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# Determinants of Incumbent Electoral Success: Evidence from 30 Years of Irish Elections

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*Abstract*: We examine the determinants of incumbent electoral success among members of Ireland's lower house of parliament, Dáil Éireann, over a time-period covering seven General Elections (1992 to 2020). We utilise multiple sources to create a dataset linking incumbent politicians' electoral outcomes to personal characteristics, constituency and election-specific characteristics, as well as a range of constituency-level socioeconomic variables. Our analysis reveals a number of important factors in determining the re-election success of politicians. Notably, being a woman reduces an incumbent's chances of re-election by 10 percentage points, even after controlling for a wide range of other potentially important factors. Holding a senior ministerial position is found to significantly boost an incumbent's re-election prospects, while being a junior minister has no impact. However, absent a senior ministerial position, being a member of a ruling government party or coalition is associated with significantly lower re-election success. We construct a measure of competitiveness and find that an incumbent in a more competitive constituency is less likely to be elected, while past performance, as measured by the order in which an incumbent is elected in the previous contest, is found to be an important predictor of current success.

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## I INTRODUCTION

Democratically elected incumbent legislators are responsible for major policy decisions. Therefore understanding the attributes that influence their electoral success is important (Wilson *et al*., 2016). There is a growing body of evidence in this area, comprised of several related but distinct strands of research. Recent work has looked at the role of incumbency advantage (see e.g. Jankowski and Müller, 2021; Redmond and Regan, 2015; Uppal, 2010), gender (Fulton, 2012), constituency re-districting (Jeong and Shenoy, 2024; Friedman and Holden, 2009), incumbent experience/quality (Pastine *et al*., 2015; Stone *et al*., 2010), and voter turnout (Hansford and Gomez, 2010). In this paper, we draw together several strands of literature by studying a wide range of potentially important factors that influence the re-election success of Irish incumbent politicians. We do this by merging several sources to create a dataset that spans almost 30 years (and seven General Elections), and includes information on incumbent outcomes, personal characteristics, past political career information, voter turnout, regional socioeconomic variables, as well as other relevant constituency and election specific characteristics, such as the competitiveness of the election contest.

Our findings highlight several factors that play a role in determining the re-election success of incumbent politicians in Ireland's lower house of parliament. Firstly, gender strongly influences re-election prospects. Female incumbents are 10 percentage points less likely to be re-elected than their male counterparts, even after controlling for a wide range of other candidate and constituency characteristics. This gender gap in re-election rates appears to be consistent with Ireland's historic underrepresentation of women in politics (McGing and White, 2012). Internationally, Ireland ranks 111th in the world in terms of the number of women elected to its lower house of parliament (McElroy, 2018). In 2016, gender quota legislation was introduced which requires that 30 per cent of a party's candidates running for election are women. While this may boost female electoral representation, its effectiveness may be limited if there exists an inherent disadvantage for women facing re-election.

Our analysis also shows that being a member of the ruling government party or coalition is associated with a lower probability of re-election. However, members of government who hold a senior ministerial position benefit from a re-election boost that is more than sufficient to offset the general anti-government vote. The incumbent's ranking in the previous election, in terms of the order in which they are elected, is also an important predictor of future success. For example, an incumbent elected first in a five-seat constituency is 14 percentage points more likely to be re-elected than an incumbent elected last in a five-seat constituency. We create a variable to capture the degree of competitiveness of the constituency election and show that more competitive races are associated with lower re-election rates. Age is shown to have a non-linear impact on electoral success. Age has a

positive effect on the probability of running and winning for each extra year up to the age of 65, after which the effect changes sign and becomes negative.

Although we include a wide range of explanatory variables in our analysis, there may be relevant variables that are not included. One example is campaign spending.[1] While the empirical evidence is not conclusive, some studies have shown that greater campaign spending can boost a candidate's chances of success.[2] Furthermore, campaign spending may be correlated with gender. Sudulich *et al*. (2024) find that women systematically avail of lower campaign budgets, and this is often attributed to differences in observable characteristics between men and women. On average, women are less likely to hold senior political office and have served fewer terms than men, both of which are associated with lower fundraising capabilities. Note that in our analysis, we control for previous experience and seniority. Therefore, to the extent that campaign spending is driven by these factors, its omission may have limited implications for our findings. If, on the other hand, gender differences in campaign spending were driven by gender bias among political donors, then this would be captured in the gender estimates; that is, the negative impact of being a woman on the probability of re-election would include a component relating to female candidates' fundraising disadvantage.[3]

Another potentially important variable relates to the quality of non-incumbent challengers. High quality challengers with a high opportunity cost of their time may be deterred from contesting elections for which they perceive little chance of success (Redmond and Regan, 2015). For example, a constituency consisting of very experienced incumbents and/or senior government ministers may dissuade high quality challengers from contesting the election. In the absence of controlling for challenger quality, which is typically unobservable, this type of deterrence effect would form part of the advantage associated with greater experience and holding a senior ministerial position.[4]

## II RELATED LITERATURE

Our findings can be viewed in the context of a literature that spans both economics and political science and seeks to gain an improved understanding of the factors that shape the electoral success or failure of politicians. Much of the recent literature on incumbent re-election focuses on measuring *incumbency advantage*, which

[1] Campaign spending data are not available for the full time-period used in our analysis.
[2] For example, Schuster (2020) and Benoit and Marsh (2010) show that increased campaign spending can improve a candidate's electoral outcomes, while Ben-Bassat *et al.* (2015) suggest that it has no effect.
[3] Thomsen *et al.* (2017) find that political donors exhibit a gender affinity, where men prefer to donate to men, and women prefer to donate to women.
[4] In related work, Levitt and Wolfram (1997) find that some of the incumbency advantage in the US House comes from the ability of incumbents to deter high quality challengers from contesting the election.

refers to the advantage that incumbents possess over non-incumbents through perks of office such as free postage, printing, support staff, name recognition and greater fundraising efficiency.[5] However, estimating the causal effect of incumbency advantage is difficult. Incumbents, by definition, were good enough to previously get elected and therefore separating quality from incumbency advantage is challenging.[6] To overcome this, existing work has utilised a quasi-experimental research design, namely regression discontinuity, to estimate the causal effect of incumbency. Using this approach, an incumbency advantage has been found in Ireland (Redmond and Regan, 2015; Jankowski and Müller, 2021), the US (Lee, 2008; Uppal, 2010; Trounstine, 2011) and Argentina (Feierherd and Lucardi, 2023). Our work differs from the incumbency advantage literature in an important way. We do not aim to measure incumbents' advantage over non-incumbent challengers. Instead, we focus on explaining the re-election rates of incumbents only. From a practical perspective, we therefore have no potentially endogenous "incumbency" indicator in our regressions, as all candidates are incumbents. Focusing on incumbents also has the advantage of allowing us to examine the impact of several variables that are specific to incumbents (e.g. being a junior or senior minister, number of previous terms, etc.)

A vast literature exists examining the impact of gender on labour market outcomes in general.[7] Less is known about the specific impact for women with a career as an elected politician. For Ireland, the evidence is not conclusive.[8] Buckley and Galligan (2020) analyse the 2020 Irish General Election and find that the success rate of female candidates was lower than their male counterparts in the Labour Party, Green Party, Fianna Fáil and Fine Gael, while female candidates for Sinn Féin and the Social Democrats did comparably well. They conclude that more needs to be done to support the election of women to Dáil Éireann. McElroy (2018) examines the impact of incumbency and gender on the probability of election to Dáil Éireann, and finds little evidence of female disadvantage. However, given incumbency is such a major predictor of electoral success, detecting true gender effects may be difficult in a study that looks at incumbents and challengers. While it is quite common for women holding political office to defeat unelected male challengers, this does not preclude female incumbents from being disadvantaged compared to male incumbents when focusing on incumbent re-election rates only.[9]

[5] Cole *et al.* (2018) develop a theoretical model of incumbency advantage that highlights the importance of fundraising efficiency in explaining existing patterns of incumbent spending and re-election in the US.
[6] Pastine *et al.* (2015) show that selection based on quality alone can generate re-election rates that are almost as high as the observed re-election rates of US senators from 1946-2010.
[7] See Weichselbaumer and Winter-Ebmer (2005) for a review of the literature on the gender wage gap.
[8] Internationally, a female electoral disadvantage has been found for candidates in the US (Fulton, 2012) and Brazil (Brollo and Troiano, 2016).
[9] Our analysis also differs from McElroy (2018) in that, in addition to gender, we specify a wide range of other control variables in our regressions.

Voter turnout, in general, is a widely studied area. Recent work by Hansford and Gomez (2010) studies the causal impact of voter turnout on the electoral success of incumbent politicians. The mechanism through which turnout could impact an incumbent's chances of success is as follows. Core voters (those who always vote) may be more supportive of the incumbent than peripheral (infrequent) voters because the core voters played a greater role in establishing the status quo in previous elections. Therefore, if turnout increases due to greater participation by peripheral voters, this could negatively impact the incumbent's re-election chances. Hansford and Gomez (2010) label this the "anti-incumbent" hypothesis and find evidence to support this for US presidential elections. We include voter turnout in our analysis and find only weak evidence to suggest the presence of an "anti-incumbent" hypothesis in Ireland.

Another area that receives significant attention, particularly in the US, is the impact of redistricting, and in particular "gerrymandering", on the success of incumbent politicians. Gerrymandering involves a political party manipulating electoral boundaries to gain an electoral advantage. Some have gone as far as describing this a potential threat to democracy (Pildes, 2004). However, Friedman and Holden (2009) and Abramowitz *et al*. (2006) have found that there is little relationship between gerrymandering and the re-election of incumbents. By exploiting variation in how re-districting takes place in California, Grainger (2010) finds evidence that re-districting by independent panels leads to more competitive elections than redistricting by state legislatures. In Ireland, an independent commission is responsible for changes to constituencies. We identify measures of re-districting and find that such changes do not impact incumbent re-election in Ireland.

Others have looked at the role that candidate "quality" plays in incumbent re-election. Using simulation techniques, Pastine *et al*. (2015) show that quality alone may be sufficient to generate the high incumbent re-election rates that are observed in the US Senate. Stone *et al*. (2010) utilise expert informants to measure candidate quality in the US House and find that higher quality boosts re-election prospects, while Duquette *et al*. (2013) find that the advantage enjoyed by incumbents over challengers in the US House is even greater for incumbents who are members of the leadership, key committees, or have lengthy tenure. While in our data we have no direct measure of candidate quality, we do have information on previous experience, the incumbent's relative success in the previous election (as determined by their rank order in getting elected), along with information on whether the incumbent holds a senior ministerial position, all of which are shown to play an important role in the probability of re-election.

While we focus on incumbent politicians, a related literature looks at the determinants of party success in Irish elections. This research shows that support for Irish political parties has become more delineated along a left-right divide in recent decades, and this is reflected in differences in the support base of parties

along dimensions such as education and income (Madden, 2020; Elkink and Farrell, 2021).

The remainder of the paper is structured as follows. Section III describes the Irish electoral system. Section IV discusses the data and describes the empirical strategy used in the paper. Our results are shown in Section V, and Section VI concludes.

## III THE IRISH ELECTORAL SYSTEM

Ireland uses the electoral system of proportional representation with a single transferable vote (PR-STV) to elect members (Teachta Dála or 'TDs') of Ireland's lower house of parliament (Dáil Éireann) from constituencies comprised of three, four or five seats. This electoral system is designed to provide roughly proportional representation in the number of a constituency's elected seats to political parties in proportion to the number of votes cast. Voters cast a ballot that rank orders their preference across all constituency candidates. For example, a voter places a '1' beside their most preferred candidate, a '2' beside their second preference, a '3' for their third preference, and so on. The counting of votes takes place in a number of stages. In the first stage, only first preference votes are counted. A candidate is elected if their votes exceed a quota. The quota is calculated by dividing the total number of votes by one more than the available number of seats, and adding one to this.[10] In the second stage, the elected candidate's surplus votes (the number of votes they received in excess of the quota) are distributed based on the next available preferences for continuing candidates. The distribution of surplus votes may bring another candidate above the quota, and the process repeats. However, if no candidate reaches the quota, then the candidate with the fewest votes is eliminated and their ballots are distributed to the remaining candidates.[11] Note that this system records the rank order in which each successful candidate is elected, which serves as an observable measure of the candidate's political standing within a constituency. Such a metric is not available in a 'first past the post', single seat plurality constituency electoral system. We use this ranking as an explanatory variable when modelling the probability of success of each incumbent candidate in the following election.

As a result of the proportional distribution of seats across parties, the formation of a government following an election typically involves multi-party coalitions, with the inclusion of some independent Dáil candidates. Each of the seven

[10] For example, if there are 20,000 valid votes in a four-seat constituency, the quota is calculated as (20,000 / 5) + 1 = 4,001.

[11] There are some additional nuances and complexities to the system, which are explained in Department of Housing, Planning and Local Government (2018).

parliamentary sessions covered in our data involves multi-party coalitions supported by several independent TDs. A Dáil 'session' spans the period between two General Elections. A General Election must be held at least once every five years but may occur earlier if the government coalition either disbands or decides to hold an earlier election. The government typically includes 15 Ministers of Government, appointed by the Taoiseach and commonly referred to as Senior Ministers, who are charged with heading the principal ministries such as Finance, Health and Foreign Affairs etc. The government also includes a similar number of Ministers of State, commonly referred to as Junior Ministers, whose briefs are more narrowly defined than leading an entire ministry.

Election contests occur at the constituency level. Constituencies are defined as aggregations of electoral districts (EDs), the most basic electoral/political division in Ireland.[12] Each constituency elects three, four or five members to Dáil Éireann, on the basis of, and proportional to, the constituency's population of eligible voters.[13] Constituencies can change over time to adjust for population changes associated with each Census of the Population, which takes place every fifth year ending in 1 or 6.[14] Changes to constituencies based on the most recent Census of the Population take effect with the next General Election following passage of an Electoral (Amendment) Act. Constituency changes are recommended by an independent, non-partisan commission, and as such, electoral redistricting in Ireland is independent, and therefore should not be subject to political interference.[15]

While efforts are made to avoid the breaching of county boundaries, a constituency bearing the same name as a county may incorporate a small number of electoral districts from a neighbouring county, or a county may lose a small number of EDs to a neighbouring constituency. Such changes are typically minor in nature. However, more significant changes to constituencies can occur, involving a substantial reallocation of EDs that result in either a change in the constituency's name, or an increase or decrease in the number of its elected seats.[16] We document

[12] There are 3,440 legally defined EDs in the Republic of Ireland.

[13] The Irish Constitution provides that there should be, on average, one TD to represent every 20,000–30,000 people.

[14] For example, in the 1990s, a Census was conducted in 1991 and 1996. An exception to this rule is the 2002 Census of the Population that was delayed one year due to an outbreak of foot and mouth disease in the United Kingdom, such that precautions were taken in Ireland to mitigate any spread of the disease.

[15] The independent Constituency Commission framework has been in place in Ireland since 1980, following the outcome of the 1977 General Election that was impacted by a case of gerrymandering under the prior politically administered constituency apportionment process.

[16] For example, a constituency name change could occur if two three member partial-county constituencies are merged into one five-seat constituency, e.g. Mayo East and Mayo West to Mayo in 1997. Conversely, a five-seat county constituency could be divided into two three-seat constituencies, e.g. Kildare to Kildare North and Kildare South in 1997.

such changes and evaluate whether they impact the re-election outcomes for incumbent candidates.[17]

## IV DATA AND EMPIRICAL STRATEGY

We use multiple data sources to create a unique dataset containing the election results of incumbent politicians at the constituency level, along with personal and electoral history characteristics of incumbent candidates, as well as other constituency-level and socioeconomic variables describing the constituency's population and economic conditions at the time of the election. While election data are published by the Houses of the Oireachtas, the website *irelandelection.com* compiles and presents Dáil Éireann election results in a clear and accessible format. This includes the number of votes received by each candidate along with the order in which each candidate was elected.[18] It also contains details on the percentage of eligible voters participating in the election, which we use as our measure of voter turnout.[19] We have two variables to indicate constituency boundary changes. The first is a binary variable equal to one when the name of a constituency changed from one election to the next. The second captures the change in the number of seats in the constituency from the previous election. We summarise our candidate and election-related variables in Table 1.

Note that a higher value for the rank index variable denotes a weaker standing in the previous election. For example in a five-seat constituency, an incumbent elected first has a rank index value of 0.2, an incumbent elected second has a value 0.4, and so on. Similarly a higher value for Competition Index indicates a higher level of competitiveness for each of a Constituency's electoral seats.

Our analysis begins with the 25 November 1992 Dáil Éireann election, as this was the first General Election with results reported by Constituencies established under the Electoral (Amendment) Act of 1990 for which it was possible to map the Census of Small Area Population Statistics (SAPS) Electoral District demographic

[17] There are instances where relatively minor changes to the complete set of electoral districts within a constituency can take place, but the constituency name does not change, nor does the number of seats within the constituency. Compared to the re-districting captured in our two measures specified above, such re-districting is minor in its impact on a constituency's defined electorate, never greater than 3 or 4 per cent of the constituency population.

[18] We source the age of the candidate from various available sources, including newspaper articles. In a few instances it was possible only to identify the month, but not the day, of an incumbent's birth date. In these instances the 16th of the month was specified. In a very few instances it was possible only to identify the year, but not the month and day, of an incumbent's birth date. In these instances July 1 was specified as the incumbent's birth day.

[19] We validated these data using the Nealon's Guide election publications and found the irelandelection.com data to be accurate.

**Table 1: Summary of Candidate and Election-Related Variables**

| *Variable* | *Description* |
|---|---|
| Elected | Binary variable equal to one if the incumbent is elected |
| Female | Binary variable equal to one if the incumbent is female |
| Previous Terms | The number of previous terms for which the incumbent was elected |
| Age | Age of the incumbent (in years) at the time of the election |
| Rank Index | The rank order in which the incumbent was elected in the previous election divided by the number of constituency seats |
| Government Member | Binary variable equal to one if the incumbent TD was a member of the ruling party or coalition at the time of the election |
| Senior Minister | Binary variable equal to one if the incumbent was an appointed Minister of the Government at the time of the election |
| Junior Minister | Binary variable equal to one if the incumbent was an appointed Minister of State at the time of the election |
| Competition Index | Measure of competitiveness calculated as the number of candidates divided by the number of seats available in a constituency |
| Voter Turnout | Percentage of eligible voters participating in the election |
| Election Candidate | Binary variable equal to one if the incumbent stands for re-election |
| Constituency Name Change | A binary variable equal to one if the name of the constituency has changed since the previous election |
| Constituency Seat Change | Dummy variables to capture the change to constituency seats since the last election. The number of seats can remain unchanged, or can increase or decrease by one or two seats |

data directly to Constituency boundaries. Ireland's Central Statistics Office (CSO) Census of the Population Small Area Population Statistics (SAPS) are the data source for population demographic characteristics that we include in our analysis. From the 1996 Census of the Population onward, the CSO has included constituencies among the subnational political divisions for which it publishes SAPS data. For the 1991 Census of the Population, we manually compiled constituency level measures of included population demographic characteristics by aggregating CSO published electoral district (ED) SAPS data using the definitions of constituencies established in the Electoral (Amendment) Act 1990.

The choice of what population demographic characteristics to include in our dataset, and hence our analysis, rests in part on the availability of census enumerated

measures whose definition remained consistent over the period spanning the 1991 through the 2016 censuses. These variables include the percentage of farmers, the percentage of retired people, and the percentage of people with a post-secondary education qualification in a constituency. We also include the Herfindahl Index, which is a measure of social class homogeneity. It is defined as the sum of the squared value of the percentage of the population within each socioeconomic classification.[20] A higher value, therefore, indicates a greater degree of homogeneity of socioeconomic status and a lower value indicates a greater degree of heterogeneity of socioeconomic status within the constituency population.

In addition to these variables, we also gathered data on real household income per person, which is published annually at county level by Ireland's Central Statistics Office (CSO).[21] In instances where a constituency is coterminous with a county or is contained entirely within a county, the inflation-adjusted annual income measure for this county comprises the constituency income measure. In instances where a constituency spans more than one county, the real income measure is based on a population-based weighted average household income per person value for each county or partial county that jointly comprise the constituency. Table 2 summarises the socioeconomic variables.

**Table 2: Summary of Socioeconomic Variables**

| *Variable* | *Description* |
|---|---|
| % Retired | Percentage of voting age population who are retired |
| % Farmers | Percentage of all socioeconomic groups classified as farmers |
| % Post 2nd Level Education | Percentage of adult population with post-secondary level education |
| Social Class Homogeneity | Herfindahl Index for population social class homogeneity |
| Real Income | Real household income per person at the county level |

Table 3 presents summary statistics for all of the variables described in Tables 1 and 2. There are 1,140 incumbents in our sample. The probability that an incumbent contests *and* is successful in the next election is 64 per cent. Some incumbents do not contest the election. The *Election Candidate* variable indicates that 85 per cent contest the election, meaning 15 per cent do not run for re-election in our sample. While not shown in Table 3, it is worth noting that of the 85 per cent of incumbents

[20] The Irish Census of the Population over the time-period studied here enumerates respondents according to the following 11 Socioeconomic Classifications: Employers and managers, Higher professional, Lower professional, Non-manual, Manual skilled, Semi-skilled, Unskilled, Own account workers, Farmers, Agricultural workers, and All others gainfully occupied and unknown.

[21] CSO Statbank publication 'County Incomes and Regional Accounts' series CIA02.

that contest the election, 75 per cent are successful. Just under 15 per cent of elected incumbents in our sample are women. The average age of incumbents is 53 years and the average number of previous terms is 3.7.[22] Just under 10 per cent held a senior ministerial position. Average voter turnout at the constituency level for all elections is 66 per cent, but this ranges from a low of 49 per cent to a high of 79 per cent. In 8 per cent of cases, the constituency in which the incumbent is contesting changed its name from the previous election. In terms of seat changes, a constituency can either add or lose one or two seats from the last election.

The mean values for the percentage retired and percentage of farmers across elections are approximately 10 per cent. Approximately 30 per cent of individuals are educated to third level. There is a large difference between the minimum value (10 per cent) and maximum value (63 per cent) for this variable, which reflects significant changes that have occurred over time to a greater extent than variation across constituencies at any one point in time. For example, in 1991 approximately 14 per cent of individuals nationally had third-level education compared to over 40 per cent in 2016.[23]

Our empirical strategy involves estimating the impact of the variables described above on the probability that an incumbent politician gets re-elected. Specifically, we are interested in estimating the following probit model,

$$\Pr(\text{Reelection}_{ict}) = \Phi(\alpha + P'_{ict}\beta + S'_{ct}\theta + \delta_t) \quad (1)$$

where $\Pr(\text{Reelection}_{ict})$ denotes the probability that incumbent $i$ in constituency $c$ and election year $t$ gets re-elected. The re-election probability is a function of individual characteristics that are captured by the vector $P_{ict}$ and include: gender; number of previous terms; age; rank index; government member at time of election; senior minister at time of election; junior minister at time of election. The re-election probability is also a function of constituency level characteristics that are captured by the vector $S_{ct}$ and include: competition index; voter turnout; constituency name change; constituency seat change; percentage retired; percentage of farmers; percentage with post second-level education; social class homogeneity; real income. Election year fixed effects are denoted by $\delta_t$ and $\beta$ and $\theta$ are vectors of coefficients.

We begin by estimating Equation (1) using the full sample of incumbent candidates, irrespective of whether they run for re-election or not. We refer to these as *unconditional* estimates. They describe the impact that each covariate has on the probability that a candidate contests *and* wins an election.[24] Following this, we

[22] We also collected data on the number of previous consecutive terms. This is highly correlated with total previous terms, and both variables produce the same results when included in the analysis.

[23] See https://www.cso.ie/en/releasesandpublications/ep/p-cp10esil/p10esil/tl/.

[24] Modelling incumbent outcomes using this unconditional approach is a common feature of the incumbency advantage literature (see e.g. Redmond and Regan, 2015; Lee, 2008; Trounstine, 2011; Jankowski and Müller, 2021).

**Table 3: Summary Statistics**

| *Variable* | *Obs* | *Mean* | *Min* | *Max* |
|---|---|---|---|---|
| Elected | 1,140 | 0.64 | 0 | 1 |
| Female | 1,140 | 0.14 | 0 | 1 |
| Previous Terms | 1,140 | 3.68 | 1 | 15 |
| Age | 1,140 | 53.22 | 22.98 | 79.97 |
| Rank Index | 1,140 | 0.63 | 0.20 | 1 |
| Government Member | 1,140 | 0.52 | 0 | 1 |
| Senior Minister | 1,140 | 0.09 | 0 | 1 |
| Junior Minister | 1,140 | 0.09 | 0 | 1 |
| Competition Index | 1,140 | 3.09 | 1.33 | 5.25 |
| Voter Turnout | 1,140 | 65.91 | 49.40 | 78.80 |
| Election Candidate | 1,140 | 0.85 | 0 | 1 |
| Constituency Name Change | 1,140 | 0.08 | 0 | 1 |
| Constituency Seat Change | 1,140 | 0 | –2 | 2 |
| % Retired | 1,140 | 11.82 | 3.26 | 19.50 |
| % Farmers | 1,140 | 7.40 | .05 | 37.12 |
| % Post 2nd Level Education | 1,140 | 28.93 | 10.00 | 63.09 |
| Social Class Homogeneity | 1,140 | 0.13 | 0.10 | .21 |
| Real Income | 1,140 | 18.66 | 9.25 | 30.01 |

*Source:* Data compiled and summary statistics calculated by authors. Full dataset available from corresponding author upon request.

then estimate Equation (1) using the subsample of incumbents that run for re-election. These estimates show the impact of a covariate on a candidate's probability of winning, conditional on running for re-election. As such, we call these the *conditional* estimates.

Note that the conditional estimates relate only to those TDs that decide to (or are able to) run for re-election.[25] Incumbents not standing for re-election may have made this decision based upon a personal reason, such as a wish to retire from elected office. It is also possible for this decision to be based, at least in part, upon a perspective that the incumbent faces a poor prospect of being re-elected. Therefore, if incumbents who did not run for re-election had instead run for re-election, and we observed their outcomes, then this may lead to results that differ from the conditional estimates. To address this potential sample selection bias in the conditional estimates, we use the Heckman probit model with sample selection.

While a detailed technical description of the Heckman procedure is beyond the scope of the current paper, the intuition is best understood with reference to a two-stage approach. The first stage models the probability that an incumbent runs for re-election. The predicted probabilities from this model are computed for each

[25] Ill health or death may be the reason that some TDs do not contest re-election.

incumbent. The second stage involves re-estimating the conditional model with the inclusion of a variable based on a transformation of the predicted probabilities from the first stage. This approach is shown to produce results that correspond to estimates from a randomly selected sample, thereby overcoming the sample selection bias.[26] It should be noted, however, that the vast majority of incumbents run for re-election.[27] In such a setting where the selected sample closely resembles the full sample, we would not expect severe sample selection bias. Nonetheless the Heckman model serves as a useful robustness test for the conditional estimates.

## V RESULTS

Table 4 shows the marginal effects from estimating Equation (1) for the full sample of incumbent candidates (the unconditional estimates). We implement a number of specifications, sequentially incorporating additional independent variables as we move from columns (1) to (5). The first specification (column (1)) includes incumbent characteristics. Specification (2) adds in election characteristics, and specification (3) adds constituency-level census variables. In specification (4) we use an alternative measure to capture re-districting. Instead of using a binary variable to capture instances where a constituency's name changes (as in column (2)), we instead use dummy variables to capture the change in seats. A constituency can see an increase or decrease of one or two seats following redistricting. Our reference category in column (4) is no seat change. In specifications (1) to (4) we include election year fixed effects. In our final specification (5), we keep the election year fixed effects and also include party fixed effects.

Our main findings are consistent across all specifications. Being a woman is associated with a 10 percentage point reduction in the probability that an incumbent runs for and wins re-election. Being a member of the ruling government party or coalition considerably lowers an incumbent's chances of re-election, by approximately 18 percentage points. However, being a senior minister offers a re-election boost that is more than sufficient to offset the negative government effect.[28] Specifically, being a senior minister is associated with a 24 percentage point increase in the probability of running and getting re-elected. The order in

[26] With a standard linear regression, the Heckman sample selection model can be estimated in two stages, as explained above. However, when the outcome equation is a probit model, the Heckman selection model is estimated using maximum likelihood. In this approach, the selection and outcome equations are jointly estimated, and the selection bias is incorporated directly into the likelihood function. This differs from a linear model which deals with sample selection by calculating the inverse mills ratio (lambda) from the selection equation and including it as a regressor in the second stage.

[27] The smaller conditional sample (N = 972) is similar in size to the full sample (N = 1,140).

[28] The sum of the two coefficients is statistically significantly greater than zero at the 10 per cent level (p-value ranges from 0.067 to 0.072).

which an incumbent was previously elected, captured by the rank index variable, has an important influence on their re-election success. For example, an incumbent elected first in a five-seat constituency has a 14 percentage point greater probability of re-election than the incumbent elected last.[29] More competitive races (as measured by the competition index), on the other hand, reduce the incumbent's chances of re-election. For example, an incumbent in a contest involving ten candidates and five available seats has an 8 percentage point greater chance of success than an incumbent in a contest involving the same number of seats but with 15 candidates. The impact of age is non-linear, as shown by the positive coefficient on age and the negative coefficient on age squared. Interestingly, the age at which the marginal effect turns from positive to negative coincides precisely with the usual retirement age in Ireland. That is, age has a positive effect on the probability of running and winning for each extra year up to the age of 65, after which the impact on the probability of running and winning turns negative.

Previous work by Hansford and Gomez (2010) found that increased voter turnout negatively impacted the electoral prospects of incumbent candidates in the US. We find only weak evidence to support this anti-incumbent effect of voter turnout in Ireland. In column (2) of Table 4, the coefficient on voter turnout is negative and weakly significant. However, for all other specifications, it is not significant.

We utilise two measures to capture instances of redistricting: a binary variable to indicate a constituency name change, and dummy variables to indicate changes in the number of seats in a constituency. An incumbent contesting re-election in a constituency whose name has changed following redistricting experiences no statistically significant change in their re-election chances compared to those in constituencies whose name did not change. When we use the dummy variables capturing whether there was a change in the number of seats in the constituency, there is weak evidence of a positive impact on re-election when an incumbent is facing re-election in a constituency that has lost two seats.[30] However, the coefficient is only marginally statistically significant. Moreover, there are very few cases of this, occurring for only 21 incumbents in our sample. As such, we are cautious about drawing strong conclusions from this finding.

The marginal effects from the conditional model are shown in column (1) of Table 5. Recall that the conditional estimates show the impact of various characteristics on the probability of re-election, conditional on re-running.[31] To facilitate a comparison with the unconditional estimates, we copy the relevant column of results from Table 4 into column (2) of Table 5, allowing a side-by-side comparison. The direction and significance of the results for both models are

[29] Note that this involves comparing the marginal effects of going from 0.2 (elected first) to 1 (elected last).
[30] Note that these instances are county splits from one five-seat constituency to two three-seat constituencies.
[31] The majority (85 per cent) of incumbents in our sample run for re-election.

**Table 4: Probability of Running and Winning**

| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* |
|---|---|---|---|---|---|
| Female | –0.106** | –0.110** | –0.100** | –0.102** | –0.094** |
| | (0.045) | (0.044) | (0.044) | (0.044) | (0.045) |
| Government member | –0.189*** | –0.185*** | –0.187*** | –0.187*** | –0.183*** |
| | (0.034) | (0.034) | (0.034) | (0.034) | (0.037) |
| Senior minister | 0.243*** | 0.237*** | 0.242*** | 0.241*** | 0.241*** |
| | (0.037) | (0.039) | (0.038) | (0.038) | (0.038) |
| Junior minister | 0.064 | 0.058 | 0.061 | 0.063 | 0.064 |
| | (0.050) | (0.052) | (0.051) | (0.051) | (0.051) |
| Previous terms | 0.009 | 0.009 | 0.009 | 0.009 | 0.008 |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |
| Rank index | –0.169*** | –0.172*** | –0.171*** | –0.170*** | –0.170*** |
| | (0.055) | (0.055) | (0.055) | (0.055) | (0.055) |
| Age | 0.025* | 0.026* | 0.026* | 0.025* | 0.025* |
| | (0.014) | (0.014) | (0.014) | (0.015) | (0.015) |
| Age squared | –0.0004*** | –0.0004*** | –0.0004*** | –0.0004*** | –0.0004*** |
| | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) |
| Voter turnout | | –0.006* | –0.006 | –0.006 | –0.006 |
| | | (0.004) | (0.005) | (0.005) | (0.005) |
| Competition index | | –0.085*** | –0.085*** | –0.086*** | –0.087*** |
| | | (0.027) | (0.028) | (0.028) | (0.029) |
| Const. name change | | 0.037 | 0.036 | | |
| | | (0.055) | (0.056) | | |
| Real income | | | –0.000 | –0.001 | –0.001 |
| | | | (0.009) | (0.009) | (0.009) |
| % Post 2nd level | | | –0.004 | –0.004 | –0.004 |
| | | | (0.003) | (0.003) | (0.003) |
| % Retired | | | –0.001 | 0.000 | –0.000 |
| | | | (0.007) | (0.007) | (0.007) |
| % Farmers | | | –0.001 | –0.001 | –0.001 |
| | | | (0.003) | (0.003) | (0.003) |
| Social homogeneity | | | 0.165 | 0.168 | 0.187 |
| | | | (1.294) | (1.326) | (1.328) |
| Const seat change (-2) | | | | 0.171* | 0.169* |
| | | | | (0.090) | (0.092) |
| Const seat change (-1) | | | | 0.034 | 0.035 |
| | | | | (0.058) | (0.058) |
| Const seat change (+1) | | | | 0.048 | 0.039 |
| | | | | (0.068) | (0.069) |

**Table 4: Probability of Running and Winning (Contd.)**

| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* |
|---|---|---|---|---|---|
| Const seat change (+2) | | | | –0.016 | –0.011 |
| | | | | (0.099) | (0.010) |
| Election year F.E. | Yes | Yes | Yes | Yes | Yes |
| Party F.E. | No | No | No | No | Yes |
| Observations | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |

*Source:* Authors' analysis based on a dataset compiled from various sources that links election results to characteristics of incumbent candidates and constituency-level socio-economic variables.
*Notes:* This table presents marginal effects evaluated at the mean of the covariates. Standard errors in parentheses, clustered at the individual level *** p<0.01, ** p<0.05, * p<0.1.

broadly comparable. However, the magnitude of the coefficients differs, which is to be expected as they relate to different outcomes. For example, the rank index coefficient for the unconditional model is larger. This is because incumbents that rank lower at time t can retire at time t+1 instead of facing the risk of running and losing. In the unconditional model, this is recorded as a loss at time t+1, whereas they are not included in the conditional model. There are other differences. For the conditional model, the number of previous terms is positive and significant. Specifically, one additional previous term served is associated with a 3 percentage point increase in the likelihood of getting re-elected, conditional on running. The reason this was not significant in the unconditional model may relate to the number of previous terms increasing with age, and hence the decision to retire.[32]

As with the unconditional model, the redistricting coefficient associated with a two-seat reduction is positive and statistically significant. Unlike the unconditional model, however, the redistricting coefficient associated with a one-seat increase is also positive and significant. While the mechanism behind these results is difficult to precisely interpret, it suggests that incumbents may benefit in some instances where there is a change (either positive or negative) to the number of seats within their constituency.

In column (3) of Table 5 we report the marginal effects from a probit model where the dependent variable indicates whether the candidate ran for re-election or not. While being a member of the ruling government party or coalition is associated with a 5 percentage point reduction in the probability of running for re-election, incumbents who are senior or junior ministers are 7 and 8 percentage points, respectively, more likely to run for re-election. Once again, rank index appears to be an important factor, as incumbents who are ranked lower in previous elections

[32] Older incumbents will have served more terms, but will also be closer to retirement age and may be more likely to have adverse health experiences that impact their career.

**Table 5: Probability of Winning Conditional on Running for Re-Election**

| *Variables* | *(1) P(Winning conditional on running)* | *(2) P(Running & Winning)* | *(3) P(Running)* | *(4) P(Elected): Heckman Model* |
|---|---|---|---|---|
| Female | –0.080* | –0.094** | –0.015 | –0.061* |
| | (0.043) | (0.045) | (0.030) | (0.037) |
| Government member | –0.157*** | –0.183*** | –0.050** | –0.122*** |
| | (0.033) | (0.037) | (0.020) | (0.020) |
| Senior minister | 0.164*** | 0.241*** | 0.070*** | 0.131*** |
| | (0.032) | (0.038) | (0.014) | (0.030) |
| Junior minister | –0.002 | 0.064 | 0.082*** | –0.027 |
| | (0.045) | (0.051) | (0.013) | (0.043) |
| Previous terms | 0.032*** | 0.008 | –0.016*** | 0.024*** |
| | (0.008) | (0.007) | (0.003) | (0.006) |
| Rank index | –0.119** | –0.170*** | –0.068** | –0.094** |
| | (0.050) | (0.055) | (0.029) | (0.044) |
| Age | –0.005 | 0.025* | 0.013* | – |
| | (0.015) | (0.015) | (0.008) | – |
| Age squared | –0.000 | –0.0004*** | –0.000** | – |
| | (0.000) | (0.0001) | (0.000) | – |
| Voter turnout | –0.008* | –0.006 | 0.000 | –0.007* |
| | (0.004) | (0.005) | (0.003) | (0.004) |
| Competition index | –0.023 | –0.087*** | –0.065*** | –0.010 |
| | (0.026) | (0.029) | (0.015) | (0.023) |
| Real income | –0.002 | –0.001 | –0.000 | –0.003 |
| | (0.008) | (0.009) | (0.004) | (0.007) |
| % Post 2nd level | –0.004 | –0.004 | 0.000 | –0.003 |
| | (0.002) | (0.003) | (0.001) | (0.002) |
| % Retired | –0.001 | –0.000 | 0.001 | 0.001 |
| | (0.007) | (0.007) | (0.004) | (0.006) |
| % Farmers | –0.000 | –0.001 | –0.001 | 0.000 |
| | (0.003) | (0.003) | (0.002) | (0.002) |
| Social homogeneity | –0.170 | 0.187 | 0.027 | –0.251 |
| | (1.291) | (1.328) | (0.733) | (1.178) |
| Const seat change (-2) | 0.116* | 0.169* | 0.068*** | 0.075 |
| | (0.064) | (0.092) | (0.022) | (0.067) |
| Const seat change (-1) | –0.002 | 0.035 | 0.044** | –0.021 |
| | (0.055) | (0.058) | (0.022) | (0.050) |
| Const seat change (+1) | 0.110** | 0.039 | –0.050 | 0.096** |
| | (0.051) | (0.069) | (0.044) | (0.044) |

**Table 5: Probability of Winning Conditional on Running for Re-Election (Contd.)**

| *Variables* | *(1) P(Winning conditional on running)* | *(2) P(Running & Winning)* | *(3) P(Running)* | *(4) P(Elected): Heckman Model* |
|---|---|---|---|---|
| Const seat change (+2) | –0.077 | –0.011 | 0.063*** | –0.098 |
| | (0.096) | (0.010) | (0.024) | (0.093) |
| Election year F.E. | Yes | Yes | Yes | Yes |
| Party F.E. | Yes | Yes | Yes | Yes |
| Observations | 972 | 1,140 | 1,140 | 1,140 |

*Source:* Authors' analysis based on a dataset compiled from various sources that links election results to characteristics of incumbent candidates and constituency-level socio-economic variables.
*Notes:* This table presents marginal effects evaluated at the mean of the covariates. Standard errors in parentheses, clustered at the individual level *** p<0.01, ** p<0.05, * p<0.1.

are less likely to run for re-election. When concentrating on the probability of running for re-election, we see that the coefficient on the number of previous terms served changes sign, so that one additional term is associated with a 1.6 percentage point reduction in the probability of running. Note that the number of previous terms is correlated with age, and while we control for age, it is still likely that this coefficient reflects older incumbents' decisions to retire. The results also show that incumbents are less likely to run for re-election in more competitive districts.

The positive and significant coefficients for the redistricting measures indicate that incumbent TDs are more likely to stand for re-election in a newly configured constituency. This is irrespective of whether the number of seats has increased or decreased from the previous election. For example, an incumbent is approximately 6 percentage points more likely to run for re-election in situations where the constituency has been changed so that there are now either two more, or two fewer, seats available. One plausible explanation for this result is that – when confronted with a discrete change in constituency boundaries – political parties encourage their incumbent TDs to seek re-election and strongly support them to maintain Dáil Éireann seats *in toto* under the new regime. The name recognition of incumbent TDs may be viewed as a substantial benefit toward garnering votes under a newly reconfigured set of candidates from multiple previously status quo constituencies.

Finally, in column (4) we report the marginal effects from the Heckman selection model. Note that the Heckman model requires that at least one variable that appears in the first stage selection model does not appear in the second stage. We have already seen from Table 5 that the age variables are important only for the probability of running, as evidenced by the observation that neither the estimated

coefficient for age nor age squared is statistically significant in column (1) of Table 5. Therefore, age and age squared represent suitable variables to include in the selection model, while excluding them from the outcome model. The marginal effects from the Heckman model can be compared to column (1) of Table 5 to see the potential impact of sample selection bias. The Heckman selection results are broadly consistent with those of column (1). While the magnitude of some coefficients is slightly lower for the Heckman model, the sign and statistical significance are consistent across both models. The fact that sample selection bias does not appear to be a major issue is not surprising given the selected sample is almost the same size as the full sample, i.e. the vast majority of incumbents in our sample do run for re-election.

## VI CONCLUDING REMARKS

Understanding the determinants of incumbent electoral success is important, as incumbent politicians are responsible for shaping a country's current and future policies. It is, therefore, informative to gain insight about the relative importance of candidate- and election-specific metrics relative to electorate demographic characteristics and current economic conditions in determining incumbent success. Moreover, it is also important to investigate the potential impact of an apolitical process for re-configuring constituency boundaries on incumbent outcomes. We address these questions by creating a dataset that spans 30 years of Irish General Elections and links incumbent politicians' electoral outcomes to personal characteristics, constituency and election-specific characteristics, as well as a range of constituency-level socioeconomic variables.

Our results indicate several important factors when it comes to incumbent re-election. Firstly, being a woman is associated with a lower probability of success. Even after controlling for a range of other factors, including previous success and experience, female incumbents are approximately 10 percentage points less likely to be re-elected than their male counterparts. Redressing the gender imbalance in politics has been the focus of recent policies. In 2016, gender quota legislation was introduced to Ireland, which requires that 30 per cent of a party's candidates running for election are women. However, our results indicate that even when female incumbents run for re-election, they are less likely to win than their male incumbent counterparts, potentially limiting the impact of gender quota policies.

Our results also show that being a member of the ruling government coalition is associated with a lower probability of re-election. However, holding a senior ministerial position offers a boost to re-election prospects that is more than sufficient to offset the anti-government vote. An incumbent's previous electoral performance also plays an important role. We have shown, for example, that an incumbent elected first in a five-seat constituency is 14 percentage points more

likely to be re-elected than an incumbent elected last in a five-seat constituency. The degree of competition also matters, as more competitive races are associated with lower re-election rates. Finally, we document a non-linear effect of age on re-election prospects. Age has a positive effect on the probability of running and winning for each extra year up to the age of 65, after which the effect changes sign and becomes negative.

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