with actual voting results. We show this in table 1, where we provide stated voting by party for waves 5, 6 and 7 of ESS and also for these three waves combined. We also show actual voting for the 2011 election. We see that ESS appears to estimate votes for Fianna Fail and Sinn Fein quite accurately. However it seems to overstate Fine Gael (apart from wave 7) and substantially understate Labour. As Fine Gael were regarded in many ways as the “victors” of the 2011 election, given that they obtained the most votes and seats, it is possible that what we see here reflects recall bias which draws respondents towards the larger, more successful, party. However, Labour might also have been regarded as victors in the 2011 election, and yet ESS seems to consistently underestimate their vote. Note that sampling weights have been applied to the ESS data, though it should also be borne in mind that those who actually voted in the election is unlikely to be a random sample of the potential electorate.

We must remember, however, that our sample from ESS has had to exclude voters who refused to state how they voted. Is it possible that, say Labour voters, were disproportionately in this group, and that is why ESS appears to under-represent them? This seems highly unlikely. Those who refused to state how they voted constituted about 3.5 per cent of the original sample. It would have to be the case that practically *all* of the refusals were Labour voters to make up the shortfall between ESS and actual voting figures.

It also seems likely that recall error will be greater the longer the time gap since the last election (hence for the 2011 election wave 5 is likely to be more reliable than wave 6 etc). This seems to be the case for the Labour and Sinn Fein vote, where wave 7 seems most at odds with the actual vote. But it is not the case for Fine Gael, where the stated wave 7 vote is very similar to the actual 2011 outcome!

The discrepancy between the stated voting in ESS and the actual outcome is a cause for concern. However it should be remembered that what we are interested in here is the covariance of voting with the ranking variable. Even if recall error is present, our results should not be affected unless such error is systematically correlated with both political parties and the ranking variable. Thus even if, say, Labour voters are more prone to recall error than Fine Gael voters, this should not affect our analysis, unless it is the case that higher ranked Labour voters are more prone to recall than higher ranked Fine Gael voters. This seems less plausible than the existence of non-random recall by party alone.⁴

We also use an additional measure of party support. This is the sequence of answers to the following question: *is there a particular political party you feel closer to than all the other parties*. Those who answer “yes” to this question then answer another question: *which one?*. For those who answer “no” to the first question we construct a binary variable describing non-affiliation. For those who answer “yes” we construct a binary variable for affiliation to one of the four main parties (we do not construct one for independents). It seems likely that this variable will be related to, but not perfectly correlated with, voting. The question is asked at a specific point in time, months, or even years after the last time the person voted. Thus it is quite possible that while having felt close to (and voted for) party A at the most recent election, at the time of the survey a person may have changed affiliation (while affiliation may not strictly correspond to “feel close to” we will use the terms interchangeably). In addition, while it seems plausible that feeling close to a party probably implies you will vote for it, the relationship is not necessarily reciprocal. Even people who feel close to no party will vote, perhaps for the party they feel least distant from, rather than closest to.

⁴ Achen and Blais (2016) in their recent review of the issue conclude that reported vote is a reasonable proxy for validated vote and superior to intention to vote

Table 2 provides summary statistics on the answers to this sequence of questions for waves 5, 6 and 7.⁵ It shows that around 70 per cent of respondents state that they are not close to any party in particular (bear in mind that people who answer this question includes those who for whatever reason either were not eligible to vote or chose not to vote). The fraction listing no affiliation falls from 76 per cent in wave 5 to 68.9 per cent in wave 7. It is also interesting to note that affiliation to government parties fell from wave 5 to wave 7, while that for the main opposition parties, Fianna Fail and Sinn Fein rose, though it should be borne in mind that cell proportions here are small.

We employ three ranking variables, income, education and age. Information on income is provided via the answer to the question: *using this card, please tell me which letter describes your household's total income after tax and compulsory deductions from all sources*. Respondents are offered ten options and hence our income data is grouped. The groups correspond to deciles of income as derived from the Survey of Income and Living Conditions (SILC) and prices etc are adjusted to reflect the year of the survey. As explained in Clarke and Van Ourti (2010), a grouping of ten should still be enough to pick up an economic gradient in voting. We have no information on the precise range of income covered by each group, but we can still calculate concentration indices provided we can obtain a clear ranking. However, it should be noted that the concentration indices could in principle be sensitive to these ranges, since a different set of ranges may cause some people who were tied in rank now to have different ranks and vice versa. If this “re-ranking” is correlated with voting, then it will affect concentration indices. However, those people who would be re-ranked in these circumstances are those near the boundaries of the ranges and there seems to be no obvious reasons why being located near the boundary would be correlated with voting behaviour.

Once again, we face the issue of non-response with respect to income, with about 20 per cent of observations either refusing to answer or else stating that they don't know their income. For these observations we impute a value of income via conditional mean imputation. We do this by regressing income category on age, education, gender, working/non-working and whether partner is working/non-working. We then use the fitted values from this regression for those observations who do not answer the original question on income.

⁵ We do not include the data for affiliation for the merged waves, as we would not be combining like with like.

Our second ranking variable is years of education. Information upon this is obtained from the answer to the question: *about how many years of education have you completed, whether full-time or part-time*. Respondents convert part-time years into full-time year equivalents. Less than one per cent of observations either refuse to answer or don't know, and we drop those observations.

Table 3 provides summary statistics for our ranking variables. Note that what we term the affiliation sample will be larger and will differ from the voting sample. In general the affiliation sample is younger (since it includes young people who were not eligible to vote in the last election) and it also tends to have lower income, since non-voters come disproportionately from lower income groups. There is virtually no difference by education. Curiously, as we move from wave 5 to wave 7, both samples become older, which may also explain why income also tends to increase. We now turn to our principal set of results on concentration indices.

4. Results

Table 4 provides concentration indices for voting for the four main parties for the three ranking variables, while table 5 provides similar figures for affiliation (these results are with reference to the 2011 election). Dealing with voting figures first of all, and using income as the ranking variable, the most consistent pattern is the positive value for Fine Gael and the negative one for Sinn Fein. The Fine Gael vote is consistently concentrated amongst higher income voters, while the opposite is true for Sinn Fein. Figures for Fianna Fail and the Labour Party are more volatile, though there are signs that the Fianna Fail vote may be concentrated amongst lower income voters. What is also noticeable is that Sinn Fein votes become more concentrated amongst lower income voters as we move from wave 5 to wave 7. The changes in the indices from year to year may reflect sampling variation (a different sample is surveyed) and also recall error. Recall error tends to increase the more time has elapsed since the event occurring, and as mentioned above, it has been suggested that voters move towards the more successful party or towards their current preference. Given Sinn Fein is not in government in this period it is possible that recall bias here is bringing voters towards their current preference (and this is consistent with the results below for affiliation).

A further possibility to consider in terms of changes in the concentration index over time is that voters' rank in the ranking variable may change. Thus if, for whatever reason, say Sinn Fein voters had fallen in terms of their income rank, then this would reflect itself in their concentration index becoming more negative. However, it does not seem possible to distinguish this phenomenon from that of recall bias towards Sinn Fein. This is less likely in the case of education, since education will be more stable than income.

When education is used as a ranking variable there are clear patterns for three of the parties. Fianna Fail and Sinn Fein both show concentration of voters among the less educated, while Fine Gael's voters are more concentrated amongst the higher educated. The negative concentration index for Fianna Fail may partially reflect the fact that the Fianna Fail vote is also concentrated amongst older voters, who typically have fewer years of education. Wave 5 shows a concentration of the Labour vote among the more educated but that seems to dissipate as we move to waves 6 and 7 and once again the pattern for Sinn Fein is that its concentration index becomes more negative over time. As is the case with income, recall bias may be at work here.

Finally, we look at the voting concentration indices for age. Here the patterns seem most stable. Fianna Fail and Fine Gael voters are concentrated amongst older people while Sinn Fein and (to a lesser extent) Labour voters are concentrated amongst the young.

The results for the affiliation concentration indices show some similarities to those for voting, but they are not identical. Fine Gael concentration amongst the older and higher income remains, but for education it falls between waves 5 and 7, ultimately showing no relationship. Sinn Fein affiliation continues to be concentrated among the younger, less educated and lower income groups. We also observe these concentrations becoming more pronounced amongst Sinn Fein supporters. Bear in mind that recall bias should not be a factor for affiliation, since respondents are asked regarding their current affiliation.

Affiliation to Fianna Fail shows no pattern with income, but it appears to be consistently concentrated amongst the less well-educated. Once again, this may be more of a reflection of affiliation towards Fianna Fail amongst the older respondents, who typically have fewer years of education. Labour affiliation shows some signs of concentration amongst older and more

educated respondents in waves 5 and 6, but this dissipates and we see signs of a concentration emerging amongst older respondents.

Finally, we also include the concentration indices for those who list themselves as not being close to any party (the non-affiliated or NAs). This initially shows concentration amongst younger, lower income and less well-educated. However, by the time of wave 7, the concentration with respect to income has disappeared, that with respect to education has reversed, while that for age has become more intense amongst the young.

Elections Before 2011

The results discussed above for voting all refer to voters recall concerning the 2011 election. As mentioned in the introduction, this has been labelled Ireland's "earthquake election". It is interesting to see if patterns of party support (as reflected in the concentration indices) also differed between the 2011 election and previous ones. Note that it is quite possible for concentration indices to remain unchanged even if party support levels change greatly. Concentration indices are calculated independent of the average level of support for a party and so if a party were to lose support uniformly across the ranking variable then its concentration index would be unchanged, even though its overall support might have diminished considerably.

Tables 6 and 7 show the results for surveys held before the 2011 election, while figures 1-6 show the results graphically for all the surveys which we use. In terms of concentration indices for voting, the most noticeable change since earlier elections has been the polarisation of index values for Fine Gael and Sinn Fein. For the 2002 and 2007 elections the index (using income as the ranking variable) for Fine Gael is close to zero, suggesting fairly uniform support. That for Sinn Fein is negative but not pronouncedly so. However, starting from wave 5 (i.e. the first survey after the 2011 election) we see the index for Fine Gael become quite strongly positive, while that for Sinn Fein continues to be negative. By wave 7 the extent to which the Fine Gael reported vote is positively correlated with income is as great as the extent to which the Sinn Fein reported vote is negatively correlated. Reported voting for Fianna Fail and Labour show much less variation.

Earlier voting concentration indices using education and age as ranking variables are not too different from those post-2011. Perhaps the only noticeable difference is with respect to education for Sinn Fein. Results for wave 2 (i.e. referring to the 2002 election) show no correlation with education. The correlation becomes negative (and statistically significant) in wave 4 (2007 election) and this trend continues for waves 5-7.

In terms of affiliation, the results using income as ranking variable are very similar for the four parties. We see Fine Gael affiliation becoming more positively correlated with income and Sinn Fein's affiliation becomes more negatively correlated, with Fianna Fail and Labour staying relatively unchanged. Non-affiliation, however, shows quite a change from wave 2 to wave 7. In wave 2 (surveyed in early 2005), non-affiliation is positively correlated with income. For wave 4 (surveyed in late 2009/early 2010) non-affiliation shows no correlation with income, but by wave 5 (late 2011/early 2012) it had become strongly negatively correlated with income. For the most recent survey, wave 7 (late 2014/early 2015) it had come back to showing no correlation.

When education is the ranking variable the results for non-affiliation show a very similar pattern, with the value of the index falling between waves 2 and 5 and then rising again by wave 7. Affiliation for the political parties shows relatively little variation. There is a suggestion of a move towards a more positive correlation for Fine Gael and Labour in wave 5, but it falls to effectively no correlation by wave 7. Sinn Fein gradually moves from non-correlation with education in wave 2 to a slight negative correlation by wave 7, while Fianna Fail consistently shows a negative correlation with education.

The pattern when age is used as the ranking variable shows the least variation over time. Fianna Fail and Fine Gael affiliation is positively correlated with age, there is very little correlation for Labour and Sinn Fein while non-affiliation is consistently negatively correlated with age.

Concentration Indices by Gender and Region

It may also be of interest to explore some of the above results to see if the global figures mask differences by gender and region. The ESS asks respondents to describe their domicile. The options provided are: a big city, the suburbs or outskirts of a big city, a town or small

city, a country village or a farm/home in the countryside. We categorise the first three responses as “urban”, and the last two as “rural”.

Tables 8A-8C show concentration indices by gender and table 9A-9C show them by urban/rural divide. In all these tables we indicate via an asterisk whether the concentration index for each sub-category is statistically significant and we also present the p-value for the null hypothesis that the indices are the same for each sub-category e.g. whether the concentration index for Labour for men and women is the same for wave 7 using income as the ranking variable (to save on space we do not provide standard errors for the individual concentration indices).

Results by gender do not differ too much. Concentration indices (using income and education as ranking variables) for Sinn Fein tend to be more negative for women than men. Note again, this does not imply that support for Sinn Fein is greater amongst women than men, merely that those women who state they voted Sinn Fein tend to be lower income and less well-educated than their male counterparts (who themselves tend to be lower income and less well-educated). The effect appears to be weaker for the latest wave of ESS (wave 7), and this may reflect some recall bias (since waves 5, 6 and 7 all refer to the same election).

Differences by urban/rural divide tend to be more pronounced. When using income as the ranking variable, concentration indices for Sinn Fein are more negative amongst urban as opposed to rural respondents, and this phenomenon appears to be becoming stronger. For Sinn Fein the more negative concentration index for urban respondents is also apparent when education is the ranking variable, whereas for Fianna Fail with respect to education, the more negative concentration index arises for rural respondents. Labour show a more positive concentration index with respect to education in rural areas, whereas for Fine Gael there is tentative evidence of a more positive index in urban areas. The urban/rural difference for Fine Gael is persistent across waves 4-7, though it is never statistically different for any individual wave.

Finally, when age is used as the ranking variable, the index is more positive for Fianna Fail in rural areas, while for Labour it is more negative in rural areas.

The results by gender and urban/rural divide add some detail to the results already discussed. The characterisation of Fine Gael as a party with a greater concentration of support amongst higher income, more educated voters appears to be more of an urban, rather than rural phenomenon. Similarly, Sinn Fein's concentration amongst the lower income and less well-educated is more pronounced in urban rather than rural areas, though it is certainly present in both. Similarly, that gradient seems stronger amongst women than men, though once again, it is clearly evident for both genders.

The 2016 Election

In February 2016 a general election was held. The results showed substantial losses for Fine Gael and Labour, with gains for Fianna Fail, Sinn Fein and various independent groupings. Eventually a minority government led by Fine Gael was formed and is in power at time of writing.

From the perspective of this paper, what is of interest is the degree to which concentration indices for our ranking variables may have changed. Unfortunately the next ESS survey is not due to be held in Ireland until 2017, so we do not have data on a comparable basis. The only data we have at present from which we could draw some inferences regarding these indices is the RTE exit poll which was held on the day of the election (see <http://www.rte.ie/news/election-2016/2016/0304/772641-rte-exit-poll-election-2016/>).

This is a nationally representative poll of 4283 voters who were surveyed immediately after voting on election day. Voters were asked a number of questions, and those most relevant for our purposes were (a) which party they voted for (b) which party, if any, they felt "close to" (c) their age, defined within certain bands and (d) their socioeconomic class. This information was not collected in such a way as to enable us to calculate concentration indices, however, it is still possible to glean some evidence re the socioeconomic gradients in which we are interested.

Table 10 provides the information available in the exit poll. There are five age bands, from 18-24 to those aged over 65. There are three categories of social class, ABC1, C2DE and F. These are based on the occupation of the head of household and correspond to middle class, skilled and unskilled working class and farmer respectively. The information provided is not

rich enough to calculate concentration indices, however we do construct rough proxy indices. Based on age, we take the ratio of the proportion of voters aged over 65 to those aged 18-24 to obtain an index of how voting for a particular party evolves as age increases. While the absolute value of this index cannot be compared to a concentration index we can compare the rankings of the parties by this index with rankings available using concentration curves for the 2011 election. The ranking by the proxy age index for 2016 is exactly the same as that for the concentration index for 2011. Fianna Fail has the highest “age index” followed by Fine Gael, Labour and then Sinn Fein which has easily the lowest value of the index. This ranking also applies with respect to affiliation for the parties, though the index in table 10 is lower for Sinn Fein than for non-affiliated, whereas table 7 shows that the concentration index for non-affiliated is lower.

Turning now to the gradient with respect to socioeconomic circumstances, it is vital to bear in mind that the information in table 10 relates to three categories of social class, whereas the concentration curves relate to different measures of socioeconomic status, namely income and education. It seems plausible that all three measures of socioeconomic status would be correlated. However, as mentioned above, it is more difficult to apply a ranking to the definitions of social class. The approach we take is to calculate the ratio of voters in class ABC1 to voters C2DE as our proxy for socioeconomic gradient (we ignore the figures for farmers as the information provided does not distinguish between large and small farmers). The ranking of the parties by voting using this index for 2016 is the same as that of the concentration curve for income and very close to that of education for 2011.

The results for affiliation show a very similar ranking by party for 2016 compared to the concentration curve for income in 2011. Fine Gael clearly is the party with greatest affiliation among “higher” social classes, while Sinn Fein has the greatest affiliation amongst lower social classes, with the figures for non-affiliated, Labour and Fianna Fail all quite close together. This is very similar to the results in table 5 for the concentration curve for income in 2011.

Overall, then, to the extent that such comparisons are valid, the results from the 2016 exit poll are remarkably similar to those from the ESS surveys for waves 5, 6 and 7 and for the combined waves. This does not imply that voting patterns in 2016 were the same as those in 2011 (clearly they were not). However, what it does suggest is that, in terms of

socioeconomic gradient of voting and affiliation, the landscape of Irish politics in 2016 remained relatively unchanged compared to the earthquake of 2011.

5. Conclusion

We have presented an extensive set of results, some of which show statistical significance and others which do not. Are there any conclusions which can be drawn from these results? In terms of the original question posed as to whether a social base exists in party political support in Ireland, there are signs of the emergence of such a base. Results for voting and affiliation using both income and education as the ranking variable show a clear distinction between Fine Gael on the one hand (concentrated amongst the richer, more educated and urban) and Sinn Fein on the other (concentrated amongst the lower income and less well-educated) and this polarisation appears to increase between waves 5 to 7 of the ESS. The concentration for Sinn Fein is evident in both urban and rural areas but seems to be stronger in the former. The results for voting in particular emerge after the 2011 election and appear to have become more pronounced since then, particularly with respect to Sinn Fein. There is some concentration of support for Fianna Fail amongst the less well-educated (perhaps reflecting age) and no real pattern of support for Labour.

A pattern with respect to age is also evident for both Fianna Fail and Fine Gael, with both voting and affiliation consistently concentrated amongst older (and in the case of Fianna Fail rural) voters. Sinn Fein shows signs of concentration amongst younger voters and, once again, there is no real pattern for Labour.

The emergence of the majority of these patterns after the earthquake election of 2011 suggests that we should be cautious in assuming that they will persist. Much depends upon whether the 2011 election should be seen as a unique, once-off event, after which party support will revert to its previous, somewhat incoherent, pattern. The answer to this must await detailed analysis of the results from the 2016 election, including analysis using the next round of the ESS, not due to be held in Ireland until 2017. However, what evidence we do have from the 2016 election indicates that in terms of the bases of party support, relatively little changed between 2011 and 2016. Of course this does not mean that party support levels remained unchanged as they clearly did not. Nevertheless, in terms of the bases from which parties appear to draw their support, and in terms of what we term the socioeconomic and age

gradient of this support, 2016 looks quite similar to 2011. Thus in terms of socioeconomic indicators the polarisation between Fine Gael at one end of the spectrum and Sinn Fein at the other appears to be unchanged. The same appears to be the case with respect to age, with Fianna Fail showing the greatest age gradient followed by Fine Gael, and Sinn Fein taking much of its support from younger voters. For the moment at least, it looks as though some features of the earthquake election may be here to stay.

Acknowledgements: I am very grateful to John Coakley, David Farrell and Niamh Hardiman for useful comments and discussion. The usual disclaimer applies

Table 1 – voting % by party, ESS waves and 2011 election

	FF	FG	Lab	SF
Wave 5	18.8	47.0	14.8	8.4
Wave 6	18.4	41.4	15.1	10.7
Wave 7	22.1	35.8	10.2	13.5
Combined	19.7	41.5	13.5	10.8
2011 Election	17.4	36.1	19.4	9.9

Table 2 – “feel close to” % by party, ESS waves

	No Aff	FF	FG	Lab	SF
Wave 5	76.1	6.5	8.9	3.8	3.0
Wave 6	71.7	8.3	9.1	3.6	4.7
Wave 7	68.9	10.3	8.3	2.5	6.9

Table 3 – summary statistics, ranking variables

	Age		Education		Income	
	Affiliation Sample	Voting sample	Affiliation Sample	Voting sample	Affiliation Sample	Voting sample
Wave 5	43.1	48.5	13.8	13.8	3.5	3.8
Wave 6	44.8	49.9	14.1	14.2	3.9	4.2
Wave 7	46.3	52.0	13.9	13.9	4.2	4.5
Combined	44.7	50.1	14.0	14.0	3.9	4.2

Table 4. Voting Concentration Indices with standard errors in brackets

Income				
	FF	FG	Lab	SF
Wave 5	-0.059** (.026)	0.098*** (.032)	0.021 (.022)	-0.089*** (.017)
Wave 6	-0.023 (.024)	0.047 (.030)	0.047** (.022)	-0.105*** (.019)
Wave 7	0.007 (.028)	0.134*** (.031)	-0.032* (.019)	-0.136*** (.020)
Combined	-0.023 (.015)	0.085*** (.018)	0.007 (.011)	-0.107*** (.010)
Education				
	FF	FG	Lab	SF
Wave 5	-0.097*** (.024)	0.055* (.031)	0.063*** (.024)	-0.048*** (.016)
Wave 6	-0.080*** (.023)	0.053* (.030)	0.012 (.024)	-0.071*** (.017)
Wave 7	-0.059** (.028)	0.056* (.030)	0.005 (.021)	-0.084*** (.020)
Combined	-0.079*** (.015)	0.053*** (.018)	0.028** (.013)	-0.067*** (.010)
Age				
	FF	FG	Lab	SF
Wave 5	0.107*** (.027)	0.104*** (.032)	-0.092*** (.025)	-0.079*** (.018)
Wave 6	0.071*** (.023)	0.082*** (.030)	-0.033 (.024)	-0.079*** (.018)
Wave 7	0.077*** (.028)	0.100*** (.030)	-0.000 (.017)	-0.087*** (.021)
Combined	0.088*** (.015)	0.085*** (.018)	-0.046*** (.013)	-0.077*** (.011)

*** p<0.01, **p<0.05, *p<0.1.

Table 5, Affiliation Concentration Indices, standard errors in brackets.

Income					
	NA	FF	FG	Lab	SF
Wave 5	-0.085 *** (0.021)	0.011 (0.012)	0.064*** (0.015)	0.021** (0.009)	-0.016** (0.008)
Wave 6	-0.050** (0.022)	0.002 (0.015)	0.049*** (0.014)	0.019** (0.009)	-0.039*** (0.010)
Wave 7	-0.004 (0.024)	0.015 (0.017)	0.031** (0.014)	0.006 (0.007)	-0.064*** (0.012)
Education					
	NA	FF	FG	Lab	SF
Wave 5	-0.038* (0.021)	-0.039*** (0.012)	0.032** (0.014)	0.041*** (0.010)	-0.009 (0.009)
Wave 6	0.020 (0.022)	-0.035*** (0.013)	0.004 (0.015)	0.007 (0.009)	-0.017* (0.009)
Wave 7	0.068*** (0.024)	-0.055*** (0.017)	-0.010 (0.014)	0.001 (0.010)	-0.032** (0.013)
Age					
	NA	FF	FG	Lab	SF
Wave 5	-0.150*** (0.022)	0.083*** (0.014)	0.083*** (0.015)	0.004 (0.010)	-0.021** (0.010)
Wave 6	-0.178*** (0.022)	0.083*** (0.014)	0.091*** (0.015)	0.025*** (0.009)	-0.027*** (0.011)
Wave 7	-0.241*** (0.023)	0.149*** (0.015)	0.090*** (0.014)	0.021*** (0.007)	-0.024** (0.014)

*** p<0.01, **p<0.05, *p<0.1.

Table 6. Voting Concentration Indices, standard errors in brackets

Income				
	FF	FG	Lab	SF
Wave 4 (2007)	-0.014 (.035)	-0.003 (.034)	0.012 (.021)	-0.047** (.016)
Wave 2 (2002)	-0.023 (.032)	-0.020 (.027)	0.007 (.020)	-0.008 (.016)
Education				
	FF	FG	Lab	SF
Wave 4 (2007)	-0.100*** (.035)	0.058* (.034)	0.010 (.022)	-0.047*** (.016)
Wave 2 (2002)	-0.097*** (.032)	0.030 (.027)	0.007 (.020)	0.002 (.016)
Age				
	FF	FG	Lab	SF
Wave 4 (2007)	0.059* (.035)	0.079** (.033)	-0.049*** (.019)	-0.048*** (.018)
Wave 2 (2002)	0.082*** (.032)	0.081*** (.028)	-0.037* (.021)	-0.061*** (.016)

*** p<0.01, **p<0.05, *p<0.1.

Table 7, Affiliation Concentration Indices, standard errors in brackets.

Income					
	NA	FF	FG	Lab	SF
Wave 4 (2007)	0.002 (0.029)	0.016 (0.022)	-0.009 (0.021)	-0.008 (0.013)	-0.021** (0.008)
Wave 2 (2002)	0.062** (0.027)	-0.033 (0.022)	-0.017 (0.017)	-0.015 (0.011)	-0.005 (0.009)
Education					
	NA	FF	FG	Lab	SF
Wave 4 (2007)	0.027 (0.029)	-0.047** (0.022)	0.001 (0.021)	0.012 (0.014)	-0.023** (0.009)
Wave 2 (2002)	0.106*** (0.027)	-0.115*** (0.023)	-0.010 (0.016)	-0.019* (0.011)	0.001 (0.010)
Age					
	NA	FF	FG	Lab	SF
Wave 4 (2007)	-0.280*** (0.029)	0.124*** (0.023)	0.124*** (0.022)	0.043*** (0.011)	-0.001 (0.010)
Wave 2 (2002)	-0.305*** (0.027)	0.194*** (0.021)	0.096*** (0.018)	0.024** (0.010)	-0.019* (0.011)

*** p<0.01, **p<0.05, *p<0.1.

Table 8: Voting Concentration Indices by Gender

Income												
	FF			FG			Lab			SF		
	M	F	p	M	F	p	M	F	p	M	F	p
Wave 5	-.040	-.078**	0.473	.061	.133***	0.261	.008	0.031	0.590	-.052**	-0.123***	0.035
Wave 6	-.001	-.044	0.384	.033	.061	0.639	.024	.068**	0.311	-.064**	-.143***	0.037
Wave 7	.033	-.019	0.349	.172***	.102**	0.260	-.037	-.027	0.789	-.128***	-.142***	0.726
Comb	-.001	-.045**	0.151	.079***	.092***	0.719	-.008	.019	0.269	-.076***	-.135***	0.006
Wave 4	.035	-.058	0.188	-.014	.007	0.758	-.015	.030	0.291	-.060**	-.034**	0.422
Wave 2	.005	-.050	0.459	-.011	-.018	0.902	-.010	.015	0.526	-.016	-.007	0.776

Education												
	FF			FG			Lab			SF		
	M	F	p	M	F	p	M	F	p	M	F	P
Wave 5	-.057	-.130***	0.136	-.015	.112***	0.043	0.084**	.049	0.474	-.031	-.061***	0.365
Wave 6	-.062*	-.092**	0.516	.008	.097**	0.145	.025	-.002	0.560	-.054**	-.084***	0.374
Wave 7	-.113**	-.008	0.070	.118***	.005	0.061	-.017	.023	0.337	-.047	-.113***	0.108
Comb	-.074***	-.077***	0.928	.033	.070***	0.297	.033*	.024	0.727	-.044***	-.085***	0.046
Wave 4	-.096*	-.103**	0.919	.057	.056	0.987	.016	.006	0.826	-.055**	-.037	0.572
Wave 2	-.073	-.110***	0.566	-.008	.049	0.294	.031	-.007	0.336	.015	-.004	0.571

*** p<0.01, **p<0.05, *p<0.1.

Age												
	FF			FG			Lab			SF		
	M	F	p	M	F	p	M	F	p	M	F	P
Wave 5	.094**	.118***	0.661	.118**	.091**	0.671	-.081**	-.105***	0.634	-.090***	-.067***	0.523
Wave 6	.067*	.074**	0.883	.071	.095**	0.689	-.031	-.035	0.947	-.077***	-.089***	0.763
Wave 7	.143***	.018	0.029	.053	.135***	0.175	-.013	.014	0.446	-.101***	-.076***	0.565
Comb	.099***	.075***	0.411	.075***	.095***	0.593	-.047**	-.046***	0.962	-.085***	-.073***	0.598
Wave 4	.123**	-.000	0.082	.019	.135***	0.081	-.055*	-.044*	0.772	-.061**	-.038	0.508
Wave 2	.053	.102**	0.452	.113***	.063	0.350	-.043	-.035	0.839	-.088***	-.045**	0.201

*** p<0.01, **p<0.05, *p<0.1.

Table 9: Voting Concentration Indices by Urban/Rural Divide

Income												
	FF			FG			Lab			SF		
	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p
Wave 5	-.066	-.057*	0.874	.067	.122***	0.386	.044*	.002	0.321	-.061***	-.112***	0.121
Wave 6	-.093**	.038	0.115	.055	.054	0.984	.045*	.036	0.807	-.042**	-.157***	0.001
Wave 7	.020	-.007	0.631	.116**	.146***	0.643	-.013	-.044	0.400	-.094***	-.167***	0.058
Comb	-.038	-.007	0.315	.068**	.102***	0.351	.019	-.006	0.270	-.060***	-.146***	0.000
Wave 4	.005	-.019	0.732	.008	0.004	0.946	.004	-.003	0.867	-.037*	-.064**	0.420
Wave 2	-.022	-.009	0.846	-.000	-.024	0.662	0.007	-0.008	0.677	-.006	-.016	0.752

*** p<0.01, **p<0.05, *p<0.1.

Education												
	FF			FG			Lab			SF		
	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p
Wave 5	-.106***	-.071**	0.479	.047	.084**	0.553	.081***	.027	0.265	-.036*	-.071***	-.269
Wave 6	-.120***	-.026	0.042	.049	.093**	0.468	.024	-.023	0.297	-.018	-.130***	0.000
Wave 7	-.105**	.001	0.064	.033	.095**	0.308	.055**	-.053	0.007	-.021***	-.145***	0.001
Comb	-.110***	-.032*	0.008	.043	.089***	0.193	.055***	-.016	0.006	-.026**	-.116***	0.000
Wave 4	-.097**	-.072	0.730	.036	.101**	0.327	-.004	-.003	0.973	-.016	-.089***	0.030
Wave 2	-.144***	-.039	0.098	0.091**	-.011	0.060	.011	-0.13	0.532	.022	-.024	0.142

*** p<0.01, **p<0.05, *p<0.1.

Age												
	FF			FG			Lab			SF		
	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p	Rural	Urban	p
Wave 5	.092**	.102***	0.845	.089*	.091**	0.975	-.086***	-.072**	0.784	-.046**	-.098***	0.136
Wave 6	.055	.062**	0.890	.058	.058	0.989	-.035	-.003	0.489	-.069***	-.067**	0.964
Wave 7	.134***	.012	0.034	.041	.132***	0.134	-.039**	.047*	0.011	-.080***	-.085***	0.898
Comb	.096***	.061***	0.246	.054**	.082***	0.456	-.057***	-.016	0.112	-.060***	-.078***	0.405
Wave 4	.065	0.039	0.713	.080*	.064	0.792	-.028*	-.058	0.458	-.046**	-.051	0.899
Wave 2	.036	.122***	0.185	.047	.107**	0.283	-.021	-.049	0.476	-.042**	-.078***	0.254

*** p<0.01, **p<0.05, *p<0.1.

Table 10: Results from Exit Poll of 2016 Election – percentage vote for each category

	Age Group					>65:18-24	Socioeconomic Class			ABC1:C2DE
Voting	18-24	25-34	35-49	50-64	>65	Age Index	ABC1	C2DE	F	Class Index
FF	13.4	13.4	20.6	22.1	29.6	2.21	19.7	22.5	23	0.88
FG	20.6	20.6	23.9	26.7	28.6	1.39	29.7	17.6	42.1	1.69
Lab	5.1	5.5	7.7	8.1	6.3	1.23	8.4	6	3.8	1.40
SF	22.4	25.1	16.1	13.9	9.9	0.44	10.3	23.5	5.3	0.44
“Close to”										
FF	4	5	8	10	16	4	8	10	13	0.80
FG	6	6	7	10	14	2.33	10	7	21	1.43
Lab	1	1	2	3	2	2	2	2	0	1
SF	7	9	5	4	3	0.43	2	9	1	0.22
None	79	78	76	72	64	0.81	76	71	64	1.07

Figure 1

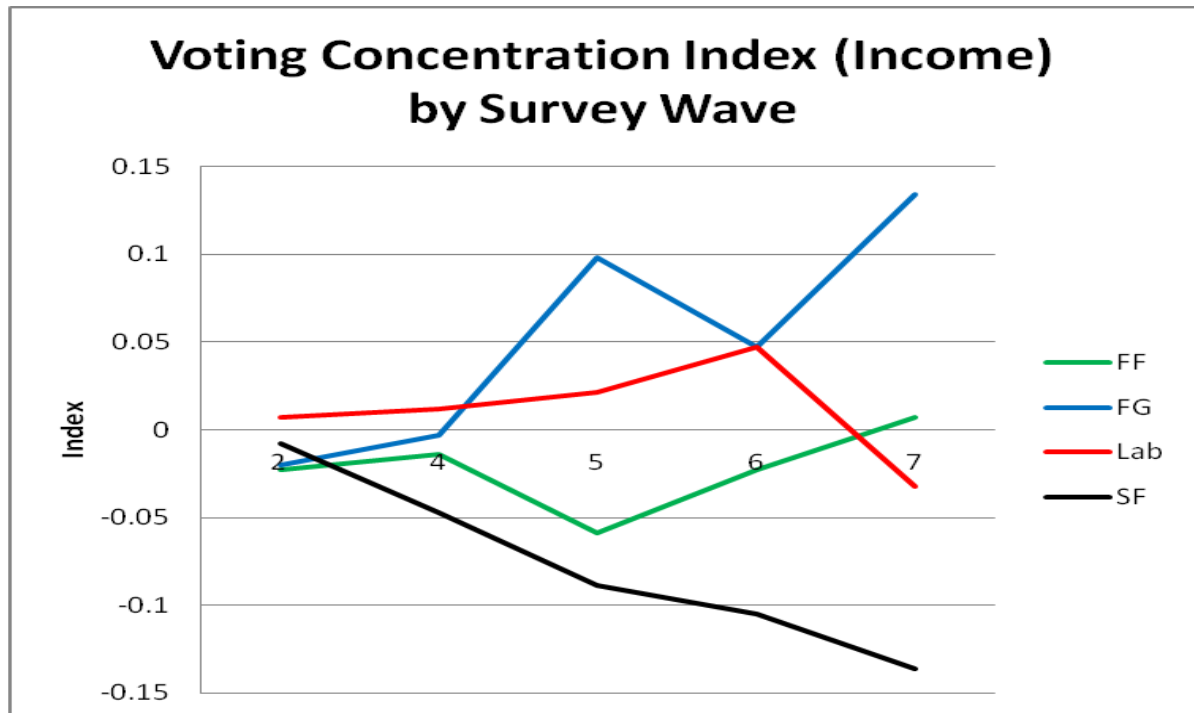


Figure 2

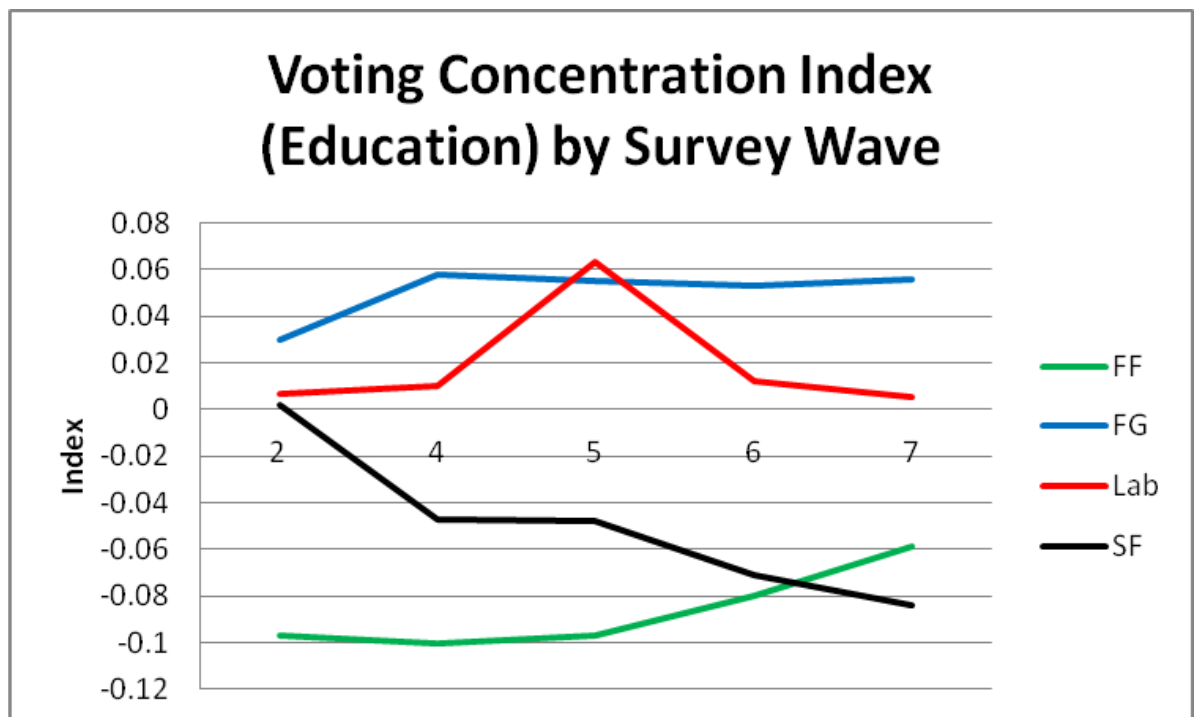


Figure 3

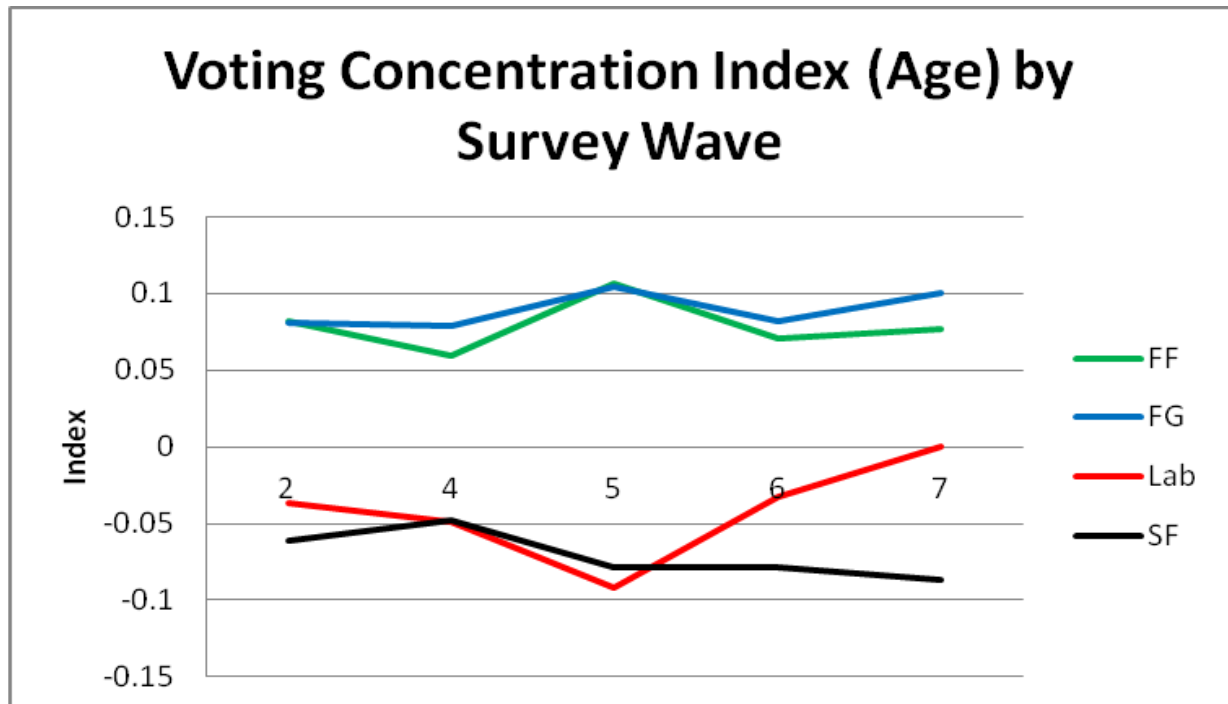


Figure 4

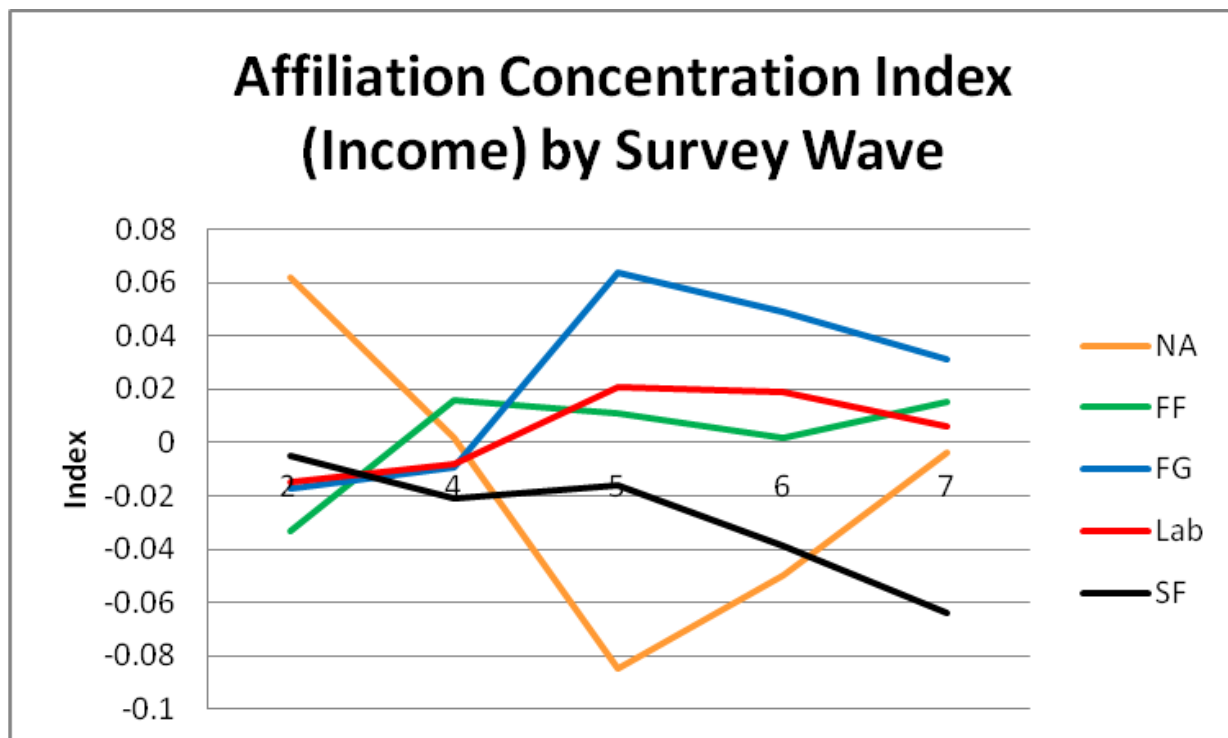


Figure 5

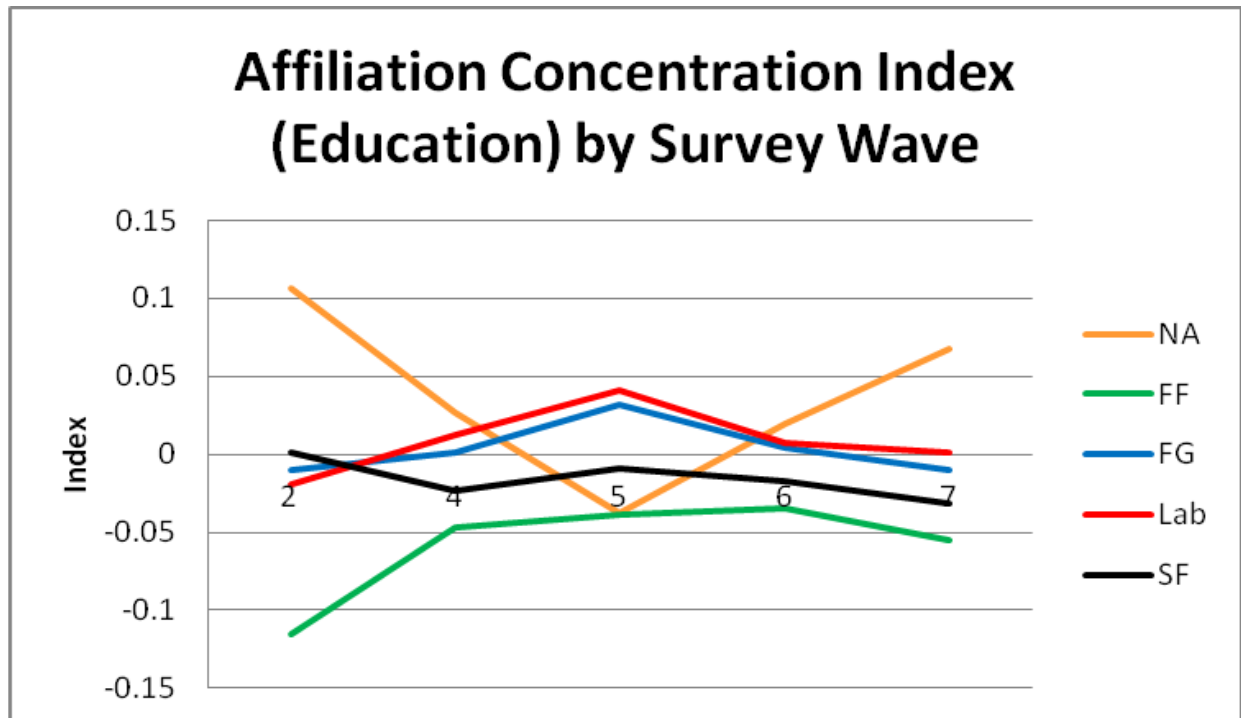
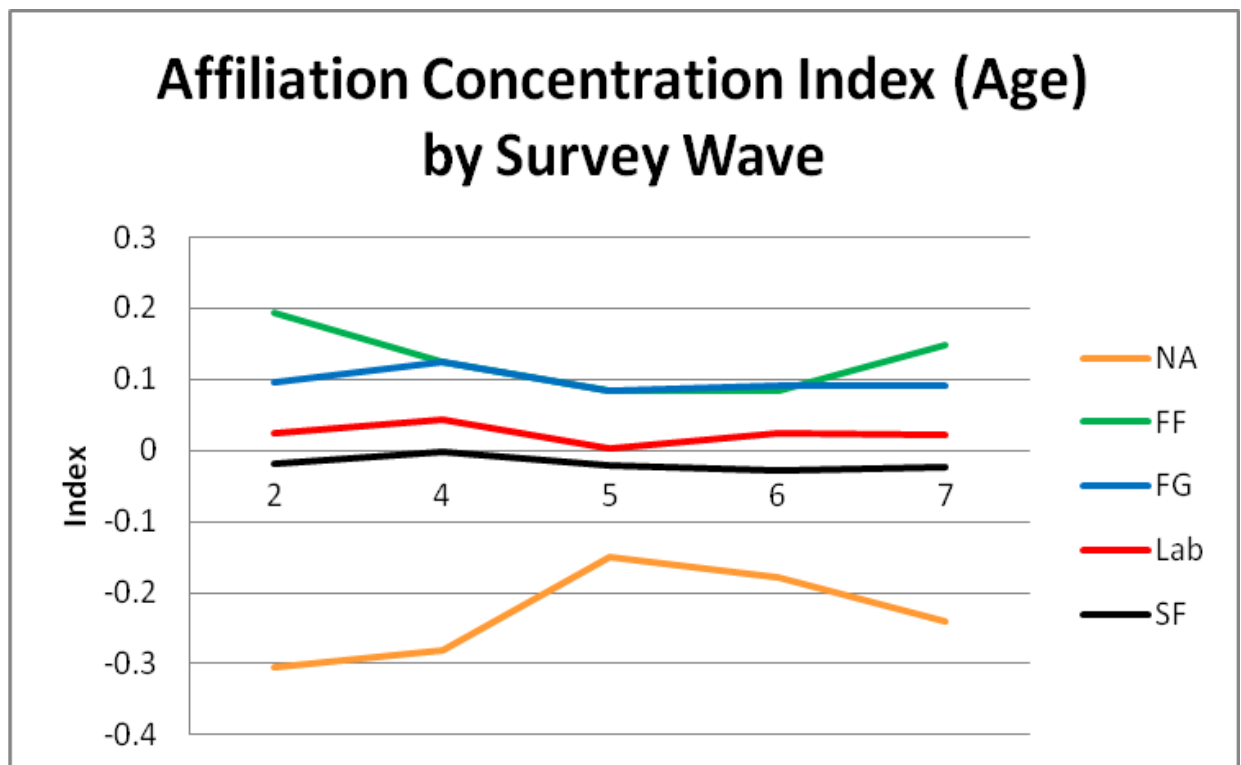


Figure 6



References

- Achen, C., and A. Blais (2016):** “Intention to Vote, Reported Vote and Validated Vote” in *The Act of Voting: Identities, Institutions and Locale* eds. J. Elkind and D. Farrell. Routledge. London.
- Breen, R., and C. Whelan (1994):** “Social Class, Class Origins and Political Partisanship in the Republic of Ireland”, *European Journal of Political Research*, Vol. 26, pp. 117-133.
- Byrne, K., and E. O Malley (2011):** “Politics with Hidden Bases: Unearthing the Deep Roots of Party Systems”, *British Journal of Politics and International Relations*, Vol. 14, pp. 613-629.
- (2012): “What’s in a Name? Using Surnames as Data for Party Research”, *Party Politics*, Vol. 19, pp. 985-997.
- Clarke, P., and T. Van Ourti (2010):** “Calculating the Concentration Index When Income is Grouped”, *Journal of Health Economics*, Vol. 29, pp. 151-157.
- Erreygers, G. (2009):** “Correcting the Concentration Index”, *Journal of Health Economics*, Vol. 28, pp. 505-515.
- Gallagher, M., and M. Marsh, eds. (2011):** *How Ireland Voted 2011*. Palgrave Macmillan.
- Himmelweit, H., M. Jaeger, B and J. Stockdale (1978):** “Memory for Past Vote: Implications of a Study of Bias in Recall”, *British Journal of Political Science*, Vol. 8, pp. 365-384.
- Kakwani, N., A. Wagstaff and E. Van Doorslaer (1997):** “Socioeconomic Inequalities in Health: Measurement, Computation and Statistical Inference”, *Journal of Econometrics*, Vol.77, pp. 87-103.
- Laver, M., (1986a):** “Ireland: Politics with Some Social Bases: An Interpretation Based on Aggregate Data”, *Economic and Social Review*, Vol. 17, pp. 107-131.
- , (1986b): “Ireland: Politics with Some Social Bases: An Interpretation Based on Survey Data”, *Economic and Social Review*, Vol. 17, pp. 193-214.
- , (1987): “Measuring Patterns of Party Support in Ireland”, *Economic and Social Review*, Vol. 18, pp. 95-100.
- Marsh, M., R. Sinnott, J. Garry and F. Kennedy (2008):** *The Irish Voter*. Manchester University Press. Manchester and New York.
- , and S. Mikhaylov (2012): “Economic Voting in a Crisis: the Irish Election of 2011”, *Electoral Studies*, Vol. 31, pp. 478-484.
- Suiter, J., and D. Farrell (2011):** “The Parties’ Manifestos”, in Gallagher, M., and M. Marsh, eds. *How Ireland Voted 2011*. Palgrave Macmillan.
- Van Elsas, E., R. Lubbe, T. van der Meer and W. van der Brug (2014):** “Vote Recall: a Panel Study on the Mechanisms Which Explain Vote Recall Inconsistency”, *International Journal of Public Opinion Research*, Vol. 26, pp. 18-40.

Whyte, J., (1974): “Ireland: Politics Without Social Bases” in R. Rose (ed.), *Electoral Behaviour: A Comparative Handbook*, New York: Free Press, pp. 619-651.

UCD CENTRE FOR ECONOMIC RESEARCH – RECENT WORKING PAPERS

- [WP15/18](#) Vincent Hogan and Patrick Massey: 'Teams' Responses to Changed Incentives: Evidence from Rugby's Six Nations Championship' September 2015
- [WP15/19](#) Johannes Becker and Ronald B Davies: 'Learning to Tax - Interjurisdictional Tax Competition under Incomplete Information' October 2015
- [WP15/20](#) Anne Haubo Dyhrberg: 'Bitcoin, Gold and the Dollar – a GARCH Volatility Analysis' October 2015
- [WP15/21](#) Anne Haubo Dyhrberg: 'Hedging Capabilities of Bitcoin. Is it the virtual gold?' October 2015
- [WP15/22](#) Marie Hyland and Stefanie Haller: 'Firm-level Estimates of Fuel Substitution: an Application to Carbon Pricing' October 2015
- [WP15/23](#) Roberta Cardani, Alessia Paccagnini and Stefania Villa: 'Forecasting with Instabilities: an Application to DSGE Models with Financial Frictions' October 2015
- [WP15/24](#) Morgan Kelly, Joel Mokyr and Cormac Ó Gráda: 'Roots of the Industrial Revolution' October 2015
- [WP15/25](#) Ronald B Davies and Arman Mazhikeyev: 'The Glass Border: Gender and Exporting in Developing Countries' November 2015
- [WP15/26](#) Ronald B Davies and Neill Killeen: 'Location Decisions of Non-Bank Financial Foreign Direct Investment: Firm-Level Evidence from Europe' November 2015
- [WP15/27](#) Johannes Becker and Ronald B Davies: 'Negotiated Transfer Prices' November 2015
- [WP15/28](#) Ronald B Davies and Arman Mazhikeyev: 'The Impact of Special Economic Zones on Exporting Behavior' November 2015
- [WP15/29](#) Cormac Ó Gráda: 'On Plague in a Time of Ebola' November 2015
- [WP15/30](#) Kevin Denny: 'Are the Effects of Height on Well-being a Tall Tale?' December 2015
- [WP15/31](#) David Madden: 'Do Schooling Reforms Also Improve Long-Run Health?' December 2015
- [WP16/01](#) Ronald B Davies, Michael J Lamla and Marc Schiffbauer: 'Learning or Leaning: Persistent and Transitory Spillovers from FDI' February 2016
- [WP16/02](#) Alice Albonico, Alessia Paccagnini and Patrizio Tirelli: 'Great Recession, Slow Recovery and Muted Fiscal Policies in the US' March 2016
- [WP16/03](#) Cormac Ó Gráda: '"The Last, the Most Dreadful Resource of Nature": Economic-historical Reflections on Famine' March 2016
- [WP16/04](#) Kevin Denny and Cormac Ó Gráda: 'Immigration, Asylum, and Gender: Ireland and Beyond' June 2016
- [WP16/05](#) Cormac Ó Gráda: 'What's in an Irish Surname? - Connollys and Others a Century Ago' June 2016
- [WP16/06](#) David Madden: 'Child and Adolescent Obesity in Ireland: A Longitudinal Perspective' August 2016
- [WP16/07](#) Kevin Denny and Patricia Franken: 'Self-reported health in good times and in bad: Ireland in the 21st century' August 2016
- [WP16/08](#) Ronald B Davies, Iulia Siedschlag and Zuzanna Studnicka: 'The Impact of Taxes on the Extensive and Intensive Margins of FDI' August 2016
- [WP16/09](#) Karl Whelan: 'Banking Union and the ECB as Lender of Last Resort' August 2016