The Informational Role of Party Leader Changes on Voter Perceptions of Party Positions

Supplementary Online Appendix

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The following supplementary document presents detailed descriptions of the data and their sources, describes some diagnostic tests and introduces several robustness checks. The structure of this section is the following:

1. Description of the dataset and the data sources.

2. Diagnostic tests.

3. Robustness checks.

1. Description of the dataset and the data sources

Table 5 lists the countries, time periods and political parties that we have included in the empirical analyses, as well as the elections that followed each leadership change:

Table 5: Countries, time periods, political parties, and leadership changes in the dataset.

Country	Time Period	Political Parties	Leader Changes before the following elections
Denmark	1994-2011	Danish People's Party	No leader change
		Conservative People's Party	1994, 1998, 2001, 2011
		Danish Radical Liberal Party	2007
		Social Democratic Party	1994, 2005, 2007
		Socialist People's Party	1994, 2007
		Liberal Party	2001, 2011
Germany	1998-2009	Christian Democratic Union	2002
		Liberal Party	1987, 1990, 1994, 1998, 2002
		Social Democratic Party	1990, 1994, 1998, 2002, 2005, 2009
Great Britain	1983-2010	Conservative Party	1992, 2001, 2005, 2010
		Labour Party	1983, 1987, 1997, 2010
		Liberal Democrats[83]	2001, 2010
Netherlands	1981-2012	Christian Democratic Appeal	1986, 1994, 1998, 2002, 2012
		Democrats' 66	1986, 1998, 2002, 2006
		Labour Party	1989, 2002, 2003, 2010
		Socialist Party	2010
		Liberal Party	1982, 1989, 1994, 2002, 2003, 2006
Norway	1981-2009	Labour Party	1981, 1993, 2005
		Progress Party	2009
		Conservative Party	1981, 1985, 1989, 1993, 1997, 2005
		Christian People's Party	1985, 1997, 2005
		Center Party	1993, 2001, 2005, 2009
		Socialist Left Party	1989, 1997
Spain	1986-2011	Popular Alliance/Party	1989, 2004
		Socialist Worker's Party	2000, 2004
Sweden	1979-2006	Center Party	1988, 1998, 2002

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[83]   Due to the merger of the Liberals and Social Democrats in 1988 to form the current day Liberal Democrats, and the dual leadership of the party beforehand, we do not have the party in our data until the 1997 election.

Christian Democrats	2006
People's Party	1985, 1998
Moderate Party	1982, 1988, 2002, 2006
Social Democrats	1988, 1998
Left Party	1994, 2006

Table 6 provides more information about who the leader is in each party.

Table 6 Position in the party organization that the leader occupies in each party.

Country	Political Parties	Who is the leader?
Denmark	Danish People's Party Liberal Party Social Democratic Party Socialist People's Party Conservative People's Party	The extra-parliamentary chair is officially the leader.
	Danish Radical Liberal Party	The parliamentary leader is the primary leader of the party
Germany	Christian Democratic Union Liberal Party Social Democratic Party	The extra-parliamentary chair is officially the leader.
Great Britain	Conservative Party Labour Party Liberal Democrats	The parliamentary leader is the primary leader of the party
Netherlands	Christian Democratic Appeal Democrats' 66 Labour Party Liberal Party Socialist Party	The top candidate of a party on a party list (lijsttrekker) is considered as the leader of the party. In rare situations, the lijsttrekker may resign from that post but stays as the leader.
Norway	Center Party Christian People's Party Conservative Party Labour Party Progress Party Socialist Left Party	The extra-parliamentary chair is officially the leader.
Spain	Popular Alliance/Party Socialist Worker's Party	The extra-parliamentary chair is officially the leader and often also is the parliamentary leader of the party (unless s/he is not an MP)
Sweden	Center Party Christian Democrats Left Party Moderate Party People's Party	The extra-parliamentary chair is officially the leader.

	Social Democrats	

Table 7 includes summary statistics of the data used in the empirical models:

Table 7: Summary descriptive statistics of the data used in the empirical analyses.

	Mean	Std. error	Min	Max	N
Voter perceptions	5.4	2.2	0.9	9.0	223
Standard error average voter perception	0.04	0.01	0.02	0.1	223
Platform (Lowe et al 2011)	5.1	1.5	0.6	9.6	217
Standard error in Platform estimates (Lowe et al 2011)	0.2	0.2	0.1	0.9	217
Platform (Kim and Fording scale)	4.6	2.0	0.4	10	217
Platform (CMP rile scale)	4.9	1.1	2.6	8.0	217
Leader change	0.4	0.5	0	1	224
In government	0.4	0.5	0	1	224
In government (more restrictive definition)	0.4	0.5	0	1	224
Niche (Adams 2006)	0.2	0.4	0	1	217
Niche (Meguid 2005)	0.1	0.2	0	1	217
Niche (Wagner 2012)	0.1	0.3	0	1	223
Length tenure	6.4	5.6	0.1	30	224

Table 8 lists the sources for the post-election surveys that we have collected in order to estimate the average left-right placement attributed to each political party after the campaign:

Table 8: List of mass election surveys compiled to measure the average left-right placement of political parties. By country.

Country	Source of Survey Data	Repository
Denmark	Election Study 1994, DDA 2210	Danish Data Archive
	Election Study 1998, DDA 4189	Danish Data Archive
	Comparative Study of Electoral Systems, module 2 (2001)	CSES
	Election Study 2005, DDA 18184	Danish Data Archive
	Comparative Study of Electoral Systems, module 3 (2007)	CSES
	Election Study 2011, DDA 27067	Danish Data Archive
Germany	Comparative Study of Electoral Systems, module 1 (1998)	CSES
	Comparative Study of Electoral Systems, module 2 (2002)	CSES
	Comparative Study of Electoral Systems, module 3 (2005)	CSES
	Comparative Study of Electoral Systems, module 3 (2009)	CSES
Great Britain	British Election Study 1983	ICPSR
	British Election Study 1987	ICPSR
	British Election Study 1992	ICPSR
	Comparative Study of Electoral Systems, module 1 (1997)	CSES
	European Voter Database, 2001 election	GESIS

	Comparative Study of Electoral Systems, module 2 (2005)	CSES
	British Election Study 2010	University of Essex
Netherlands	Dutch Parliamentary Election Study, 1981	ICPSR
	Dutch Parliamentary Election Study, 1982	ICPSR
	Dutch Parliamentary Election Study, 1986	ICPSR
	Dutch Parliamentary Election Study, 1989	ICPSR
	Dutch Parliamentary Election Study, 1994	ICPSR
	Dutch Parliamentary Election Study, 1998	ICPSR
	Dutch Parliamentary Election Study, 2002	ICPSR
	Dutch Parliamentary Election Study, 2003	ICPSR
	Dutch Parliamentary Election Study, 2006	ICPSR
	Comparative Study of Electoral Systems, module 3 (2010)	CSES
	Dutch Parliamentary Election Study, 2012	DANS
Norway	European Voter Database, 1981 election	GESIS
	Election Study 1985, NSD 0064	Norway Social Science Data Services
	Election Study 1989, NSD 0005	Norway Social Science Data Services
	Election Study 1993, NSD 0166	Norway Social Science Data Services
	Election Study 1997, NSD 0393	Norway Social Science Data Services

	Comparative Study of Electoral Systems, module 2 (2001)	CSES
	Comparative Study of Electoral Systems, module 3 (2005)	CSES
	Comparative Study of Electoral Systems, module 3 (2009)	CSES
Spain	1986 General Election Study	CIS
	1989 General Election Study	CIS
	1993 General Election Study	CIS
	1996 General Election Study	CIS
	2000 General Election Study	CIS
	2004 General Election Study	CIS
	Comparative Study of Electoral Systems, module 3 (2008)	CSES
	2011 General Election Study	CIS
Sweden	Swedish Election Study 1979, SND 89	Swedish National Data Service
	Swedish Election Study 1982, SND 157	Swedish National Data Service
	Swedish Election Study 1985, SND 217	Swedish National Data Service
	Swedish Election Study 1988, SND 227	Swedish National Data Service
	Swedish Election Study 1991, SND 391	Swedish National Data Service
	Swedish Election Study 1994, SND 570	Swedish National Data Service
	Swedish Election Study 1998, SND 750	Swedish National Data Service
	Swedish Election Study 2002, SND 812	Swedish National Data Service
	Swedish Election Study 2006, SND 861	Swedish National Data Service

2. Diagnostic Tests

Testing for serial correlation in the error term

We have run a Breusch-Godfrey test to confirm that there is no serial correlation in the error term of our empirical model. As it is well known, the presence of serial correlation in the disturbance biases estimates of the uncertainty in regression coefficients.

This test, presented in Table 9, indicates that we cannot reject the null of no serial correlation.

Table 9 Breusch-Godfrey test of no serial correlation

statistic[84]	p-value
0.91	0.34

Note: This Breusch-Godfrey test relies on the estimates of the baseline model in equation 1.

Estimating cluster-robust standard errors as a misspecification test

King and Roberts (2015) suggest estimating cluster-robust standard errors as a diagnostic of model misspecification. They claim that, if clustered and OLS errors diverge substantially, then it is likely that misspecification affects not only the structure of the disturbance term but also

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[84]   The Breusch-Godfrey statistic is distributed under the null as Chi squared with degrees of freedom equal to the R^2 of the auxiliary regression times the number of observations.

other model assumptions.[85] In that case, they suggest revising the empirical model until OLS and cluster-robust errors converge.

We have re-estimated our main empirical model (equation 2) using cluster-robust standard errors and found that robust error estimates do not depart significantly from OLS ones. In fact, the substantive implications of the models estimated with clustered errors are the same as with OLS. This provides additional confidence in our choice of empirical model.

For this comparison of standard errors, we employ three different definitions of data clusters: by party, by year and by election (country X election year). All these analyses focus on the subsample of parties in opposition. Table 10 compares regression results with clustered errors with those obtained using OLS. As can be seen, divergence in error estimates is small. **Table 11** scales these differences by computing the difference in estimates as a proportion of the OLS error estimate.[86] Except for the case of the *leader change* dummy, differences in standard error estimates are not substantial, between 0 and 25%. Even the highest divergence is equivalent to a shift in the error estimate from 0.04 to 0.05.[87]

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[85] In their own words: "If robust and classical standard errors diverge –which means the authors acknowledges that one part of his or her model is wrong- then why should readers believe that all other parts of the model that have not been examined are correctly specified?" (King and Roberts 2015: 160).

[86] Specifically, it computes the ratio (cluster estimate – OLS estimate)/OLS estimate

[87] King and Roberts (2015) propose a generalized information matrix (GIM) test of whether differences in error estimates are statistically significant. At the time of writing this manuscript, however, GIM tests have not been implemented in any standard statistical software yet.

Table 10 The effect of election platforms on voter perceptions of parties' left-right position. Interaction model with cluster-robust standard errors. Subsample of parties in opposition.

	OLS errors	Party-clustered errors	Year-clustered errors	Election-clustered errors
Platform	0.00	0.00	0.00	0.00
	(0.06)	(0.06)	(0.07)	(0.07)
Leader Change	-0.26	-0.26	-0.26	-0.26
	(0.33)	(0.25)	(0.21)	(0.25)
Platform X Leader Change	0.20*	0.20*	0.20**	0.20**
	(0.09)	(0.08)	(0.08)	(0.09)
Voter Perception (t-1)	0.98**	0.98**	0.98**	0.98**
	(0.04)	(0.05)	(0.05)	(0.05)
Voter Percep (t-1) X Leader Change	-0.14*	-0.14*	-0.14*	-0.14*
	(0.06)	(0.06)	(0.06)	(0.06)
Intercept	0.16	0.16	0.16	0.16
	(0.21)	(0.21)	(0.22)	(0.26)
Country FE	Yes	Yes	Yes	Yes
N	107	107	107	107
Number of clusters		30	25	45
R^2	0.98	0.98	0.98	0.98

Note: The dependent variable in these models is the average voter perception of the party's left-right position after the election campaign. Interaction model in equation 2. Standard errors in parentheses: we use OLS classical errors in the first model and cluster-robust errors in the following ones. ** $p<0.01$, * $p<0.05$

Table 11 Difference between OLS and cluster-robust standard errors as a proportion of the OLS standard error.

	Party-clustered errors	Year-clustered errors	Election-clustered errors
Platform	0.12	0.24	0.22
Leader Change	-0.25	-0.38	-0.24
Platform X Leader Change	-0.09	-0.17	-0.03
Voter Perception (t-1)	0.07	0.13	0.15
Voter Percep (t-1) X Leader Change	0.02	0.15	0.09
Intercept	0.02	0.05	0.26

Note: Cell entries compare cluster-robust with OLS standard errors. The function applied is (Cluster-robust error – OLS error)/OLS error.

3. Robustness Checks

Testing our argument using alternative estimates of manifesto left-right positions.

To make sure that our results do not hinge on the specific scaling of manifesto position that we use (Lowe et al. 2011), we have tested our argument using alternative estimates of manifesto left-right orientations. Table 12 presents the empirical results using the original Manifesto Project measure of left-right positions (Laver and Budge, 1992). These results do not substantially differ from the ones obtained using Lowe et al.'s scaling procedure: on the one hand,election manifestos do not shape voter perceptions of incumbent parties no matter whether the party leader is new or "old". On the other parties in opposition need to change their leader if they want voters to develop perceptions in line with the party's campaign stances. In fact, with veteran leaders the party's policy proposals do not influence perceptions of the party's left-right position: the marginal effect of the lagged perception is 0.99 and the effect of the manifesto is essentially 0. Under a new leader, in contrast, the effect of manifestos increases to 0.25 and the degree of inertia drops to 0.84.

Table 12 The effect of election platforms on voter perceptions of parties' left-right position. Separate estimation for parties in government and parties in opposition. Original Manifesto Project estimates (Laver and Budge 1992).

	Parties in government	Parties in opposition
Platform	0.18 (0.10)	-0.02 (0.08)
Leader Change	0.08 (0.53)	-0.50 (0.40)
Platform X Leader Change	-0.16 (0.13)	0.27* (0.12)
Voter Perception (t-1)	0.84** (0.04)	0.99** (0.04)
Voter Percep (t-1) X Leader Change	0.12 (0.07)	-0.15** (0.06)
Intercept	-0.26 (0.45)	0.21 (0.28)
Country FE	Yes	Yes
N / R^2	78/ 0.96	107/ 0.98

Note: The dependent variable in these models is the voter perceptions of the party left-right position after the election campaign as measured in post-election surveys. OLS standard errors in parentheses. ** $p<0.01$, * $p<0.05$

Table 13 replicates the analysis using Kim and Fording (1998) estimates of manifesto left-right positions. These results also reproduce the same empirical pattern reported above. Leadership transitions do not condition the impact of election manifestos for incumbent parties, as in these cases voters seem to use alternative cues to form their beliefs about party left-right positions. For parties out of office, on the other hand, running under a new party leader is a necessary condition for voters to place the party more in line with the party's manifesto position.

Table 13: The effect of election platforms on voter perceptions of parties' left-right positions. Separate estimation for parties in government and parties in opposition. Kim and Fording scales (1998).

	Parties in government	Parties in opposition
Platform	0.09 (0.05)	-0.00 (0.05)
Leader Change	-0.32 (0.33)	0.12 (0.23)
Platform X Leader Change	-0.08 (0.07)	0.14* (0.07)
Voter Perception (t-1)	0.85** (0.04)	0.98** (0.05)
Voter Percep (t-1) X Leader Change	0.11 (0.07)	-0.14* (0.06)
Intercept	0.21 (0.29)	0.16 (0.18)
Country FE	Yes	Yes
N / R^2	78/ 0.96	107/ 0.98

Note: The dependent variable in these models is the voter perceptions of the party left-right position after the election campaign as measured in post-election surveys. OLS standard errors in parentheses. ** $p<0.01$, * $p<0.05$

Taking into account the presence of measurement error

We address the presence of measurement error in the variables of the model by replicating our analyses using a simulation-extrapolation (simex) technique. Our outcome variable is a sample-based estimate of the population average placement given to a party and therefore is affected by error. In addition, our main predictor variable, the left-right orientation of the manifesto, is a noisy indicator of party left-right stances because, as any text-based estimate of party positions, it is prone to measurement error (Benoit et al. 2009).[88]

Using simex avoids the bias that affects standard regression results with error-prone variables. To do that, the simex estimator generates several simulated datasets that progressively increase the level of measurement error. After fitting a regression model for each of these simulated datasets, simex extrapolates what the estimate would be if the data had no measurement error.[89] This procedure requires estimates of the magnitude of measurement error: the standard error of the mean placement for our dependent variable and the uncertainty estimates computed by Lowe et al. (2011) for manifesto data.

Table 14 presents our simulation-extrapolation estimates for both governing and opposition parties. The substantive conclusion that emerges is identical to the one drawn in the "standard" regression analyses. While leader transitions do not influence the effectiveness of incumbent party manifestos, they are a necessary condition for opposition parties' campaigns to to influence the party's left-right image .

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[88]   The authors discuss several sources of error in text-based estimates.

[89]   For further information about this estimation procedure, please see Lederer (2006).

Table 14: Simulation-extrapolation estimates of the effect of election platforms on voter perceptions of parties' left-right position. Separate estimation for parties in government and parties in opposition.

	Parties in government	Parties in opposition
Platform	0.08 (0.07)	-0.01 (0.06)
Leader Change	-0.03 (0.43)	-0.38 (0.35)
Platform X Leader Change	-0.12 (0.11)	0.25* (0.10)
Voter Perception (t-1)	0.87*** (0.04)	0.99** (0.04)
Voter Percep (t-1) X Leader Change	0.11 (0.06)	-0.16** (0.06)
Intercept	0.37 (0.25)	0.10 (0.15)
RMSE	0.38	0.37

Note: Measurement error is specified for both the outcome variable *Voter Perception (t)* and the main predictor *Platform*. We use jackknife standard errors in parentheses. ** $p<0.01$, * $p<0.05$

Adopting a more restrictive definition of incumbency status.

The empirical estimates in Table 15 rely on a classification of incumbent and opposition parties according to the following criterion: governing parties are those that are part of the last cabinet before the parliamentary election. Using this more restrictive definition of incumbency does not challenge our main substantive conclusion: while leader changes are not relevant for incumbent parties, they decisively condition the impact of election manifestos for opposition parties.

Table 15: The effect of election platforms on voter perceptions of parties' left-right position. Parties in government defined as those belonging to the last cabinet formed before the parliamentary election.

	Parties in government	Parties in opposition
Platform	0.14 (0.07)	0.02 (0.06)
Leader Change	0.14 (0.47)	-0.21 (0.32)
Platform X Leader Change	-0.15 (0.11)	0.17* (0.09)
Voter Perception (t-1)	0.86** (0.04)	0.97** (0.04)
Voter Percep (t-1) X Leader Change	0.09 (0.07)	-0.11* (0.05)
Intercept	-0.15 (0.36)	0.13 (0.21)
Country FE	Yes	Yes
N / R^2	70 / 0.96	115 / 0.97

Note: The dependent variable in these models are the voter perceptions of the party left-right position after the election campaign using the post-election surveys. OLS errors in parentheses. ** $p<0.01$, * $p<0.05$

Empirical analyses excluding niche parties

A strand of the literature on party competition has emphasized how mainstream and niche parties diverge in their competitive strategies and the consequences of their policy shifts (Meguid 2005; Adams 2006; Ezrow et al. 2011). It could thus be plausible that voters also react systematically different to the policy offerings of mainstream and niche parties. Given that in our sample all niche parties are out of office, it could be argued that the difference in voter updating between incumbent and opposition parties is driven by the presence of niche parties in the latter subsample.

To address this alternative explanation, we have replicated our analyses excluding niche parties from the dataset. We employ three alternative definitions of "niche" parties proposed by Adams et al. (2006), Meguid (2005) and Wagner (2012), respectively. Adams et al. define niche parties as those presenting relatively extreme ideological positions and include in this category parties belonging to the communist, green or far-right party families. Meguid's classification also relies on party families but it emphasizes how niche parties focus on issues outside of the class-based cleavage and therefore her definition covers the ethno-regionalist party family and excludes communist parties. The definition proposed by Wagner focuses explicitly on the relative salience of non-economic issues in niche parties' policy offerings. He considers as niche any party –irrespective of its party family- that devotes a significantly larger attention to non-economic topics compared to the parties it competes with.

Table 16 presents these estimates. As can be seen, no matter what definition of niche is used, results for the subsample of mainstream parties confirm our conclusions.

Table 16 Results excluding niche parties. Three alternative definitions of niche party: Adams et al (2006), Meguid (2005) and Wagner (2012).

	Adams (2006) definition	Meguid (2005) definition	Wagner (2012) definition
Platform	-0.11 (0.08)	-0.01 (0.06)	-0.01 (0.06)
Leader Change	-0.28 (0.46)	-0.25 (0.33)	-0.38 (0.34)
Platform X Leader Change	0.28* (0.11)	0.21* (0.09)	0.22* (0.09)
Voter Perception (t-1)	1.05** (0.05)	0.98** (0.05)	0.99** (0.05)
Voter Percep (t-1) X Leader Change	-0.21** (0.06)	-0.15* (0.06)	-0.14* (0.06)

Intercept	0.37 (0.35)	0.20 (0.21)	0.18 (0.21)
Country FE	Yes	Yes	Yes
N / R^2	76 / 0.96	96 / 0.97	94 / 0.98

Note: Results for mainstream parties only. OLS standard errors in parentheses. ** p<0.01, * p<0.05

Assessing the relevance of the timing of leadership changes

As noted in the main text, our argument establishes that party manifestos proposed by leaders elected since the last election have a larger effect on voter perceptions, but it remains agnostic about whether the precise timing of the leadership change matters.

As an exploratory exercise, we estimate an interactive model to assess whether the time passed between the leadership change and the general election influences voters' propensity to adjust their perceptions of where the party stands. For that purpose, we specify the following equation:

$voter\_perceptions_{it} = b_1 + b_2\ platform_{it} + b_3\ voter\_perceptions_{i,t-1} + b_4\ length\ tenure_{it} + b_5(platform_{it} * length\ tenure_{it}) + b_6(voter\_perceptions_{i,t-1} * length\ tenure_{it}) + e_{it}$

Where *length tenure* denotes how long the new leader has been in office (in years).[90] This model is estimated for the subsample of parties that have changed their leader since the previous election. Hence, b_5 and b_6 indicate how, conditional on a leader change, the timing of that leadership change modulates the effect of party policy offerings and the degree of inertia in voter perceptions.

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[90]   Note that this is a continuous variable. Hence, a value of 1.5 in length tenure indicates that the new leader has been in office for 1 year and 6 months.

Estimates in Table 17 suggest that what matters for party stances to influence voters' opinions is that a leader different from the one heading the party in the previous election embodies the new policy offerings. Indeed, there is no evidence that the precise timing of the leadership change matters since the interaction terms *Platform X Length Tenure* and *Voter Percep (t-1) X Length Tenure* are not statistically distinguishable from zero. In other words, once the party manifesto has been drafted under a new leader, the time gap since the leadership election does not determine the impact of the manifesto.

Table 17 The timing of leadership changes and the effect of party policy offerings. Subsample of parties that elected a new leader since the previous election.

Platform	-0.10 (0.24)
Length Tenure	-0.40 (0.36)
Platform X Length Tenure	0.12 (0.09)
Voter Perception (t-1)	0.96** (0.11)
Voter Percep (t-1) X Length Tenure	-0.05 (0.04)
Intercept	0.80 (0.96)
Country FE	Yes
N / R^2	42 / 0.98

Note: Results for parties that elected new leaders only. OLS standard errors in parentheses. ** $p<0.01$, * $p<0.05$

Replicating our analyses using bootstrap-based clustered standard errors

A recent strand of literature points out that cluster-robust error estimates may be biased downwardly in the presence of a low number of clusters –below 40 approximately- (Cameron et al. 2008, Angrist and Pischke 2009).

Since the number of clusters in our data is low for some grouping criteria, we have also estimated our models using bootstrap-based estimates of cluster-robust errors because these correct for the possibility of downward bias (Esarey and Menger 2015). Table 18 and Table 19 present the results of estimating our interactive model for the subsample of parties in opposition using, respectively, wild cluster bootstrap and pairs cluster bootstrap errors.[91] Note that these bootstrap-based procedures yield t-statistics and confidence intervals, but not standard error estimates (Cameron et al. 2008).

These results show that estimating our model using bootstrap-based cluster errors does not alter the substantive implications of our findings. The impact of opposition party manifestos on voter perceptions is null unless there a new politician leads the party, in which case voters opinions more accurately reflect what the party proposes in the campaign.

Table 18: Results of estimating the interactive model using a Wild cluster-robust errors. Subsample of parties in opposition.

	Party-clustered errors	Year-clustered errors	Election-clustered errors
Platform	0.00 [-0.11 , 0.12]	0.00 [-0.13, 0.12]	0.00 [-0.13 , 0.12]
Leader Change	-0.26 [-0.72 , 0.20]	-0.26 [-0.62 , 0.09]	-0.26 [-0.70 , .21]

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[91] Esarey and Menger (2015) provide a detailed description of these bootstrap-based procedures.

Platform X Leader Change	0.20* [0.06 , 0.36]	0.20* [0.07 , 0.33]	0.20* [0.04 , 0.36]
Voter Perception [t-1)	0.98** [0.89 , 1.06]	0.98** [0.89 , 1.07]	0.98** [0.90 , 1.07]
Voter Percep [t-1) X Leader Change	-0.14* [-0.24 , -0.03]	-0.14 [-0.25 , -0.03]	-0.14* [-0.25 , -0.03]
Intercept	0.16 [-0.21 , 0.54]	0.16 [-0.20 , 0.55]	0.16 [-0.29 , 0.63]
Country FE	Yes	Yes	Yes
N	107	107	107
Number of clusters	30	25	45
R^2	0.98	0.98	0.98

Note: linear regression estimates and wild cluster-robust 95% confidence intervals in brackets. Number of bootstrap samples: 1000. Significance t-test: ** $p<0.01$, * $p<0.05$

Table 19 Results of estimating the interactive model using a pairs-cluster robust errors. Subsample of parties in opposition.

	Party-clustered errors	Year-clustered errors	Election-clustered errors
Platform	0.00 [-0.15 , 0.15]	0.00 [-0.17 , 0.17]	0.00 [-0.18 , 0.18]
Leader Change	-0.26 [-0.73 , 0.21]	-0.26 [-0.67 , 0.15]	-0.26 [-0.78 , 0.26]
Platform X Leader Change	0.20* [0.04 , 0.37]	0.20* [0.01 , 0.40]	0.20* [0.01 , 0.40]
Voter Perception [t-1)	0.98** [0.88 , 1.09]	0.98** [0.86 , 1.10]	0.98** [0.84 , 1.12]
Voter Percep [t-1) X Leader Change	-0.14 [-0.25 , -0.02]	-0.14 [-0.30 , 0.03]	-0.14 [-0.28 , 0.00]
Intercept	0.16 [-0.53 , 0.86]	0.16 [-0.35 , 0.67]	0.16 [-0.53 , 0.85]
Country FE	Yes	Yes	Yes
N	107	107	107
Number of clusters	30	25	45
R^2	0.98	0.98	0.98

Note: linear regression estimates and pairs cluster-robust 95% confidence intervals in brackets. Number of bootstrap samples: 1000. Significance t-test: ** $p<0.01$, * $p<0.05$

The effect of party platforms in standard deviation units

The following analyses present the results of estimating the main models in the paper (Table 2) but reporting standardized regression coefficients. This provides an intuitive interpretation of the size of the marginal effects. As can be seen in Table 20, for parties in opposition the impact of a one standard deviation change in manifesto position induces a 0% standard deviation change in the average left-right placement if the party leader is veteran. In other words, campaign platforms put forth by old leaders are irrelevant for voter opinions. In contrast, if the party elects a new leader, citizen perceptions are more sensitive to the party's manifesto position:the impact of one standard deviation unit shift in the manifesto position is equivalent to 0.14 standard deviations in the party´s average left-right placement.

Table 20 The effect of election platforms on voter perceptions of parties' left-right position. Standardized regression coefficients.

	Baseline Model	Leader Change Effects	Parties in Government	Parties in Opposition
Platform	0.06* (0.03)	0.04 (0.03)	0.09 (0.05)	0.00 (0.06)
Leader Change		0.01 (0.29)	-0.04 (0.05)	0.01 (0.04)
Platform X Leader Change		0.06 (0.05)	-0.08 (0.08)	0.14* (0.06)
Voter Perception (t-1)	0.91** (0.02)	0.93** (0.03)	0.85** (0.04)	0.98** (0.04)
Voter Percep (t-1) X Leader Change		-0.04 (0.04)	0.12 (0.07)	-0.14* (0.06)

Country FE	Yes	Yes	Yes	Yes
N / R^2	185/ 0.97	185/ 0.97	78/ 0.96	107/ 0.98

Note: OLS regression with standardized regression coefficients. All variables except for the dummy Leader Change are measured in standard deviations from the mean.The dependent variable in these models is the average voter perception of the party's left-right position as measured in post-election surveys. Columns 1 and 2 present estimates for the full sample. Column 3 restricts attention to parties in office, while column 4 considers the subsample of opposition parties. OLS standard errors are in parentheses.
** $p<0.01$, * $p<0.05$

Checking that results are not driven by any individual country

In order to confirm that the pattern of results we have consistently found is not driven by any single country, we re-estimate the regression model in equation 2 dropping all observations from one country at a time. Since our sample includes seven countries (Germany, Great Britain, Spain, Netherlands, Denmark, Sweden and Norway), we replicate the regression analysis seven times. Table 21 presents the estimated marginal effects of manifesto positions on the party's average left-right placement, for governing and opposition parties, as a function of whether the party has chosen a new leader since the previous election or not. Each row indicates the country dropped. These results suggest that the pattern that arises in the pooled analyses is not driven by any single country. No matter which country is dropped from the sample, the same substantive conclusion remains: first, party campaign proposals do not influence voter opinions of parties in office. Second, for opposition parties with experienced leaders, manifestos are inconsequential as well. In contrast, the manifestos of parties in opposition that elect a new leader makes are capable of influencing voter perceptions .[92]

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[92]   To address the possibility that a specific *party* is driving the results in the pooled regression, we have replicated the exercise by estimating our interaction model but dropping

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Table 21 Results after dropping observations from one country at a time. Marginal Effect of Party Platforms, for governing and opposition parties, and depending on whether a new leader has been appointed since the previous election.

	Marginal Effects			
	Governing parties		Opposition parties	
Country dropped	Veteran leader	New leader	Veteran Leader	New Leader
Germany	0.07 (0.06)	-0.03 (0.09)	0.02 (0.05)	0.21* (0.08)
Great Britain	0.05 (0.06)	0.03 (0.09)	0.01 (0.05)	0.17* (0.08)
Spain	0.08 (0.07)	-0.03 (0.09)	0.01 (0.06)	0.25** (0.09)
Netherlands	0.06 (0.07)	-0.09 (0.1)	-0.04 (0.06)	0.25** (0.08)
Denmark	0.11 (0.07)	-0.01 (0.11)	0.03 (0.06)	0.32** (0.1)
Sweden	0.13 (0.08)	-0.01 (0.1)	0.05 (0.07)	0.24* (0.1)
Norway	0.05 (0.08)	-0.02 (0.11)	-0.05 (0.06)	0.23** (0.08)

Note: Marginal effects obtained from OLS regression. Standard errors are in parentheses.
** p<0.01, * p<0.05

observations for each party, one at a time. The pattern of results holds in all of these analyses.

The output for this exercise is very voluminous and therefore we do not report it in the text, but it is available from the authors upon request.

Estimating a triple interaction model to evaluate our claims

The strategy we have followed to evaluate differences in the impact of leader changes between governing parties and parties in opposition has been to estimate equation 2 separately for parties in office and for opposition parties. An equivalent strategy is to pool all observations and estimate a triple interaction model, i.e., one where we let the effect of party platforms and lagged perceptions to vary depending on whether the party is in government or not and also whether it has elected a new leader since the last election. Table 22 presents the results of estimating such a model. To make the interpretation easier, Table 23 presents the marginal effects of each variable. As can be seen, with the triple interaction we obtain the same point estimates for the marginal effects as with separate regression models.

Table 22 Triple interaction model.

	Triple interaction
Platform	0.00 (0.06)
Leader Change	-0.26 (0.33)
In Office	-0.17 (0.42)
Platform X Leader Change	0.20* (0.09)
Platform X In office	0.12 (0.09)
Platform X Leader change X In office	-0.32* (0.14)
Voter Perception (t-1)	0.98** (0.05)
Voter Perception (t-1) X Leader Change	-0.14* (0.06)

Voter Perception (t-1) X In Office	-0.13* (0.06)
Voter Perception (t-1) X Leader Change X In Office	-0.14* (0.06)
Leader Change X In Office	0.12 (0.09)
Intercept	0.16 (0.2)
Country FE	Yes
N / R^2	185/ 0.97

Note: OLS regression. The dependent variable in these models is the average voter perception of the party's left-right position as measured in post-election surveys. OLS standard errors are in parentheses. ** p<0.01, * p<0.05

Table 23 Marginal Effects of Election Platforms depending on whether the party is in office or in opposition, and whether it is competing the election with a new leader or not.

	In Opposition	In Office
Leader change= 0	0.00 (0.06)	0.12 (0.07)
Leader change= 1	0.20** (0.08)	0.00** (0.1)

OLS standard errors in parentheses. ** p<0.01, * p<0.05

Including additional controls in the equation

To further evaluate the robustness of our results, we take the model in equation 2 as the starting point and specify additional control variables. Table 24 presents the results of this model, which now includes the party's vote share in the previous election, year dummies as well as those for each party family, the leader´s tenure and a variable capturing the timing of the leader change.

After including these additional control variables does not alter the substantive results: Party platforms are inconsequential for governing parties. For parties in opposition with experienced leaders, manifesto have no effect either. In contrast, parties with a recently elected leader can use their platforms to help voters develop more accurate perceptions of where the party stands on the left-right axis.

Table 24 Estimating the model in equation 2 but including additional control variables

	Parties in Government	Parties in Opposition
Platform	0.18 (0.11)	0.06 (0.06)
Leader Change	0.15 (0.7)	0.04 (0.4)
Platform X Leader Change	-0.08 (0.13)	0.22* (0.10)
Voter Perception (t-1)	0.84** (0.08)	0.83** (0.08)
Voter Percep (t-1) X Leader Change	0.05 (0.08)	-0.18** (0.07)
Vote share (t-1)	0.00 (0.01)	-0.01 (0.01)
Leader´s length tenure	-0.00 (0.00)	0.00 (0.00)
Timing leader change	0.28 (0.31)	0.25 (0.30)
Intercept	-0.53 (0.89)	0.1 (0.4)
Country FE	Yes	Yes
Party Family FE	Yes	Yes
Year FE	Yes	Yes
N / R^2	78/ 0.98	107/ 0.99

Note: The dependent variable in these models is the average voter perception of the party's left-right position as measured in post-election surveys. Column 1 restricts attention to parties in office, while

column 2 considers the subsample of opposition parties. Additional controls: year fixed effects, party family fixed effects, vote share in the previous election, length of the leader's tenure and timing of the leader change. OLS standard errors are in parentheses.
** p<0.01, * p<0.05

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