NBER WORKING PAPER SERIES

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Working Paper 21062
http://www.nber.org/papers/w21062

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
April 2015

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NBER Working Paper No. 21062
April 2015
JEL No. D72,D8,L82

ABSTRACT

A large theoretical and empirical literature explores whether politicians and political parties change their policy positions in response to voters' preferences. This paper asks the opposite question: do political parties affect public attitudes on important policy issues? Problems of reverse causality and omitted variable bias make this a difficult question to answer empirically. We study attitudes towards nuclear energy and immigration in Sweden using panel data from 290 municipal election areas. To identify causal effects, we take advantage of large nonlinearities in the function which assigns council seats, comparing otherwise similar elections where one party either barely wins or loses an additional seat. We estimate that a one seat increase for the anti-nuclear party reduces support for nuclear energy in that municipality by 18%. In contrast, when an anti-immigration politician gets elected, negative attitudes towards immigration decrease by 7%, which is opposite the party's policy position. Consistent with the estimated changes in attitudes, the anti-nuclear party receives more votes in the next election after gaining a seat, while the anti-immigrant party experiences no such incumbency advantage. The rise of the anti-immigration party is recent enough to permit an exploration of possible mechanisms using several ancillary data sources. We find causal evidence that gaining an extra seat draws in lower quality politicians, reduces negotiated refugee quotas, and increases negative newspaper coverage of the anti-immigrant party at the local level. Our finding that politicians can shape public attitudes has important implications for the theory and estimation of how voter preferences enter into electoral and political economy models.

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1 Introduction

A sizable theoretical and empirical literature explores whether politicians change their policy positions in response to voters' preferences. Building on the classic work of Downs (1957b), this research generally assumes voters' tastes are fixed, and theorizes that politicians trade off their own preferred policies with the probability of getting elected.[1] In this paper, we ask the reverse question: do political parties affect voters' attitudes on important policy issues? If voter preferences are not exogenous, but can be influenced by those in positions of power, this changes the calculus of political competition. Theoretical and empirical models which do not account for this endogeneity will be misspecified. More generally, whether those elected to positions of power have the ability to shape public attitudes is an inherently interesting question, independent of the implications for electoral models.

The power of political representation to shape public attitudes could arise if being elected provides politicians with a platform to express ideas, increased media attention or the ability to implement policies. It is important to recognize, however, that this influence need not be positive for the party. A politician or a party's message could be placed under greater scrutiny after an election and the resulting debate could increase or decrease support for a party's policies. Ultimately, whether the ascension to political power results in the persuasion or alienation of voters is an empirical question.

The challenge is how to empirically identify a causal effect. If voter attitudes depend on which parties are in power, and which political parties are in power depends on voter attitudes, there is a serious issue of reverse causality. While the possibility that politicians can influence voter preferences has been recognized theoretically, existing empirical work is scant and has not been able to convincingly estimate causal effects.[2] The main contribution of our paper is to provide well-identified evidence on whether political representation affects public attitudes, along with an exploration of possible mechanisms.

We study whether political parties affect public attitudes on nuclear energy and immigration in Sweden. We combine panel data for 290 municipal election units with attitudinal surveys measured at the municipality level. The average municipal council has 45 elected seats, with 8 main parties competing for these seats. Our goal is to estimate whether changes

[1] For example, see Alesina (1988), Besley and Case (2003), Besley and Coate (1997), Calvert (1985), Downs (1957b), Fugiwara (forthcoming), Lee, Moretti and Butler (2004), Levitt (1996), Persson, Roland and Tabellini (2007), Stratmann (2000), Strömberg (2004) and Washington (2008).

[2] See Dunleavy and Ward (1981, 1991), Gerber and Jackson (1993), Stubager (2003) and Ward (2006). Although not widely acknowledged, Downs himself mentions the possibility that voter preferences could be endogenous in his book: "though parties will move ideologically to adjust to the distribution [of voter preferences] under some circumstances, they will also attempt to move voters towards their own location, thus altering it" (1957a, p. 140).

in party representation on the municipal council change attitudes in subsequent surveys of the local population.

To identify causal effects, we take advantage of large nonlinearities in the way seats are assigned in Swedish elections. Sweden uses a variant of the Sainte-Laguë method to allocate seats. While the details of the function will be discussed later, the assignment of seats is discontinuous not only in a party's own vote total, but also in the mix of votes received by the other parties. Using a control function approach which has similarities to regression discontinuity, but allows for multiple running variables and varying cutoffs, we compare otherwise similar elections where one party either barely wins or loses an additional seat. Using this threshold variation from many local quasi experiments, we estimate whether gaining an additional seat on the municipal council changes local attitudes after the election.

The presence of small, issue-focused parties in Sweden provides an ideal setting for this identification approach, as it is clear which attitudes might be affected.[3] The nascent Green Party focused on shutting down nuclear power plants in Sweden in the aftermath of a 1980 referendum on nuclear energy and the 1986 Chernobyl accident. We estimate that a one seat increase for the Green Party reduces support for nuclear energy in that municipality by 3 percentage points, or approximately 18% relative to the mean. This change in public attitudes has a reward at the ballot box, with a one seat increase leading to 9% more votes in the next election. This occurred during a time period when public attitudes overall were trending mildly more pro-nuclear.

Our second example is the Sweden Democrats, a party which started gaining a following in the early 2000s with a platform to reduce the flow of immigrants into Sweden. When these anti-immigration politicians are elected, they reduce negative attitudes towards immigration, which is opposite the party's policy position. After the Sweden Democrats gain one more seat, negative attitudes towards immigration in the municipality decrease by 4 percentage points, or 7% relative to the mean. Consistent with this change in attitudes, the number of votes received by the party in the next election does not increase, wiping out any incumbency advantage. This occurred during a period when the Sweden Democrats were increasing in prominence nationally even though public attitudes overall were becoming less anti-immigrant.

We find heterogeneous effects on attitudes based on the observable characteristics of citizens. The election of a Green Party politician has a larger effect on the attitudes of women and younger individuals and the election of a Sweden Democrat has a bigger effect on the college educated, women, younger individuals and non-natives. In both cases, the effects are

[3] A similar study would be more difficult in the U.S., since there is considerable heterogeneity in the policy positions of individual politicians within the Democratic and Republican parties, and a large number of possible policy issues.

reinforcing the average tendencies of these relatively anti-nuclear and pro-immigrant subsets of the population.

The estimated effects are robust to a variety of alternative specifications, including the use of control functions of varying flexibility to isolate the jumps in elected seats. Using quasi-random variation from the election rules to estimate the effects matters empirically. Naive OLS estimates lead to the mistaken conclusion that the Green Party does not change attitudes when they are elected and that the Sweden Democrats may even increase negative attitudes towards immigrants (depending on the set of control variables). OLS also estimates unreasonably large incumbency effects for both parties.

Taken together, our results provide clear evidence that politicians do in fact change public attitudes. Interestingly, politicians do not always sway voters to favor their preferred policies. The marginal Green Party politician is successful in changing opinions to line up with the party's goals, and the party is rewarded at the ballot box in the next election. In contrast, the election of a Sweden Democrat reduces anti-immigration views, and there is no incumbency advantage. Both settings point to voter preferences not being fixed, but rather endogenous to political representation.

Having established these key facts, we next investigate possible mechanisms for why the election of a Sweden Democrat causes a change in attitudes which is opposite the party's preferred policy. This is possible because the rise of the Sweden Democrats occurred recently enough to permit the use of several supplementary data sources, whereas the necessary data do not exist for the earlier time period of the Green Party.

We begin our investigation of mechanisms by testing whether marginally elected seats for the Sweden Democrats are filled with less competent politicians. An unprofessional politician could make offensive statements or appear uniformed about an issue, thus turning off citizens from the party and its message. While we cannot directly measure a politician's quality, we can test whether a marginally-elected party seat is able to be filled and stay filled with minimal turnover until the next election. Using the quasi-random variation from the election rules, we find the Sweden Democrats have more trouble keeping their seats filled compared to other parties, which suggests they had a relatively hard time attracting quality politicians to serve.

We next test whether local policies change as a result of increased political representation. In Sweden, local councils negotiate with the central government about how many refugee immigrants to accept into their municipality. We find the election of a Sweden Democrat causes a 22% reduction in the local refugee quota. This is consistent with prior work by Folke (2014) for an earlier anti-immigrant party in Sweden. If these policy changes were unpopular, this could influence attitudes about immigration relative to the status quo.

To further explore possible mechanisms, we analyze media coverage of the Sweden Democrats and the immigration issue using a panel of 139 local and regional newspapers. We find causal evidence that the election of a Sweden Democrat politician significantly increases their party's mention in local newspapers by over 12%, something which is not true for the other parties. However, most of this post-election coverage is not favorable, with the negative words "racism" and "xenophobia" being mentioned in conjunction with the words "Sweden Democrat." These empirical findings are consistent with interviews of newspaper editors and journalists by Häger (2012) who found that newspapers consciously chose to oppose the Sweden Democrats and their anti-immigration stance.[4]

Our paper contributes to a variety of related literatures beyond those already mentioned. It complements a growing set of papers dealing with (i) how prominent individuals or groups can shape attitudes in other settings,[5] (ii) incumbency effects in both majoritarian and proportional election systems,[6] (iii) whether political representation can change policy and whether voters respond to changes in policy,[7] (iv) the influence of newspapers, radio, television and information on outcomes such as voting behavior and political involvement,[8] and (v) the effect of media slant and bias on public opinion.[9]

Our findings have important implications for both the theory and estimation of how voter preferences enter into political economy models. Our causal estimates indicate that politicians are not merely responding to voters' preferences, but that political representation has the power to mold and alter public attitudes on important policy issues. Forward-looking politicians should take this into account when calculating how to trade off preferred policies and the probability of election/re-election. More broadly, our results point to the important influence those in positions of power have to change public opinion.

The remainder of the paper proceeds as follows. In Sections 2 and 3, we provide some background on the policy issues of nuclear energy and immigration, and explain how council seats are allocated in local municipal elections. Section 4 discusses our model and estimation approach and Section 5 describes our various datasets. Section 6 presents our main results for

[4]For example, on election day in 2010, the front page of the newspaper *Expressen* was covered with a large "NO!" In the background was a crumpled ballot for the Sweden Democrats and a sentence which said "Today we vote for Sweden and against xenophobia".

[5]Bassi and Rasul (2014), DellaVigna and Gentzkow (2010), Gabel and Scheve (2007) and Stroebel and van Benthem (2014).

[6]Ferraz and Finan (2008), Hirano and Snyder (2009), Lee (2008) and Liang (2013).

[7]Ferreira and Gyourko (2009), Folke (2014), Mullainathan and Washington (2009), Pettersson-Lidbom (2008) and Wolfers (2007).

[8]Drago, Nannicini and Sobbrio (2014), Gentzkow (2006), Gentzkow, Shapiro and Sinkinson (2011), Kendall, Nannicini and Trebbi (2015), and Snyder and Strömberg (2010).

[9]Chiang and Knight (2011), DellaVigna and Kaplan (2007), Adena, Enikolopov, Petrova and Zhuravskaya (2013), Gentzkow and Shapiro (2010) and Gerber, Karlan and Bergan (2009).

attitudes as well as incumbency effects. In Section 7, we explore several possible mechanisms, including politician quality, policy changes and the power of the media. The final section concludes.

2 Policy Issues

We study whether political parties affect public attitudes on two hotly debated policy issues in Sweden: nuclear energy and immigration. We focus on small, "single issue" parties, namely, the Green Party (GP, anti-nuclear energy) and the Sweden Democrats (SD, anti-immigration).

An advantage of focusing on these single issue parties is that it is clear what attitudes might be affected after winning an additional seat. In contrast, for a party with a multidimensional platform and a variety of viewpoints within the party, it would be harder to pick up attitudinal changes on specific policy issues. The fact the parties are relatively small is also useful for identification. These parties usually have between zero and three seats on a local municipal council,[10] so the relative increase in representation is large when an additional seat is won. In contrast, the marginal seat is less likely to be influential for a party which already has a large number of seats.

2.1 Nuclear Energy and the Green Party

Our first policy issue and party is nuclear energy and the Green Party. Given the party's origins and available attitudinal data on nuclear energy, we will be focusing on the period from 1988 to 1998.

A brief historical time of nuclear energy in Sweden helps to place our sample period in context. In the 1960's, nuclear energy was promoted as safe and affordable by experts in Sweden and in the 1970's, four nuclear power plants were built in Sweden: Ringhals (south of Gothenburg), Barsebäck (north of Malmö), Forsmark (north of Stockholm) and Oskarshamn (in the southeast of Sweden). Power generation, aided by the addition of extra reactors, increased as a share of the total production until about 1986; since then, nuclear power has accounted for between 38 and 52% of Sweden's electricity production.[11]

The public became increasingly negative towards nuclear energy after the Three Mile Island meltdown in the U.S. in 1979. In 1980, a national referendum about the future use of nuclear energy was conducted in Sweden. The referendum was contentious, because it only allowed voters to choose from 3 options, which were all harder or softer "no" votes on

[10] The Green Party and the Sweden Democrats have three or fewer seats in 87% and 93% of municipalities, respectively, during their respective sample periods.

[11] Hydroelectricity makes up another 38 to 55% of electricity production, with the remainder coming from thermal, fossil and renewable sources (see Swedish Energy Agency, 2012).

nuclear energy. Even though public opinion was divided, the national parliament decided in 1980 that no additional reactors should be built and that nuclear power should be completely phased out by 2010.

The Chernobyl accident in the former USSR in 1986 brought the issue of nuclear energy to the forefront again.[12] After many prolonged debates, in 1997 the national parliament scheduled the shut down of the Barsebäck plant; while the original timeline was altered by subsequent governments, the first Barsebäck reactor was shut down in 1999 and the second in 2005. However, no reactors at any other power plants have been shut down, and in 2010 the national parliament voted to allowing existing reactors to be replaced.

The anti-nuclear movement sparked by the Three Mile Island accident and the outcome of the referendum led to the formation of the Green Party in 1981. The party started out slowly, failing to get enough votes to be represented in the national parliament in the 1982 and 1985 elections, and receiving around 2% of seats in the corresponding municipal council elections.[13] But in the 1988 election, two years after the Chernobyl accident, the party received 5.6% of the votes in the municipality elections, and enough votes to be represented at the national level for the first time. In the 1991 and 1994 national elections the party remained small, receiving 3.6% and 5.3% of the votes, respectively, thereby losing its representation in the national parliament in 1991 but returning again in 1994.

A primary goal of the Green Party has always been to phase out nuclear power. The first policy aim of the party's 1988 platform was to "...phase out nuclear power within three years..." A 1994 survey on what the public thought each party's three most important issues were corroborates the Green Party's anti-nuclear focus. While most other parties had issues like employment or the economy among their top issues, the Green Party had the environment first, and was the only party with nuclear energy being listed by the voters as a top issue (authors' calculations from the 1994 Election Survey).[14] The demand to shut down the nuclear power plants continues to this day, although the party's platform has evolved to include additional issues.

2.2 Immigration and the Sweden Democrats

Our second issue and party is immigration policy and the Sweden Democrats. Our analysis examines the link between the Sweden Democrats and attitudes towards immigration from 2002 to 2012, a period chosen based on when the party gained a non-trivial following.

[12] Given their geographical proximity, the Nordic countries were directly hit with fallout from the Chernobyl accident. See Almond, Edlund and Palme (2009) and Black, Bütikofer, Devereux and Salvanes (2013).

[13] A party needs 4% of the votes before getting any seats in the national parliament. No such threshold rule exists at the local level for municipal councils.

[14] The Centre Party was the only other party to have the environment listed as one of their top three issues.

Since the end of World War II, Sweden has been a net immigration country. In 2010, 15% of the Swedish population was foreign born, with roughly one-third of the foreign born coming from other European Union countries and two-thirds coming from outside the EU. The most common foreign born inhabitants are from Finland, Iraq, Yugoslavia, Poland and Iran. In 2010, 39% of the immigrants were family reunifications, 17% refugees, 13% students, 12% labor immigrants and the remaining 20% came for other or unknown reasons (authors' calculations based on data collected by Statistics Sweden; see www.statistikdatabasen.scb.se).

The Sweden Democrat party was officially formed in 1988 with roots in the racist "Keep Sweden Swedish" and the Sweden Party movements. Given the party's extreme right-wing stance, it gained less than 0.4% of the votes in the 1988, 1991, 1994 and 1998 elections. Starting in the mid 1990's the party began a moderation campaign, and in the 2000's expelled the most extreme factions from the party. This moderation has coincided with a steady increase in votes, with the party receiving a 1.4% vote share in 2002, 2.9% in 2006, 5.7% in 2010 and 12.9% in 2014 in the national elections.

The main policy issue for the Sweden Democrats has always centered on reducing immigration. The party stance is that Sweden has too much immigration, which it feels has eroded Sweden's sense of national identity and cultural cohesion. The Sweden Democrats' platform calls for "responsible immigration policy" by which they mean strong restrictions on immigration and a redirection of funds used for immigrant integration to subsidies for immigrants to voluntarily return back to their home countries (Sweden Democrats Party Platform, 2010). The party also advocates for increased law and order, and an exit from the European Union.

3 Swedish Elections

3.1 Local Municipal Councils

Our setting is local municipality elections in Sweden.[15] Municipalities are smaller than counties, but can encompass more than one city. There are currently 290 municipal councils across all of Sweden, with an average of approximately 45 seats to be filled in each council. The median number of citizens in a municipality is around 15,000 (mean $\cong$ 30,000), and around 70% of the population is old enough to vote.[16] Elections happen every 3 years up to

[15]The primary reason we focus on these local elections is because national elections (1 per election year) and county elections (20 per election year) do not provide sufficient variation. For more details on municipal elections in Sweden, see Folke (2014), Liang (2013) and Pettersson-Lidbom (2008).

[16]By law, there must be an odd number of council seats and a minimum number depending on the size of the local electorate. There must be at least 31 seats in municipalities with 12,000 or fewer eligible voters; 41 for 12,001 to 24,000; 51 for 24,001 to 36,000; 61 for 36,001 or more; and at least 101 in Stockholm. The

1994 and every 4 years thereafter. Voter participation is high in these elections, with around 80% turnout.

Swedish municipal councils have large autonomy. They levy local taxes of around 30% of earnings, with the largest expenditures being for education, elderly care and childcare. They typically also arrange for the local provision of electricity and decide on refugee placement and immigrant integration plans.

There are eight main political parties in each of the two time periods we study, along with several smaller parties which do not get enough votes to be represented in the national parliament. In the 1988, 1991 and 1994 elections (those corresponding to our nuclear energy issue), the main parties where the Moderate Party, the Christian Democrats, the Centre Party, the Liberal Party, the Social Democratic Party, the Left Party, New Democracy and the Green Party. Each of these parties received at least a 4% vote share at some time during the time period, the minimum threshold needed to receive representation in the national parliament. The New Democracy party ceases to exist by the 1998 elections. In the 2002 to 2010 election period (corresponding to our immigration issue), the Sweden Democrats enter as a main party, receiving enough votes to be represented nationally in 2010.

A natural question is what role the Green Party and the Sweden Democrats play at the local level. Given the low vote shares of these two parties, their legislative influence is likely to be small unless they are pivotal in forming a coalition. Moreover, while the Sweden Democrats could affect local immigrant integration policies, municipal governments have no authority to close down nuclear power plants.[17] However, local policy formulation is not the only role for these minor parties. Being elected could also provide a platform to disseminate the party's policy positions, which could then increase support for the party in national elections. Moreover, serving in a municipal government is often a springboard for politicians to enter the national parliament.

3.2 Seat Assignment Function

To understand our estimation approach, the first step is to understand how municipality seats are assigned. Sweden uses a variant of the Sainte-Laguë method to allocate seats in these elections.[18] The Sainte-Laguë method is a "highest quotient" method for allocating seats in a party-list proportional representation voting system.

population of Stockholm municipality is roughly 900,000 while the smallest municipalities have as few as 2,500 residents.

[17]Municipal councils arrange for electricity provision, which often comes from nuclear power plants, and they can get involved with issues such the disposal of nuclear waste within their jurisdiction (see SOU, 1999).

[18]The general method has also been used in New Zealand, Norway, Denmark, Germany, Bosnia and Herzegovina, Latvia, Kosovo, Bolivia, Poland, Palestine and Nepal.

The method works as follows in Sweden. After the votes, v^p, for each party have been tallied, successive quotients, q^p, are calculated for each party:

$$q^p = \begin{cases} \frac{v^p}{1.4} & if\ a^p = 0 \\ \frac{v^p}{2a^p+1} & if\ a^p \geq 1 \end{cases} \tag{1}$$

where a^p is the number of seats a party has been allocated so far. In each allocation round, the party with the highest quotient gets the next seat, and their quotient is updated to reflect their new value for a^p. The quotients for the other parties do not change, as their seat total has not changed. The process is repeated until there are no more seats to allocate. For example, if a party has not received any seats yet, their quotient is calculated by dividing their votes by 1.4. After receiving one seat, their vote total is divided by 3, after receiving two seats, their vote total is divided by 5, with this process continuing with the odd number divisors of 7, 9, 11, 13, 15, etc.

The first panel in Table 1 provides a simple example of how this process plays out. In this example, there are three parties vying for seats and five seats to allocate. As indicated in the table, the first seat goes to Party A, since they have the highest quotient of 4,007. The second seat goes to Party B since their quotient of 2,139 is higher than Party A's quotient of 1,870 and Party C's quotient of 996. This process of comparing updated quotients continues until all five seats have been allocated. The third and fourth seats go to Party A, and the fifth to Party B. In this baseline example, Party C does not receive a seat.

The second panel in Table 1 illustrates one way Party C could gain a seat. Suppose 5 additional people (who didn't vote at all in the first panel) decide to vote for Party C. In this case, Party C is now awarded the fifth seat instead of Party B. The third panel illustrates another way Party C could get a seat, this time without changing the number of votes for Party C or the total number of voters in the election. In this panel, 10 voters switch from voting for Party A to voting for Party B, and Party C is awarded the final seat.

The key insight is that in all three panels, the vote shares for the various parties, and the total number of voters are very similar, but small shifts in votes result in discrete changes in whether Party C gets a seat. It is this type of threshold variation among otherwise similar elections that we will exploit for identification.

In reality, there are 8 or more parties competing for an average of 45 seats. For a smaller party seeking a seat, the number of votes needed can be quite small. In a median sized municipality with 15,000 residents, 70% of the population being voting age and 80% of eligible voters participating, there will be a total of 8,400 votes cast. In our data, the median number of votes needed to get the final council seat is less than 250 for a party that has not been awarded a seat yet. Moreover, with so many seats and so many parties, there are many ways

for seats to shift among the parties at the margin. This means it will be hard to predict how many votes are needed to win an additional seat, making it difficult for the parties to perfectly manipulate vote shares to guarantee they get a marginal seat. This feature is useful for causal identification.

4 Model and Identification

4.1 Public Attitudes and Political Representation

We are interested in the causal relationship between public attitudes and political representation. Attitudes are measured after the seats have been allocated, and could potentially depend on the number of seats held by each of the parties:

$$y_{ijt} = \alpha_j + \delta_t + \beta x_{ijt} + \theta^1 s^1_{j,t-1} + \theta^2 s^2_{j,t-1} + ... + \theta^P s^P_{j,t-1} + u_{ijt} \tag{2}$$

where the subscripts i, j and t index individual, municipality and time period, respectively, and the superscript labels political parties. The outcome variable y measures attitudes, x contains a set of demographic controls and u is an error term. The s^p variables are the number of seats held by each of the P parties, and are determined by the seat assignment rule described in equation (1). We seek a consistent estimate of the θ^1 coefficient, which corresponds to the party of interest (either the Green Party or the Sweden Democrats).

The model written above makes two assumptions for tractability. First, it assumes additive separability for the effect of seats held by the various parties. This means that interactive effects between the number of seats held by different parties is ruled out. Second, the model assumes a constant treatment effect for each of the seat variables. This means, for example, the effect of the Green Party getting an extra seat does not depend on which party they take the seat away from. If there are heterogeneous effects, then the estimated coefficient will capture a weighted average of these effects. With more data, both of these assumptions could be relaxed.

An obvious concern for estimating equation (2) is that votes in the prior election are likely to be related to prior attitudes. Since the number of seats a party gets is a function of how individuals vote, this creates a problem of reverse causality. Indeed, one could easily imagine a regression where the number of seats appears as the left hand side variable and attitudes right before the election appears as a right hand side variable. Since attitudes are likely to be correlated over time, this will create an omitted variable bias for estimates of the θ's. A related concern is that politicians might change their policy positions based on public attitudes to increase their chances of getting elected, which would introduce a similar type of omitted variable bias.

For simplicity of presentation, the seats for all the parties except the party of interest (the Green Party or the Sweden Democrats), can be absorbed into the error term given our assumptions and identification approach. Another modification which turns out to be useful for empirical implementation is to model attitudes as a function of seat shares, instead of seats. This makes it easier to empirically compare municipalities which have a different number of council seats. In the empirical work which follows, we will present results which show that using seat shares instead of number of seats does not materially affect the main findings. Letting s^1 now denote the seat share (rather than seats) for the party of interest (the Green Party or the Sweden Democrats), the simplified model becomes:

$$y_{ijt} = \alpha_j + \delta_t + \beta x_{ijt} + \theta^1 s^1_{j,t-1} + u_{ijt}. \tag{3}$$

4.2 Estimation Approach

To identify a causal effect, we use the nonlinear threshold variation in seat assignments. We implement this by augmenting the outcome equation in (3) with a flexible control function of the vote shares for each of the parties, the total number of votes and the number of seats in the last municipal election:

$$y_{ijt} = \alpha_j + \delta_t + \beta x_{ijt} + \theta^1 s^1_{j,t-1} + g(v^1_{j,t-1}, v^2_{j,t-1}, ..., v^P_{j,t-1}, tv_{j,t-1}, ts_{j,t-1}) + e_{ijt} \tag{4}$$

where v^p measures the vote share for party p, and tv and ts indicate the total number of votes and the total number of seats in a municipality. Note that one could equivalently include a control function in the votes for each party and the total number of seats (rather than vote shares, total votes and total seats), since the algorithm described in equation (1) can be written as a function of either set of variables; the formulation in (4) allows for easier estimation of the control function across municipalities with different numbers of voters.

Adding in the $g(\cdot)$ function ensures the variation we use to identify θ^1 only comes from the sharp nonlinearities in the voting algorithm, and not from the vote shares of the various parties (or the total number of votes or seats). This approach estimates the extent to which the actual seat shares for the Green Party or the Sweden Democrats correspond to changes in political attitudes, controlling flexibly for all of the variables which enter into the seat assignment algorithm of equation (1). Intuitively, we are controlling for the vote shares for the different parties in a flexible way, and are left with the jumps in seat shares because of the threshold rules of the voting algorithm for identification.

This approach can be interpreted in a control function framework, where $g(\cdot)$ is the control function. The identifying assumption is $g(\cdot) = E[u|\alpha_j, \delta_t, x, s^1, v^1, v^2, ..., v^P, tv, ts]$, since then

the error term in the augmented regression of equation (4) will be conditionally mean zero. It is therefore important that $g(\cdot)$ be flexible enough to capture the true expected relationship between attitudes and the vote share variables, total votes and total seats. Controlling for municipality fixed effects should make this task easier, since then $g(\cdot)$ only needs to capture how changes in attitudes are affected by vote shares, total votes and total seats.

To implement our approach, we include a flexible polynomial of the input variables, including interaction terms. A flexible control function is key, since the inputs might directly affect attitudes. For example, how many people vote for the Sweden Democrats in the last election could be associated with changes in immigration attitudes within a municipality.

One thing to notice is the seat allocation rule and the control function $g(\cdot)$ are both functions of the same set of underlying variables. So θ^1 will only be identified if $g(\cdot)$ and the seat allocation rule described in equation (1) have different relationships to the inputs $v^1, v^2, ..., v^P, tv$ and ts. For example, if the control function was linear in the inputs, then identification would come from the fact that the seat allocation rule has discontinuous jumps which are highly nonlinear. The discrete nature of seat assignments is the primary driver of identification combined with the fact that the threshold cutoffs for vote shares differ across elections.

There is a tradeoff inherent in our approach. The control function needs to be estimated flexibly, without sacrificing too much precision. If the function is too flexible, we will not be able to separately identify the jumps in the seat shares from the control function.[19] Empirically, we try control functions with as few as 10 terms to as many as 130 terms. We also try control functions where the terms are chosen using a covariate selection approach. As we will show, we run out of election data (and degrees of freedom) long before the control function comes close to approximating the jumps in the seat share. More importantly, the estimates are stable after including a modest number of second-order polynomial terms.

4.3 Comparison to Regression Discontinuity

In many ways, our approach is similar to a standard univariate regression discontinuity (RD) design.[20] One can think of the seat assignment algorithm as specifying the cutoffs and the inputs into the control function as the running variables. For example, consider what our

[19] Since this is an ordinary least squares regression model, as long as the cross-product matrix is invertible the coefficient θ^1 is technically identified. In practice, a large standard error on the estimate of θ^1 indicates there is not enough independent identifying variation.

[20] An alternative estimation approach for proportional elections can be found in Folke (2014). He considers elections which are close to boundaries in terms of a party barely gaining or losing a seat. The key assumption for his approach is the ability to compare vote margins across different elections. His method yields a consistent local average treatment effect asymptotically as the number of observations near the boundary increases and the binwidth around a boundary shrinks.

approach would translate to if there were only two parties and one seat to allocate. In this case, a majoritarian seat assignment rule would define a threshold cutoff of 50% of the votes. The RD regression would include a dummy for whether the first party got the seat or not and a flexible global polynomial in the vote share of the first party. The model would be identified as long as the polynomial did not perfectly approximate the jump at the cutoff.

Our approach differs from a standard unidimensional RD in several ways because of the fact that our setting is high dimensional. As in a univariate RD, the cutoffs are a known function of the running variables. But because the seat assignment rule has so many running variables, there are many different ways (i.e., combinations of vote shares) which can lead to a party getting a marginal seat. This high dimensionality makes it difficult to map things into a framework with a single running variable without losing precision and making strong assumptions. The multidimensionality of the running variables also precludes drawing a standard RD graph.

Because the control function $g(\cdot)$ of the running variables is high dimensional, there is no natural way to know what the most relevant margin is for a party to get another seat. One cannot simply compare the number of votes needed to get an additional seat along one margin to another margin. For example, it is probably easier for the Green Party to take 10 votes away from another anti-nuclear party compared to taking 10 votes away from a pro-nuclear party. It is also difficult to compare new votes for a party relative to vote shifting among other parties. Given the myriad ways one can cross a threshold and get a seat, this incomparability also means there is no natural way to do local linear regression or to weight observations relative to how "far away" they are from some cutoff in a regression.

Our model makes several assumptions to deal with the curse of dimensionality and make estimation feasible. Two of these assumptions were mentioned in Section 4.1: additive separability of seats for the different parties and a constant treatment effects model. These assumptions mean that a jump in a party's seat share has the same effect on attitudes (after controlling for the vote shares of the various parties), no matter how the jump in seat share occurred. To better understand this, refer back to the two examples presented in Table 1 and discussed in Section 3.2. The first example has Party C changing from 0 seats to 1 seat because 5 additional people decide to vote for Party C. In the second example, Party C goes from 0 seats to 1 seat because 10 voters switch from Party A to Party B. In both examples, Party C gains a seat, but for two very different reasons. Our assumptions imply the change in attitudes will be the same in both cases after controlling for the vote shares of the various parties (and the total number of votes and seats). Our constant treatment effects model also implicitly assumes a symmetric effect for gaining versus losing a seat.

Another assumption of our approach is that of a global control function $g(\cdot)$. Because

the cutoff value for any single running variable depends on the values of the other running variables and because different vote margins cannot be easily compared (see above), it is not possible to have separate control functions for observations to the "left" and the "right" of some cutoff value, as is sometimes done in univariate RDs. Our baseline global control function also restricts the effect of the running variables on attitudes to not vary over time, across municipalities or with the seat shares of the various parties.

It is important to recognize that with an arbitrarily large number of elections, one could in theory relax all of these assumptions and get a set of local average treatment effects. For example, one could estimate what happens to attitudes when Party A gets slightly more versus slightly fewer votes than Party B, resulting in Party A versus Party B getting a seat, holding constant the vote shares of all the other parties. No assumptions about additive separability, constant treatment effects or global control functions would need to be made. Unfortunately, even with many elections the curse of dimensionality makes this infeasible for a multiparty, proportional election system. Any feasible approach needs to make some assumptions; the key is to be clear about what the assumptions are and the restrictions they impose on the model.

5 Data

We use a variety of data sources which can be linked at the municipality level across election cycles. We study the 1988, 1991 and 1994 local elections for the nuclear energy issue and the Green Party. We look at the 2002, 2006 and 2010 local elections for the immigration issue and the Sweden Democrats.

Our election data comes from Statistics Sweden. We collected a panel of election outcomes for 290 municipalities which each have their own council (284 for the Green Party analysis, since there were fewer municipalities in the earlier time period). These data contain the number of votes for each party and the seats awarded to each party. The two graphs in Figure 1 plot the vote shares for the various parties for each of the elections we study. Looking at the first graph, the Green Party is a minor party, which received less than 6% of the vote shares during the period of analysis. Likewise, the Sweden Democrats are a minor party, with their popularity rising over time. Our main analysis links these elections to attitude data from surveys taken after each election.[21] We also obtained data on municipality characteristics from Statistics Sweden.

Our survey data on nuclear energy comes from the SOM Institute at the University of

[21]For larger municipalities, there can be up to six election units within a municipality which allocate seats based on votes. We aggregate these units up to the municipality level, because councils operate at the municipal level and because this is the finest geographical level for our attitude measures.

Gothenburg. Since 1986, the survey has been conducted yearly on a random sample of the Swedish population. The survey was conducted as a mail-in survey, with a response rate of roughly 70% during our time period. We use a question which was consistently asked from 1988 to 1997: *"In 1980 we had a referendum on nuclear power in Sweden. After the referendum, Parliament decided to phase out nuclear power by 2010. What is your opinion about nuclear energy use in Sweden?"* Respondents could choose among the options listed in Figure 2. For the main analysis, we classify an answer of *"Stop nuclear power immediately"* or *"Stop nuclear power earlier than 2010"* as a negative attitude towards nuclear energy. By this measure, 18% of respondents have a negative attitude after the 1988 election, 17% after the 1991 election, and 13% after the 1994 election. As discussed in Section 2.1, this measure of negative attitudes lines up closely with the Green Party's policy position to get rid of nuclear energy quickly. For our time period, there are 16,372 individual respondents who answer the nuclear energy question.

For the immigration issue, we use annual survey data collected by FSI, a Swedish research institute which measures various attitudes of the Swedish population. The FSI attitude survey has been conducted each year since the 1980s on a random sample of individuals. The survey was conducted as a mail-in survey, with a response rate around 60%. Using annual survey data after the elections in 2002, 2006 and 2010 results in a combined sample of 24,126 respondents. The attitude question on immigration which was consistently asked is: "*Should Sweden continue accepting immigrants to the same extent as now?"* The possible responses, and the fraction of the population choosing each response, are contained in Figure 3. We classify respondents as having a negative attitude toward immigration if they answer "*To a lesser extent*". This corresponds to the Sweden Democrat's preferred policy of reducing immigration. The time period we study is one of decreasing opposition of immigration. Following the 2002 elections, 57% of respondents wanted less immigration, whereas after the 2006 and the 2010 elections, the percentages fall to 54% and 52%, respectively.

The two panels in Figure 4 document the distribution of negative attitudes for both the nuclear energy and immigration issues at the municipality level. The variance in attitudes across municipalities is large. For the nuclear energy issue, the 10th and 90th percentiles for the share of negative attitudes are .08 and .27, respectively. For the immigration issue, the 10th and 90th percentiles for the share of negative attitudes are .45 and .70, respectively. Both of the opinion surveys also include basic demographics and geographic information which allows us to map individuals to municipalities. Summary statistics for the demographic variables and municipality characteristics can be found in Appendix Table 1.

We collected several supplemental datasets to study possible mechanisms for the Sweden Democrats; similar, earlier data for the Green Party does not exist. For our analysis of party

instability in terms of keeping seats filled, we collected data from the website "Valmyndigheten" (www.val.se), which since 2006 has tracked the names of the individual politicians filling elected party seats. Using this data, we can ascertain whether a party is able to fill all their seats in the local municipality after an election. We can also track whether there is turnover in who fills a seat between elections.

For the analysis of local immigration policy, we collected data from the Swedish Migration Board on yearly refugee agreements decided upon at the municipality level. We use data from 2006 to 2013, as starting in 2006 the data was reported in a different way that is not comparable to prior years.

Finally, for our analysis of media coverage, we make use of a database owned by Retriever Sweden Inc., which contains the full text of all newspaper articles in Sweden. Retriever is a supplier of media monitoring tools for news research in the Nordic countries, similar to Nielsen Media Research in the U.S. Close to comprehensive coverage (approximately 95% of local newspapers in print) begins starting in 2006 and continues up to 2012. The range of available years prevents us from analyzing media coverage for the Green Party and nuclear energy. We exclude the three national newspapers from the sample, leaving us with a set of 139 local newspapers, some of which cover more than one municipality. Eleven municipalities which are small and sparsely populated do not have a local newspaper. Details on how we perform our content analysis will be discussed in Section 7.3.

6 Main Results

6.1 Changes in Attitudes

Our main research question is whether political representation can causally affect citizen's attitudes. We regress individual level attitudes in surveys after elections on the seat share for the party of interest (either the Green Party or the Sweden Democrats). We first present naive OLS estimates for comparison, followed by a series of control function estimates with increasing flexibility. Possible mechanisms behind our findings are discussed in Section 7.

6.1.1 Control Function Terms. Having a control function which is flexible enough to capture how the inputs into the seat assignment function affect attitudes is key for our identification strategy. We will estimate regressions with control functions having as few as 10 terms to as many as 130 terms. We will also use a statistical algorithm to pick a parsimonious set of terms to include in the control function as a robustness check.

Our first control function includes the levels of all the input variables which enter into the seat allocation rule described in equation (1). This first order polynomial includes 10

terms: the vote shares of each of the main parties, the total number of votes in a municipality, and the number of seats in a municipality.[22] To make the control function more flexible, we next estimate specifications which include squares of each of the input variables, as well as two-way interactions involving the party of interest, for a total of 30 terms. The logic for adding in interaction terms for either the Green Party or Sweden Democrats is that they are the parties with the most direct influence on nuclear energy or immigration attitudes and therefore their vote shares should be flexibly controlled for in the regressions. We then consider a complete second order polynomial expansion of the inputs, for a total of 65 terms. Finally, we supplement the second order expansion with cubes of each of the inputs as well as three-way interaction terms involving the party of interest (130 terms in all).

When thinking about the control function, it is important to remember that our attitude data is comprised of 290 municipalities (284 in the earlier years) observed over 3 elections. Practically, what this means is that we cannot include control functions with too many terms without using up our identifying variation. For example, a complete third order polynomial expansion would be excessive, as it involves 285 terms. We also explore a variable selection method which chooses a limited number of second and third order terms for inclusion in the control function. We use a stepwise regression method similar to that proposed by Imbens (2014). To summarize, the first step includes all first order terms and adds second order terms in a stepwise manner based on whether they are above a pre-specified significance threshold. The second step chooses among a limited set of possible third order terms in a similar way.[23]

As our results will show, the estimates are generally stable after including a moderate number of control function terms and robust to the variable selection approach. In a recent paper, Gelman and Imbens (2014) argue that high order polynomials (third, fourth or higher) should not be used in RD type designs. Our results are not driven by such high order polynomials; indeed our preferred estimates use second order polynomials, with third order polynomials being used solely to demonstrate robustness.

[22]There are 8 major parties in each of our time periods, along with a variety of smaller parties. We combine the vote shares of the smaller parties into one group (the omitted category) in the control function; since they account for few votes (a median vote share of .64% and 2.27% for the Green Party and Sweden Democrat election periods, respectively) and a trivial number of seats, this should not materially affect our estimates.

[23]As in Imbens (2014), we choose among a set of possible polynomial terms in a stepwise fashion, with different thresholds based on the order of the polynomial. Other methods, such as lasso, could also be used. We begin by including all first order terms. We then set a threshold p-value of .30 for adding second order terms based on forward stepwise regressions. The forward stepwise algorithm adds each possible second order term as one additional covariate to a separate regression, finds the term which is most significant among all the regressions, and adds that term to the model if it is below the threshold. The process repeats, continuing to add additional terms until there are no new terms below the threshold. For the second step, we limit the possible set of third order terms to those which can be linked to the set of second order terms chosen in the first step. We set a threshold p-value of .20 for the addition of third order terms. There are no formal results about the optimal values for the thresholds. See Imbens (2014) for further details.

6.1.2 Nuclear Energy and the Green Party. We begin by reporting estimates for how attitudes towards nuclear energy change when the Green Party increases their seat share. Table 2 shows results using naive OLS regressions. The first column regresses a dummy variable for whether a survey respondent has a negative attitude towards nuclear energy on the seat share of the Green Party. The second column adds in a set of individual level control variables. In both regressions, the coefficient on the seat share variable is slightly positive, but close to zero. To control for fixed heterogeneity in attitudes across municipalities, columns (iii) and (iv) add in municipality fixed effects. While this flips the sign of the coefficient, the estimates remain small and insignificant. The individual characteristics, however, strongly predict attitudes. With or without municipality fixed effects, females, the least educated and the young are most negative towards nuclear energy. The municipality fixed effects are also jointly significant.

Table 3 uses the control function approach embodied in equation (4) to account for endogeneity bias. The regressions include municipality fixed effects, survey year fixed effects and a set of individual-level demographic controls, similar to the last column in Table 2. Additionally, the regressions add in control functions of varying flexibility so as to isolate the random jumps in seat shares which occur when a party barely gains or loses an additional seat. Standard errors are clustered at the municipality level.

The first column in Table 3 copies the corresponding OLS estimate from Table 2 for convenience. The addition of the first order control function in column (ii) flips the sign of the seat share coefficient, but it remains insignificant. Specifications C and D in the next two columns consider a limited and complete second order polynomial control function; the addition of these terms causes the estimate to increase and become statistically significant in both cases. Adding in cubes and a limited number of third order interaction terms in column (v) likewise results in a sizable estimate, but the addition of all these terms comes at the cost of increasing the standard error by almost 30%. The final column of the table uses the statistical variable selection procedure described in the last section to choose among the many possible second and third order terms. The control function in this column has 34 terms, and finds a similar estimate as our preferred specification D, but with a smaller standard error.

While the coefficients increase somewhat as more terms are added to the control function, all but the most limited control function estimates point to a similar conclusion: Green Party representation has a substantial and significant effect on attitudes towards nuclear energy. To understand the magnitude of the estimated effect, consider our preferred specification D, which includes a complete second order polynomial expansion with 65 terms. We use this specification as our baseline for robustness checks. The estimate of .012 reported in

the table means that when the seat share for the Green Party increases by 1 percentage point, negative attitudes towards nuclear energy increase by 1.2 percentage points. Stated somewhat differently, since one seat equates on average to a seat share of 2.25, an additional seat increase negative attitudes towards nuclear energy by roughly 2.7 percentage points. Compared to the overall average of 15% of voters who are negative towards nuclear energy, this is a sizable 18% increase.

The control function estimates stand in sharp contrast to the naive OLS estimates. Taken at face value, the naive OLS estimates would lead one to conclude that an increase in representation for the Green Party does not significantly change attitudes. This would not be an unexpected result, since the low seat shares of the Green Party might simply mean the party has little influence or voice at the local level. But the control function estimates indicate this would be the wrong conclusion, as Green Party representation actually changes people's stated preferences to be more anti-nuclear, in line with the party's stated goals.

6.1.3 Immigration and the Sweden Democrats. We next turn to immigration attitudes and the Sweden Democrats. As before, we start by showing naive OLS estimates in Table 4. The first two columns suggest that negative attitudes towards immigrants are positively and significantly related to the Sweden Democrats having more seats in a municipality. But the inclusion of municipality fixed effects flips the sign to be negative, and significantly so once individual level controls are included. The estimated coefficients on these individual level controls reveal that prior immigrants, the college educated, females and younger individuals are less likely to have a negative attitude towards immigration. The municipality fixed effects are jointly significant.

In Table 5, we turn to the control function estimates. The first control function specification in column (ii) shows that merely controlling for the votes shares of all parties (and the total number of seats and votes) causes the coefficient to almost triple in magnitude. Adding in second order terms in specifications C and D increases the coefficient slightly. The addition of cubes and third order interactions involving the Sweden Democrats in column (v) has almost no additional effect on the estimate. Finally, the variable selection model, which chooses a parsimonious number of second and third order terms, also results in a similar estimate.

Our preferred estimate from specification D, which will be used in our robustness checks, implies that when the Sweden Democrats' seat share increases by 1 percentage point, negative attitudes in the corresponding municipality decrease by 1.8 percentage points. This translates to just over a 4 percentage point drop in negative attitudes towards immigration for one additional seat. Relative to the average number of voters who express anti-immigration views (55%), this is a 7% decrease in negative attitudes.

The control function estimates reveal a stronger effect on attitudes than naive OLS. But even more striking, the control function estimates imply that after a Sweden Democrat gains a seat, individuals residing in their municipality become less negative about immigration, which is exactly opposite the party's policy position. We explore several possible reasons for this finding in Section 7.

6.2 Exogeneity Tests and Robustness

Before continuing, we briefly present some exogeneity tests and explore alternative specifications. As discussed earlier, the nature of the seat assignment rule creates many different ways for seats to shift among the parties at the margin, so a priori, there is little chance for manipulation which would invalidate our design. To empirically test for exogeneity, in Appendix Table 2 we analyze whether a party's seat share is significantly associated with lagged attitudes or municipality characteristics. The regression for lagged attitudes mirrors the baseline specification with a complete second order expansion for the control function, but instead of regressing post-election attitudes on a party's seat share, it regresses pre-election attitudes on a party's seat share. Since these seats have not been allocated yet, they should not effect pre-election attitudes. As expected, there is no statistical evidence that future seat shares affect lagged attitudes. For a second set of tests, we regress a variety of municipality characteristics on the seat share variables, again using our baseline specification. There is no evidence the seat shares of either party are related to any of these variables, with none of the coefficients being statistically significant.

Appendix Table 3 contains a series of robustness checks. So far, we have regressed attitudes on seat shares, which models a party's effect as a function of their proportional representation on the council and makes it easier to compare municipalities which have a different number of total seats. As Appendix Table 3 shows, when we use the number of seats instead, the results are qualitatively similar and remain statistically significant.[24] A second specification issue is whether there are nonlinearities in the effect of the seat share variable. We explore this possibility in specification B by adding the square of the seat share variable as an additional right hand side variable. The coefficient on the squared term for both the Green Party and the Sweden Democrats is relatively small and in neither case statistically significant.[25] As a third robustness check, in specification C we estimate regressions which

[24]The estimates in Appendix Table 3 can be compared to the seat share coefficients in columns (iv) of Tables 3 and 5 after dividing by 2.25 (the average seat share corresponding to one seat). For both the Green Party and the Sweden Democrats, the seat share estimates yield somewhat larger effects compared to the number of seats, but the qualitative effects are similar.

[25]We also explored the margins of going from 0 to 1 seat, 1 to 2 seats, 2 to 3 seats, etc. and found no statistical evidence for a nonlinear effect, although the individual estimates were noisy.

do not include municipality fixed effects. For the Green Party, the estimated coefficient on the seat share variable is similar to the baseline, while for the Sweden Democrats, the estimated coefficient is smaller but still statistically significant. Our final robustness check explores whether there is a differential effect based on the size of the municipality. We run a single regression which interacts a party's seat share variable with a dummy for whether the municipality is large or small. While there are sizable effects for both large and small municipalities, we find no significant evidence of heterogeneity.

6.3 Whose Attitudes are Changing?

In Table 6 we explore which types of individuals, based on observables, are most likely to change their policy opinions. The table mirrors the baseline attitude regressions, but with interactions between the seat share variable and observable demographic characteristics.

We find evidence of substantial heterogeneity. As the first column shows, the election of a Green Party politician has a larger effect on the attitudes of women and younger individuals. For example, a one percentage point increase in the seat share for the Green Party causes women to become 2 percentage points more negative towards nuclear energy. This contrasts to a 0.4 percentage point effect for men. Turning to the second column, the election of a Sweden Democrat has a bigger impact on the college educated, women, younger individuals and immigrants. For example, the estimated coefficient is -.036 for the college educated compared to -.009 for those with a compulsory education. All of the contrasts in Table 6 are statistically significant.

It is interesting to compare the heterogeneous effects for these subgroups relative to their average propensity to be anti-nuclear and anti-immigrant. As can be seen from the coefficients in Table 2, both women and younger individuals are more likely to be anti-nuclear on average. Likewise, Table 4 reveals the college educated, women, younger individuals and immigrants are the least likely to have a negative attitude towards immigration. It appears the estimated effects are reinforcing the average tendencies of pro-nuclear and anti-immigrant subsets of the population.[26]

We next test for whether political representation persuades undecideds or has a polarizing effect. Political representation might simply bring a party's policy issues to the forefront of public debate. This could have two effects, both of which could show up as changes in support for a party's preferred policies, even though preferences for the median citizen remain unchanged. First, it could increase the amount of information individuals have about the issue, causing fewer people to be undecided. Second, it could symmetrically increase (or

[26] Although not reported in the table, we note that how far away a respondent lives from a nuclear plant does not significantly affect the estimate.

decrease) polarization. That is, political representation could cause neutral and moderate individuals to symmetrically adopt more extreme opinions (or conversely, cause polarized individuals on both sides of an issue to moderate their views).

We test for these possibilities in Table 7. We first run regressions similar to those in Tables 3 and 5, but replace the left hand side variable with an indicator for whether the respondent had no opinion. We find no evidence of the Green Party causing fewer people to be undecided about nuclear energy and no evidence of the Sweden Democrats causing fewer people to be undecided about immigration flows.[27] In both cases, the coefficient estimates are close to zero and insignificant; see columns (ii) and (iii) in panels A and B.

To test for symmetric polarization for the Green Party and nuclear energy, we create a dummy variable for the most extreme pro-nuclear view on the survey. An average of 25% of respondents favored the extreme position of never phasing out nuclear energy. We find no evidence for a symmetric increase in polarization from this regression. While more people are becoming anti-nuclear after a Green Party politician is elected, there is not a corresponding rise at the other extreme; see columns (v) and (vi) in panel A. The survey question for immigration is less well-suited for studying polarization, since there are only three possible responses: less immigration, the status quo, and more immigration. With this caveat in mind, the regressions in columns (v) and (vi) of panel B indicate the election of a Sweden Democrat politician does not increase support for more immigration.

These results imply parties are actually persuading (or dissuading for the Sweden Democrats) citizens about the merits of their policy issues, shifting the distribution of attitudes towards (or away from) their position.[28]

6.4 Incumbency Effects

The main results provide two examples of how political representation causally changes attitudes on important policy issues, even if not always in the party's intended direction. An important question is whether these stated preferences on opinion surveys actually translate to observed changes in voting behavior.[29]

To examine this question, Table 8 regresses the log number of votes for a party in the next election on the party's seat share in the last election, with controls for election year. The naive OLS regressions in column (i) point to a strong incumbency effect for both the

[27] It is possible that a survey answer of "no opinion" does not actually mean the respondent has no opinion, but rather that they are hesitant to express their views. If this is true, the estimates remain causal, but their interpretation changes.

[28] We also estimated multinomial logit regressions, and the pattern of coefficients yields a similar conclusion.

[29] When interpreting the results in this subsection, it is important to remember that voter turnout is high in Sweden, with around 80% participation.

Green Party and the Sweden Democrats, with a 1 percentage point increase in the seat share variable resulting in 30% and 22% more votes, respectively. Since an additional seat equals a 2.25 seat share on average, this translates roughly into 67% and 50% more votes, respectively, after the Green Party and the Sweden Democrats get one more council seat.

To arrive at causal estimates, we add in a series of control functions as we did in Tables 3 and 5. For the Green Party, the incumbency effect is more modest than OLS would suggest, but still present. Focusing on the baseline control function specification in column (iv), which uses a complete second order polynomial expansion, a one percentage point increase in the seat share for the Green Party results in 3.8% more votes in the next election. This incumbency estimate translates into roughly 9% more votes in the next election after the Green Party gets an additional council seat. This effect is significant at conventional significance levels. In contrast, for the Sweden Democrats, the baseline control function estimate reported in column (iv) finds no incumbency effect. The point estimate is slightly negative and statistically insignificant.[30]

The estimated effect for the Green Party of 9% more votes after winning a seat is similar to the incumbency effects found by other researchers. In a study of U.S. House elections, Lee (2008) finds a 16% increase in votes for a party in the next election if their party barely won the prior election. Examining a proportional representation system, Liang (2013) finds incumbency effects between 6 and 18 percentage points for the seven largest parties in Sweden (his data span 1982-2002, and therefore don't include the Sweden Democrats). These comparisons make the finding of no incumbency effect for the Sweden Democrats all the more interesting and unique.

Thinking about the attitudes and incumbency results in tandem, the Green Party successfully changed attitudes towards their preferred policy position, and appear to have been rewarded at the ballot box for doing so. In contrast, the Sweden Democrats caused a swing in attitudes against their preferred policy position, negating any incumbency effect they may otherwise have had. More generally, these patterns provide a possible explanation for observed incumbency effects in other settings (Ferraz and Finan (2008), Hirano and Snyder (2009).

[30]It is interesting to note that for these incumbency regressions, the covariate selection approach in column (vi) picks a larger set of control variables compared to the attitudinal regressions. This is likely due to autocorrelation in voting behavior. The addition of the control function variables, which includes lagged vote shares for the various parties, increases the R-squared of the regressions substantially, further suggesting the presence of autocorrelation in voting behavior.

7 Mechanisms

The fact that attitudes causally change after a party gets elected is a first order finding. Another novel finding of our paper is that this effect does not always go in the anticipated direction, as demonstrated by the difference between the Green Party's success and the Sweden Democrats' failure to get individuals to adopt their views. A natural follow-up question is: What mechanisms could explain our findings?

In this section, we explore several possible mechanisms for how political representation might matter for attitudes. Due to data availability, the analysis is focused on Sweden Democrats and the immigration issue. We do not have comparable data to study the Green Party and nuclear energy. We use the same identifying variation as before, namely, the quasi-random variation in seat shares which arises when a party barely gains or loses an additional seat, to learn about the possible channels of politician quality, changes in local policy and the power of the media.

7.1 Politician Quality

We begin by examining whether marginally elected seats for the Sweden Democrats are filled with lower quality politicians. An inexperienced or inept politician could make offensive statements, appear uniformed about an issue or otherwise be ineffective in getting the party's message across. There are several anecdotes of this type of unprofessionalism at the local level for the Sweden Democrats.[31] Such incompetence could alienate voters from the party and its message, causing a backlash in attitudes and a lower re-election probability for the party.

While we cannot directly measure the competence of a politician, we can test whether a marginally-elected party seat is able to be filled and stay filled with minimal turnover until the next election. We interpret the inability to fill a seat, or high turnover in a seat between elections, as evidence of lower quality politicians and poor local party organization. If a suitable politician cannot be found to fill an elected party seat, this suggests a lack of competition within the party among experienced and capable politicians. Likewise, repeat turnover between elections is likely a sign of voluntary resignations from less committed politicians or party-forced resignations of incompetent politicians.

We define seat instability, our proxy measure of politician quality, as a dummy variable which equals one if either the party cannot fill a seat or if a seat is filled with at least three different appointed politicians between elections. Our definition is based on the observation

[31] To cite two examples, one Sweden Democrat politician was expelled from the party since he broke local election laws and failed to attend local council meetings (*Arbetarbladet*, October 28, 2014), while another was expelled after repeatedly posting racist statements on social media (*Eskilstunakuriren*, April 14, 2011).

that among small parties, occasional turnover in politicians is normal, but that repeat turnover for the same seat is likely to be indicative of more serious problems.[32] The data to construct this measure first becomes available for the 2006 and 2010 elections, so our analysis is limited to those two post-election periods.

A first hint that the Sweden Democrats have lower quality politicians on average can be seen in the level of seat instability for the Sweden Democrats compared to other minor parties of similar size.[33] On average, 23% of Sweden Democrat seats were unstable after the 2006 and 2010 elections. This stands in stark contrast to 7% seat instability for the Christian Democrats, 7% for the Green Party and 8% for the Left Party. Apparently, the Sweden Democrats had a much harder time filling, and keeping filled, the seats they won in local elections.

To see whether seat instability is causally linked to a marginally won seat, we perform a similar analysis as we did for the attitudinal regressions in the prior section. The first column in Table 9 regresses seat instability on the seat share for the Swedish Democrats, controlling for year and municipality fixed effects. This OLS estimate is small and statistically insignificant. However, when adding the various control functions in columns (ii) to (vi), the picture changes. For the baseline model in column (iv), which uses a complete second order expansion, the point estimate indicates that when the seat share for the Sweden Democrats goes up by 1 percentage point, seat instability goes up by 10 percentage points. Since a seat share of 2.25 equals approximately one seat, this estimate translates into an additional seat increasing instability by almost 23%. Control functions which include fewer or more second or third order terms, or which use covariate selection, all yield similar point estimates and remain statistically significant.

This analysis reveals a causal link between a marginally elected seat and seat instability for the Sweden Democrats. This makes intuitive sense, as a barely won seat occurs in a marginal election, and therefore may have fewer competent and committed politicians to choose from. However, this trouble in keeping marginal seats filled does not show up as strongly for the other minor parties. As Appendix Table 4 reveals, the control function estimates are small and statistically insignificant for both the Christian Democrats and the Green Party. There is some marginally significant evidence of instability for the Left Party,

[32] We cannot tell why an elected seat experiences turnover in our dataset. Some turnover will occur naturally, for example, when a politician chooses to take maternity leave or moves to another locality. But excessive turnover is likely to signal forced and voluntary resignations due to internal party conflicts or pressure from the public/media. As an alternative measure, we also tried defining seat instability as equal to one if the party cannot fill a seat or if the seat is filled with at least two different politicians between elections. This yields results which are qualitatively similar and also statistically significant.

[33] During this time period, the four minor parties (the Sweden Democrats, the Christian Democrats, the Green Party, and the Left Party) each had fewer than 7% of council seats on average.

although the estimate is smaller compared to the Sweden Democrats. We infer the Sweden Democrats had a relatively hard time attracting quality politicians to serve at the local level. This sign of local disorganization and inexperience may have turned off voters to their party and its policies, consistent with the attitude and incumbency results in the prior section.

7.2 Changes in Local Policy

We next explore whether the election of Sweden Democrats is causally linked to changed immigration policy at the local level. If so, this could provide another explanation for the reduction in anti-immigration attitudes and lack of any incumbency advantage. For example, policies which reduce the number of immigrants locally could be unpopular among citizens or simply make natives feel less threatened. Notice that we cannot perform a similar analysis for the Green Party, since no nuclear power plants are shut down during our time period and the local decision on whether to accept nuclear waste (a one time occurrence) affected too few municipalities.

The immigration policy we consider is the refugee quota for a local municipality. The municipal council negotiates with the central government how many refugee migrants it will accept into its municipality. A monetary transfer from the central government helps to defray resettlement costs. Our analysis builds on the prior work of Folke (2014), who finds the election of a New Democracy politician in Sweden in an earlier period causally reduced the number of local refugee placements. This anti-immigration party ceased to exist after the 1994 election. Using a different time period and a different anti-immigration party, we find results which are qualitatively similar to Folke. Our work is also related to research inspired by Downs (1957b) on the causal relationship between election results and policy (e.g., Besley and Case (2003), Ferreira and Gyourko (2009), Lee, Moretti and Butler (2004), Levitt (1996) and Pettersson-Lidbom (2008)).

We obtained data on the negotiated refugee quota for each municipality from the Swedish Migration Board. We use data from 2006 to 2013, since data before then is not comparable. New agreements take time to be voted on and implemented, so we map the available information on quotas in the last two years of each election cycle to the prior election.[34]

Table 10 regresses the inverse hyperbolic sine (a function similar to the natural log but which includes zero) of the refugee quota on the seat share variable as well as election year and municipality fixed effects. OLS estimates a negative and significant reduction in the refugee quota after the election of a Sweden Democrat. Turning to the causal estimates, the

[34]For the 2002 elections, we link 2006 quotas since this is the first available year; for the 2006 elections, we take the average of the 2009 and 2010 quotas; for the 2010 elections we use the 2013 quotas since the 2014 data is not yet available. If we instead use the first two years after an election (for the 2006 and 2010 elections), we find no significant effect, consistent with new agreements taking time to be implemented.

baseline control function estimate in column (iv) is larger, and significant at the 10 percent level. The other control function specifications yield similar estimates. The estimates imply a 1 percentage point increase in the seat share decreases refugee placements by around 10%. This translates into an additional seat (approximately 2.25 seat shares on average) decreasing refugee placements by around 23%.[35]These estimates reveal a causal link between political representation and immigration policy. While we cannot prove these policy changes directly led to the drop in anti-immigration attitudes or the loss of an incumbency advantage, we can speculate whether this is a likely mechanism. If the changes in refugee policy are viewed as extreme or unpopular, this could cause citizens to change their views in the opposite direction of the Sweden Democrats. Alternatively, "group threat theory" predicts that as the number of refugees falls, natives are less likely to feel threatened, and consequently become less negative towards immigration (Hjerm and Nagayoshi (2011)).

7.3 The Power of the Media

We now turn to the power of the media to frame political parties and influence policy debates. If the media increases its coverage of the Sweden Democrats after they win a seat, and if this coverage is negative, this could provide another explanation for the attitude and incumbency results presented in Section 6.

A growing literature documents the impact of the media on voting behavior (see footnote 8). This research generally finds media exerts a strong influence on attitudes via both television and newspapers. This section is even more closely related to studies of media slant and persuasion (see footnote 9). While it is hard to directly compare magnitudes across studies, the general conclusion from these studies is that media can play a powerful role in shaping attitudes.

7.3.1 Setting and Statistical Inference Our setting is well-suited to study the effect of local media coverage, as Sweden has a large number of local newspapers. This is in part due to subsidies provided by the central government to encourage diversity in local newspaper markets. Datawise, nearly comprehensive coverage of local newspapers begins in 2006, when content becomes available in digital form from the media marketing company Retriever. We were able to compile information from 139 local and regional newspapers (we exclude the three national newspapers), which represents roughly 95% of newspapers in print for our time period. Because newspaper data is not available for earlier time periods, we cannot

[35]There are municipalities which do not have a signed agreement with the Swedish Migration Board for some of the years, being recorded in the data as having a quota of zero. Excluding all zero observations as a sensitivity check reduces the magnitude of the coefficient, but not its statistical significance.

perform a similar analysis for the Green Party and nuclear energy.

While there are a handful of national and large regional newspapers, most newspapers serve just a few municipalities in Sweden. Almost half of the newspapers cover just one municipality and 95 of the newspapers cover three or fewer municipalities. Only 11 sparsely populated municipalities are not covered by a local newspaper. We link municipal elections in 2006 and 2010 to subsequent newspaper content after each election, with municipalities being matched to newspapers which operate in their geographical area.

For this analysis, we have fewer grouped observations than in our prior analyses. This is because we have fewer newspapers than municipalities (139 versus 290), and two election cycles instead of three. This has two practical implications. First, by necessity, our control functions will need to include fewer terms. It is infeasible with the available degrees of freedom to include the control functions in prior tables which included 65 or 130 terms. We will explore control functions that include all first order terms (10 terms), first order terms and their squares (21 terms), and first order terms, their squares and second order interactions involving the Sweden Democrats (30 terms). We will also include covariate selection models, but which are limited to choosing among first and second order terms.[36]

Second, because we have fewer observations, we will report p-values which have better small sample properties, but still account for possible correlation in the error terms for a newspaper over time. In particular, instead of using clustered standard errors as in prior tables (or block bootstrap standard errors), we will report p-values and 95% confidence intervals based on the studentized block bootstrap. The idea is to use block bootstrapping to construct the distribution of the t-statistic, and use it to calculate p-values and confidence intervals. This procedure has faster convergence properties compared to clustering or the standard block bootstrap; it converges at the optimal parametric rate while the other methods converge at the nonparametric rate.[37] For our newspaper regressions, we find the studentized block bootstrap results in larger p-values and wider confidence intervals compared to using either clustered standard errors or the block bootstrap. Because of this, we use the more conservative, and arguably more accurately-sized, studentized block bootstrap to conduct statistical inference for our newspaper analysis.[38]

[36]We do not include any control function terms a priori. We set a threshold p-value of .30 for adding first order terms based on forward stepwise regressions. For the second step, we limit the possible set of second order terms to those which can be linked to the set of first order terms chosen for inclusion. We set a threshold p-value of .20 for the addition of second order terms. See footnote 23.

[37]This procedure is sometimes also referred to as the percentile-t block bootstrap. The asymptotic refinement works because the t-statistic is a pivotal test statistic, and therefore uses a higher order approximation for the asymptotic distribution compared to the standard bootstrap. See Hall (1992) and Horowitz (2001).

[38]We also explored whether studentized block bootstrapping mattered empirically for our other analyses, such as the attitude regressions, where we have more groups and years. It did not; we found little difference in the calculated p-values.

7.3.2 Results Our first question is whether local newspaper coverage increases after the Sweden Democrats win a seat. We answer this question in Table 11, where as before, we take advantage of the sharp nonlinearities in the way seats are assigned for identification. To construct the dependent variable, we had the company Retriever search every article in every newspaper in the database for the phrase "Sweden Democrat". We add up the number of articles written after an election, but before the next election takes place, and take the natural log. We regress this outcome on the seat share of the Sweden Democrats (in municipalities covered by a newspaper), and include newspaper and election year fixed effects in the regression.

While OLS estimates are small and insignificant, the control function estimates reveal a strong and robust effect. Consider the baseline regression in specification D of Table 11. When the seat share goes up by 1 percentage point, mentions of the words "Sweden Democrat" rise by 23% in newspaper articles. This translates into a roughly 12% increase in media coverage after the Sweden Democrats win one more seat, since one seat equates on average to a little more than half of a seat share in municipalities covered by a newspaper. To put this in perspective, it implies that after the Sweden Democrats win an extra seat, another 52 articles per newspaper per election period are written mentioning the words "Sweden Democrat" compared to the average of 430 articles.

This rise in newspaper coverage is unique to the Sweden Democrats. In Appendix Table 5, we run similar regressions for each of the other parties, using the baseline specification D in Table 11. The estimates are relatively small and insignificant, with three negative and four positive estimates. For the larger parties, this result makes sense; for example, going from 20 to 21 seats would not be expected to change local coverage of the party much. The more interesting result is there seems to be little increase in newspaper coverage for the smaller parties, which like the Sweden Democrats, also have just a handful of seats on most local councils.

Our second question is whether this increased coverage of the Sweden Democrats is positive or negative. If negative, newspapers could be turning off citizens to the party and its immigration stance. To answer this question, we carry out a content analysis of the types of words that appear in local newspapers. The analysis is the same as in Table 11, but with different search terms fed into the Retriever database. We also take the inverse hyperbolic sine (a function similar to the natural log but which includes zero) of the dependent variable, as some newspapers have zero articles for this more specialized search.

We first search for variants of the terms "racism" or "xenophobia" in newspaper articles which also include the phrase "Sweden Democrat". These terms carry negative connotations in Sweden, and are generally used as reproachful and stigmatized labels. Using either the

baseline specification (a control function with 30 terms) or the covariate selection method to select terms, the results are striking. Column (ii) in the upper panel of Table 12 reveals a 1 percentage point increase in the seat share results in a statistically significant 34% increase in negative articles about the Sweden Democrats. Translating this result, when the Sweden Democrats win an extra seat, there is an 18% increase in the number of articles that mention racism or xenophobia in combination with the party's name. We also search for articles which mention racism or xenophobia, but not the Sweden Democrats. We find no evidence the Sweden Democrats trigger a broader discussion of racism without a mention of their party; see columns (v) and (vi) in the upper panel.

We next search for variants of the words "immigrants" and "integration" in articles which also include the phrase "Swedish Democrat". These search terms were chosen to assess whether the election of a Sweden Democrat prompts a substantive policy debate in local newspapers.[39] The way searches can be done in the Retriever database do not allow us to assess whether these articles are favorable or unfavorable to the Swedish Democrats. But our interpretation, based on reading several articles, is that these words signal a reasoned discussion about immigrant assimilation into society, rather than a judgmental labeling. Using these search terms, we find strong evidence the election of a Sweden Democrat causes their party to be mentioned in conjunction with these types of policy debates. Both the baseline specification with 30 terms and the more parsimonious covariate selection model suggest around a 20% increase in these types of newspaper mentions for each percentage point increase in the Sweden Democrats' seat share. This translates to roughly 11% more of these types of articles for each extra seat won by the Sweden Democrats. There is a hint of increased discussion about immigrants and integration in articles which do not mention the Sweden Democrats in columns (v) and (vi) in the lower panel, but the estimates are not close to being statistically significant.

The results presented so far include all regional newspapers, no matter how many municipalities they serve. As a robustness exercise, in Appendix Tables 6 and 7, we redo the analyses in Tables 11 and 12, but limit the sample to newspapers covering three or fewer municipalities. These more local newspapers are generally smaller, and will naturally be more focused on local municipal councils. In both of these appendix tables, the estimates are slightly larger, but more noisily estimated.

Our interpretation of the newspaper results is that the election of an additional Swedish Democrat prompted a strong response by the local media, both in terms of negative attacks on the Sweden Democrats and in increased discussion of immigrant assimilation. These

[39]Searches based on the word "immigrants" without also requiring the word "integration" are too broad, as such searches identify many articles related to historical immigration and other non-policy related issues.

empirical findings are consistent with interviews of newspaper editors and journalists by Häger (2012) who found that newspapers consciously chose to oppose the Sweden Democrats and their anti-immigration stance (see footnote 4 for an example). More generally, our results point to the power the media has to frame political parties and policy issues.

8 Conclusion

Do politicians change public attitudes on important policy questions? Disentangling how politicians affect public attitudes from how public attitudes affect politicians' policy positions is a difficult empirical problem. In this paper, we isolate the effect of political representation on public attitudes by taking advantage of large non-linearities in the function which assigns seats in local municipality elections in Sweden. Using this threshold variation from many local quasi experiments, we estimate whether gaining an additional seat on the municipal council changes local attitudes after an election.

We estimate that after the Green Party (anti-nuclear party) gets an extra seat, there is an 18% increase in anti-nuclear attitudes among the municipal population, consistent with the party's goals. In contrast, the election of a Sweden Democrat (anti-immigrant party) to a municipal seat decreases negative attitudes towards immigration by 7%, which is opposite the party's policy position. Mirroring these attitudinal changes, the Green Party receives more votes in the next election after gaining a seat, while the Sweden Democrats experience no such incumbency advantage. A key finding is that politicians can both persuade and alienate citizens, as demonstrated by the difference between the Green Party's success and the Sweden Democrats' failure to get individuals to adopt their views. Ancillary data allow us to explore several possible mechanisms for the anti-immigrant party. We find causal evidence that gaining an extra seat draws in lower quality politicians, reduces negotiated refugee quotas and increases negative newspaper coverage for the Sweden Democrats.

Our paper provides some of the first causal evidence that public attitudes are influenced by which political parties are elected to power. This has important implications, as it means naive models which regress a party's policy positions on voters' attitudes will suffer from reverse causality. It also means that electoral models of how politicians trade off election probabilities with preferred policies operate in a dynamic world: political representation can alter citizen's attitudes in ways that can improve (or hurt) future election success. Additionally, our results indicate the power politicians have to alter attitudes depends at least in part on outside forces, with the media playing an important mediating role in the framing of a political party and their message.

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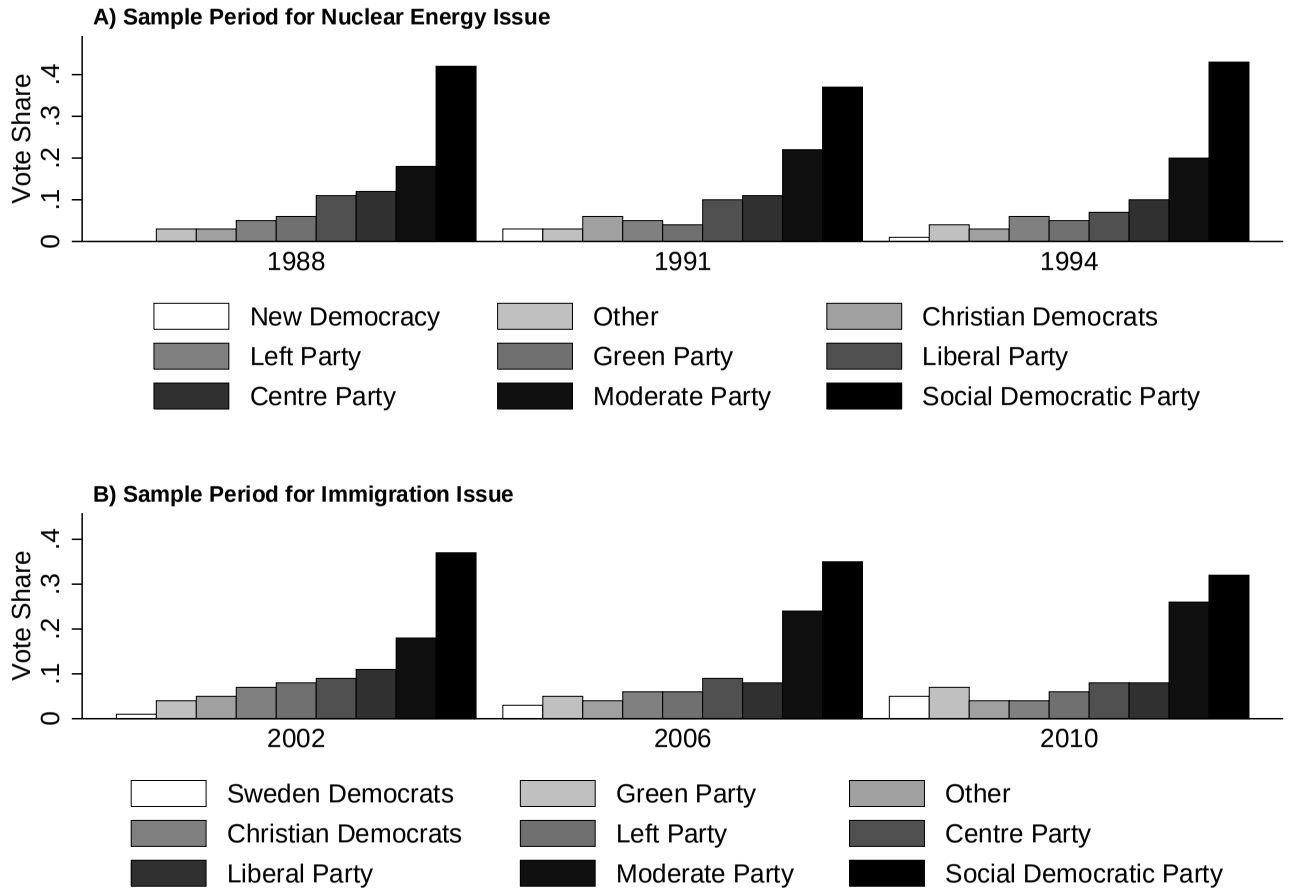
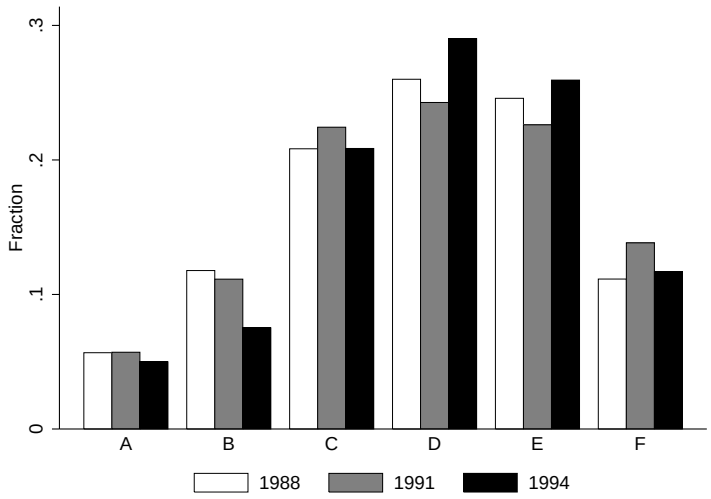
Figure 1. Party Vote Shares in Municipal Elections.



Notes: Party vote shares across 284 municipalities in Panel A and 290 municipalities in Panel B. Election data come from Statistics Sweden.

Figure 2. Attitudes Towards Nuclear Energy.

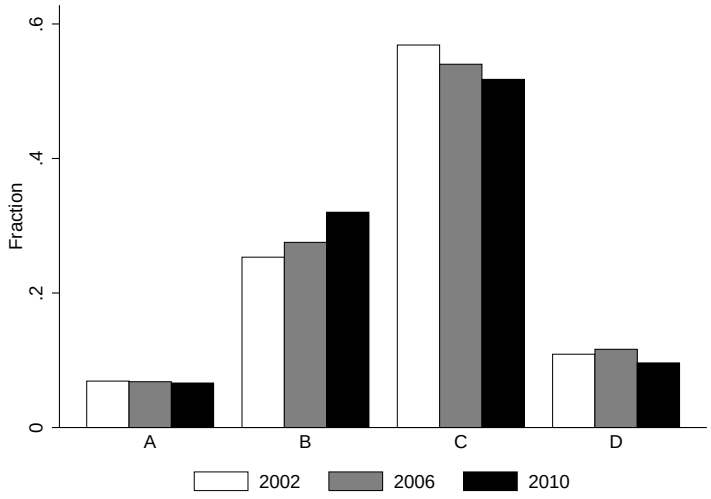


In 1980 we had a referendum on nuclear power in Sweden. After the referendum, Parliament decided to phase out nuclear power by 2010. What is your opinion about nuclear energy use in Sweden?

A) Stop nuclear power immediately
B) Stop nuclear power earlier than 2010
C) Phase out nuclear power by 2010
D) Phase out nuclear power, but after 2010
E) Do not phase out nuclear power at all. Keep using it
F) No opinion

Notes: Surveys of randomly sampled adults in Sweden conducted by the SOM Institute in the years after the 1988, 1991 and 1994 elections. 16,372 respondents across all survey years. A negative attitude towards nuclear energy is defined as an answer of A or B.

Figure 3. Attitudes Towards Immigration.

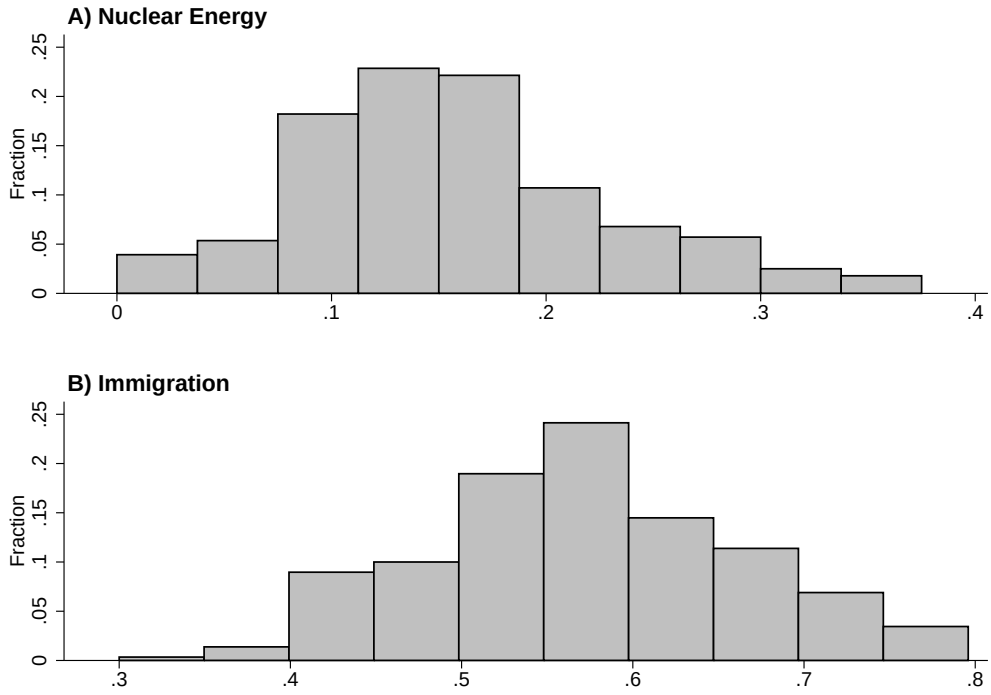


Should Sweden continue accepting immigrants to the same extent as now?

A) To a greater extent
B) To the same extent
C) To a lesser extent
D) Do not know

Notes: Surveys of randomly sampled adults in Sweden conducted by FSI in the years after the 2002, 2006 and 2010 elections. 24,126 respondents across all survey years. A negative attitude towards immigration is defined as an answer of C.

Figure 4. Distribution of Negative Attitudes Across Municipalities.



Notes: Negative attitudes are defined in the notes to Figures 2 and 3. Distribution across 280 municipalities in Panel A and 290 municipalities in Panel B. Four municipalities with mean negative attitudes above .4 are omitted from the graph in Panel A for visual clarity.

Table 1. Examples of the Seat Allocation Formula with Five Seats and Three Parties.

			Quotient			
Party	Votes	%	Votes/1.4	Votes/3	Votes/5	Votes/7
A. Baseline example						
Party A	5,610	~56%	*4,007 (1)*	*1,870 (3)*	*1,122 (4)*	801
Party B	2,995	~30%	*2,139 (2)*	*998 (5)*	599	428
Party C	1,395	~14%	996	465	279	199
B. Five additional people who did not vote in the baseline now vote for Party C						
Party A	5,610	~56%	*4,007 (1)*	*1,870 (3)*	*1,122 (4)*	801
Party B	2,995	~30%	*2,139 (2)*	998	599	428
Party C	1,400	~14%	*1,000 (5)*	467	280	200
C. Party C votes unchanged from the baseline, but 10 voters switch from Party B to A						
Party A	5,620	*~56%*	*4,014 (1)*	*1,873 (3)*	*1,124 (4)*	803
Party B	2,985	~30%	*2,132 (2)*	995	597	426
Party C	1,395	~14%	*996 (5)*	465	279	199

Note: Numbers in parentheses denote which party is allocated the first, second, third, fourth and fifth seats, as determined by the seat assignment function described in Section 3.2.

Table 2. Naive OLS Estimates of Green Party Representation on Attitudes.

	Dependent variable: Negative attitude towards nuclear energy			
	(i)	(ii)	(iii)	(iv)
Green Party seat share×100	.0014	.0009	-.0018	-.0017
	(.0015)	(.0015)	(.0015)	(.0016)
Individual characteristics				
Education (relative to compulsory)				
Secondary		-.0309**		-.0300**
		(.0073)		(.0072)
Some college or more		-.0195**		-.0141
		(.0090)		(.0098)
Female		.0991**		.1015**
		(.0052)		(.0052)
Age		-.0077**		-.0079**
		(.0012)		(.0013)
Age squared×100		.0059**		.0061**
		(.0013)		(.0013)
Municipality fixed effects			X	X
R-squared	.010	.043	.034	.067
Overall mean	.15			
Observations	16,372			

Notes: All specifications include survey year fixed effects. Columns (ii) and (iv) include indicators for missing values of the education and age variables. There are 284 municipalities for the election years of 1988, 1991 and 1994. Survey data on individual's attitudes span 1988 to 1996 and come from the SOM Institute in Sweden. Standard errors clustered by municipality.
***significant at the 5% level; *significant at the 10% level*

Table 3. Control Function Estimates of Green Party Representation on Attitudes.

	Dependent variable: Negative attitude towards nuclear energy					
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Green Party seat share×100	-.0017	.0064	.0084**	.0119**	.0132**	.0106**
	(.0016)	(.0039)	(.0040)	(.0045)	(.0058)	(.0037)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and GP 2nd order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) D + cubes and GP 3rd order interactions					130	
F) Covariate selection						34
Within R-squared	.044	.045	.047	.049	.053	.049
Overall mean	.15					
Observations	16,372					

Notes: All specifications include municipality fixed effects, survey year fixed effects and controls for the individual characteristics used in Table 2. The control function terms are described in Section 6.1.1. There are 284 municipalities for the election years of 1988, 1991 and 1994. Survey data on individual's attitudes span 1988 to 1997 and come from the SOM Institute in Sweden. Standard errors clustered by municipality; within R-squared is the within municipality R-squared.
***significant at the 5% level; *significant at the 10% level*

Table 4. Naive OLS Estimates of Sweden Democrat Representation on Attitudes.

	Dependent variable: Negative attitude towards immigration			
	(i)	(ii)	(iii)	(iv)
Sweden Democrats seat share×100	.0144**	.0125**	-.0041	-.0053**
	(.0024)	(.0016)	(.0026)	(.0027)
Individual characteristics				
Immigrant		-.0590**		-.0633**
		(.0084)		(.0089)
Education (relative to compulsory)				
Secondary		-.0187**		-.0172**
		(.0083)		(.0083)
Some college or more		-.2235**		-.2146**
		(.0079)		(.0087)
Female		-.0574**		-.0565**
		(.0062)		(.0062)
Age		.0043**		.0039**
		(.0014)		(.0014)
Age squared×100		-.0028*		-.0024*
		(.0014)		(.0014)
Municipality f.e.'s			X	X
R-squared	.008	.059	.032	.076
Overall mean	.55			
Observations	24,126			

Notes: All specifications include survey year fixed effects. Columns (ii) and (iv) include indicators for missing values for the immigrant, education and age variables. There are 290 municipalities for the election years of 2002, 2006 and 2010. Survey data on individual's attitudes span 2002 to 2012 and come from FSI, a Swedish research institute. Standard errors clustered by municipality.
***significant at the 5% level; *significant at the 10% level*

Table 5. Control Function Estimates of Sweden Democrat Party Representation on Attitudes.

	Dependent variable: Negative attitude towards immigration					
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Democrats seat share×100	-.0053**	-.0143**	-.0158**	-.0182**	-.0176**	-.0185**
	(.0027)	(.0051)	(.0056)	(.0056)	(.0059)	(.0053)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and SD 2nd order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) D + cubes and SD 3rd order interactions					130	
F) Covariate selection						30
Within R-squared	.048	.049	.050	.052	.055	.051
Overall mean	.55					
Observations	24,126					

Notes: All specifications include municipality fixed effects, survey year fixed effects and controls for the individual characteristics used in Table 4. The control function terms are described in Section 6.1.1. There are 290 municipalities for the election years of 2002, 2006 and 2010. Survey data on individual's attitudes span 2002 to 2012 and come from FSI, a Swedish research institute. Standard errors clustered by municipality; within R-squared is the within municipality R-squared.
***significant at the 5% level; *significant at the 10% level*

Table 6. Heterogeneous Effects of Party Representation on Attitudes.

	A. Green Party	**B. Sweden Democrats**
	Dependent Variable: Negative attitude towards nuclear energy	Dependent Variable: Negative attitude towards immigration
	(i)	(ii)
A) Education		
Party seat share × 100 × compulsory	.0143**	-.0094
	(.0047)	(.0058)
Party seat share × 100 × secondary	.0103**	-.0067
	(.0046)	(.0058)
Party seat share × 100 × college	.0120**	-.0360**
	(.0048)	(.0060)
p-value (test of equal coefficients)	[.014]	[.000]
B) Gender		
Party seat share × 100 × female	.0201**	-.0226**
	(.0046)	(.0057)
Party seat share × 100 × male	.0036	-.0134**
	(.0044)	(.0057)
p-value (test of equal coefficients)	[.000]	[.000]
C) Age		
Party seat share × 100 × below 45	.0163**	-.0216**
	(.0046)	(.0056)
Party seat share × 100 × above 45	.0052	-.0155**
	(.0046)	(.0057)
p-value (test of equal coefficients)	[.000]	[.003]
D) Immigrant		
Party seat share × 100 × native		-.0163**
		(.0057)
Party seat share × 100 × immigrant		-.0284**
		(.0056)
p-value (test of equal coefficients)		[.000]

Notes: Regressions mirror baseline specification D in Tables 3 and 5, with the addition of interaction terms between the seat share variable and demographic characteristics. Standard errors clustered by municipality.

***significant at the 5% level; *significant at the 10% level*

Table 7. No Opinion and Positive Attitude Regressions.

	A. Green Party					
	Dependent Variable: No Opinion			Dependent Variable: Positive Attitude		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Green Party seat share×100	-.0010	-.0031	-.0049	.0049**	-.0016	-.0024
	(.0015)	(.0042)	(.0038)	(.0021)	(.0057)	(.0056)
Control function (# terms)						
A) None (OLS)	0			0		
B) 2nd order, fully interacted		65			65	
C) Covariate selection			49			50
Within R-squared	.035	.040	.042	.051	.055	.056
Overall mean	.12			.25		
Observations	16,372			16,372		
	B. Sweden Democrats					
	Dependent Variable: No Opinion			Dependent Variable: Positive Attitude		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Dem. seat share×100	.0014	.0026	.0009	.0018*	.0023	.0029
	(.0012)	(.0032)	(.0033)	(.0010)	(.0024)	(.0023)
Control function (# terms)						
A) None (OLS)	0			0		
B) 2nd order, fully interacted		65			65	
C) Covariate selection			31			45
Within R-squared	.009	.012	.011	.027	.030	.031
Overall mean	.11			.07		
Observations	24,126			24,126		

Notes: Regressions mirror baseline specification D and covariate selection specification F in Tables 3 and 5, but with different dependent variables relating to nuclear energy and immigration attitudes. Standard errors clustered by municipality.

***significant at the 5% level; *significant at the 10% level*

Table 8. Party Representation and Votes in the Next Election.

	Dependent variable: Log votes for party in next election					
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
			A. Green Party			
Green Party seat share×100	.2976**	.0905**	.0337	.0383**	.0419**	.0564**
	(.0270)	(.0265)	(.0217)	(.0193)	(.0189)	(.0183)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and GP 2nd order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) C + cubes and GP 3rd order interactions					130	
F) Covariate selection						56
Within R-squared	.333	.793	.863	.892	.915	.908
Observations	852					
			B. Sweden Democrats			
Sweden Democrats seat share×100	.2212**	-.0734**	-.0193	-.0094	.0168	-.0241
	(.0249)	(.0365)	(.0294)	(.0300)	(.0318)	(.0263)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and SD 2nd order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) C + cubes and SD 3rd order interactions					130	
F) Covariate selection						42
Within R-squared	.204	.724	.806	.841	.898	.852
Observations	579					

Notes: All specifications include election year fixed effects. There are 284 municipalities for the election years of 1988, 1991 and 1994 in Panel A and 290 municipalities for the election years 2002 and 2006 in Panel B. One observation in Panel B is dropped since it has 0 votes for the party in the next election. Standard errors clustered by municipality.
***significant at the 5% level; *significant at the 10% level*

Table 9. Politician Quality: Sweden Democrat Representation and Seat Instability.

	Dependent variable: Unable to fill elected seat with a stable politician					
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Democrats seat share×100	.0216	.1061**	.0991**	.1010**	.1228**	.1020**
	(.0163)	(.0262)	(.0285)	(.0307)	(.0334)	(.0255)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and SD second order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) C + cubes and SD third order interactions					130	
F) Covariate selection						25
Within R-squared	.026	.111	.200	.282	.472	.254
Overall mean	.23					
Observations	580					

Notes: The dependent variable is an indicator which equals one if the party cannot fill an elected seat or if an elected seat is filled with at least three different appointed politicians between elections. All specifications include election year fixed effects. There are 290 municipalities for the election years of 2006 and 2010. Standard errors clustered by municipality.
***significant at the 5% level; *significant at the 10% level*

Table 10. Policy Changes: Sweden Democrat Representation and Municipal Refugee Agreements.

	Dependent variable: arcsin(number of negotiated refugees)					
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Democrats seat share×100	-.0636**	-.1113**	-.0976*	-.0961*	-.0996*	-.0896*
	(.0313)	(.0506)	(.0505)	(.0500)	(.0578)	(.0490)
Control function (# terms)						
A) None (OLS)	0					
B) 1st order		10				
C) B + squares and SD second order interactions			30			
D) 2nd order, fully interacted (baseline)				65		
E) C + cubes and SD third order interactions					130	
F) Covariate selection						35
Within R-squared	.062	.095	.153	.233	.364	.243
Mean # negotiated refugees / 10,000 citizens	26					
Observations	787					

Notes: The dependent variable is the inverse hyperbolic sine of the number of refugees a municipality agrees to take. All specifications include election year fixed effects. There are 263 municipalities with formal agreements after the 2002, 2006 and 2010 elections; two of these municipalities are missing data for one time period and are therefore excluded. Standard errors clustered by municipality.
***significant at the 5% level; *significant at the 10% level*

Table 11. Power of the Media: Sweden Democrat Representation and Newspaper Coverage.

	Dependent variable: ln(articles per election period) Search term: **"Sweden Democrat"**				
	(i)	(ii)	(iii)	(iv)	(v)
Sweden Democrats seat share×100	.0266	.1610**	.1962**	.2330**	.1807**
p-value	[.230]	[.005]	[.008]	[.010]	[.004]
95% c.i.	(-.017, .070)	(.052, .270)	(.066, .326)	(.070, .397)	(.064, .297)
Control function (# terms)					
A) None (OLS)	0				
B) 1st order		10			
C) B + squares			21		
D) C + SD 2nd order interactions (baseline)				30	
E) Covariate selection					12
Within R-squared	.444	.537	.647	.688	.590
Ave. # articles per paper	430				
Observations	278				

Notes: The dependent variable is the natural log of the number of articles per post-election period appearing in a newspaper which include the search term "Sweden Democrat". All specifications include newspaper fixed effects. There are 139 newspapers for the election years 2006 and 2010. Reported p-values and 95% confidence intervals are based on 5,000 iterations of the studentized block bootstrap. See Section 7.3.1 for details.

***significant at the 5% level; *significant at the 10% level*

Table 12. Power of the Media: Sweden Democrat Representation and Newspaper Content.

	Dependent variable : arcsin(articles per election period) – Search terms in **bold**					
	"Sweden Democrats" & ("Racism" or "Xenophobia")			**NOT "Sweden Democrats" & ("Racism" or "Xenophobia")**		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Dem. seat share×100	.0384	.3419**	.3277**	-.0060	.0609	.0491
p-value	[.261]	[.006]	[.005]	[.810]	[.596]	[.438]
95% c.i.	(-.028, .105)	(.128, .556)	(.116, .540)	(-.055, .043)	(-.181, .302)	(-.078, .177)
Control function (# terms)						
A) None (OLS)	0			0		
B) Baseline		30			30	
C) Covariate selection			30			9
Within R-squared	.332	.609	.670	.039	.314	.246
Ave. # articles per paper	81			268		
Observations	278			278		
	"Sweden Democrats" & ("Immigrants" & "Integration")			**NOT "Sweden Democrats" & ("Immigrants" & "Integration")**		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Dem. seat share×100	.0254	.2194*	.1846**	-.0804*	.0737	.0987
p-value	[.311]	[.059]	[.005]	[.058]	[.488]	[.192]
95% c.i.	(-.024, .075)	(-.010, .447)	(.054, .315)	(-.164, .003)	(-.144, .291)	(-.054, .251)
Control function (# terms)						
A) None (OLS)	0			0		
B) Baseline		30			30	
C) Covariate selection			9			16
Within R-squared	.068	.402	.299	.058	.396	.393
Ave. # articles per paper	19			69		
Observations	278			278		

Notes: The dependent variable is the inverse hyperbolic sine of the number of articles per post-election period appearing in a newspaper which include the specified search terms. All specifications include newspaper fixed effects. There are 139 newspapers for the election years 2006 and 2010. The baseline specification mirrors specification D in Table 11. Reported p-values and 95% confidence intervals are based on 5,000 iterations of the studentized block bootstrap. See Section 7.3.1 for details.
***significant at the 5% level; *significant at the 10% level*

Appendix Tables

Table A1. Summary Statistics.

	A. Nuclear Energy Sample Period (i)	**B. Immigration Sample Period** (ii)
A) Characteristics of survey respondents		
Compulsory education	.30	.29
Secondary education	.47	.28
Some college or more	.21	.31
Education missing	.02	.12
Female	.50	.53
Age	44	48
Immigrant		.19
Immigrant status missing		.10
Lives in large municipality	.65	.68
Observations	16,372	24,126
B) Municipality characteristics		
Fraction voting	.86	.82
Fraction net migration	.29	.13
Tax rate	.31	.32
Fraction immigrant	.04	.04
Fraction college graduate	.10	.16
Fraction older than 45	.41	.47
Unemployment rate	.05	.08
Observations	852	870

Notes: The top panel reports average demographic characteristics of respondents in the SOM surveys (nuclear energy issue, 1988-1998) and the FSI surveys (immigration issue, 2002-2010). A large municipality is defined as having a population above the mean (greater than 30,289 for column (i) and greater than 31,573 for column (ii)). Data on municipality characteristics in the bottom panel come from Statistics Sweden.

Table A2. Exogeneity Tests: The Effect of Party Representation on Municipality Characteristics and Lagged Negative Attitudes.

	Dependent Variable:							
	Lagged Attitudes (i)	% Voting (ii)	% Net Migration (iii)	Tax Rate (iv)	% Immigrant (v)	% College (vi)	% Older than 45 (vii)	Unempl. Rate (viii)
				A. Green Party				
Green Party seat share×100	-0.0089	-0.0156	-0.0181	0.0131	0.0034	-0.0268	0.0061	0.0040
	(0.0055)	(0.0345)	(0.0344)	(0.0236)	(0.0233)	(0.0278)	(0.0445)	(0.0638)
Control function (# terms)								
2nd order, fully interacted	65	65	65	65	65	65	65	65
Observations	16,372	852	852	852	852	852	852	852
				B. Sweden Democrats				
Sweden Dem. seat share×100	0.0052	-0.0278	0.0166	0.0121	0.0020	-0.0243	-0.0293	0.0800
	(0.0048)	(0.0355)	(0.0279)	(0.0255)	(0.0298)	(0.0252)	(0.0366)	(0.0537)
Control function (# terms)								
2nd order, fully interacted	65	65	65	65	65	65	65	65
Observations	27,141	870	869	869	869	869	869	869

*Notes: Column (i) mirrors baseline specification D in Tables 3 and 5, using lagged instead of future attitudes as the dependent variable. Columns (ii) through (viii) include election year and municipality fixed effects. Panel A includes the election years of 2002, 2006 and 2010 while Panel B includes the election years of 1988, 1991 and 1994. One municipality was not established until the 2002 elections, so its pre-election municipality characteristics and lagged attitudes are not available in Panel B. Standard errors clustered by municipality. **significant at the 5% level; *significant at the 10% level*

Table A3. Robustness Checks.

	A. Green Party	**B. Sweden Democrats**
	Dependent Variable: Negative attitude towards nuclear energy	Dependent Variable: Negative attitude towards immigration
	(i)	(iii)
A) Using seats instead of seat shares		
Party seats	.0211**	-.0279**
	(.0070)	(.0098)
B) Allowing for nonlinearity		
Party seat share	.0132	-.0113
	(.0100)	(.0072)
Party seat share squared	-.0002	-.0013
	(.0010)	(.0009)
C) Omitting municipality f.e.'s		
Party seat share	.0091**	-.0104**
	(.0036)	(.0049)
D) Size of municipality		
Party seat share × small muni	.0128*	-.0164**
	(.0065)	(.0071)
Party seat share × large muni	.0115**	-.0189**
	(.0044)	(.0056)
Control function (# terms)	65	65
Observations	16,372	24,126

Notes: Regressions mirror baseline specification D in Tables 3 and 5. A large municipality is defined as having a population above the mean (greater than 30,289 for column (i) and greater than 31,573 for column (ii)).
***significant at the 5% level; *significant at the 10% level*

Table A4. Seat Instability for Small Parties.

	Dependent variable: Unable to fill elected seat with a stable politician								
	Christian Democrats			Left Party			Green Party		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
Party seat share×100	.0133	.0054	.0105	-.0022	.0451*	.0296	.0001	.0096	.0063
	(.0098)	(.0199)	(.0173)	(.0085)	(.0263)	(.0244)	(.0103)	(.0224)	(.0193)
Control function (# terms)									
A) OLS	0			0			0		
B) 2nd order, fully interacted		65			65			65	
C) Covariate selection			42			30			42
Within R-squared	.0215	0.219	0.275	.0010	0.251	0.214	.0017	.190	.231
Overall mean	.07			.08			.07		
Observations	580			580			580		

Notes: Regressions mirror baseline specification D and covariate selection specification F in Table 9, but for different parties. All specifications include election year fixed effects. There are 290 municipalities for the election years of 2006 and 2010. Standard errors clustered by municipality.

***significant at the 5% level; *significant at the 10% level*

Table A5. Other Parties' Representation and Newspaper Coverage.

	Dependent variable: ln(articles per election period) Search term: "***Name of Party***"						
	Moderate (i)	Centre (ii)	Liberal (iii)	Christian Dem. (iv)	Green (v)	Social Dem. (vi)	Left (vii)
Party seat share×100	-.0237	.0468	-.0416	-.0757	.1054	.0227	.0830
p-value	[.615]	[.607]	[.661]	[.469]	[.203]	[.724]	[.418]
95% c.i.	(-.120, .072)	(-.158, .251)	(-.256, .173)	(-.301, .150)	(-.062, .273)	(-.117, .162)	(-.131, .297)
Within R-squared	.681	.447	.612	.485	.483	.414	.475
Ave. # articles per paper	997	460	529	404	617	1,811	544

Notes: Regressions mirror baseline specification D in Table 11, using as search terms the names of the various parties. All specifications include newspaper fixed effects. There are 128 newspapers for the election years 2006 and 2010 for a total of 256 observations. The data for this table was collected in January 2014, while the data for Tables 11 and 12 was collected in June 2013. Because of copyright issues, 11 newspapers were removed from the database in the intervening seven months, which is why this table has a sample of 128 instead of 139 newspapers. Reported p-values and 95% confidence intervals are based on 5,000 iterations of the studentized block bootstrap.
***significant at the 5% level; *significant at the 10% level*

Table A6. Sweden Democrat Representation and Newspaper Coverage: Newspapers Covering Three or Fewer Municipalities.

	Dependent variable: ln(articles per election period) Search term: **"Sweden Democrat"**				
	(i)	(ii)	(iii)	(iv)	(v)
Sweden Democrats seat share×100	.0348	.1625**	.2392**	.2677	.2176**
p-value	[.197]	[.038]	[.019]	[.129]	[.001]
95% c.i.	(-.019, .089)	(.010, .315)	(.051, .427)	(-.099, .635)	(.103, .333)
Control function (# terms)					
A) None (OLS)	0				
B) 1st order		10			
C) B + squares			21		
D) C + SD 2nd order interactions (baseline)				30	
E) Covariate selection					11
Within R-squared	.401	.525	.701	.725	.672
Ave. # articles per paper	229				
Observations	190				

Notes: Regressions mirror those in Table 11, but limited to the sample of newspapers covering three or fewer municipalities. All specifications include newspaper fixed effects. There are 95 newspapers for the election years 2006 and 2010. Reported p-values and 95% confidence intervals are based on 5,000 iterations of the studentized block bootstrap.
***significant at the 5% level; *significant at the 10% level*

Table A7. Sweden Democrat Representation and Newspaper Content: Newspapers Covering Three or Fewer Municipalities.

	Dependent variable : arcsin(articles per election period) – Search terms in **bold**					
	"Sweden Democrats" & ("Racism" or "Xenophobia")			**NOT "Sweden Democrats" & ("Racism" or "Xenophobia")**		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Dem. seat share×100	.0640	.3898	.3006**	-.0066	.0514	.1157
p-value	[.101]	[.105]	[.007]	[.810]	[.805]	[.251]
95% c.i.	(-.012, .140)	(-.108, .887)	(.087, .514)	(-.061, .049)	(-.440, .543)	(-.097, .328)
Control function (# terms)						
A) None (OLS)	0			0		
B) Baseline		30			30	
C) Covariate selection			21			15
Within R-squared	0.337	.660	.694	.046	.413	.363
Ave. # articles per paper	38			137		
	"Sweden Democrats" & ("Immigrants" & "Integration")			**NOT "Sweden Democrats" & ("Immigrants" & "Integration")**		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden Dem. seat share×100	.0406	.2839	.2609**	-.0659	.1252	.1234
p-value	[.201]	[.191]	[.001]	[.159]	[.532]	[.172]
95% c.i.	(-.023, .104)	(-.177, .744)	(.120, .402)	(-.161, .029)	(-.321, .572)	(-.060, .307)
Control function (# terms)						
A) None (OLS)	0			0		
B) Baseline		30			30	
C) Covariate selection			17			13
Within R-squared	.043	.538	.572	.091	.457	.422
Ave. # articles per paper	9			36		

Notes: Regressions mirror those in Table 12, but limited to the sample of newspapers covering three or fewer municipalities. All specifications include newspaper fixed effects. There are 95 newspapers for the election years 2006 and 2010. Reported p-values and 95% confidence intervals are based on 5,000 iterations of the studentized block bootstrap.
***significant at the 5% level; *significant at the 10% level*