Voter Turnout Decline and Party Responsiveness

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Numerous studies conclude that declining turnout is harmful for democracy. However, we uncover the arguably positive effect that political parties become more responsive to the median voter in the election after turnout has decreased. We assume that parties are vote-seeking and show that moderate voters are responsible for changes in turnout, and we argue that declining turnout in an election sends a clear signal to political parties that there is an opportunity to mobilize disaffected voters in the following election by responding to changes in public opinion. We report the results of statistical analyses on data from thirteen democracies from 1977 to 2018 that provide evidence that declining voter turnout in one inter-election period is associated with increasing party responsiveness to public opinion in the following period. Our findings have important implications for our understanding of voter turnout, political representation, and parties' election strategies.

Several studies identify party responsiveness to shifts in public opinion as a key component in the representative process, and use this framework extensively to analyze policy linkages between citizens and parties over time (Dassonneville 2018; Ferland 2020; Homola 2019; Klüver and Spoon 2016; Spoon and Klüver 2014; Spoon and Klüver 2015; Williams and Spoon 2015). Prominent research in the discipline also recognizes the importance of electoral participation for democracy (e.g., Blais 2000; Franklin 2004; Lijphart 1997; see also Norris 2002). Discussing the importance of voting, Russell Dalton (2006, 42) states that "voting is the one activity that binds the individual to the political system and legitimizes the rest of the democratic process." Democratic ideals suggest that policy preferences of citizens will translate into the selection of representatives who, in turn, produce policies (Powell 2000). These ideals assume that a participatory electorate is crucial for the functioning of democracy.

We examine the relationship between turnout and responsiveness by addressing the question: how do changes in turnout influence party responsiveness to the median voter? The empirical analyses of political parties in thirteen democracies from 1977 to 2018 support the finding that when voter turnout declines in an election, mainstream political parties are more responsive to shifts in the median voter position in the following election to appeal to disaffected voters. Thus, parties are sensitive to changes in turnout, however it is the decreases in turnout that then motivates political elites to respond to shifts in public opinion in the following election. Indeed, there are recent cases which suggest that this occurs. In Germany, after a low turnout election in 2009, the Social Democratic Party (SPD) nominated centrist candidate Peer Steinbrück in 2013 as its leader in an attempt to appeal to moderate disaffected citizens

in the "waiting room"[1] that the party believed were ready to be mobilized.[2] Mobilizing disaffected voters was a strategy also carried out in the 2010 UK election by the Conservatives (led by centrist leader David Cameron) when they managed to secure the largest share of citizens that had abstained in the previous election.[3]

There are several reasons why our findings are important. First, they relate to the *dynamic representation* model of elections developed by Stimson, MacKuen, and Erikson (1995; Erikson, MacKuen, and Stimson 2002). This model identifies party responsiveness to shifts in public opinion as a key component in the representative process (see also the "thermostatic model" developed by Wlezien (1995; 1996)), and

[1] Translation by authors. Quoted from Süddeutsche Zeitung at https://www.sueddeutsche.de/1.1757398.

[2] Prior to the nomination, in the 2009 elections, German voter turnout decreased dramatically (to 70.8%) with the SPD suffering a catastrophic 11% decrease in its vote share from 2005. During the election campaign, the SPD leadership repeatedly underlined the need to mobilize citizens that had abstained in the 2009 elections. In fact, the SPD leadership openly speculated that if turnout increased 5-7 percentage points, the party could gain the most votes in the upcoming election. Steinbrück claimed that the party's past vote loss was not due to voters switching, and instead that former SPD voters could be mobilized. In the aftermath of the 2009 turnout decline, we can interpret the 2013 SPD's leadership selection and their public comments as a clear attempt to gain votes by appealing to centrist citizens that had abstained in the previous election. See, e.g., reports in the newspapers Welt (https://www.welt.de/article120085169) or Focus (https://www.focus.de/_aid_1029828.html).

[3] See, e.g., Kirkup, James: "None of the above. The role of non-voters in the General Election 2015." https://www.britishelectionstudy.com/bes-findings/none-of-the-above-the-role-of-non-voters-in-general-election-2015-by-james-kirkup.

several comparative scholars have also focused on this linkage between citizens and parties over time (e.g., Adams et al. 2004; Soroka and Wlezien 2010).[4]

Second, the study relates to the empirical and theoretical studies of *parties' election strategies* (e.g., Dow 2001; Dow 2011; Downs 1957; Somer-Topcu 2015; Spoon 2011), and more specifically scholars have identified "decision rules" for parties that seek office facing uncertainty in elections and difficulty in calculating optimal strategies (e.g., Budge 1994; Laver 2005). These studies develop on arguments that parties rely on heuristics or "shortcuts" to deal with circumstances of complexity and uncertainty. Virtually all of these studies consider the possibility that parties' *past election results* or *rival parties' positions* inform the decision rules that parties use to adopt policy in the current election (Budge 1994; Laver 2005; Adams and Somer-Topcu 2009a; Somer-Topcu 2009; Budge et al. 2010; see also Lindvall et al. 2021). This study is the first to connect current party policy strategies to *previous turnout*, i.e., that parties also incorporate information about changing voter turnout in formulating their future electoral strategies.

Third, the study raises implications for our understanding of the *effects of turnout*. Cross-national empirical studies of voter turnout have shown that high levels of turnout are associated with high levels of citizen satisfaction with democracy (e.g., Anderson and Guillory 1997; Franklin 2004; Hobolt 2012).[5] Here it is shown that

[4] The studies that analyze mean voter representation and dynamic representation are similar in that they are each concerned with how elites represent citizens. However, mean voter representation and dynamic representation differ in that the former concept focuses on the party-citizen linkage in elections, while the latter refers to responsiveness of government *policy* outputs.

[5] Ezrow and Xezonakis (2016) argue that if the relationship between citizen satisfaction and voter turnout is analyzed within countries and *over time*, that decreases in citizen satisfaction with democracy will lead to increases in voter turnout.

turnout changes have clear effects for parties' policy positions and their sensitivity to shifts in public opinion.

Fourth, and related, the study identifies an additional normative standard for measuring the health of democracy. As noted, scholars widely view voter turnout as a bellwether for assessing the health of democracy. The implication of virtually all studies of political participation and turnout is that elites will be more responsive to voters when they anticipate high levels of turnout. Yet, the finding that is reported here is that turnout decline and party responsiveness are related. In this light, the importance of the study is to generate a focus on whether decreasing turnout is met with a subsequent increase in party responsiveness. Put differently, if parties remain unresponsive to the median voter position after turnout decreases, this could signal that policy linkages between parties and citizens are deteriorating. Turnout should not only be seen as an expression of satisfaction with democracy and institutions, but also as a mechanism to signal an absence of responsiveness to the median. Declines in turnout often have a "silver lining" in that they prompt parties to be more attentive to future shifts in public opinion.

Declining Turnout and Increasing Party Responsiveness

We assume that parties are vote-seeking and that the largest changes in turnout patterns occur among moderate voters (Rodon 2017). Declining turnout in a focal election sends a clear signal to political parties to respond to the median voter in an effort to mobilize disaffected voters for the next election. This expectation is based on numerous studies that report that when parties appeal to citizens in terms of policy they will be more likely to turnout to vote (see, e.g., Adams et al. 2006a; Dreyer and

Bauer 2019; Plane and Gershtenson 2004; Lefkofridi et al. 2014; Reher 2014; Hobolt and Hoerner 2020).

Persuasive arguments suggest that shifts in the median voter position will influence parties' policy shifts because they seek to maximize votes. Prominent researchers of mainstream parties have observed that these parties have expanded their range of ideological appeals, and that they have shed their "ideological baggage" (Kirchheimer 1966; see also Kitschelt 1997; Van Kersbergen 1997). The result is that mainstream parties are sensitive to shifts in public opinion (e.g., Adams et al. 2004). Maximizing votes may not be an end goal in itself: vote-maximization is an efficient strategy for office- and policy-seeking parties (see Müller and Strøm 1999). For an office-seeking party in a multiparty system, increased vote shares enhance its position for post-election coalition negotiations. In the latter case, for a policy-seeking party, its leverage to pull the governing coalition's policy in its preferred direction will increase as its electoral strength increases as well.[6] Thus there are persuasive theoretical arguments to suggest that parties – whether they are vote-, office-, or policy-seeking – will be responsive to changes in the median voter position in the general electorate (see, e.g., Adams and Merrill 2009; Downs 1957; Huber and Powell 1994; McDonald and Budge 2005; Stimson, MacKuen, and Erikson 2002).[7]

[6] Adams and Merrill's (2009) theoretical study on policy-seeking parties' strategies in multiparty systems concludes that parties are motivated to adjust their policy strategies in response to their beliefs about the median voter's position, rather than in response to the diversity of voter ideologies in the electorate.

[7] Informational considerations suggest that mainstream parties will respond to the mean voter position. Since these parties occupy the "crowded center", mainstream parties are unable to differentiate their supporters from other mainstream party supporters. In this environment, they might receive clear policy

If turnout decisions are based on how close citizens are to the most proximate party in policy terms (Adams et al. 2006a; Dreyer and Bauer 2019; Plane and Gershtenson 2004; Lefkofridi et al. 2014; Reher 2014; Hobolt and Hoerner 2020), political parties will be more sensitive to the left-right preference of the median voter after voter turnout decreases. Previous turnout decline signals that there are more moderate disaffected voters that may potentially vote in the following election. One reason why parties appeal to moderates in these circumstances is because there are typically more voters in the middle than there are at the extremes (see Adams and Somer-Topcu 2009b). Furthermore, the variation in individual turnout is lower at the extremes. Distinctly non-centrist voters tend to also hold higher intensity of ideology (Rabinowitz and Macdonald 1989), and these citizens (of which there are fewer) tend to be more interested and passionate about politics (Adams and Ezrow 2009). Furthermore, these voters have been found to be more stable in their vote intention at the national level (Dassonneville 2012), and they report voting at higher rates than moderate voters.

The arguments summarized above are consistent with the findings of Rodon (2017) who reports stark empirical differences in voter turnout between moderates and other voters. In particular, he attributes the difference due to partisanship levels that are much weaker in the center than to the left or right. Rodon (2017, 150) writes on partisanship levels for the center, left, and right, "the erosion of party attachments has affected all voters, but this has been unequally distributed across ideological positions. Data collected in this article shows that, on average, the percentage of non-partisan identifiers are higher on the center (48.4%) than on the left (31.3%) or the right

signals from the electorate as a whole (e.g., through polling) rather than from other subconstituencies like party supporters (Ezrow et al. 2011; but see Ibenskas and Polk 2019).

(33.2%)." He also reports that low partisanship levels in the middle has the predictable consequence that turnout is lower for moderate citizens.[8]

Although the aforementioned studies are insightful and lend preliminary support to the claim that changes in centrist citizens' turnout rates drive overall changes in turnout, to the best of our knowledge no study has directly tested whether this actually occurs. Since our argument about party responsiveness to public opinion hinges on this assumption, we report findings in the empirical section that supports the finding that changes in rates of turnout are predominantly driven by changes in centrist citizens' turnout decisions.

The theoretical expectation that political parties will be more responsive to public opinion after elections that exhibited a decrease in voter turnout may also vary across *types of political parties*.[9] For example, some parties may even further prioritize vote- or office-seeking such as "dominant" parties, i.e., parties that have previously governed, when compared to the "challenger" parties that have not (De Vries and Hobolt 2020). In a similar vein, Klüver and Spoon (2016) and Meguid (2005,

[8] Research on second order elections, such as those to the European Parliament, is insightful in this regard as these elections are characterized by an unusually low turnout compared with national elections. Franklin (2007) shows that left-right extremism has a positive effect on participation in the elections to the European Parliament; suggesting that centrist voters in particular abstained in these low turnout elections. A recent study by Remer-Bollow, Bernhagen, and Rose (2019) addresses to what extent the results of the European elections would have changed if turnout had risen to the level observed in first-order national elections. They note that ideologically left-wing and moderate parties would have performed better under the condition of a higher turnout. Therefore, it is parties that rely on the vote of centrist voters that would have benefited from increased voter turnout.

[9] We thank two of the journal's reviewers for encouraging us to explore party type effects in our analyses.

2008) analyze how mainstream and niche parties represent voters differently (see also Bischof and Wagner 2019). Bawn and Somer-Topcu (2012) report different election strategies for governing and opposition parties. Relatedly, vote-losing and vote-gaining parties have different incentives to change their policy positions (Somer-Topcu 2009). Possibly, other party distinctions matter, such as whether they are centrist or extreme, or large or small. The empirical section reports analyses that suggest that the theory applies to most of these parties, and that significant differences only occur in few instances (for challengers and extreme parties). The theory thus has implications for which party types are "center-oriented" and hence more responsive to previous changes in turnout.

To summarize, the above discussion of party type effects notwithstanding, political parties will seek to mobilize moderate voters after elections that are characterized by relatively low voter turnout by appealing to them in policy terms.

The discussion above motivates the following hypothesis:

H1 (The Declining Turnout Hypothesis): Decreases in turnout increase party responsiveness to the median voter position in the following election.

Exploring this hypothesis enhances our understanding of party competition, and if it is supported it suggests that an important underemphasized effect of decreased turnout is increased party responsiveness to public opinion in the following election.

Data and Measurement

To test whether changes in turnout influence party responsiveness we develop longitudinal, cross-national measures of voter turnout, the median (or mean) voter

position,[10] and parties' policy positions. Our cases include West European democracies for which Eurobarometer mean voter data are available. Countries and years include Austria (1999-2017), Denmark (1977-2015), Finland (2003-2015), France (1981-2017), Germany (1980-2017), Great Britain (1979-2017), Greece (1985-2015), Ireland (1981-2016), Italy (1983-2018), The Netherlands (1981-2017), Portugal (1991-2015), Spain (1989-2016), and Sweden (2002-2018).[11]

The Dependent Variable: Parties' Left-Right Policy Positions

Our primary measure of party shifts is from statements from party platforms as provided by the CMP/MARPOR researchers (Klingemann et al. 2006; Volkens et al. 2018). Party positions (and voter preferences described below) are measured in terms of "left" and "right." To capture important temporal changes in party position, we employ a panel of elections from thirteen countries ranging from 1977 to 2018. Comprised of the election manifestos from political parties in a wide range of democracies, these data provide cross-national estimates of party policies available for an extended time period. And since the content of party programs is often the result of intense intra-party debate, the MARPOR estimates should be reliable and accurate

[10] The mean of respondents' self-placements is a reasonable approximation of the median because the distributions of respondents' self-placements are generally unimodal and symmetric (Adams and Somer-Topcu 2009b, p. 682). Ward et al. (2011, fn. 50) report a correlation of 0.969 between estimates of the mean and median. The analyses of Powell (2021) further corroborate that when the distribution of citizen self-placements is characterized as normal, there are only slight differences between the use of the mean and the interpolated median.

[11] Belgium and Luxembourg are not included because these are compulsory voting countries. When these countries are included in the empirical analyses, however, the substantive conclusions do not change. Malta is omitted due to insufficient median voter data.

statements about parties' positions at the time of elections. Research has found these measures to be generally consistent with those from other party positioning studies, such as those based upon expert placements, citizen perceptions of parties' positions, and parliamentary voting analyses (Laver *et al.* 2003; Marks 2007; McDonald and Mendes 2001; see also Adams et al. 2019). We measure left-right positions using the logit transformed scales advocated by Lowe et al. (2011).[12] The measure has an empirical maximum value of 4.6 (extreme right) and a minimum of -4.5 (extreme left). The dependent variable, $\Delta Party\ Position\ (t)$, is then measured as the change in party position from election *t-1* to *t*. Table A3 in the Supporting Information reports all of the parties that are included in the analysis.

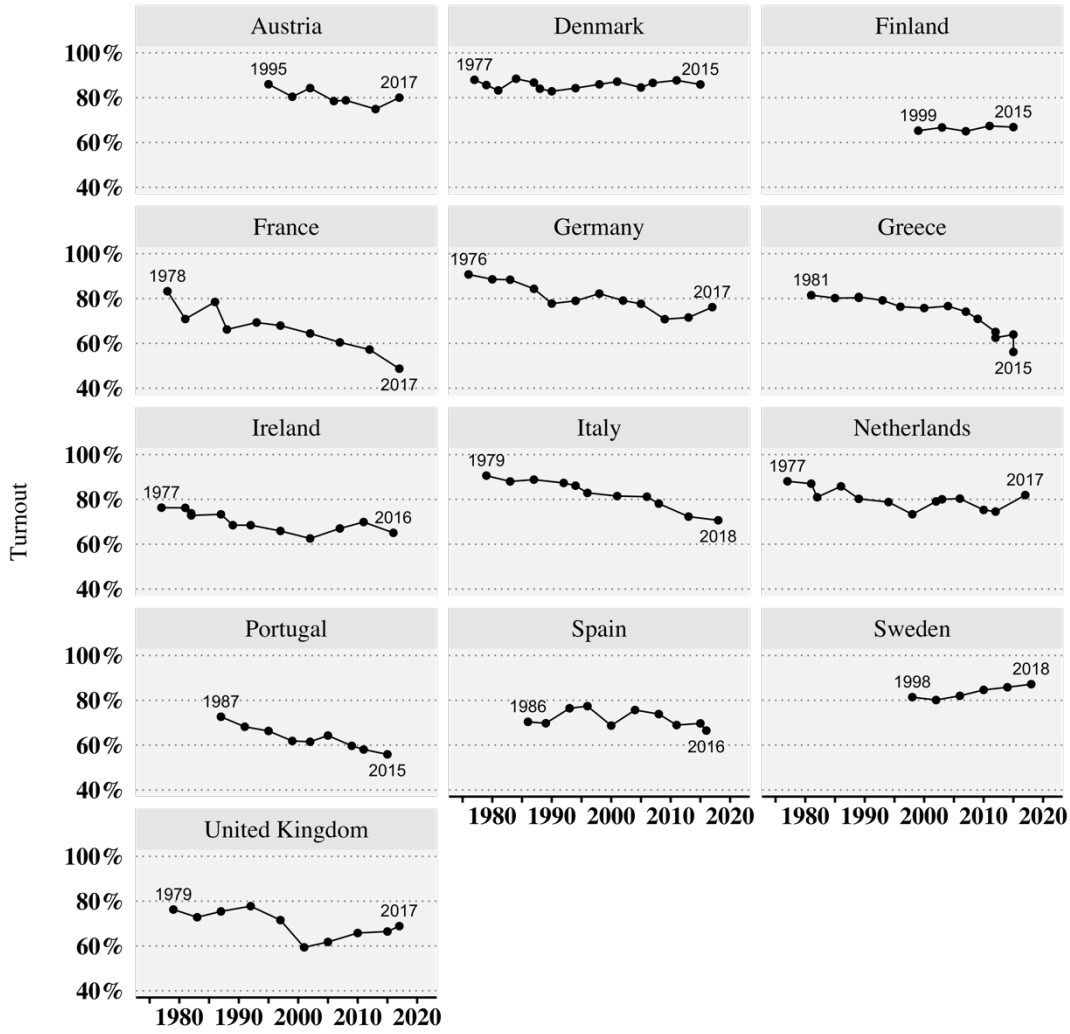
Independent Variables: Changes in Voter Turnout, the Mean Voter Position, and their Interaction

To test the Declining Turnout Hypothesis, it is necessary to measure voter turnout. Most comparative studies of turnout emphasize the importance of cross-national comparability of the measure. Given the longitudinal nature of this study, it is important that our measure of turnout is consistent over time, within each country. The longitudinal measure of voter turnout for our sample is from a dataset provided by the WZB Berlin Social Science Center.[13]

[12] Our results do not change if we use the additive measure as proposed by Laver and Budge (1992) which ranges from -100 to +100.

[13] This data set includes turnout estimates that have been officially reported by the countries' national election commissions.

Figure 1: Voter Turnout, 1977-2018



Notes: The turnout estimates are based on the percentages of eligible voters. The time periods correspond to the coverage by the Eurobarometer surveys (see below).

Estimates of the *turnout* variable, stratified by country, are presented in Figure 1. The dots represent turnout levels for each election that is included in the empirical analyses, and there are several important patterns to identify. Few countries have constant turnout rates. In France, Portugal, and Italy, participation rates have declined consistently since the 1990s. Other countries such as Denmark, the Netherlands, or Spain show fluctuating trends where turnout decreases and increases alternate. Last, in some countries downward trends have been met with an upward movement, particularly in the most recent elections under study (e.g., Austria, Germany, the

United Kingdom, and Sweden). Overall, there is no common trend that applies to every European country.[14]

Data on mean voter preferences come from the Eurobarometer public opinion surveys that ask respondents to place themselves on a left-right scale from 1 (left) to 10 (right). We focus on voters' (and political parties') left-right positions instead of more detailed conflict dimensions for two reasons. First, comparative survey data for citizens' positions on subdimensions of political conflict (such as the economy or cultural issues) is scarce. Hence, only left-right positions are available for a broad set of countries over extended time periods. Second, and more importantly, recent research suggests that voters' economic and cultural preferences are nonseparable. As a consequence, left-right congruence between voters and parties is the stronger predictor of vote choice if compared with congruences on political subdimensions (Lichteblau et al. 2020; see also Lachat 2018).

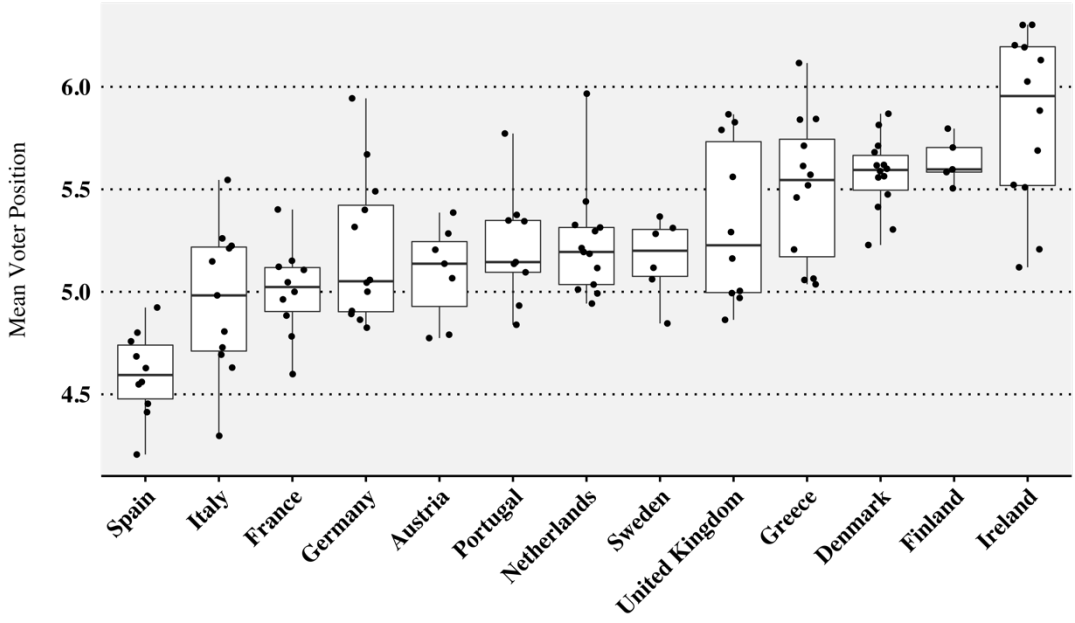
As the Eurobarometer does not survey at the exact time of national elections and instead bi-annually, we consider only those surveys that were conducted at maximum one year before the election in question.[15] Figure 2 gives an overview of the distribution of the mean voter position for all countries under observation. Some countries have seen considerable variation in mean voter positions over time. For instance, the position of the mean voter in Ireland has moved from 6.2 in 1981 to 5.12 in 2016. Similar levels of variation are observable in other countries such as Germany,

[14] There are limitations of scope based on the coverage of the Eurobarometer surveys. In particular, the (shortened) time series of Austria, Spain, Finland, Greece, Portugal, and Sweden is due to these countries entering the dataset as they became members of the European Union.

[15] As a consequence, we exclude from our analysis all snap elections that took place less than six months after the previous election.

Italy, or the United Kingdom. Other countries like Finland exhibit less variation over time.

Figure 2: Mean Voter Positions, 1975-2018



Notes: Mean voter position estimates are based on Eurobarometer surveys that ask respondents to place themselves on a left-right scale from 1 (left) to 10 (right). The boxplots report mean voter positions for each country election included in the study. The boxes show the interquartile ranges of the mean voter positions, with the middle line in each box showing median values. The ends of the whiskers are minimum and maximum values.

Testing Centrist Turnout as a Driver of Overall Turnout

Before we evaluate the Declining Turnout Hypothesis, we first test the crucial assumption that changes in a country's turnout are affected by changes in turnout among moderate voters. We test for this relationship by making use of election studies provided by the Comparative Study of Electoral Systems (CSES), which comprises post-election surveys for the majority of West European countries since 1996 (CSES 2018; 2020). Relying on a question asking survey respondents whether they turned out to vote in the most recent general election, we estimate the parameters of multilevel logit model specifications for the 39 elections in the 13

countries that are covered in the analyses of party responsiveness below. We estimate random effects for each country and each survey (Schmidt-Catran and Fairbrother 2016), and we use CSES design and sample weights. We estimate a respondent's left-right extremism score by calculating the distance between her left-right position and the rounded mean voter position. This measure takes the value of 0 if the respondents' left-right position is identical to the mean voter position. The higher the value, the greater is the distance to the mean voter position, and the maximum value of the resulting scale is 6. The results are similar if we use a binary indicator for centrist (distance 0-1) and non-centrist (distance 2-6) respondents, and these are reported in the Supporting Information (Table A2 and Figure A1). We further add a variable at the election level which denotes the change in turnout between the election in question and the previous election. Interacting the variables allows us to evaluate centrist individual turnout probabilities in contexts of declining turnout, and then to compare it to estimates for more extreme citizens.

reports the corresponding regression results. Models 1 and 2 evaluate whether left-right extremism influences a citizen's probability of voting independent of overall turnout. Model 2 includes a series of additional individual-level covariates that are likely to affect citizens' voting behavior.[16] These controls include socio-demographic characteristics (age, gender, education, household income, union membership, and employment status) as well as attitudinal variables (external political efficacy and satisfaction with the working of democracy).

[16] For the full set of regression results, see Table A1 in the Appendix. The estimated effects of the control variables are in the expected direction and statistically significant (with the exception of gender).

Table 1: Citizen Ideology, Turnout, and Changes in Turnout
Individual-Level Analyses

	DV: Turnout (Individual-Level)			
	(1)	(2)	(3)	(4)
Left-Right Extremism [0-6]	.090***	.102***	. .073***	.088***
	(.025)	(.021)	(.023)	(.020)
Δ Turnout (Election Level)			.071***	.061**
			(.026)	(.025)
Left-Right Ext. *Δ Turnout			-.012**	-.010**
			(.005)	(.004)
Controls	No	Yes	No	Yes
Random Effects (Country and Survey)	Yes	Yes	Yes	Yes
N Countries	13	13	13	13
N Country-Years	42	42	42	42
Var(Countries)	.268	.140	.248	.137
	(.208)	(.124)	(.174)	(.104)
Var(Country-Years)	.271***	.295***	.230***	.265***
	(.090)	(.093)	(.062)	(.078)
N	48442	48442	48442	48442
Log likelihood	-16103.1	-15099.0	-16092.9	-15092.1

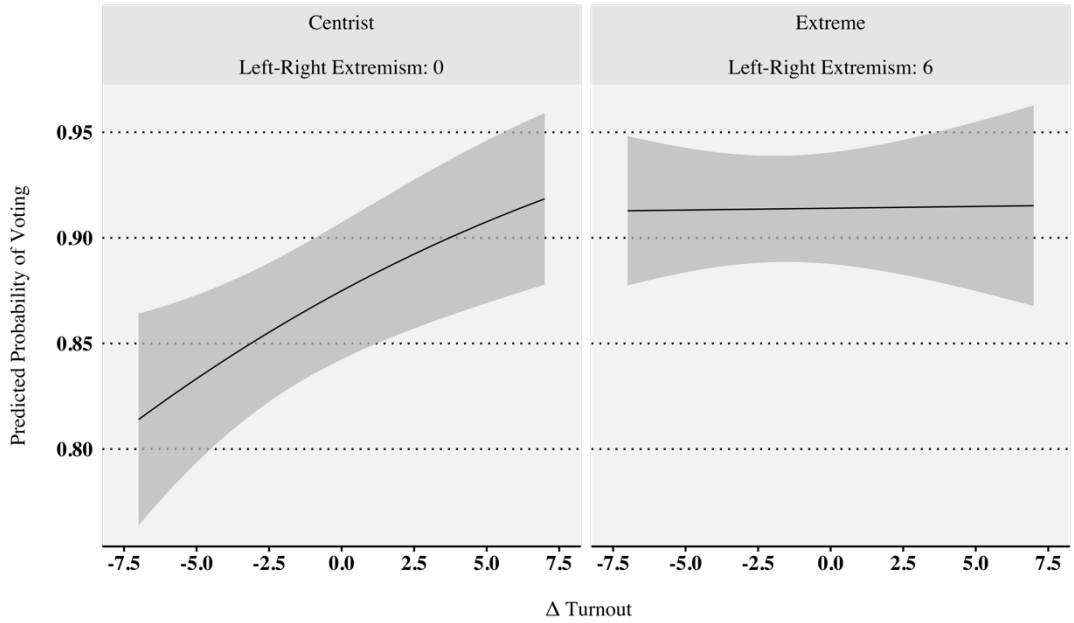
Note: ***p < .01; **p < .05; *p < .1

Data: CSES IMD and CSES 5. Sample and demographic weights used.

Left-Right Extremism: Distance to rounded mean voter position.

The positive coefficients on left-right extremism confirm that the *probability of voting increases for more extreme citizens*, which is consistent with previous research (Rodon 2017). Next, Models 3 and 4 report the left-right extremism coefficients that are conditional on changes in turnout. The interaction effect is negative which suggests that centrist voters do not only abstain more often but that the gap between the abstention of centrist and extreme voters widens in elections with declining turnout. If declining turnout were not driven by centrist abstention, the estimate on the interaction variable would be insignificant, and the probability of voting would decline uniformly for all voters.

Figure 3: Predicted Probabilities of Voting Based on Individual-Level Analyses



Note: Confidence bands show 95% confidence intervals. Estimates based on Model 3 in Table 1.

Figure 3 clearly depicts this finding using predicted probabilities comparing centrist and extreme citizens. In elections with increasing turnout, the probability of voting is nearly identical for all voters independent of their distance to the mean voter position. If turnout decreases, however, the likelihood of voting only decreases for centrist citizens. Alternatively, turnout change has no discernable effect on voting for extreme citizens. As a consequence, the models indicate that declining turnout is to a substantial extent driven by centrist citizens deciding to abstain. Conversely, increasing turnout is marked by centrist citizens deciding to turnout. We note that the effect sizes should be interpreted with caution as survey respondents overstate their turnout likelihood in pre- and post-election surveys. Nevertheless, the results indicate that the effect for centrist citizens is substantively significant, because the gap in the probability of voting between centrist and extreme respondents varies between 5 and 10 percentage points depending on the size of the negative turnout change. We thus find support for the finding that changes in centrist turnout drive

overall turnout changes, which is part of the central argument that political parties have a strong incentive to respond to moderate (disaffected) voters in times after declining turnout. On this basis we proceed.

Testing the Declining Turnout Hypothesis

Recall that the Declining Voter Turnout Hypothesis predicts that parties will respond to changes in the mean voter position in the election after an election that has experienced a decrease in voter turnout. We estimate parameters of "cross-national" OLS regression models to evaluate whether this relationship between responsiveness and turnout is present in our data. This "cross-national" specification is:

$$\begin{aligned}
&\Delta Party\ Position\ (t) = \beta_0 \\
&+ \beta_1[\Delta\ Mean\ Voter\ (t)] \\
&+ \beta_2[\Delta\ Turnout\ (t-1)] \\
&+ \beta_3[\Delta\ Mean\ Voter\ (t)] * [\Delta\ Turnout\ (t-1)] \\
&+ \beta_4\gamma + \alpha + \varepsilon,
\end{aligned}$$

where Δ *Party Position* (t) is defined as the difference in a party's left-right position at election *t*, from its position at the previous election at (*t*-1). Δ *Mean Voter* (t) denotes the difference in the position of the mean voter in the current election *t*, from the mean voter in the previous election at (*t*-1). The lagged Δ *Turnout* (*t*-1) variable is defined as the difference between turnout in the previous election (*t*-1) from turnout two elections ago (*t*-2). Moreover, we added country fixed effects (α) to control for time-constant factors (such as electoral system characteristics). Finally, γ denotes a vector of time-varying covariates, and ε is the error term.

We add a number of covariates, which potentially influence changes in parties' left-right positions. First, the change in a party's vote share may have an influence. In

particular, *previous election results* might constitute different incentives for parties to respond to the mean voter position. For example, the literature on decision rules suggest that vote-winning parties might be inclined to shift in the same direction as in the previous election and vote-losing parties might strategically decide to switch into the opposite direction (Adams et al. 2004; Budge 1994; Somer-Topcu 2009). We thus control for parties' vote changes at *t*-1.

Second, parties *in government* – constrained by the responsibility of policy- and decision-making – might be restricted in their flexibility to respond to public opinion in order to maintain their programmatic credibility in the face of previous government decisions. Accordingly, we include parties' governing status (i.e., governing or opposition) in the model specification. Third, macro-economic factors possibly restrain parties' ability to maneuver as parties potentially refrain from proposing positions that are considered unrealistic under economic globalization (Hellwig 2014). We add a measure of the difference in *economic globalization* from the current election and the previous election, provided by the KOF Globalization Index (Sturm, Haelg, and Gygli 2018).[17] Lastly, *economic performance* could influence party responsiveness. It has been shown that if the economy performs well, parties tend to promote more rightist economic policies if compared with periods when the economy slows down. As a result, we control for the log-transformed change in GDP per capita (World Bank 2018) between *t*-1 and *t*.

In total, we estimate a first-difference model that focuses on the changes in our independent variables on the changes in parties' left-right positions. Focusing on

[17] Results from previous research also suggest that party responsiveness is enhanced when the country's economy is sufficiently sheltered from the world economy (Ezrow and Hellwig 2014; see also Haupt 2010).

changes makes sense theoretically when investigating party responsiveness, and using a first-difference model comes with the advantage of addressing several common problems related to working with (quasi-)panel data. In particular, it addresses the stationarity of the time-series, and party- and country-specific heterogeneity. Still, serial correlation remains a possibility. Accordingly, we add a lagged dependent variable to the regression equation (Beck and Katz 1995).[18] Moreover, the error terms might be correlated within units (parties) or time (elections), which could yield unreliable standard errors. We cluster the standard errors based on both types, parties and elections, to account for this potential problem. In total, the analysis encompasses 117 elections.

Results

The parameter estimates for the cross-national specifications are presented in Models 1a and 1b of Table 2. Model 1a presents the regression results without an interaction term to evaluate whether parties generally tend to respond to public opinion shifts. We retest this hypothesis as previous studies have mostly tested for this relationship with much shorter time series (until 2002). As can be seen, the effect of the Δ *Mean Voter* (t) variable is positive and statistically significant. This indicates that political parties indeed tend to respond to shifts in the mean voter position. This speaks well to previous findings showing that there is a close correspondence between parties' policy and public opinion shifts (see Adams 2012 for an overview). Model 1b includes an interaction term between turnout change and shifts in the Mean Voter Position and thus tests for the relationship of interest of this paper. As expected, the interaction term

[18] Omitting this variable from the models does not affect the results.

is negative and statistically significant supporting the idea that party responsiveness diminishes in times of increasing turnout.

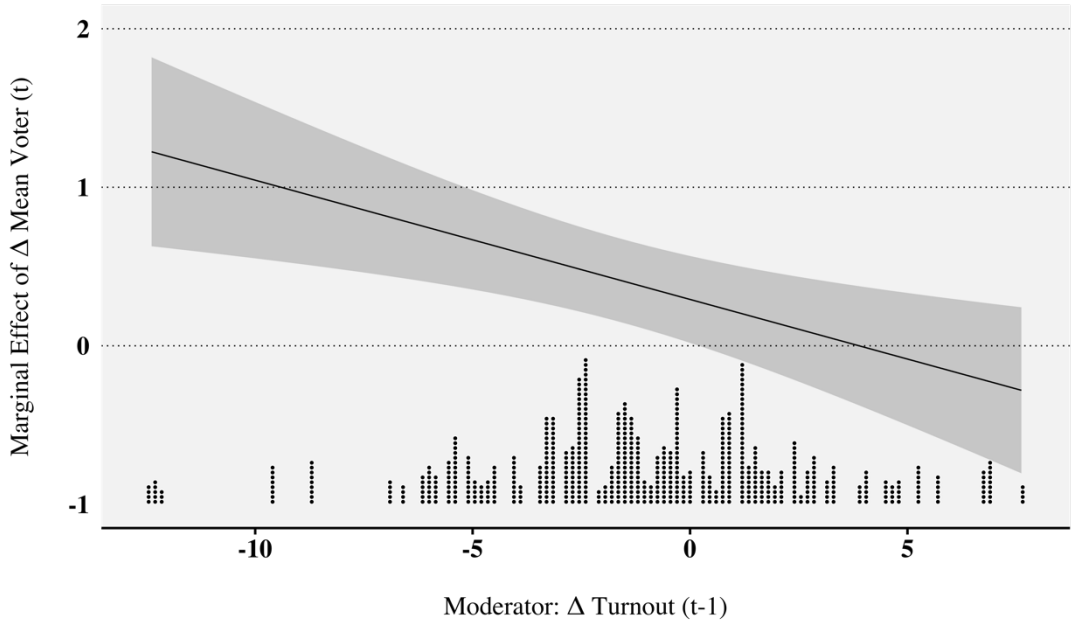
Table 2: Analyses of Changes in Party Position

	DV: Party Position (t)	
	Model 1a	**Model 1b**
Δ Party Left-Right Position (t-1)	-.389***	-.393***
	(.070)	(.068)
Δ Mean Voter (t)	**.385***	**.292****
	(.143)	**(.140)**
Δ Turnout (t-1)	.008	.004
	(.008)	(.007)
Δ Party Vote Share (t-1)	.077	.040
	(.374)	(.365)
Party Opposition Status (t-1)	.003	.010
	(.050)	(.050)
Δ Globalization (t)	-.025	-.021
	(.025)	(.025)
Δ GDP per Capita (log, t)	-.221	-.246
	(.294)	(.275)
Δ Mean Voter (t) * Δ Turnout (t-1)		**-.075*****
		(.025)
Constant	-.314	-.286
	(.215)	(.202)
N	651	651
R-squared	.186	.196

***p < .01; **p < .05; *p < .1

Notes: The dependent variable *Δ Party Position (t)* is defined as the difference in a party's left-right position at election *t*, from its position at the previous election at (*t*-1). The independent variables are defined in the text. Two-way clustered standard errors are reported in parentheses. Country fixed effects not shown.

Figure 4: Effect of Mean Voter Shifts on Changes in Party Position, Conditional on the Lagged Change in Voter Turnout



Notes: The figure charts the estimated coefficient of *Δ Mean Voter* (t) on *Δ Party Position* (t) over values of *Δ Turnout* (t-1), as provided by Table 2 Model 1b estimates. The dashed lines report 95% confidence intervals. The dot plot shows the distribution of the turnout values. Omitting cases with values for *Δ Turnout* (t-1) that are greater than +5% or less than -5% does not change the substantive results.

Figure 4 depicts marginal effects to interpret the interaction term, and it supports the finding that political parties tend to be highly responsive in times of declining turnout. This effect however is conditional on the magnitude of the turnout change. When the value of Δ *Turnout* (*t*-1) drops below zero (approximately) indicating that turnout decreased in the previous inter-election period, the effect of Δ *Mean Voter* (*t*) on Δ *Party Position* (*t*) is positive and statistically significant. These coefficient estimates of party responsiveness to the mean voter position increase, as the lagged turnout variable decreases in value. By contrast, the effect of the Δ *Mean Voter* (*t*) variable on the Δ *Party Position* (*t*) variable becomes smaller and insignificant, for positive and increasing values on the lagged turnout variable. Hence,

the analysis supports the finding that decreasing levels of turnout are met with increasing party responsiveness in the following election.[19]

The conditional effects that are estimated for the Δ *Mean Voter* (*t*) variable are also important because they suggest that the relationship between public opinion shifts and shifts by political parties is one in which the parties respond to public opinion, instead of one in which public opinion responds to parties (or where both parties and the public respond independently to an external factor not accounted for in our specification).[20] If citizens change their preferences in response to parties' policy shifts this should affect the Δ *Mean Voter* (*t*) variable similarly across values of the Δ *Turnout* (*t*-1) variable. However, the coefficient on the Δ *Mean Voter* (*t*) variable is only positive and statistically significant under circumstances in which the preceding change in turnout was negative. These estimates are not consistent with a causal process in which public opinion systematically responds to shifts in party ideologies.[21]

[19] The marginal effects are similar to those presented if we follow the guidance of Hainmueller, Mummolo, and Xu (2019), by relaxing the linearity assumption of the interaction effect, and applying a kernel estimator. See Figure A2 in the Supporting Information.

[20] There are persuasive studies that suggest that voters update their policy preferences based on their preferred parties' policy stances (Achen and Bartels 2016; Lenz 2012).

[21] In addition, Table A13 in the Supporting Information estimates changes in parties' left-right positions, and the mean voter variable included in these model specifications is measured based on observations from 4-12 months *prior* to the election. If parties are uniformly influencing public opinion during campaigns just before elections, the expectation is that estimates on changes in the mean voter variable would become significantly smaller using this lagged measure. However, the reported estimates are roughly the same.

Differential Effects Across Party Groups

Previous research has indicated that not all parties tend to respond to the mean voter to the same extent. Different party types have been assumed to be constrained by their programmatic structure or the composition of their supporters and, thus, to be less attentive to shifts in the positions of the mean voter. De Vries and Hobolt (2020), for instance, propose that parties that had government experience in the past should be encouraged to prioritize vote- or office-seeking goals, while challenger parties are expected to politicize new issues rather than cater to the center of the left-right dimension (see also De Vries and Hobolt 2012). As a consequence, we expect challenger parties to pay less attention to the mean voter position even when voter turnout has previously decreased. Similarly, smaller parties with less electoral support should be inclined to focus on particular subgroups in the electorate rather than shifts in the mean voter position. Niche parties, such as radical left, radical right, green, and ethno-territorial parties, have been found to represent voters who care about single policy issues (Adams et al. 2006b; Klüver and Spoon 2016; Meguid 2005, 2008). As a consequence, niche parties might be less incentivized to focus on broader shifts in the electorate. Also, we might expect that the electoral support of extreme parties is not dependent on centrist voters so that these parties should be less attentive to the mean voter. Bawn and Somer-Topcu (2012) have argued that election strategies differ for governing and opposition parties, and this distinction could potentially matter for our results. Lastly, political parties that have experienced vote losses in a previous election are expected to be less risk averse and, thus, more inclined to change their policy positions (Janda et al. 1995; Somer-Topcu 2009). We provide information on the exact operationalization of these variables in the Supporting Information.

We test for the differential responsiveness for all of these party types by adding three-way interactions to the main model presented in Table 2. Table 3 shows the corresponding regression results and the marginal effects plots can be found in the SI (Figure A3). Note that the standard errors need to be interpreted with caution due to small group sizes in some specifications. The coefficients of *Δ Mean Voter Position (t) * Δ Turnout (t-1)* show the marginal effect for those party groups coded as "0" and the three-way interaction, *Δ Mean Voter Position (t) * Δ Turnout (t-1) * Party Type*, estimate whether the effect is conditioned by party groups coded as "1".

Overall, we find support for the idea that challenger parties as defined by De Vries and Hobolt (2020) are less responsive to the mean voter position. The three-way interaction in model 1 is positive and statistically significant at the .05 level, which implies that challenger parties pay less attention to the mean voter position even when voter turnout decreases (Figure A3.1 in the SI confirms this interpretation). A similar effect is visible for extreme parties which seems plausible as we might expect that most challenger parties are also political parties with more extreme positions on the left-right scale. For the remaining party groups, the three-way interaction estimates are insignificant. The corresponding marginal effects that estimate the conditioning effects of previous turnout on party responsiveness is not significantly different for governing and oppositions parties, large and small parties, or for parties who lost or gained electoral support in the previous election. The triple interaction effect for niche parties is also insignificant. One set of arguments suggests that these "ideological" parties have been shown to respond more to their supporters than to the mean voter position (Ezrow et al. 2011). However, recent research suggests that the programmatic "nicheness" of parties is a dynamic rather than a manifest feature of parties. In particular, larger and older niche parties are expected to focus on voter groups beyond

their core supporters (see, e.g., Bergman and Flatt 2019; De Vries and Hobolt 2020), and could thus be more responsive to shifts in the mean voter position. Our estimates corroborate this latter set of findings.

Table 3: Empirical Analyses of Different Party Types

	DV: Δ Party Left-Right Position					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
	Challenger (1) vs. Dominant (0)	**Niche (1) vs. Mainstream (0)**	**Opposition (1) vs. Government (0)**	**Vote Winning (1) vs. Losing (0)**	Small (1) vs. Large (0)	**Extreme (1) vs. Non-Extreme (0)**
Δ Mean Voter Position (t)	.268*	.206	.531**	.343**	.194	.268*
	(.161)	(.150)	(.211)	(.168)	(.140)	(.139)
Δ Turnout (t-1)	.001	-.001	-.008	.010	.005	.009
	(.010)	(.009)	(.012)	(.009)	(.008)	(.008)
Party Type	-.057	-.037	.014	.046	-.025	-.060
	(.068)	(.062)	(.049)	(.048)	(.059)	(.061)
Δ Mean Voter Position (t) * Δ Turnout (t-1)	**-.095*****	**-.065****	**-.070****	**-.070*****	**-.090*****	**-.092*****
	(.027)	**(.029)**	**(.034)**	**(.026)**	**(.023)**	**(.024)**
Δ Mean Voter Position (t) * Party Type	.113	.214	-.399	-.112	.235	.179
	(.291)	(.302)	(.255)	(.196)	(.269)	(.283)
Δ Turnout (t-1) * Party Type	.007	.009	.019	-.012	-.005	-.013
	(.013)	(.011)	(.012)	(.010)	(.012)	(.013)
Δ Mean Voter Position (t) * Δ Turnout (t-1) * Party Type	**.071****	**-.026**	**-.007**	**-.013**	**.032**	**.077****
	(.033)	**(.034)**	**(.034)**	**(.036)**	**(.039)**	**(.039)**
Constant	-.282	-.271	-.289	-.307	-.285	-.276
	(.203)	(.202)	(.200)	(.211)	(.203)	(.203)
N (N group "0"/ N group "1")	651	651	651	651	651	651
R-squared	.199	.199	.202	.199	.198	.201

***p < .01; **p < .05; *p < .1. Two-way clustered standard errors in parentheses. Country fixed effects, control variables, and lagged dependent variable not shown. Information on the operationalization of the different party categories can be found in the Supporting Information.

indicates that the marginal effect is only significant for centrist parties after a previous decrease in turnout. The estimated effect of responsiveness to the mean voter for extreme parties is not statistically significant across the whole range of the change in turnout in the previous election. In total, these additional analyses lend considerable support to the *Declining Turnout Hypothesis.* With few exceptions, such as with challenger and extreme parties, the idea of increasing responsiveness after turnout decline in the previous election applies to several party categories.

Robustness

We have conducted a number of robustness tests to make sure that our findings are not due to decisions related to modelling strategies or to the operationalization of the variables of interest. We investigated whether the findings are dependent on modelling decisions. Table A4 in the Appendix presents a number of alternative specifications. First, we tested whether adding party-fixed effects or omitting fixed effects change the results (Models 1 and 2). Second, we omitted the lagged dependent variable to investigate whether potential Nickell bias influences the results (Model 3) and use lagged levels of the dependent variable as left-right shifts might be restricted by the party's "starting point" on the left-right scale (Model 4). Next, applying clustered standard errors with a reduced number of clusters might unexpectedly deflate the standard errors. For that reason, we run additional models for which we use only party-clustered (Model 5), only election-clustered (Model 6), and no clustered standard errors (Model 7). The parameter estimates for each of these model specifications continue to support the central conclusion that we report.

Additional robustness analyses have also been reported in the Supplementary information. We estimate parameters for: models in which parties' left-right shifts are based on a bipolar measure (Laver and Budge 1992) rather than a logit-transformed scale (Table A4,

Model 8); an error correction model (Table A5); low and high turnout contexts in Table A6 (see, respectively, Dreyer and Bauer 2019; Hooghe, Dassonnville, and Oser 2019); that account for trending (Table A7); jackknife analyses (Figure A4); models that estimate the mean voter position based on different "windows" before the election in which public opinion was collected (Table A8); omitting observations for which materials other than manifestos (e.g., party bloc programs) were used to estimate party positions (Table A9); models that address very small changes in public opinion (Table A10); models that control for several additional independent variables that potentially influence turnout and party responsiveness simultaneously, including globalization, competitiveness, and polarization (Table A11); and, following Ferland (2020; see also Adams et al. 2004), models that control for the direction of public opinion shifts in relation to each political party (Table A12 and Figure A5).

Conclusion

One reason why voter turnout is considered a main indicator of a healthy democracy is that it is thought to enhance elite responsiveness to public opinion (e.g. Powell 1986). The contribution of this study is to show that *decreases in turnout* are important because they motivate greater party responsiveness in future elections. If abstention signals dissatisfaction, it is potentially a positive finding for the democracies in our sample that parties are more responsive to the mean voter position after an election with relatively low turnout. On the other hand, when citizens do not turn out, and elites do not respond this would then signal concern for democracy. We find that parties in established democracies do respond to decreasing turnout, by increasing their responsiveness to the median voter in the following election.

The finding that declines in aggregate levels of turnout are associated with increases in levels of party responsiveness within these democracies raises several interesting questions for future research. Our sample of democracies is limited in that we examine only established democracies. Newer democracies may not exhibit similar patterns. There is also an issue that

party responsiveness may influence turnout. Although the analyses below are based on *previous* changes in voter turnout, a thorough exploration of how responsiveness can affect voter turnout is an important next step. Future studies will also analyze how changes in turnout condition *government policy responsiveness* to the mean voter position (see Powell 2000; Soroka and Wlezien 2010), and whether relatively low turnout motivates future governments to respond to the median voter position.[22]

Furthermore, there are a number of additional conditional effects worth exploring. If parties are sensitive to the median voter after an election with decreasing turnout, an extension of the Downsian model might suggest that our findings would increase in disproportional *electoral systems* or party systems that feature only two parties which have been argued to be more sensitive to the median voter position (Cox 1990; see also Dow 2001, 2011). Parties' organizational structures may also matter for party responsiveness in contexts of decreasing turnout. The research that follows will examine whether *internally divided democratic parties* (Lehrer 2012; Schumacher et al. 2013) exhibit less responsiveness to the median after decreasing turnout, because party leadership is more constrained by party membership.

Our findings have important implications for literature concerned with unequal participation. While declining voter turnout is associated with increasingly unequal participation of lower and upper socio-economic groups (Schäfer and Schwander 2019; Solt 2008), our analysis suggests that decreasing turnout is driven by voters who position themselves at the center of the voter distribution. It remains an important task for future research to link these two different findings. A related extension will evaluate whether it is an

[22] Hooghe, Dassonneville, and Oser (2019) report that voter turnout enhances government policy responsiveness to the median voter. Follow up studies will thus focus on temporal effects and how government policy responds to decreases in turnout over time.

effective electoral strategy for political parties to respond to the median voter position after a decline in turnout.

This study examines the intuition that enhanced turnout benefits democracy because it motivates elite responsiveness. Our longitudinal findings suggest that this is the case, just not quite how analysts of democracy might assume. We find that decreasing turnout in an election enhances political party responsiveness to the median voter in the next election. Future research will examine additional conditions for how turnout influences elite responsiveness to public opinion. We hope that it will not overlook the possibility that a decrease in turnout will enhance responsiveness under some conditions.

Supplementary Material

Online Appendices are available at [UPLOADED AT EDITORIAL MANAGER]

Data Availability Statement

Replication data is available at the *British Journal of Political Science*'s Dataverse at https://doi.org/10.7910/DVN/PQ63DN.

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Voter Turnout Decline and Party Responsiveness

Supplementary Information File

Table A1: Citizen Ideology, Turnout, and Changes in Turnout Individual-Level Analyses (Full Models)

	DV: Turnout (Individual-Level)			
	(1)	(2)	(3)	(4)
Gender [Base: Male]		.005		.004
		(.057)		(.057)
Age		.078***		.078***
		(.011)		(.011)
Age (squared)		-.001***		-.001***
		(.000)		(.000)
Education: Prim./Lower Sec.		.362***		.362***
[Base: No Education]		(.112)		(.111)
Education: Higher Sec.		.578***		.577***
		(.117)		(.115)
Education: Post-Sec.		.713***		.710***
		(.130)		(.129)
Education: University		1.029***		1.028***
		(.139)		(.138)
Union Member		.267***		.268***
		(.058)		(.059)
Household Income (Quintiles)		.148***		.148***
		(.025)		(.025)
Unemployed [Base: Employed]		-.418***		-.416***
		(.159)		(.159)
No Satisfaction Dem. [1-4]		-.384***		-.383***
		(.076)		(.076)
Left-Right Extremism [0-6]	**.090*** **	**.102*** **	**.073*** **	**.088*** **
	(.025)	**(.021)**	**(.023)**	**(.020)**
Δ Turnout			**.071*** **	**.061** **
			(.026)	**(.025)**
Left-Right Ext. *Δ Turnout			**-.012** **	**-.010** **
			(.005)	**(.004)**
Constant	2.059***	-.365	2.115***	-.314
	(.180)	(.467)	(.179)	(.472)
N Countries	13	13	13	13
N Country-Years	42	42	42	42
Var(Countries)	.268	.140	.248	.137
	(.208)	(.124)	(.174)	(.104)
Var(Country-Years)	.271***	.295***	.230***	.265***
	(.090)	(.093)	(.062)	(.078)
N	48442	48442	48442	48442
Log likelihood	-16103.1	-15099.0	-16092.9	-15092.1

Note: ***p < .01; **p < .05; *p < .1

Data: CSES IMD and CSES 5. Sample and demographic weights used.
Left-Right Extremism: Distance to rounded mean voter position.
Countries included: Austria, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, The Netherlands, Portugal, Spain, and Sweden.

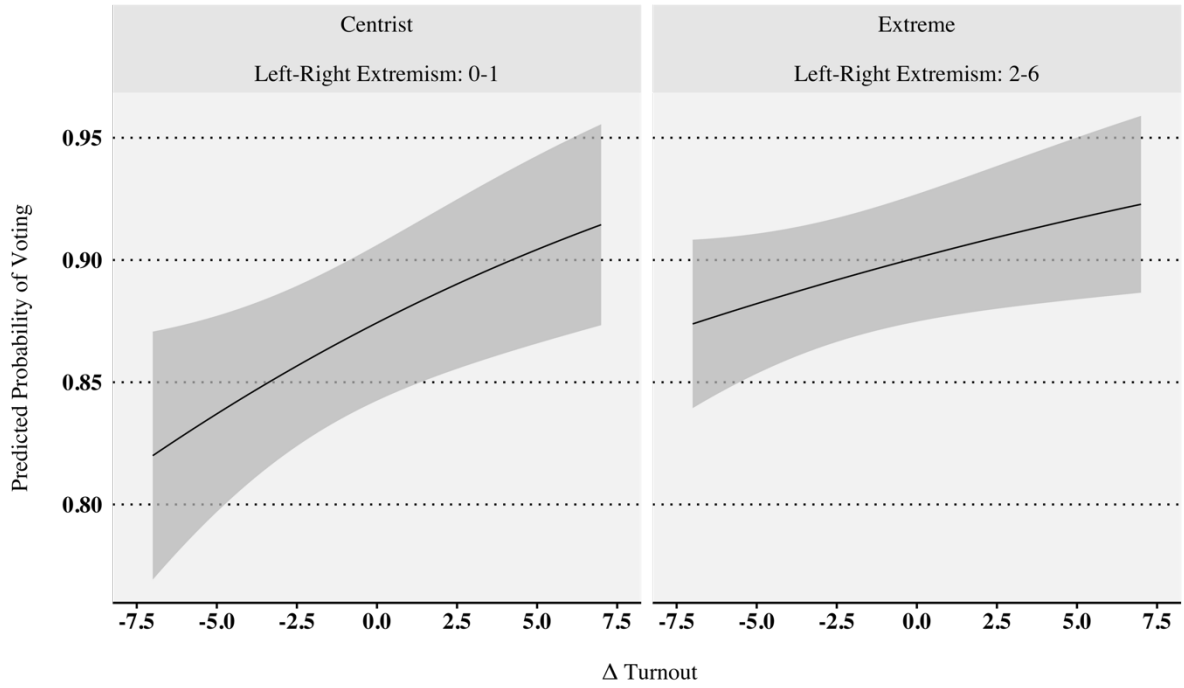
Table A2: Replication of Table A1 with Binary Indicator for Centrist Voters

	DV: Turnout (Individual-Level)			
	(1)	(2)	(3)	(4)
Gender [Base: Male]		.009		.008
		(.057)		(.057)
Age		.078***		.078***
		(.011)		(.011)
Age (squared)		-.001***		-.001***
		(.000)		(.000)
Education: Prim./Lower Sec.		.351***		.350***
[Base: No Education]		(.110)		(.109)
Education: Higher Sec.		.562***		.559***
		(.117)		(.116)
Education: Post-Sec.		.698***		.693***
		(.130)		(.129)
Education: University		1.006***		1.004***
		(.138)		(.137)
Union Member		.274***		.274***
		(.058)		(.058)
Household Income (Quintiles)		.147***		.147***
		(.025)		(.025)
Unemployed [Base: Employed]		-.413**		-.411**
		(.161)		(.161)
No Satisfaction Dem. [1-4]		-.379***		-.379***
		(.077)		(.077)
Left-Right Extremism [0-1 vs. 2-6]	**.314*** **	**.327*** **	**.281*** **	**.299*** **
	(.073)	**(.066)**	**(.066)**	**(.061)**
Δ Turnout			**.064** **	**.055** **
			(.027)	**(.026)**
Left-Right Ext. *Δ Turnout			**-.024** **	**-.019** **
			(.011)	**(.010)**
Constant	2.063***	-.344	2.108***	-.302
	(.180)	(.470)	(.177)	(.472)
N Countries	13	13	13	13
N Country-Years	42	42	42	42
Var(Countries)	.265	.139	.244	.135
	(.209)	(.125)	(.174)	(.105)
Var(Country-Years)	.270***	. 294 ***	. 228***	.263***
	(.090)	(.093)	(.061)	(.078)
N	48442	48442	48442	48442
Log likelihood	-16085.1	-15090.7	-16078.9	-15068.2

Note: ***p < .01; **p < .05; *p < .1

Data: CSES IMD and CSES 5. Sample and demographic weights used.
Left-Right Extremism: Distance to rounded mean voter position.
Countries included: Austria, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, The Netherlands, Portugal, Spain, and Sweden.

Figure A1: Predicted Probabilities of Voting Based on Individual-Level Analyses (Table A2)



Note: Confidence bands show 95% confidence intervals. Estimates based on Model 3 in Table A2.

Table A3: Political Parties Included in the Empirical Analyses, 1977-2017

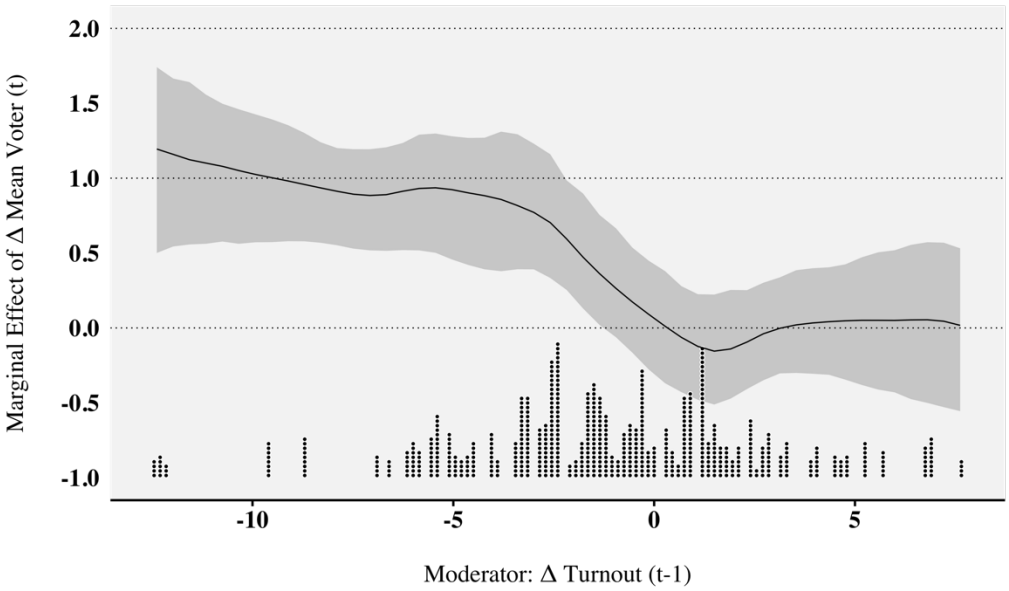
Country	Party	Party Family	Dominant/ Challenger
Austria	GRÜNE: The Greens	10	Challenger
	SPÖ: Austrian Social Democratic Party	30	Dominant
	ÖVP: Austrian People's Party	50	Dominant
	FPÖ: Austrian Freedom Party	70	Dominant since 1983
Denmark	SF: Socialist People's Party	20	Dominant since 2011
	VS: Left Socialist Party	20	Challenger
	EL: Red-Green Unity List	20	Challenger
	DKP: Danish Communist Party	20	Challenger
	SD: Social Democratic Party	30	Dominant
	Liberal Alliance	40	Challenger
	RV: Danish Social-Liberal Party	40	Dominant
	V: Liberals	40	Dominant
	K: Christian Democrats (also KrF: Christian People's Party)	50	Dominant since 1981
	KF: Conservative People's Party	60	Dominant
	CD: Centre Democrats	60	Dominant since 1981
	FP: Progress Party	70	Challenger
	DF: Danish People's Party	70	Challenger
	RF: Justice Party	95	Dominant
Finland	VL: Green Union	10	Dominant
	VAS: Left Wing Alliance	20	Dominant
	SSDP: Finnish Social Democrats	30	Dominant
	KD: Christian Democrats in Finland	50	Dominant
	KK: National Coalition	60	Dominant
	PS: True Finns	70	Dominant
	SK: Finnish Centre	80	Dominant
	RKP/SFP: Swedish People's Party	90	Dominant
France	EÉLV: Europe Ecology - The Greens (also Les Verts: The Greens)	10	Dominant since 1997
	PCF: French Communist Party (also FDG: Left Front)	20	Dominant
	PS: Socialist Party	30	Dominant
	Union for a New Majority - Conservatives/Gaullists	60	Dominant
	RPR: Rally for the Republic (also Union for a New Majority - Gaullists)	60	Dominant
	MoDem: Democratic Movement (also UDF: Union for French Democracy)	60	Dominant
	The Republicans (also UMP: Union for a Popular Movement)	60	Dominant
	FN: National Front	70	Challenger
Germany	90/Greens: Alliance'90/Greens (also Greens/90: Greens/Alliance'90)	10	Dominant since 1998
	LINKE: The Left (also L-PDS: The Left. Party of Democratic Socialism; PDS: Party of Democratic Socialism)	20	Challenger
	SPD: Social Democratic Party of Germany	30	Dominant

	FDP: Free Democratic Party	40	Dominant
	CDU/CSU: Christian Democratic Union/Christian Social Union	50	Dominant
Greece	KKE: Communist Party of Greece	20	Dominant since 1989
	SYRIZA: Coalition of the Radical Left (also: Synaspismos)	20	Dominant since 1989
	PASOK: Panhellenic Socialist Movement	30	Dominant
	ND: New Democracy	50	Dominant
	ANEL: Independent Greeks	70	Challenger
	XA: Golden Dawn	70	Challenger
Ireland	Greens: Green Party	10	Dominant since 2007
	WP: Workers' Party	20	Challenger
	SF: We Ourselves	20	Challenger
	Labour: Labour Party	30	Dominant
	PD: Progressive Democrats	40	Dominant since 1989
	Family of the Irish	50	Dominant
	Soldiers of Destiny	60	Dominant
Italy	FdV: Green Federation	10	Dominant since 1993
	DS: Democrats of the Left (also PDS: Democratic Party of the Left; PCI: Italian Communist Party)	20	Dominant
	PRC: Communist Refoundation Party	20	Dominant since 1996
	PSDI: Italian Democratic Socialist Party	30	Dominant
	PSI: Italian Socialist Party	30	Dominant
	Pannella-Sgarbi List (also Pannella-Riformatori List; LP: Pannella List; PR: Radical Party)	30	Challenger
	PD: Democratic Party	30	Dominant
	PLI: Italian Liberal Party	40	Dominant
	PRI: Italian Republican Party	40	Dominant
	PPI: Italian Popular Party (also DC: Christian Democrats)	50	Dominant
	UdC: Union of the Center	50	Dominant since 2013
	FI: Go Italy	60	Dominant
	AN: National Alliance (also MSI-DN: Italian Social Movement-National Right)	70	Dominant since 2001
	L: League (also LN: Northern League)	70	Dominant
	IdV: List Di Pietro - Italy of Values	95	Dominant
Netherlands	GL: Green Left	10	Challenger
	SP: Socialist Party	20	Challenger
	PvdA: Labour Party	30	Dominant
	PPR: Radical Political Party	30	Dominant
	VVD: People's Party for Freedom and Democracy	40	Dominant
	D'66: Democrats'66	40	Dominant
	GPV: Reformed Political League	50	Challenger
	RPF: Reformatory Political Federation	50	Challenger
	CU: Christian Union	50	Dominant since 2006
	CDA: Christian Democratic Appeal	50	Dominant

	PVV: Party of Freedom	70	Challenger
	SGP: Reformed Political Party	95	Challenger
	PvdD: Party for the Animals	95	Challenger
Portugal	PCP: Portuguese Communist Party	20	Challenger
	BE: Left Bloc	20	Challenger
	PS: Socialist Party	30	Dominant
	CDS-PP: Social Democratic Center-Popular Party (also CDS: Social Democratic Center Party)	50	Dominant
	PSD: Social Democratic Party	60	Dominant
Spain	IU: United Left	20	Challenger
	PSOE: Spanish Socialist Workers' Party	30	Dominant
	CDS: Centre Democrats	50	Challenger
	PP: People's Party	60	Dominant
	PNV/EAJ: Basque Nationalist Party	90	Challenger
	ERC: Catalan Republican Left	90	Challenger
	PAR: Aragonese Party	90	Challenger
	CiU: Convergence and Union	90	Challenger
	EE: Basque Left	90	Challenger
	CC-PNC: Canarian Coalit./Canarian Nationalist P. (also CC: Canarian Coalition)	90	Challenger
	EA: Basque Solidarity	90	Challenger
	BNG: Galician Nationalist Bloc	90	Challenger
Sweden	MP: Green Ecology Party	10	Dominant since 2014
	V: Left Party	20	Challenger
	SAP: Social Democratic Labour Party	30	Dominant
	L: Liberals (also FP: Liberal People's Party)	40	Dominant
	Kd: Christian Democrats	50	Dominant
	MSP: Moderate Coalition Party	60	Dominant
	SD: Sweden Democrats	70	Challenger
	CP: Centre Party	80	Dominant
UK	Labour: Labour Party	30	Dominant
	Liberal Party	40	Challenger
	LibDems: Liberal Democrats	40	Dominant since 2010
	Conservatives: Conservative Party	60	Dominant
	UUP: Ulster Unionist Party	60	Challenger
	SNP: Scottish National Party	90	Challenger
	DUP: Democratic Unionist Party	90	Challenger

Notes: The parties participated in at least three consecutive elections according to the MARPOR dataset. In a few instances, party codes were merged in the MARPOR scheme (such as for the German Left Party/PDS, the French Communist Party/Left Front, or the Greek Coalition of the Radical Left) to maximize the time series. Party family classification according to the MARPOR coding scheme: 10 = Green parties, 20 = Communist parties, 30 = Social Democratic parties, 40 = Liberal parties, 50 = Christian Democratic parties, 60 = Conservative parties, 70 = Nationalist parties, 80 = Agrarian parties, 90 = Regional parties, 95 = Special Issue parties.

Figure A2: Marginal Effects Plot (Hainmueller et al. 2019)



Notes: The shaded area shows the 95% confidence interval. The dot plot shows the distribution of *Δ Turnout* (t-1).

Party Type Empirical Analyses

We coded the different party types as follows.

First, following De Vries and Hobolt (2020), parties were coded as "dominant" from the time they first formally participated in a national government (see also Table A3).

Second, parties were coded as niche parties that belong to the communist, nationalist, ecological, or ethno-territorial party family according to the MARPOR coding scheme. In few cases our coding deviates from the MARPOR scheme. We classify Sinn Fein (Ireland) as a radical left party, the True Finns (Finland) and the Progress Party (Denmark) as radical right parties, and the Democratic Party of the Left (Italy) as a social democratic party. All other parties were coded as "mainstream" (see also Table A3).

Third, opposition parties were all parties that did not formally participate in a government at the beginning of the legislative period preceding the election in question.

Fourth, vote losing parties are those parties which experienced a negative vote change between elections t-2 and t-1.

Fifth, small parties are those parties that gained less than 10% of the national vote in the previous election.

Sixth, political parties were coded as extreme if their left-right position deviated more than one standard deviation from the mean position of all parties (weighted by party size) in the previous election.

Figure A3: Marginal Effects Plots for Different Party Types (based on Table 3)

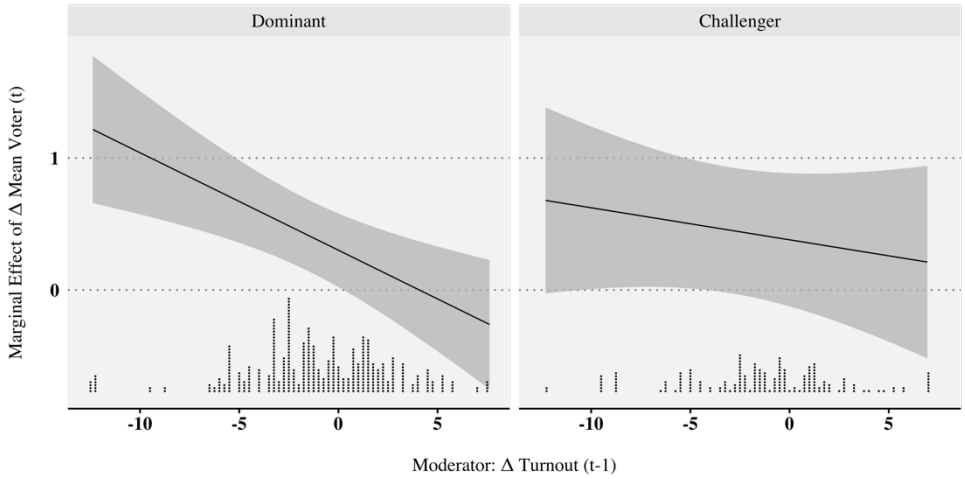


Figure A3.1: Dominant and Challenger Parties

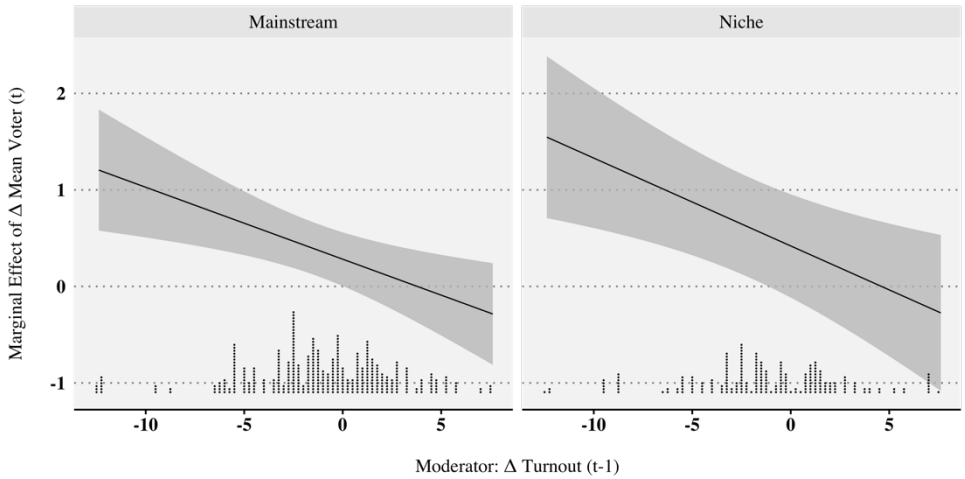


Figure A3.2: Mainstream and Niche Parties

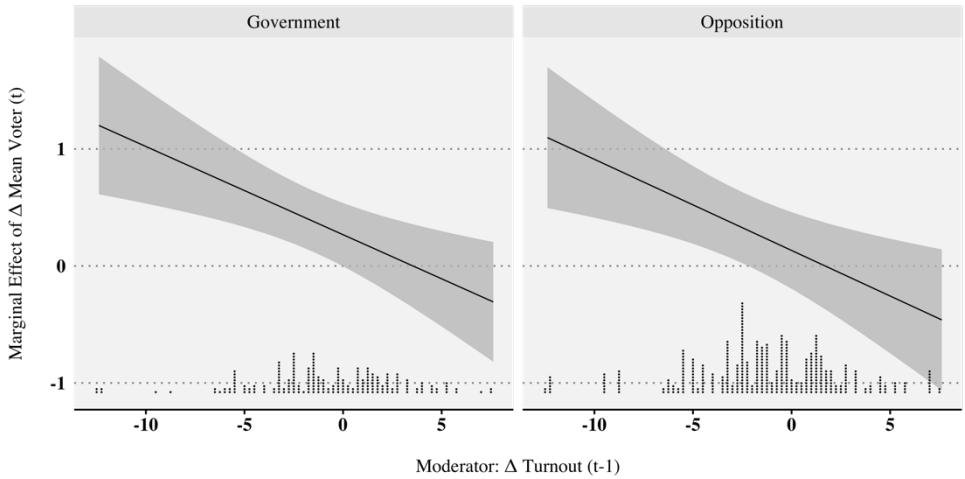


Figure A3.3: Government and Opposition Parties

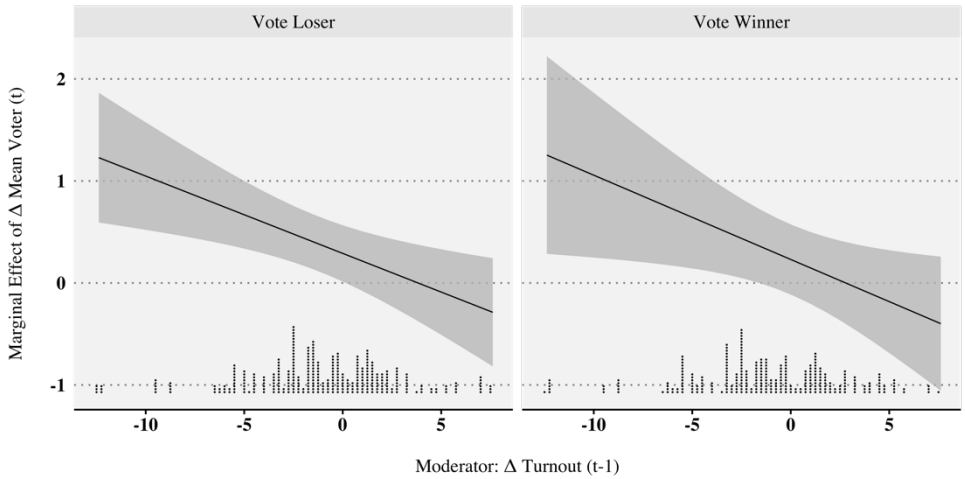


Figure A3.4: Vote Losing and Vote Winning Parties

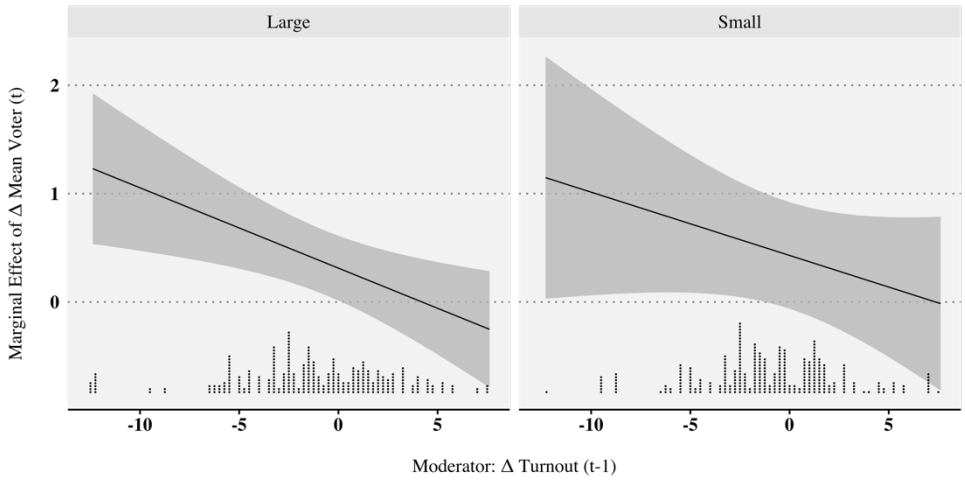


Figure A3.5: Small and Large Parties

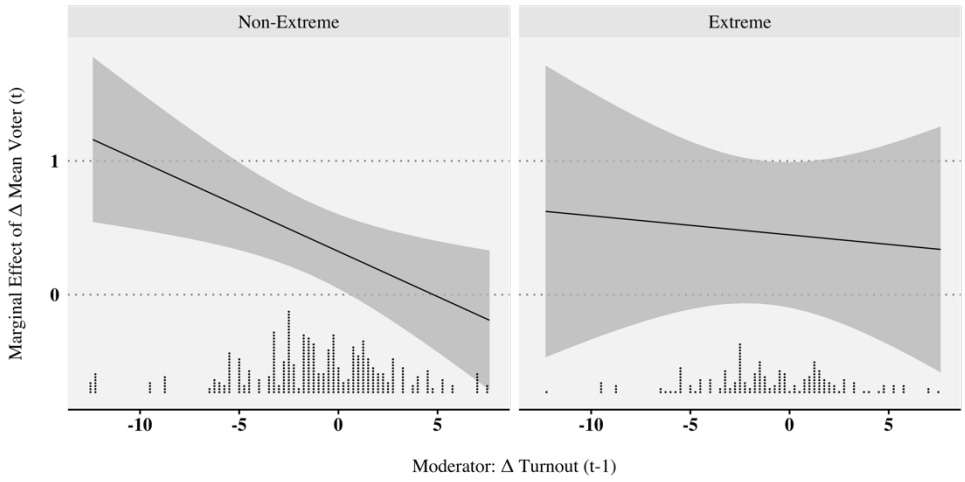


Figure A3.6: Centrist and Extreme Parties

Table A4: Alternative Model Specifications

	Δ L-R (Logit)							Δ L-R (Bipolar)
	Party FE	**No FE**	**No LDV**	**Level LDV**	**Party Clust. SE**	**Date Clust. SE**	**No Clust. SE**	**Alt. DV**
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**	**Model 8**
Δ Party Left-Right	-.431***	-.380***			-.393***	-.393***	-.393***	-.415***
(t-1)	(.077)	(.068)			(.068)	(.050)	(.036)	(.058)
Party Left-Right (t-1)				-.303***				
				(.064)				
Δ MV Position (t)	**.283***	**.313****	**.287***	**.220***	**.292****	**.292****	**.292****	**4.844**
	(.155)	**(.141)**	**(.151)**	**(.129)**	**(.118)**	**(.135)**	**(.119)**	**(3.203)**
Δ Turnout (t-1)	.003	.002	-.006	-.005	.004	.004	.004	.034
	(.008)	(.008)	(.008)	(.006)	(.004)	(.008)	(.008)	(.164)
Δ Party Vote Share	.297	.013	-.049	-.121	.040	.040	.040	5.162
(t-1)	(.367)	(.392)	(.422)	(.342)	(.480)	(.469)	(.603)	(9.858)
Party Opposition	.087	.016	-.032	-.074	.010	.010	.010	.265
Status (t-1)	(.062)	(.057)	(.055)	(.054)	(.048)	(.060)	(.061)	(.979)
Δ Globalization (t)	-.019	-.014	-.022	-.010	-.021	-.021	-.021	-.643
	(.027)	(.023)	(.026)	(.021)	(.019)	(.023)	(.017)	(.523)
Δ GDP per Capita	-.472	-.153	-.147	-.157	-.246	-.246	-.246	-5.280
(log, t)	(.337)	(.278)	(.273)	(.221)	(.206)	(.278)	(.199)	(5.633)
Δ MV (t) *	**-.084*****	**-.071*****	**-.061*****	**-.049*****	**-.075*****	**-.075*****	**-.075*****	**-1.360****
Δ Turnout (t-1)	**(.029)**	**(.023)**	**(.021)**	**(.016)**	**(.020)**	**(.026)**	**(.026)**	**(.583)**
Constant	.277***	.002	-.209	-.252*	-.286***	-.286	-.286*	-6.238
	(.057)	(.062)	(.222)	(.153)	(.054)	(.247)	(.149)	(4.712)
N	651	651	686	686	651	651	651	651
R-squared	.281	.174	.036	.190	.196	.196	.196	.196

Notes: ***p < .01; **p < .05; *p < .1

Two-way clustered standard errors in parentheses (Models 1-4, and 8).

FE = Fixed Effects; LDV = Lagged Dependent Variable; SE = Standard Errors. The dependent variable *Δ Party Position (t)* is defined as the difference in a party's left-right position at election (*t*), from its position at the previous election at (*t*-1). The independent variables are defined in the text. Two-way clustered standard errors are reported in parentheses (Models 1-4, and 8). Country fixed effects not shown (Models 3-8).

To address temporal dynamics, the parameters of an error correction model specification were estimated for short- and long-term effects of the covariates. The results support the findings of the main model that turnout changes affect mainstream party responsiveness in the following election, but a longer-term relationship between turnout and responsiveness was not identified.

Table A5: Error Correction Model of Changes in Parties' Left-Right Positions

	DV: Δ Party Left-Right Position
Party Left-Right Position (t-1)	-.305***
	(.065)
Δ Mean Voter Position (t)	**.258***
	(.153)
Mean Voter Position (t-1)	**.455**
	(.924)
Δ Turnout (t-1)	-.005
	(.008)
Turnout (t-2)	.030
	(.058)
Δ Party Vote Share (t-1)	.048
	(.365)
Party Vote Share (t-2)	.242
	(.224)
Party Government Status (t-1)	-.042
	(.063)
Δ Globalization (t)	-.022
	(.024)
Globalization (t-1)	-.019
	(.012)
Δ GDP per Capita (log, t)	-.587
	(.364)
GDP per Capita (log, t-1)	.001
	(.129)
Δ Mean Voter Position (t) * Δ Turnout (t-1)	**-.052*****
	(.016)
Mean Voter Position (t-1) * Turnout (t-2)	**-.006**
	(.011)
Constant	-.841
	(5.038)
N	686
R-squared	.200

*** p < .01; ** p < .05; * p < .1

Notes: Two-way clustered standard errors in parentheses. Country fixed effects not shown.

It may be that low or high voter turnout contexts matter for party responsiveness (see, respectively, Dreyer and Bauer 2019; Hooghe, Dassonnville, and Oser 2019). Models that include an interaction for low and high turnout environments confirm that turnout levels do not condition the influence of changes in turnout on party responsiveness.

Table A6: Models Stratified by Turnout Context (Low and High Turnout Elections)

	DV: Δ Party Left-Right Position
Δ Party left Right Position (t-1)	-.398***
	(.069)
Δ Mean Voter Position (t)	**.286**
	(.244)
Δ Turnout (t-1)	-.007
	(.009)
Δ Party Vote Share (t-1)	.023
	(.366)
Party Government Status (t-1)	.014
	(.050)
Δ Globalization (t)	-.022
	(.025)
Δ GDP per Capita (log, t)	-.338
	(.291)
High Turnount (t-1) (Dummy)	.164
	(.109)
Δ Mean Voter Position (t) * Δ Turnout (t-1)	**-.069****
	(.031)
Δ Mean Voter Position (t) * High Turnout (t-1)	.038
	(.304)
Δ Turnout (t-1) * High Turnout (t-1)	.015
	(.019)
Δ Mean Voter Position (t) * Δ Turnout (t-1) * High Turnout (t-1)	**-.008**
	(.070)
Constant	-.421*
	(.235)
N	651
R-squared	.200

***p < .01; **p < .05; *p < .1

Two-way clustered standard errors in parentheses. Country fixed effects not shown.

Table A7: Including Decade Dummy Variables

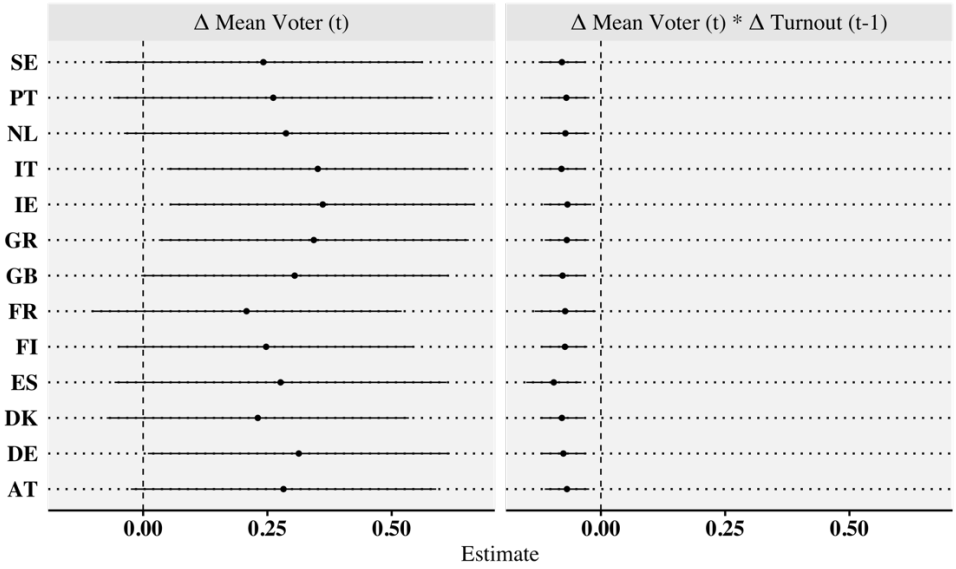
	DV: Δ Party Left-Right Position	
	Model 1	**Model 2**
Δ Party Left-Right Position (t-1)	-.394***	-.398***
	(.072)	(.071)
Δ Mean Voter Position (t)	**.383****	**.286***
	(.154)	**(.152)**
Δ Turnout (t-1)	.008	.004
	(.008)	(.007)
Δ Party Vote Share (t-1)	.075	.034
	(.390)	(.379)
Party Government Status (t-1)	.001	.008
	(.048)	(.047)
Δ Globalization (t)	-.018	-.018
	(.029)	(.028)
Δ GDP per Capita (log, t)	-.627**	-.645**
	(.319)	(.299)
1970-1979 [Base: 2000-2009]	.363**	.357**
	(.174)	(.171)
1980-1989	.204*	.180
	(.123)	(.119)
1990-1999	.054	.063
	(.111)	(.113)
2010-2019	-.078	-.098
	(.116)	(.116)
Δ Mean Voter Position (t) * Δ Turnout (t-1)		**-.075*****
		(.023)
Constant	-.263	-.226
	(.235)	(.223)
N	651	651
R-squared	.198	.208

***p < .01; **p < .05; *p < .1

Notes: Two-way clustered standard errors in parentheses. Country fixed effects not shown.

The possibility that the results are driven by a single country case was checked. We conducted jackknife analyses, and Figure A4 shows the corresponding results. Although the base term becomes insignificant in several cases, the size of the coefficient remains stable. More importantly, the interaction term is – in all cases – negative and statistically significant confirming the conditioning effect of turnout change on party responsiveness. We can thus conclude that our results are not driven by a single country in our data set.

Figure A4: Jackknife Analyses



Notes: Error bars denote 95% confidence intervals.

With regard to the public opinion measure, we considered only those surveys that were conducted at maximum one year before the election in question. We lack the information as to when the single manifestos were drafted. However, it might be possible that public opinion data that has been collected too far ahead of an election affects the accuracy of our estimates. In order to account only for survey data that has been collected during the campaign periods, we have re-run the model while limiting the data window to nine and six months. This did not affect the results of the analysis in substantial ways.

Table A8: Alternative Public Opinion Windows for the Eurobarometer Surveys

	DV: Δ Party Left-Right Position			
	9 Months Window		6 Months Window	
	Model 1	Model 2	Model 3	Model 4
Δ Party Left-Right Position (t-1)	-.391***	-.393***	-.391***	-.393***
	(.071)	(.069)	(.073)	(.071)
Δ Mean Voter Position (t)	**.377*** **	**.288** **	**.375** **	**.287** **
	(.146)	**(.141)**	**(.150)**	**(.144)**
Δ Turnout (t-1)	.008	.004	.008	.004
	(.008)	(.007)	(.008)	(.007)
Δ Party Vote Share (t-1)	.084	.046	.082	.040
	(.376)	(.367)	(.374)	(.365)
Party Government Status (t-1)	.005	.011	.0001	.007
	(.051)	(.050)	(.051)	(.050)
Δ Globalization (t)	-.025	-.021	-.025	-.021
	(.025)	(.025)	(.025)	(.025)
Δ GDP per Capita (log, t)	-.254	-.266	-.264	-.275
	(.305)	(.284)	(.308)	(.287)
Δ Mean Voter Position (t) *		**-.074*** **		**-.074*** **
Δ Turnout (t-1)		**(.025)**		**(.025)**
Constant	-.311	-.285	-.309	-.282
	(.215)	(.203)	(.215)	(.202)
N	648	648	644	644
R-squared	.186	.196	.183	.193

*** p < .01; ** p < .05; * p < .1

Notes: Two-way clustered standard errors in parentheses. Country fixed effects not shown.

The MARPOR data set contains several election manifestos which were not official programs published by the party. Instead, in these rare instances, the estimates are based on combinations of other sources (e.g., party bloc programs). To ensure that the results are not mainly due to these less reliable position scores, we re-run the analysis while restricting the observation to actual programs of parties. Again, this does not alter our results.

Table A9: Omitting Parties with Estimated Manifestos Scores

	DV: Δ Party Left-Right Position	
	Model 1	Model 2
Δ Party Left-Right Position (t-1)	-.376***	-.380***
	(.057)	(.056)
Δ Mean Voter Position (t)	**.404*** **	**.313** **
	(.153)	**(.145)**
Δ Turnout (t-1)	.006	.002
	(.008)	(.008)
Δ Party Vote Share (t-1)	.469	.406
	(.408)	(.404)
Party Government Status (t-1)	.007	.015
	(.051)	(.050)
Δ Globalization (t)	-.025	-.021
	(.028)	(.027)
Δ GDP per Capita (log, t)	-.342	-.343
	(.339)	(.314)
Δ Mean Voter Position (t) *		**-.080*** **
Δ Turnout (t-1)		**(.027)**
Constant	-.299	-.272
	(.215)	(.202)
N	596	596
R-squared	.177	.189

*** p < .01; ** p < .05; * p < .1

Notes: Two-way clustered standard errors in parentheses. Country fixed effects not shown. Exclusion based on variable "progtype" (MARPOR data).

Mean voter shifts are not always substantial in size and might rather be the result of some measurement error. It might thus be possible that the presented results are driven by these marginal shifts in public opinion. Running the models while forcing all public opinion shifts that are smaller than one standard deviation of the Mean Voter Position change variable to zero, however, does again not change the results substantially. Similarly, our results are not affected if we exclude these cases from the analysis.

Table A10: Addressing Minor Changes in the Mean Voter Position

	DV: Δ Party Left-Right Position			
	Minor changes = 0		**Minor changes excluded**	
	Model 1	**Model 2**	**Model 3**	**Model 4**
Δ Party Left-Right Position (t-1)	-.388***	-.393***	-.477***	-.485***
	(.070)	(.068)	(.113)	(.105)
Δ Mean Voter Position (t)	**.290***	**.176**	**.351****	**.194**
	(.161)	**(.145)**	**(.161)**	**(.159)**
Δ Turnout (t-1)	.009	.007	.009	.008
	(.008)	(.007)	(.010)	(.009)
Δ Party Vote Share (t-1)	.059	.004	.032	-.113
	(.360)	(.347)	(.848)	(.755)
Party Government Status (t-1)	.007	.012	.054	.052
	(.052)	(.051)	(.099)	(.094)
Δ Globalization (t)	-.024	-.021	-.029	-.029
	(.024)	(.024)	(.020)	(.027)
Δ GDP per Capita (log, t)	-.175	-.192	-.088	-.084
	(.300)	(.280)	(.181)	(.183)
Δ Mean Voter Position (t) * Δ Turnout (t-1)		**-.078*****		**-.079****
		(.026)		**(.035)**
Constant	-.335	-.304	-.217	-.167
	(.214)	(.206)	(.281)	(.257)
N	651	651	174	174
R-squared	.178	.187	.414	.438

***p < .01; **p < .05; *p < .1

Notes: Two-way clustered standard errors in parentheses. Country fixed effects not shown.

We control for alternative factors that might both affect changes in turnout as well as party responsiveness. These factors are: globalization; election competitiveness; party polarization; and the vote share of extreme parties. We interact these variables with the change in the mean voter position to investigate whether and to which extent our relationship of interest is affected. The values for changes in globalization are again provided by the KOF Globalization Index (Sturm, Haelg, and Gygli 2018). Election competitiveness is operationalized as the difference in the vote share between the strongest and the second strongest party in the previous election. We measure party polarization as the absolute distance on the left-right scale between the two strongest parties in the previous election. The vote share of extreme parties at t-1 is the sum of the vote share of the radical left and radical right parties.

Table A11: Controlling for Conditioning Variables

	DV: Δ Party Left-Right Position				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Δ Party Left-Right Position (t-1)	-.392***	-.394***	-.391***	-.396***	-.396***
	(.067)	(.068)	(.070)	(.070)	(.070)
Δ Mean Voter Position (t)	**.565***	**.348***	**.272****	**.291****	**.573***
	(.165)	**(.134)**	**(.136)**	**(.143)**	**(.148)**
Δ Turnout (t-1)	.006	.006	.004	.003	.007
	(.007)	(.007)	(.007)	(.007)	(.007)
Δ Party Vote Share (t-1)	.025	.082	.114	.095	.198
	(.386)	(.345)	(.367)	(.371)	(.383)
Party Opposition Status (t-1)	.010	.010	.025	.013	.027
	(.051)	(.048)	(.051)	(.049)	(.051)
Δ Globalization (t)	-.021	-.020	-.028	-.018	-.024
	(.023)	(.024)	(.024)	(.025)	(.022)
Δ GDP per Capita (log, t)	-.345	-.293	-.260	-.241	-.376
	(.289)	(.270)	(.260)	(.286)	(.277)
Δ Mean Voter Position (t) * Δ Globalization (t)	-.154***				-.141***
	(.052)				(.050)
Δ Competitiveness (t-1)		.428			.315
		(.440)			(.457)
Δ Mean Voter Position (t) * Δ Competitiveness (t-1)		3.439*			3.338*
		(1.876)			(1.959)
Δ MP Pos. Distance (t-1)			-.052		-.059
			(.041)		(.038)
Δ Mean Voter Position (t) * Δ MP Pos. Distance (t-1)			-.417**		-.383**
			(.198)		(.183)
Δ Vote Share Extreme Parties (t-1)				.686	.735
				(.689)	(.658)
Δ Mean Voter Position (t) * Δ Vote Share Extreme Parties (t-1)				-1.490	-1.410
				(3.183)	(3.169)
Δ Mean Voter Position (t) * Δ Turnout (t-1)	**-.081*****	**-.056****	**-.078*****	**-.074*****	**-.063****
	(.022)	**(.025)**	**(.025)**	**(.026)**	**(.026)**
Constant	-.243	-.283	-.344*	-.314	-.328
	(.201)	(.214)	(.205)	(.221)	(.230)
N	651	651	651	651	651
R-squared	.204	.203	.206	.198	.221

***p < .01; **p < .05; *p < .1, Two-way clustered standard errors in parentheses.

Tests for Harmful and Benign Mean Voter Shifts

We follow Adams et al. (2004) and define harmful and benign public opinion changes based on the direction and magnitude of mean voter shifts with respect to parties' core ideologies. When mean voter shifts away from a focal party, this is labelled a "harmful" mean voter shift, and when the mean voter shifts toward the party this is labelled "benign". In a first step, we consider only those public opinion shifts that are larger than one standard deviation of the mean voter shift variable. Thus, we consider only those elections in which large public opinion shifts occur. All other elections are coded as "non-shifting". Second, we categorize political parties based on the core ideology that positions them either as clearly to the left or the right of the mean voter. Radical left, Green, and Social Democratic parties form the group of left parties and Conservative, Christian Democratic, and Radical Right parties were classified as right parties.[23] Thus, left parties were confronted with harmful public opinion changes if the Mean Voter position shifted to the right and with benign public opinion shifts if the Mean Voter shifted to the left. The opposite applies to right parties.

We evaluate whether political parties respond to benign *and* harmful public opinion shifts after turnout decline in Table A12. Model 1 includes all political parties, and Model 2 includes only dominant parties following the classification by De Vries and Hobolt (2020). Both models suggest that political parties predominantly respond to harmful public opinion shifts. The interaction terms between harmful mean voter shifts and turnout changes are significant and negative. At the same time, the interaction terms for benign mean voter shifts are close to zero, which is in line with findings presented by Ferland (2020). Finally, the results continue to support our core hypothesis, because party responsiveness to harmful public opinion shifts is estimated to increase if turnout has declined in the previous election.

[23] We exclude Liberal, Agrarian, and Regional parties as harmful and benign public opinion shifts cannot be clearly defined for these party families.

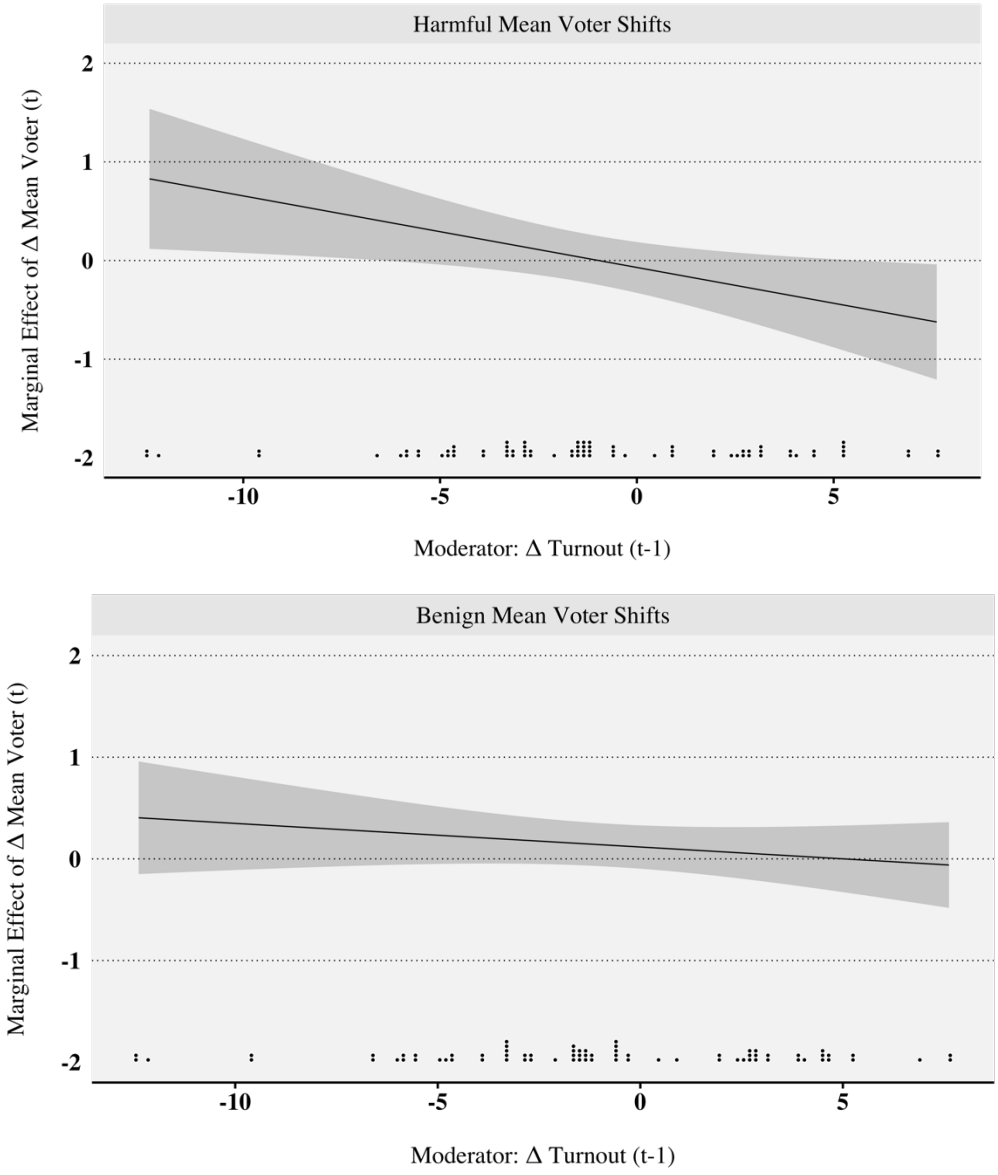
Table A12: Harmful and Benign Mean Voter Shifts and Party Responsiveness

	DV: Δ Party Left-Right Position	
	All parties	**Dominant parties**
	Model 1	**Model 2**
Δ Party Left-Right Position (t-1)	-.404***	-.434***
	(.085)	(.111)
Δ Turnout (t-1)	.023	.028
	(.016)	(.019)
Δ Party Vote Share (t-1)	.121	.548
	(.432)	(.489)
Government (t-1)	.026	.041
	(.055)	(.062)
Δ Globalization (t)	-.026	-.032
	(.025)	(.029)
Δ GDP (log, t)	-.183	-.188
	(.308)	(.308)
Harmful MV Shift	**-.031**	**-.070**
	(.140)	**(.157)**
Benign MV Shift	**.059**	**.117**
	(.128)	**(.130)**
Harmful MV Shift * Δ Turnout (t-1)	**-.069****	**-.073****
	(.032)	**(.036)**
Benign MV Shift * Δ Turnout (t-1)	**-.002**	**-.023**
	(.027)	**(.027)**
Constant	-.417*	-.443*
	(.243)	(.252)
N	496	356
R-squared	.190	.224

***p < .01; **p < .05; *p < .1

Two-way clustered standard errors in parentheses. Country fixed effects not shown.

Figure A5: Marginal Effects Plots for Harmful and Benign Mean Voter Shifts, Based on Table A12 Model 2 Estimates



Notes: Dotted lines denote 90% confidence intervals. The dot plots show the distribution of *Δ Turnout* (t-1).

In the article, we discuss the possibility that parties influence citizen preferences (Lenz 2012; Achen and Bartels 2016). If this is the case, we should find the pattern of voters and parties moving together consistently. However, what we find is that citizens and parties systematically move together *only* when turnout decreased in the previous election. Thus, this reversed relationship does not appear to be occurring uniformly throughout the countries and time period in our data. In addition, we analyze existing data to further explore the issue. Our estimates of public opinion in the manuscript, which are based on 12-month windows before the elections, could be influenced by surveys fielded during the last four months of an election campaign. In Models 1-2 of Table A13 below, we estimate the effect of changes in the mean voter position on changes in parties' left right positions. But in these analyses, we only rely on left-right placements from 4-12 months *before* the election, i.e., estimates of public opinion are from before the time that most election manifestos are published. If parties were influencing public opinion, we would expect that the estimates of responsiveness would become significantly diminished or disappear based on the measures of public opinion 4-12 months prior to the election. The coefficient on the conditioning effect of turnout on responsiveness that we report in the main table in the article is approximately the same as the estimate in Table A13. In Table A13 Model 2, the estimate on the interaction variable (Δ Mean Voter Position (t) * Δ Turnout (t-1)) is -.069 compared to -.075 in the article (both of these estimates are statistically significant).

Table A13: Analyses of Changes in Party Position, based on Mean Voter (t) Estimates from 4 to 12 Months Prior to the Election

	DV: Δ Party Left-Right Position	
	Model 1	**Model 2**
Δ Party Left-Right Position (t-1)	-.390***	-.395***
	(.072)	(.071)
Δ Mean Voter (t)	**.319****	**.241**
[4 to 12 months windows]	**(.157)**	**(.159)**
Δ Turnout (t-1)	.001	-.002
	(.008)	(.008)
Δ Party Vote Share (t-1)	-.115	-.184
	(.360)	(.355)
Government (t-1)	-.015	-.011
	(.055)	(.054)
Δ Globalization (t)	-.028	-.023
	(.025)	(.025)
Δ GDP (log, t)	-.210	-.258
	(.302)	(.293)
Δ Mean Voter (t) * Δ Turnout (t-1)		**-.069****
		(.029)
Constant	-.381	-.355
	(.260)	(.242)
N	623	623
R-squared	.182	.189

***p < .01; **p < .05; *p < .1

Two-way clustered standard errors in parentheses. Country fixed effects not shown.