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**National Polls, Local Preferences and Voters' Behaviour :  
Evidence from the UK General Elections**

Eleonora Alabrese

[\(This paper also appears as QAPEC Discussion paper 15\)](#)

**September 2022**

**No: 1426**

**Warwick Economics Research Papers**

**ISSN 2059-4283 (online)**

**ISSN 0083-7350 (print)**

# National Polls, Local Preferences and Voters' Behaviour: Evidence from the UK General Elections.

Eleonora Alabrese\*

September 14, 2022

## Abstract

A central challenge for social scientists consists in explaining why people vote and what are the consequences of their behaviour. Exploiting variation in national opinion polls across UK general elections, and in the degree of safeness of British constituencies over time, I provide evidence of a significant impact of pre-election polls on electoral outcomes and shed light on a novel mechanism. I find that opinion polls affect voters' behaviour via their interaction with the recent electoral history of a constituency: first, turnout decreases when the polls predict non-competitive elections, and this effect is stronger in safe seats. Second, the composition of local vote shares and parties' performance is also impacted by anticipated election closeness and the effects vary heterogeneously depending on whether polls predictions are aligned with the past electoral outcomes of a constituency. Finally, the causal impact on voters' participation is confirmed with consistent individual-level evidence.

**Keywords:** OPINION POLLS, CLOSENESS, VOTERS' BEHAVIOUR, FIRST-PAST-THE-POST, UK GENERAL ELECTIONS

**JEL Classification:** D72, P16

Word count: 11,998

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\*University of Warwick. Email address: e.alabrese@warwick.ac.uk. Acknowledgements: I thank Thiemo Fetzer and Sascha Becker for the precious mentoring and guidance, Ceci Cruz, Maurice Dunaiski, Teresa Esteban-Casanelles, Helios Herrera, Vardges Levonyan, Shanker Satyanath, Vera Troeger as well as the participants of GRAPE meeting at IRCrES-CNR, the Sixth LSE-Oxford graduate student conference in political economy, the 25th Spring Meeting of Young Economists, and Warwick internal seminars for insightful comments and suggestions. Remaining errors are my own.

# 1 Introduction

Why do citizens decide to turn out to vote? How does this affect electoral outcomes? Understanding voters' participation is a challenge that social scientists have been trying to solve for many decades (Blais, 2006).<sup>1</sup> In recent years scholars have made considerable improvements in shedding light on what drives electorate's choices.<sup>2</sup> Yet, one of the most empirically contested driver is the role of pre-election polls. Following the unexpected Brexit vote and Trump's electoral success, pre-election polls have been the object of heated debates regarding their capability to predict the electoral results or to directly influence voters' behaviour.

Canonical rational choice models (see seminal contribution by Downs, 1957) predict that the smaller the predicted margin of victory, the higher voters' participation. The mechanism generating this observation is that, the more competitive the electoral race, the higher a voter's perception of the importance of her voting decision.<sup>3</sup> Polls give voters an indication about the expected closeness of elections (Palfrey and Rosenthal, N.d.) and voters may use this information when deciding whether or not to vote. Anecdotal evidence supports this statement: in the UK general election of 2001, an expected high margin of victory for Labour resulted in very low turnout. The BBC surveyed those who abstained from voting and found out that a vast majority reported there being no point in voting as their vote would not change the result. Similarly, just over half of the respondents said it was obvious that Labour would win.<sup>4</sup> However, the constituency of Arundel and South Down experienced the victory of a Conservative candidate and a turnout well above the national average. These observations raise concerns on the existence of alternative mechanisms through which opinion polls may affect voters' behaviour. Indeed, the often heard cry of "every vote matters" may depend considerably on the electoral system. For instance, in

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<sup>1</sup>Participation is a puzzle even in context where it is far more likely an individual voter is pivotal (see Coate, Conlin and Moro, 2008; Farber, 2010).

<sup>2</sup>Among the factors under study there are: habits (Fujiwara, Meng and Vogl, 2016), personality traits (Ortoleva and Snowberg, 2015), social considerations (Gerber, Gruber and Hungerman, 2015; Funk, 2010; Dellavigna et al., 2017), political movements (Madestam et al., 2013), media content (Strömberg, 2004; DellaVigna and Kaplan, N.d.; Gentzkow, 2006; Enikolopov, Petrova and Zhuravskaya, 2011; Gentzkow, Shapiro and Sinkinson, 2011), and compulsory voting laws (León, N.d.; Hoffman, León and Lombardi, N.d.).

<sup>3</sup>Increases in turnout may be induced by alternative mechanisms: for instance, election closeness may interact with social preferences (e.g., Dellavigna et al., 2017) or with the intrinsic utility from voting (e.g., Riker and Ordeshook, 1968; Brennan and Buchanan, 1984; Schuessler, 2000; Feddersen and Sardonì, 2006; Ali and Lin, 2013).

<sup>4</sup>Source: BBC - "Turnout at 80-year low".

the UK it is a widespread belief that Members of Parliament (MPs) being elected via first-past-the-post (FPTP) system may be the cause of what are commonly referred to as safe seats. According to the Electoral Reform Society (ERF) 192 constituencies have not changed hands electorally since WWII.<sup>5</sup> For instance, North Shropshire has been a Tory seat ever since 1835. It is not a surprise that in those safe seats many voters may feel discouraged to vote and mobilization efforts may be lower (see for example Cox, 1999; Franklin et al., N.d.; Selb, 2009; Herrera, Morelli and Palfrey, 2014).

What would then be the effect of the polls predicting a Labor victory in a constituency such as Shropshire? It appears likely that the joint presence of safe seats and polls predictions could play a key role in explaining electoral outcomes. Thus, the aim of this paper is to shed light on this so far unexplored mechanism through which anticipated election closeness may affect voters' behaviour.

Exploiting a panel of constituencies across UK general elections from 1983 to 2017, I find strong evidence that polls predictions, interacted with the recent historical preferences of a constituency electorate, significantly impact voters' participation, concentration of vote shares, as well as local parties' shares and chances of victory. I also show that pollsters' predictions matter more as the election becomes closer. In addition, since I measure the extent to which a seat can be considered safe, results suggest the effect of polls is not homogeneous along the safeness distribution. Furthermore, findings indicate that polls could have different effects on a party performance depending on whether the information they provide is aligned with the electoral history of a constituency. Finally, I use quasi-random variation in individual-level exposure to opinion polls, to corroborate that the interaction between polls predictions and past local electoral preferences influence voters' political engagement. Importantly, this relationship emerges only when the opinion polls information is relevant for voters, i.e. before a general election.

Previous empirical efforts aimed at measuring the causal effect of anticipated election closeness can be categorized in three broad groups providing mixed evidence. A first group of contributions, reviewed in the meta-analysis by Cancela and Geys (2016), exploits observational data and find suggestive evidence that turnout tends to increase in measures of actual (e.g., Barzel and Silberberg, N.d.; Cox and Munger, 1989; Matsusaka, 1993) or predicted closeness (e.g., Shachar and Nalebuff, 1999) across elections. However, these efforts

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<sup>5</sup>Source: ERF - "The 2019 General Election: Voters Left Voiceless".

have been plagued by reverse causality (realised closeness) and omitted variables bias (predicted closeness). On the one hand, ex-post electoral results could endogenously depend on the realized turnout. On the other hand, turnout could be affected by factors which may also make the electoral race more competitive such as the importance of a certain election, the intensity of the campaign and campaign advertisement, or news coverage. For instance, tight races have been shown to be correlated with more campaign spending (Cox and Munger, 1989; Matsusaka, 1993; Ashworth and Clinton, N.d.), more party contact (Shachar and Nalebuff, 1999; Gimpel, Kaufmann and Pearson-merkowitz, 2007), more campaign appearances (Althaus, Nardulli and Shaw, 2002), and more news coverage (Banducci and Hanretty, N.d.). Furthermore, social pressure to vote may be enhanced by elites as a result of close elections (Cox et al., 1998). Some recent contributions started addressing these concerns seriously. Morton et al. (N.d.) show that the availability of exit poll results in French elections reduces turnout in late-voting constituencies, though these constituencies are far from being pivotal. Bursztyn et al. (2020) rigorously analyse the impact of ex-ante closeness of a race by exploiting naturally occurring variation in the existence, closeness, and dissemination of Swiss pre-election polls, finding that anticipated election closeness increases turnout significantly more in areas where newspapers report on them most. Yet, the referenda setting is not the best suited to exploit naturally occurring variation in the political composition of local preferences (safeness of a constituency), which I believe to be a powerful factor interacting with the polls and thus determining voters' behaviour.

A second stream of literature uses lab experiments (see Levine and Palfrey, N.d.; Duffy and Tavits, 2008; Großer and Schram, 2010; Agranov et al., 2018) to provide strong evidence that increased predicted tightness of an electoral race is associated with enhanced voters' participation.<sup>6</sup> However, external validity remains an unresolved issue as lab experiments are by definition unable to capture the context of real-life elections. Thus, one would ideally like to identify similar results in the field.

A third group of scholars implemented field experiments providing information treatments to potential voters (Gerber and Green, 2000; Bennion, 2005; Dale and Strauss, N.d.; Enos and Fowler, N.d.; Gerber et al., N.d.), eventually finding little or no evidence of a link between closeness and turnout. Yet, in such settings it is difficult to control for voters' access

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<sup>6</sup>Nonetheless, participants' behaviour is not always consistent with the full set of predictions arising from the pivotal voter model.

to outside information. The weak relationship may in fact result from voters recovering additional common information outside of the experiment.

Compared to the existing empirical works I make four unique contributions. First, I provide evidence of a previously neglected mechanism: anticipated election closeness interacts with the local history of a constituency. Second, I show that polls predictions not only affect voters' participation, but also the composition of local vote shares and parties' performances. Third, I exploit a rich setting of elections across thirty-five years which makes results easier to interpret and compare. Forth, I provide a robust validation of the main results using quasi-random individual level variation.

This setting allows to estimate models with election fixed effects, exploiting within-election, cross-constituency variation in historical preferences which may or may not be aligned with pre-election polls. Therefore, I can seriously address concerns related not only to reverse causality, but also related to presence of potential confounders. Furthermore, individual level data offer an important feature for analysis as interview dates are randomly assigned. Survey respondents are hence exposed to a quasi-random polling information at the start of their interview whose timing is exogenous to their political engagement and therefore allows to credibly address the identification issues highlighted above.

The paper is structured as follows: Section 2 describes the institutional settings, the data at hand and discusses the empirical design; Section 3 reports results of the aggregate level analysis; Section 3.4 describes the individual-level analysis; Section 4 provides conclusive remarks.

## **2 Background, data and empirical approach**

The focus of this work is on the UK's general elections for two reasons. First, despite their national nature, voters express electoral preferences for their local MP. This makes it possible to set up an empirical design that exploits national level polling with local level historical electoral information. Second, the stability of the UK's electoral system allows to study the evolution of the impact of electoral polls in a wide range of elections.

## 2.1 UK general elections

General elections provide an opportunity for UK citizens to elect MPs forming the House of Commons of the UK Parliament. Each MP is the winner of the electoral race at the constituency level. A key feature is that every constituency elects its MP via a FPTP system (i.e. voters can only name one candidate, and the one who obtains most votes becomes MP). Upon election, MPs will represent their local area for up to five years. In terms of party membership, local candidates can either belong to a political party or stand as independents. Historically, few independent MPs ever got elected. At the national level, the party that obtains more seats than all the other parties combined (i.e. the one with the overall parliamentary majority) is appointed the formation of the government. In the absence of an outright majority, parties usually seek to form coalitions.

An additional remark concerns the rules governing shape and formation of parliamentary constituencies. The UK is currently divided into 650 constituencies (corresponding to 650 MPs), but number and boundaries changed repeatedly. Following the Parliamentary Constituencies Act of 1986, boundaries have been subject to periodic reviews by four Boundary Commissions (one per country). These Commissions update boundaries in accordance with rules which set out both the number of constituencies and the extent to which the size of the electorate in each constituency can differ from the electoral quota (i.e. average size of a constituency). That said, under the assumption that constituencies retaining the same name over time have been subject to little or no change in boundaries, the analysis is based on a panel of different constituency-names over time.<sup>7</sup>

This work considers all general elections between 1983 and 2017, with electoral outcomes reported at the constituency level.<sup>8</sup> A summarizing picture of these past elections is presented in Figure A.1. The bar chart illustrates that, considering different seats in each general election as a distinct observation, roughly 88 percent were won by either a Conservative or a Labour candidate (over 90 percent when excluding Northern Ireland) with a slight supremacy of Conservative seats. Given the widespread prevalence of victories by the two major UK parties, I restrict the attention to those constituencies where both a

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<sup>7</sup>For example consider the constituency of Basildon, which in 2010 was divided in the two constituencies of Basildon and Billericay, and South Basildon and East Thurrock. In this case the three uniquely named areas figure in the data as separate observations in different general elections.

<sup>8</sup>General election years are the following: 1983; 1987; 1992; 1997; 2001; 2005; 2010; 2015; 2017.



Conservative and a Labour candidate competed at least once.<sup>9</sup>

Despite a similar proportion of constituencies held by the two main parties over time, electoral results vary considerably across time and space, and this will be fundamental for the analysis. To exploit such variation I build a measure of electoral competitiveness between Conservative and Labour party:

$$Adj.margin_{c,t} = \frac{|shareCon_{c,t} - shareLab_{c,t}|}{shareCon_{c,t} + shareLab_{c,t}}$$

where *share* is the proportion of votes obtained by the party in the local race, subscript *c* indicates a constituency and *t* refers to a given general election. Note that the electoral margin is adjusted to the local relevance of the two parties combined (i.e. the denominator in the formula).

Figure 1 depicts *Adj.margin* across the UK for three different elections: the furthest in time, the most recent, and the mid 2001 election. The figure helps visualize the presence of constituencies with a solid and persistent support for one of the two parties (often named safe seats), as opposed to those generally more competitive (in lighter shades).

As the objective of this paper is to study whether being a *safe* Conservative or Labour constituency is a fundamental factor interacting with opinion polls which may contrast or reinforce the predicted result, I will use (one period lagged) *Adj.margin* as a measure of *safeness* of a seat, thus taking advantage of the variation just presented.

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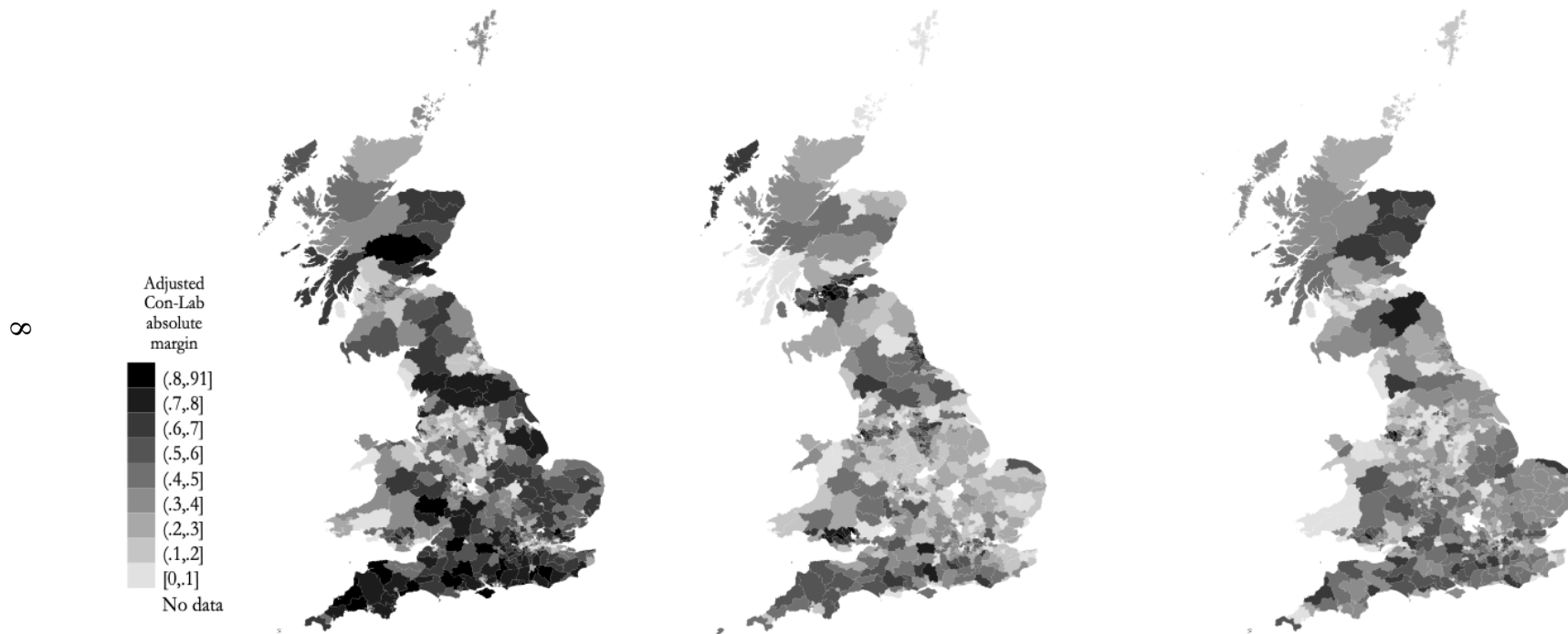
<sup>9</sup>This cleaning process eliminates the constituencies of Northern Ireland (60 percent of the dropped observations, i.e. 17 or 18 yearly seats) and few additional ones.

Figure 1: Adjusted margin of victory across general elections (Conservative - Labour) in absolute terms

Panel A: 1983 General Election

Panel B: 2001 General Election

Panel C: 2017 General Election



Note: Shades map the variation in absolute vote share margin between Conservative and Labour parties across general elections, adjusted dividing by the sum of the two party shares.

## 2.2 Opinion polls in the UK

Great Britain has a long history of surveys on voting intentions. First was Gallup in 1937, just two years after its American counterpart. However, at the dawn of their diffusion, polls were largely ignored by politicians. This attitude changed in the 1950s, when the appearance of new pollsters led parties members to pay greater attention to this tool. As a consequence, the following years witnessed a rapid rise in the number of commissioned polls by parties. New companies entered the market and traditional media began to devote greater consideration to the polls. In the 1970s, following the abandonment of exclusive publication, polls became accessible to an enormously enhanced audience. Not surprisingly, during this period both Conservative and Labour party initiated substantial private polling programs. Ever since, pre-election polls have been dominating campaign reporting (Worcester, 1980). Nowadays, various organisations carry out opinion polling to gauge voting intention and most of the polling companies are members of the British Polling Council (BPC) and abide by its disclosure rules. Predicted support for political parties out of the electoral campaign periods is frequently and widely reported in the news.

For the analysis, I focus on national polls produced within four weeks from the general election day. In the data, I condense polling information in each year, starting with the existing six pollsters of 1983 and finishing with the ten polling companies active during the 2017 general election campaign.<sup>10</sup> The number of pollsters I observe ranges from 5 in 1997 to 11 in 2015. As mentioned above, I am interested in studying the impact of predicted closeness on election outcomes. Thus, given that Conservative and Labour parties were the top competing forces during all the general elections in the sample (see also Figure A.1), I measure ex-ante closeness of the race as follows:

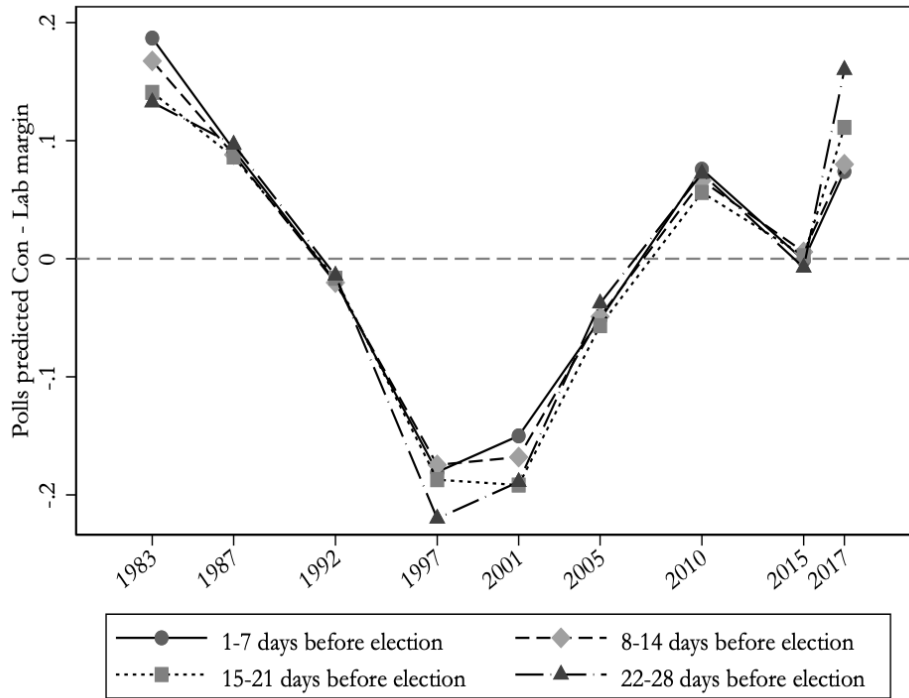
$$Pollmargin_w = |share\widehat{Con}_w - share\widehat{Lab}_w| \text{ with } w = 1, 2, 3, 4$$

where  $share\widehat{Party}_w = \frac{1}{Nr\ Pollsters} \sum_j share\widehat{Party}_{jw}$  and  $share\widehat{Party}_{jw}$  is the predicted vote share for a given *Party* (either Con or Lab) by a given pollster *j*, in a given week *w* preceding the election.

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<sup>10</sup>For the individual-level analysis I use data on all opinion polls produced within four weeks from the start of respondents' interviews (see section 2.3.2).

Figure 2: Yearly variation in average opinion polls margin



Note: Estimates map variation in average opinion poll margin between Conservative and Labour parties across general elections. The margin is calculated averaging the difference in party vote shares across all national pollsters released in a given week before the election date. Positive margin refer to a predicted conservative advantage and viceversa.

Figure 2 displays the trends in (national) predicted polls margin across all general elections from 1983 to 2017. For illustrative purposes I use positive margins for a predicted Tory lead and negative otherwise. Two features emerge from this graph. First, *Pollmargin* varies considerably across the years. The sample contains both competitive and non-competitive elections with either party leading the polls at least three times. Second, there seems to be variation in the polls margin reported at different points in time along the electoral campaign (comparing the different line colours). For instance, in 1983, as the election day became closer, pollsters predicted a larger Conservative victory. Conversely, in 1997 or 2017, approaching the election day the margins reported by the pollsters became increasingly small. This variation is also well presented in Figure A.2. which displays the distributions of residuals of all (absolute) polls margins published in a certain period of time (i.e. from the last to the fourth week preceding elections) after accounting for election fixed effects. Densities are all bell-shaped but the dispersion changes systematically across weeks as poll

estimates get generally more similar the closer the election date.

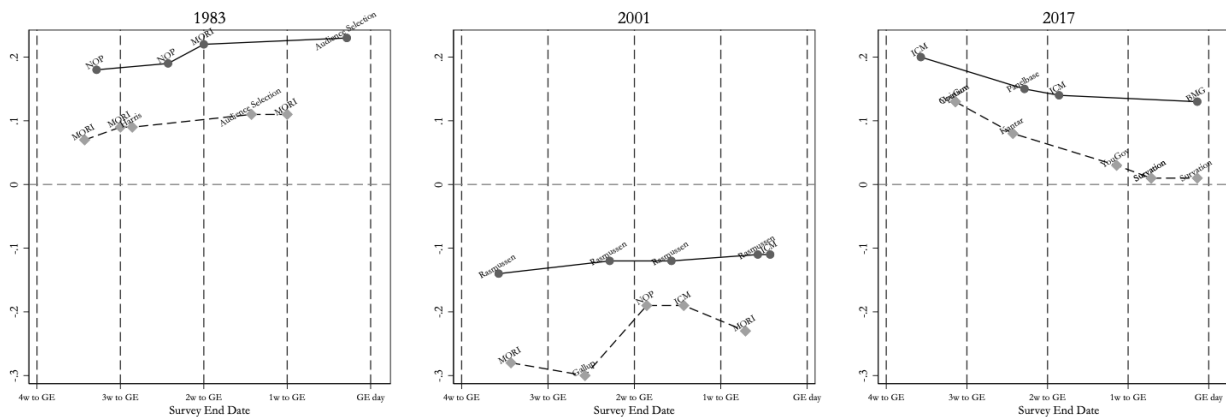
Polls margins vary depending on the polling institution which produce them (Panel A of Figure 3 and A.4) and, as a consequence, on the related publisher (Panel B of Figure 3 and A.4).<sup>11</sup> Looking at reported minimum and maximum margins by pollsters, one can notice some interesting features. First, while in 1983 the difference between the minimum and the maximum remains almost constant across the four weeks preceding the elections, the gap seems to widen in 2017, indicating that variance of the polls differs across years (the same emerges from the graphs in Figure 3 (Panel B)). Second, in 2001 it is notable that the margin closest to zero is always reported by the same pollster, i.e. Rasmussen, suggesting the presence of a systematic prediction bias by some polling companies. Related to this second point, the graphs in Figure 3 (Panell B) show an almost equal picture, with some minor differences. For instance, looking at the 2001 general elections, one can see that the Sunday Telegraph chose to report polls from different firms, which however both coincide with those that predicted the largest margin in favour of the Labour party, suggesting the presence of a publication bias.

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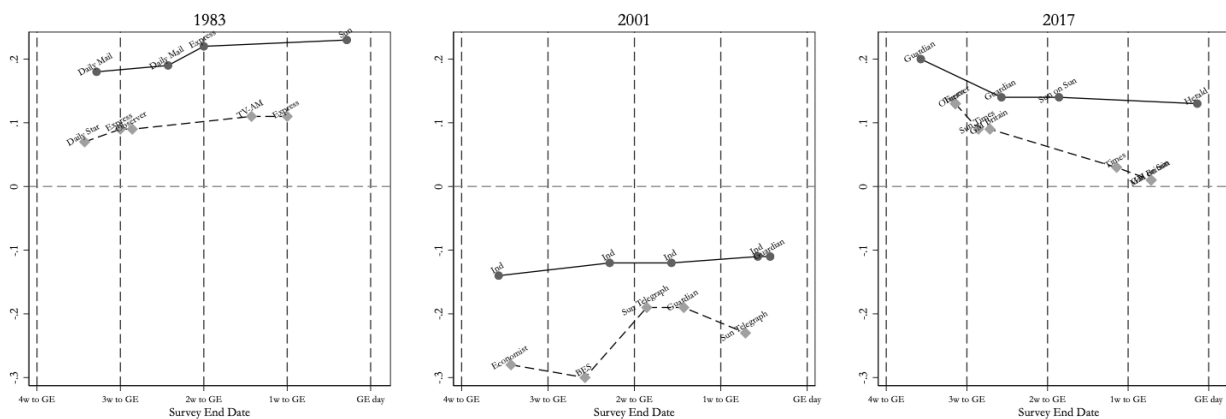
<sup>11</sup>Panel B of Figure A.4 focuses on the top ten publishers across the period under study.

Figure 3: Weekly variation in (min and max) polls margins

**Panel A: Variation by pollster**



**Panel B: Variation by publisher**



Note: Estimates show the maximum (solid) and the minimum (dashed) opinion poll margin between Conservative and Labour parties in a given week before the general election date and across general elections. Color labels name the pollster associated to each estimated margin (panel A) or its publisher (panel B).

Motivated by the features just described, I dug more deeply into the opinion polling panel looking for regularities. For each reported opinion poll in the last four weeks preceding elections, the panel lists: the predicted party shares, the margin, the end date of poll, the associated polling house and the (first) publisher.<sup>12</sup> The following tables suggest systematic differences in reported opinion polls. Table A.11 displays results of a simple pollsters fixed effects regression:

$$y_{j,t,w} = \sum_j \beta_j \text{Pollster}_j + \gamma' X_{t,w} + \epsilon_{j,t,w} \text{ with } w = 1, 2, 3, 4 \quad (1)$$

where  $y$  are either the Conservative or Labour share or the absolute difference between the two, as reported by pollster  $j$  in week  $w$  preceding general election  $t$ .  $X$  represents week-by-year fixed effects.

Assuming that the sampling methodologies used and the analysis performed by the different polling houses are comparable, there should be no systematic difference across polls. However, the fact that some of the pollsters fixed effects in Table A.11 are significantly different from zero suggests otherwise. Take the example of Rasmussen, results suggest this polling house systematically reports higher Conservative shares and lower Labour shares thus lower poll margins than the excluded pollster MORI.

One interesting avenue for future research is to explore causes behind these differences. One possibility is that since media outlets select their pollsters, they may release pre-election poll estimates that are distorted based on their political leaning.<sup>13</sup> The awareness of a feedback between opinion polling and turnout may be the reason for this behaviour, possibly aimed at mobilizing (or discouraging) readers' participation. Table 1 displays results for a preliminary test for this assumption. More specifically, I perform the following regression:

$$y_{j,t,w} = \beta I_{j,t} + \gamma' X_{t,w} + \epsilon_{j,t,w} \text{ with } w = 1, 2, 3, 4 \quad (2)$$

where  $y$  are again either party shares or poll margins, as reported by pollster  $j$  in week  $w$  preceding general election  $t$ .

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<sup>12</sup>There are very few cases where two publishers are listed, I ignore those second publishers for simplicity.

<sup>13</sup>In the context of the Brexit referendum, Cipullo and Reslow (2019) find evidence of bias in macroeconomic forecasts released by institutions with stakes and influence.

Table 1: Reported opinion poll shares and margin by publisher orientation

Panel A - Dep. var.:						
	share Conservative		share Labour		Pollmargin	
	(1)	(2)	(3)	(4)	(5)	(6)
Right	-0.0037*	-0.0033*	0.0059**	0.0053**	-0.0002	0.0012
	(0.0020)	(0.0020)	(0.0026)	(0.0022)	(0.0037)	(0.0035)
Week FE	X		X		X	
Year FE	X		X		X	
Week*Year FE		X		X		X
Observations	345	345	345	345	345	345
R-squared	0.9065	0.9272	0.9217	0.9467	0.8231	0.8583
Panel B - Dep. var.:						
	share Conservative		share Labour		Pollmargin	
	(7)	(8)	(9)	(10)	(11)	(12)
Endorsing Conservative	-0.0027	-0.0022	0.0054*	0.0054**	-0.0044	-0.0035
	(0.0022)	(0.0021)	(0.0028)	(0.0024)	(0.0039)	(0.0038)
Week FE	X		X		X	
Year FE	X		X		X	
Week*Year FE		X		X		X
Observations	343	343	343	343	343	343
R-squared	0.9039	0.9258	0.9177	0.9428	0.8194	0.8548

Notes: *Pollmargin* is the absolute difference between Conservative and Labour parties' vote shares and  $\in (0, 1)$ . *Right* is an indicator for whether a publisher (newspaper) is perceived as right or centre-right leaning. *Endorsing conservative* is an indicator for whether a publisher (newspaper) has endorsed the conservative party/candidate in that general election. Robust standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

The variable of interest is now  $I$  which is either an indicator for whether the publisher (newspaper) associated to pollster  $j$  is perceived as right or centre-right leaning (Panel A)<sup>14</sup> or alternatively an indicator for whether the newspaper associated to pollster  $j$  has endorsed the Conservative party or a Conservative candidate in general election  $t$  (Panel B).<sup>15</sup>  $X$  represents either week and year or week-by-year fixed effects. These indicators are only an approximation of the political position of a newspaper which may well vary

<sup>14</sup>Source: YouGov survey on perceived newspaper ideology.

<sup>15</sup>Sources: Guardian (a); Guardian (b); Wikipedia (a); Wikipedia (b); Wikipedia (c).



across time and voters' readership. However, results across specifications suggest that right leaning newspapers have a tendency to overstate the Labour poll share relative to the Conservative poll share. Although suggestive, there seem to be a publisher bias in line with priors.

## 2.3 Data

### 2.3.1 Constituency-level analysis

Data come from different sources. Electoral results at constituency level are extracted from the Electoral commission website and from Richard Kimber's [www.politicsresources.net](http://www.politicsresources.net). Corresponding opinion polling data covering the electoral campaign of each general election since 1983 were collected from [ukpollingreport.co.uk](http://ukpollingreport.co.uk).<sup>16</sup>

The sample is restricted to those constituencies that experienced candidates from both Conservative and Labour party competing at least once in the period considered. In addition, constituencies changing names over time are treated as different observations given that the reference boundaries also change.

The dataset includes variables such as turnout, party shares and the predicted shares from polls which are necessary for the creation of *Adj.margin* and *Pollmargin*, as already described. In addition, I measure the concentration of vote shares:

$$HHI_{c,t} = \sum_p share_{p,c,t}^2$$

where, as before, subscripts  $c$  and  $t$  indicate respectively the constituency and the election year, while  $p$  indicates a party. Thus,  $share_{p,c,t}$  is the vote share gained by party  $p$  in a given constituency and year. This measure is inspired by the Herfindahl-Hirschman index, a commonly used measure of market concentration. By construction,  $HHI$  can take values between zero and one. The upper limit indicates the case of a single party capturing all cast votes, while zero refers to a scenario with infinitely many parties competing for the seat, each of them obtaining the same share of votes. Like other aggregate level variables,  $HHI$  allows to study the general influence of opinion polls on the politics of a constituency. Despite the choice to focus exclusively on the two major parties, this index is computed

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<sup>16</sup>Historical opinion polls are in turn extracted from Mark Pack's online archive.

taking every competing party share into account, which in turn allows to draw more general conclusions. However, the party level analysis focuses on variables related uniquely to Conservative and Labour candidates.

Table 2: Summary statistics (main analysis)

Panel A: National Polls				
	1 week to GE	2 weeks to GE	3 weeks to GE	4 weeks to GE
Pollmargin	0.0776 (0.0556)	0.0790 (0.0571)	0.0861 (0.0659)	0.0970 (0.0749)
# of polls	16.6236 (5.2212)	12.2864 (5.0888)	12.2162 (4.5047)	12.0505 (3.8292)
Panel B: Constituency Level Variables				
	Whole sample	Incumbent = poll leader	Incumbent $\neq$ poll leader	
Turnout	0.6814 (0.0824)	0.6667 (0.0866)	0.6987 (0.0736)	
HHI	0.3870 (0.0634)	0.3937 (0.0632)	0.3790 (0.0627)	
Adj. margin <sub><i>t</i>-1</sub>	0.3704 (0.2221) [4676]	0.3797 (0.2217) [2530]	0.3594 (0.2221) [2146]	
Panel C: Party Level Variables				
	Whole sample	Incumbent = poll leader	Incumbent $\neq$ poll leader	
Incumbent vote share	0.5100 (0.0936)	0.5258 (0.0911)	0.4917 (0.0932)	
Incumbent prop. victories	0.8938 (0.3082) [4293]	0.9289 (0.2571) [2306]	0.8530 (0.3542) [1987]	
Follower vote share	0.3115 (0.0967)	0.2915 (0.0933)	0.3402 (0.0944)	
Follower prop. victories	0.1367 (0.3436) [3014]	0.0800 (0.2714) [1775]	0.2179 (0.4130) [1239]	

Notes: All margins are in absolute terms. Table reports variable means, with standard deviations in parenthesis and number of observations in square brackets.

Table 2 reports selected statistics on the variables introduced above. Panel A shows that opinion polls vary substantially depending on the time distance to the election day (in line with Figures 2 and A.2). On the one hand, the average prediction becomes more competitive and precise the closer the election (i.e. I observe lower average margin and standard deviation). On the other, polls become more frequent. Panel B displays selected statistics for constituency level variables. Turnout is on average higher when the local incumbent party is not leading in national polls, while the *HHI* is lower. Moreover, the (lagged) adjusted margin is generally large (with considerable variation, as shown in Figure 1) but to a lesser extent in constituencies where polls predictions are not aligned with the

previous local results. Finally, Panel C examines party level outcomes. These exhibit some differences in the two sub-samples. Incumbent vote shares are greater when their party is predicted to win in the national race; a similar pattern can be observed when looking at their probability to regain the seat. Conversely, in the same constituencies, follower vote shares and probability of winning are tinier.

### 2.3.2 Individual-level analysis

The last set of results uses individual-level data from *Understanding society*. The UK's largest panel of representative households covering a wide range of topics among which the following questions on political engagement:

1. Generally speaking do you think of yourself as a supporter of any one political party?
2. Do you think of yourself as a little closer to one particular party than the others?
3. If there were to be a general election tomorrow, which political party do you think you would be more likely to support?

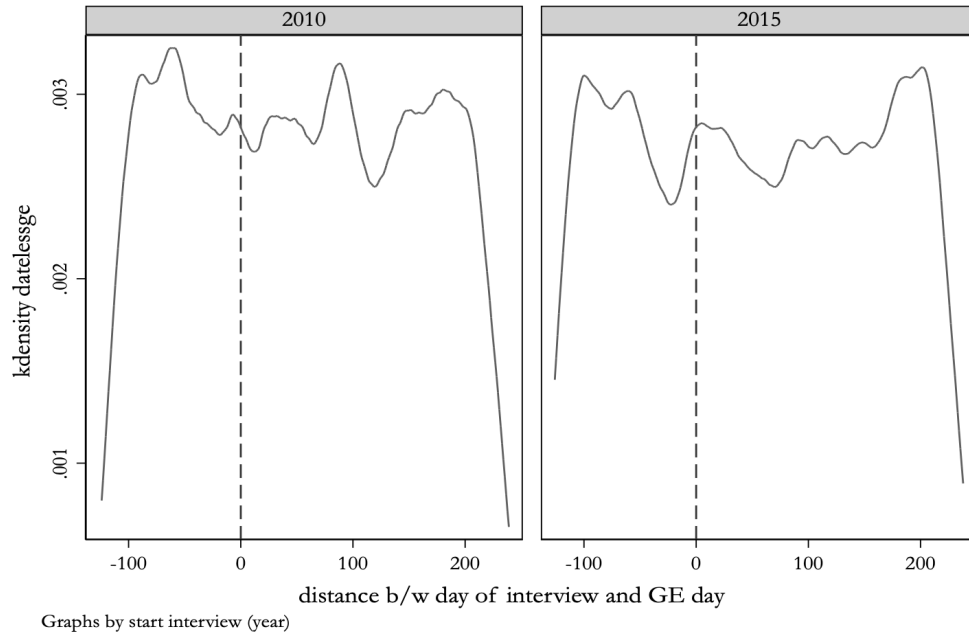
All respondents are asked the first question.<sup>17</sup> Those who reply negatively, are then asked the second, then the third if they keep providing a negative answer. Lastly, individuals are allowed to reply that they would vote for no party in the final question. I use these variables to proxy for respondents' willingness to turnout in general elections.

At the time of the analysis, interviews were conducted in eight semi-overlapping waves, each of 24 months, covering the 2009-2017 period (I disregard the first and last year as the number of respondents interviewed is negligible). Hence, I focus on individuals starting their questionnaire in either 2010, 2015 or both years, which correspond to general elections years. The analysis implemented with these data looks separately at responses provided before and after the election date. Figure 4 illustrate that the daily frequency of data collection is similar within years.

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<sup>17</sup>I exclude inapplicable respondents, missing answers and those who refuse to reply the first question.

Figure 4: Distribution of survey responses by interview date



Note: Density of respondents by date they started filling-in the USOC questionnaire relative to the general election date (dashed vertical line).

Table 3: Summary statistics (individual-level analysis)

VARIABLES	Before general election					After general election				
	N	Mean	Sd	Max	Min	N	Mean	Sd	Max	Min
Do not support any party	30,441	0.683	0.465	1	0	56,542	0.633	0.482	1	0
Do not feel close to any party	20,716	0.723	0.448	1	0	35,675	0.692	0.462	1	0
Would vote for no party tomorrow	12,171	0.400	0.490	1	0	21,371	0.398	0.490	1	0
Pollmargin <sub>w1</sub>	30,437	0.0485	0.0372	0.117	0	51,407	0.0546	0.0322	0.140	0
# of polls <sub>w1</sub>	30,441	12.41	6.152	28	0	56,542	4.831	3.652	23	0
Pollmargin <sub>w2</sub>	30,441	0.0493	0.0374	0.113	0	56,455	0.0568	0.0322	0.140	0.0006
# of polls <sub>w2</sub>	30,441	21.92	10.75	47	2	56,542	9.554	7.166	44	0
Pollmargin <sub>w3</sub>	30,441	0.0500	0.0375	0.112	0	56,542	0.0561	0.0306	0.120	0
# of polls <sub>w3</sub>	30,441	30.57	14.50	67	6	56,542	14.79	11.31	64	1
Pollmargin <sub>w4</sub>	30,441	0.0507	0.0377	0.120	0	56,542	0.0556	0.0295	0.115	0.0003
# of polls <sub>w4</sub>	30,441	38.55	17.57	89	11	56,542	20.44	15.74	83	2
Adj. margin <sub>t-1</sub>	26,353	0.370	0.225	0.883	0.0011	49,012	0.364	0.223	0.883	0.0011

Notes: All margins are in absolute terms.

The panel used in the analysis combines the questions just described with previous election *Adj.margin* and other electoral outcomes for the constituency where the respondent resides, as well as *Pollmargin* and the corresponding number of polls. *Pollmargin* is now constructed averaging all opinion polls individuals were exposed to during a one to four weeks window

preceding their interview date. Table 3 illustrates descriptive statistics. Looking at the first three indicator variables, there is a significant level of disengagement among respondents, which is more pronounced before elections. On the one hand, opinion polls margins are on average smaller, display higher variability and are more numerous before elections. On the other, polls margins mean and variances are similar across windows of different length and, unsurprisingly, the larger the window the higher the number of polls respondents are exposed to.

## 2.4 Empirical approach

To test the hypothesis that opinion poll information interacts with voters' local historical preferences and thus significantly impacts electoral outcomes, I consider the following specification:

$$y_{c,t} = \beta \text{Pollmargin}_{w,t} * \text{Adj.margin}_{c,t-1} + \delta \text{Adj.margin}_{c,t-1} + \gamma' X_{c,t} + \epsilon_{c,t} \quad (3)$$

where subscripts indicate constituency  $c$ , general election  $t$  and a weekly window  $w$  before the election day.<sup>18</sup> The dependent variable  $y$  is either turnout or  $HHI$ ;  $X_{c,t}$  is a vector of controls that varies by specification (i.e. constituency, year or region-by-year fixed effects). The  $\beta$  coefficient captures the mechanism under investigation. Given that both  $\text{Pollmargin}_{w,t}$  and  $\text{Adj.margin}_{c,t-1}$  are measured before the vote is realized, I can exclude issues of reverse causality. Different fixed effects rule-out: (a) time invariant constituency specific factors (e.g. geographic factors); (b) election specific effects (e.g. intensity of national campaign or perceived importance of the election);<sup>19</sup> and (c) relevant circumstances specific of a certain region during a given election (e.g. strength of local parties). This specification cannot exclude that aggregate results may be driven by factors specific to a certain constituency in a given election. However, coherent evidence paired with party level analysis (section 3.3) and further individual level evidence (section 3.4) corroborate the main strategy.

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<sup>18</sup> $\text{Pollmargin}$  is calculated respectively in the last, second-to-last, third-to-last or forth-to-last week preceding the election day.

<sup>19</sup>Year fixed effects are collinear with covariates varying at the national level over time, e.g.  $\text{Pollmargin}$  alone cannot be included in the current specification. Subsequent individual level analysis allows to separately identify  $\text{Pollmargin}$ .

To test whether polls and previous electoral results have a joint impact on party specific outcomes, I estimate the following model:

$$y_{p,c,t} = \sum_{i \in \{0,1\}} \sum_{j \in \{0,1\}} \beta_{ij} * Adj.margin_{c,t-1} * I_{p,c,t,i,j} + \gamma' X_{p,c,t} + \epsilon_{p,c,t} \quad (4)$$

where  $y$  are party vote shares and probability of winning (i.e. an indicator for whether that party candidate becomes the new MP), and subscript  $p$  indicates either Labour or Conservative party.  $I_{p,c,t,i,j}$  is an indicator for the group a party can belong to (in some constituency for some election). Specifically: (a)  $I_{p,c,t,0,0}$  takes value one if the party is neither the incumbent at the local level nor is leading national polls; (b)  $I_{p,c,t,0,1}$  takes value one if the party is not the incumbent at the local level but is leading national polls; (c)  $I_{p,c,t,1,0}$  takes value one if the party is the incumbent at the local level but is predicted to lose at the national level; finally (d)  $I_{p,c,t,1,1}$  takes value one if the party is the incumbent at the local level and is also predicted to win at the national level. The coefficients of interest are  $\beta_{ij}$ .  $X_{p,c,t}$  is a vector of controls that includes: an indicator for whether the party is the local incumbent; an indicator for whether the party is leading national polls; and an indicator for whether the party is both the local incumbent and the national polls leader. In addition,  $X_{p,c,t}$  can here include two more sets of fixed effects than equation (3): party level indicators and constituency-by-year fixed effects. The most demanding specification rules out that results are driven by factors specific to a constituency in a certain general election, e.g. the strength of the local campaign (more on this in section 3.3). Holding all these factors fixed, it is difficult to argue that other factors are affecting all outcomes, at different level of analysis, in a similar way. Hence, the coefficients of interest should capture a causal impact of the interaction between polls and local preferences.

To corroborate the main results, I perform an analysis similar to that in equation (3), but exploiting individual level variation in the following model:

$$y_{i,c,t} = \beta Pollmargin_{i,w,t} * Adj.margin_{c,t-1} + \lambda Pollmargin_{i,w,t} + \delta Adj.margin_{c,t-1} + \gamma' X_{c,t} + \epsilon_{i,c,t} \quad (5)$$

where  $y$  is either an indicator for whether the respondent  $i$  answered that she does not support any party; or a dummy taking value one if the interviewee responded that she neither

supports, nor feels close, nor would vote for any party tomorrow. These outcome variables proxy individuals willingness to participate in the election.  $X_{c,t}$  is a vector of controls that varies across specifications (i.e. constituency effects, year effects or both) and captures time invariant constituency specific factors as well as election specific features. *Pollmargin* is the exposure to a certain time window of opinion polls preceding the interview starting date of each respondent. Each individual is therefore exposed to a quasi-random polling information at the time of the interview, exogenous to her political engagement.<sup>20</sup> *Adj.margin* is a proxy for safeness of each respondents' constituencies. The individual variation enables to separately identify the impact of the two margins.

### 3 Results

Results from the above specifications are presented in this section. I begin by focusing on how pre-election polls and the electoral history of a constituency affect voters' participation. Next, I show how these factors impact the concentration of vote shares in a constituency. I then report evidence of the link between party level outcomes (i.e. vote share and probability of victory) and the explanatory variables of interest. Finally, I present individual-level evidence supporting the main effect on participation.

#### 3.1 Voters' Participation

I start presenting motivating evidence that both the margin predicted by the national opinion polls *and* the margin in the previous general election at the constituency level capture significant variation in voters' participation.

Columns (1) to (4) of Table 4 display correlations between turnout and national polls at different points in time (i.e. *w1* indicates the week preceding the election, etc.). As polls vary at the national level, these specifications can only control for time invariant constituency characteristics. Thus, coefficients should be interpreted with caution. The estimates suggest that the more opinion polls predict a non-competitive election, the lower is voters' participation.<sup>21</sup> Columns (5) and (6) examine the link between turnout and margin in previous

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<sup>20</sup>In the USOC survey, each monthly sample is a representative random sample of the total population.

<sup>21</sup>One standard deviation wider predicted margin is associated with a decrease in turnout which varies between 0.11 p.p. and 0.97 p.p.. These results are comparable in sign and magnitude to those found by other

elections. Since this explanatory variable is measured at the constituency level, the models can absorb year and region-by-year fixed effects. The reported coefficients indicate that safer seats (i.e. constituencies where previous election margin is large) are associated with lower turnout.<sup>22</sup>

Table 4: Opinion polls, safeness of a constituency and turnout

	Dep. var.: Turnout					
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w1</sub>	-0.0178** (0.0071)					
Pollmargin <sub>w2</sub>		-0.0849*** (0.0073)				
Pollmargin <sub>w3</sub>			-0.1503*** (0.0070)			
Pollmargin <sub>w4</sub>				-0.0571*** (0.0060)		
Adj. margin <sub>t-1</sub>					-0.0484*** (0.0040)	-0.0425*** (0.0043)
Constituency FE	X	X	X	X	X	X
Year FE					X	
Region*Year FE						X
Observations	5,599	5,599	5,599	5,599	4,676	4,676
R-squared	0.4286	0.4323	0.4423	0.4310	0.9240	0.9458

Notes: *Turnout* is the ratio between the total number of votes and the number of eligible voters of a constituency. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in a certain time frame, subscripts indicate a specific week before the election date (1=last, ..., 4=fourth to last). *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

While these two sets of results provide evidence of two quite intuitive relationships, they are only partially compelling. In a context like that of the UK general elections, where local MPs are elected via a first-past-the-post system, it is reasonable to hypothesize that the information spread by the opinion polls may affect electoral outcomes differently depending on previous local preferences. To test this hypothesis I now focus on the joint impact of the two factors.

scholars, e.g. Bursztyn et al. (2017).

<sup>22</sup>One standard deviation increase in safeness of a constituency is associated with a decrease in turnout between 9.4 p.p. and 10.7 p.p..



Table 5 presents estimates of equation (3), where the dependent variable is local turnout. Odd columns include constituency and year fixed effects, even columns replace year dummies with region-by-year fixed effects. Across specifications coefficients are negative and significant, suggesting that the less competitive the election is predicted to be, the lower is turnout. Even more so in safer constituencies. In addition, the effect of the polls is stronger the closer the election date, i.e. when the information is relevant for the participation decision. The coefficient of  $Adj. margin_{t-1}$  is also negative and significant across specifications, indicating that participation is lower in safe seats even when polls predict a tight race. Reassuringly, the magnitude of the coefficients is only marginally influenced by different fixed effects.<sup>23</sup>

Table 5: Opinion polls, safeness of a constituency and their joint effect on turnout

	Dep. var.: Turnout							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.1775*** (0.0291)	-0.1763*** (0.0275)						
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>			-0.1585*** (0.0291)	-0.1716*** (0.0273)				
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>					-0.1112*** (0.0244)	-0.1281*** (0.0226)		
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>							-0.0641*** (0.0187)	-0.0708*** (0.0173)
Adj. margin <sub>t-1</sub>	-0.0343*** (0.0050)	-0.0287*** (0.0051)	-0.0354*** (0.0050)	-0.0288*** (0.0051)	-0.0386*** (0.0048)	-0.0314*** (0.0050)	-0.0422*** (0.0046)	-0.0357*** (0.0047)
Constituency FE	X	X	X	X	X	X	X	X
Year FE	X		X		X		X	
Region*Year FE		X		X		X		X
Observations	4,676	4,676	4,676	4,676	4,676	4,676	4,676	4,676
R-squared	0.9247	0.9463	0.9246	0.9463	0.9244	0.9461	0.9242	0.9459

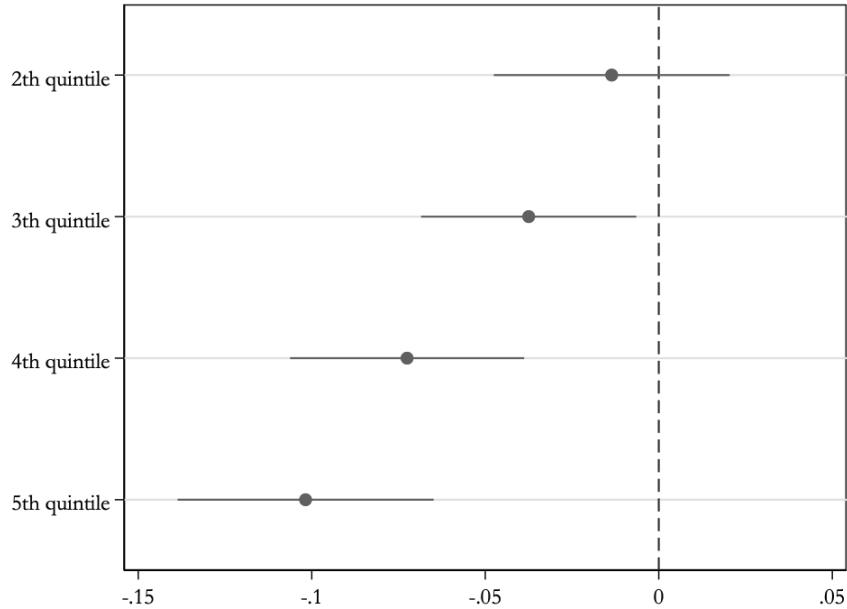
Notes: *Turnout* is the ratio between the total number of votes and the number of eligible voters of a constituency. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in a certain time frame, subscripts indicate a specific week before the election date (1=last, ..., 4=fourth to last). *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

In terms of magnitudes, a 10 p.p. increase in the previous election margin is associated with a decrease in turnout between 0.4 and 0.5 p.p. when polls predict a 10 p.p. (absolute) difference between Conservative and Labour. Instead, a 10 p.p. increase in polls margin in the most contested constituency (in previous election) is associated with a negligible reduction in voters' participation. On the other hand, the same variation in polls margin in the safest constituency leads to a reduction in turnout between 1.6 and 0.6 p.p. depending on whether the polls are released close to or far away from the election day. For this reason,

<sup>23</sup>Results in Table A.2 show that the joint effect is stronger in constituencies where the incumbent party is also the one leading the polls.

I now focus on the most recent polls margins (i.e. those released in the week preceding the election). Furthermore, the electorate decision to vote vary significantly with the degree of safeness of a constituency: the following figure provides support to this claim.

Figure 5: Participation effect by degree of safeness of a constituency



Note: Graph displays estimated coefficients for the interaction between  $Pollmargin_{w1}$  and quintiles of  $Adj.margin_{t-1}$ . Equivalent to the specification in column (2) of Table 5 .

Figure 5 breaks down the coefficient of the interaction term previously reported in column (2) of Table 5. According to the graph, the effects of the polls are (almost) linear in the quintiles of safeness distribution. Specifically, the impact for constituencies in the highest quintiles is significantly stronger compared to constituencies in the lowest quintile.

### 3.2 Vote shares concentration

This section shifts focus towards the concentration of vote shares. This index considers every competing party in a constituency, therefore allowing more general conclusions.

Table 6 displays estimates from equation (3), where the dependent variable is the sum of squares of constituency vote shares. Looking at the whole sample, the reported coefficients in column (1) and (2) indicate that safer seats are associated with greater concentration of votes. However, this effect is significantly reduced the larger the predicted poll margin,

remaining positive on average. Yet, the negative coefficient on the interaction term seems to mask evident heterogeneity.

Table 6: Opinion polls, safeness of a constituency and their joint effect on HHI

	Dep. var.: HHI							
	All sample		Incumbent party is leading polls		Incumbent party is not leading polls		Follower party is leading polls	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.2651*** (0.0514)	-0.1602*** (0.0503)	0.2829*** (0.0710)	0.3549*** (0.0747)	-0.5428*** (0.0562)	-0.5498*** (0.0629)	-0.8185*** (0.1248)	-0.6905*** (0.1361)
Adj. margin <sub>t-1</sub>	0.0606*** (0.0065)	0.0474*** (0.0067)	0.0649*** (0.0121)	0.0296** (0.0116)	0.0908*** (0.0133)	0.0896*** (0.0123)	0.0900*** (0.0219)	0.1071*** (0.0227)
Constituency FE	X	X	X	X	X	X	X	X
Year FE	X		X		X		X	
Region*Year FE		X		X		X		X
Observations	4,676	4,676	2,306	2,306	2,370	2,370	1,239	1,239
R-squared	0.6747	0.7801	0.8285	0.8831	0.7424	0.8456	0.8920	0.9200

Notes: *HHI* is the sum of squares of constituency-level vote shares for all parties. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the election date. *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Incumbent parties are defined at the constituency level. Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Indeed, repeating the analysis on different sub-samples unveils a more complex picture. Examining constituencies where the incumbent party is also leading the national polls (columns 3 and 4), I observe an increase in the concentration index in safer seats, which is magnified by the national polls predicting a less competitive election. These result could be explained with decreased relative turnout by supporters of the parties opposing the incumbent. Conversely, when the party ahead in the national polls does not coincide with the incumbent one (columns 5 and 6), the coefficient of the interaction is negative and larger in magnitude if compared to the previous case. This indicates that concentration of vote shares in safer seats is diminished when the polls report a larger lead in favour of one of the incumbent's opponents. This may reflect a scenario where the votes cast for parties opposing the incumbent become more fragmented at the local level. Similarly, I observe that larger polls margin reduces the positive effect of safeness on the HHI index also in constituencies where the party that came second in the previous election (the follower) is currently ahead in the national polls (columns 7 and 8).<sup>24</sup>

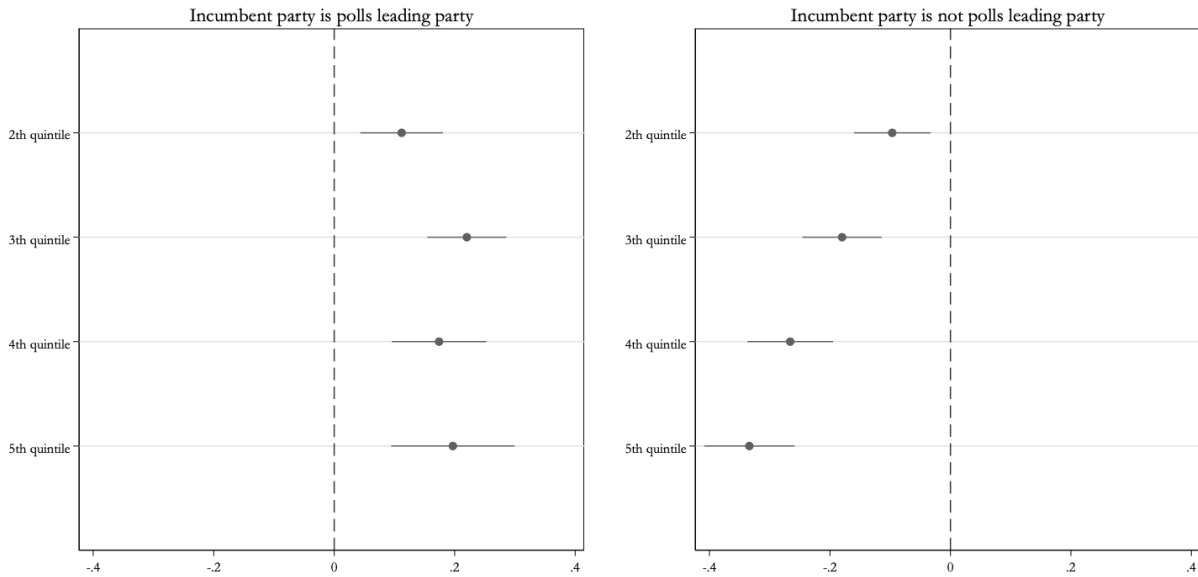
In terms of magnitudes, when referring to the cases reported in columns (3) and (4), I observe that one standard deviation increase in safeness increases the concentration index

<sup>24</sup>Note that as I drop a considerable number of observations in columns (5) to (8), estimates precision is negatively affected; thus I cannot reject the hypothesis that the effect of *Pollmargin*<sub>w1</sub> \* *Adj.margin*<sub>t-1</sub> is the same in the different specifications.

relative to its mean between 3.2 and 4.9 percent, given average polls margin; on the other hand, one standard deviation increase in the margin reported by the polls raises the concentration index relative to its mean between 1.4 and 1.8 percent, in a constituency with average previous election margin. Moving the attention to columns (5) and (6), I note that an additional standard deviation in safeness, given average polls margin, induces a 3 percent upward shift in HHI, relative to its mean; instead, a one standard deviation increment in polls margin, considering an average level of safeness, is associated with a 3 percent drop in concentration relative to its mean.

In general, the illustrated heterogeneity suggests the following: concentration of votes always increases in safer seats; larger polls margins enhance this effect when the information they provide is coherent with the recent electoral history of a constituency, while they significantly attenuate the impact of safeness otherwise.<sup>25</sup>

Figure 6: HHI effect by degree of safeness of a constituency



Note: Graph displays estimated coefficients for the interaction between  $Pollmargin_{w1}$  and quintiles of  $Adj.margin_{t-1}$ . Equivalent to the specification in column (4) and (6) of Table 6 .

Figure 6 breaks down the joint effect of polls margin and safeness by quintiles of safeness distribution. Estimates are equivalent to those in columns (4) and (6) of Table 6. Constituencies experience a similar impact on vote share concentration when the local in-

<sup>25</sup>In the latter case, there exist levels of polls margin such that the overall effect of increased safeness becomes negative.

cumbent party is leading the national polls. In the opposite scenario, the effect appears significantly stronger in safer seats.

### 3.3 Vote shares and probability of winning

The analysis of turnout and HHI only partially explains how votes are redistributed across political forces. In what follows I shed light on how national polls together with electoral history of a constituency affect party level outcomes.

Table 7: Previous election margin, vote share and winning probability

	Vote Share			Dep. var.:		
	(1)	(2)	(3)	(4)	(5)	(6)
Adj. $margin_{t-1} * I_{Inc} * I_{Pl}$						
Incumbent=0 & Pollleader=0	-0.2958*** (0.0096)	-0.2806*** (0.0105)		-0.1579*** (0.0267)	-0.1360*** (0.0288)	
Incumbent=0 & Pollleader=1	-0.3522*** (0.0090)	-0.3588*** (0.0099)	-0.2555*** (0.0452)	-0.5241*** (0.0334)	-0.5514*** (0.0348)	-0.6334*** (0.1274)
Incumbent=1 & Pollleader=0	0.2509*** (0.0090)	0.2484*** (0.0097)	0.3724*** (0.0465)	0.5301*** (0.0386)	0.5141*** (0.0408)	0.4757*** (0.1433)
Incumbent=1 & Pollleader=1	0.2353*** (0.0090)	0.2579*** (0.0086)	0.5887*** (0.0112)	0.1623*** (0.0321)	0.2023*** (0.0322)	0.4134*** (0.0509)
Controls	X	X	X	X	X	X
Party FE	X	X	X	X	X	X
Constituency FE	X	X		X	X	
Year FE	X			X		
Region*Year FE		X			X	
Constituency*Year FE			X			X
Observations	9,352	9,352	9,352	9,352	9,352	9,352
R-squared	0.8212	0.8299	0.8674	0.6922	0.6997	0.7308

Notes: Dependent variables are: constituency-level party vote shares, and an indicator for whether the party won the constituency race.  $Pollmargin$  is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the election date.  $Adj.margin$  is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ .  $I_{Inc}$ =indicator for whether a party is the constituency-level incumbent and  $I_{Pl}$ =indicator for whether a party is leading the polls. Controls include:  $I_{Inc}$ ;  $I_{Pl}$ ; and their interaction. Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 7 reports estimates of equation (4), where the dependent variables are either party vote shares or an indicator for the winning party. Given the additional party level variation, I can now include constituency-by-year fixed effects, which allow to control for potential confounders, such as constituency specific intensity of the campaign in a given election, or the presence of a specific candidate for local MP (columns 3 and 6). Note that the incumbent

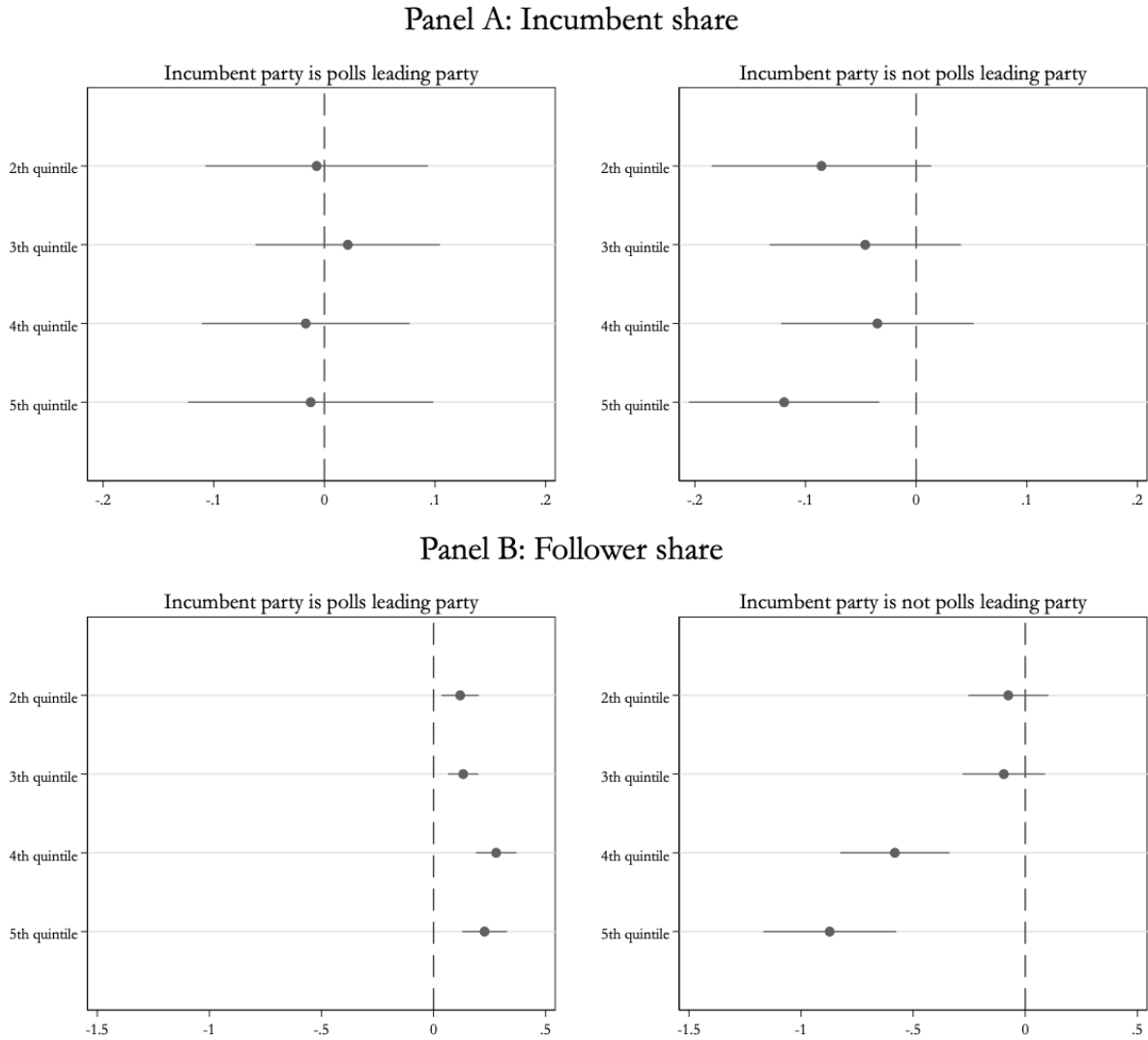
party is the one associated to the constituency MP elected in the previous general election, while either Conservative or Labour are the only parties leading national opinion polls as in Figure 2.

What consistently emerges across specifications is the following. First, local non-incumbent parties that are behind in the polls get increasingly lower vote shares and probability of victory, the safer is the constituency. Second, a similar effect is reported for local non-incumbents that are leading the national polls. It appears that, no matter the national trends, if the local incumbent party was strongly favoured in the past, local opponents will revert the order with difficulty. Third, if local incumbents obtained a solid victory in the previous election, their vote shares and chances of victory will increase independently of whether their party is leading the national polls. Note that the increase in chances of victory induced by an equal increase in safeness is systematically higher for incumbent parties that are behind in the polls. Fourth, the enhanced model in columns (3) and (6) does not have a significant impact on the estimated coefficients of interest.

The results just described provide further insights. Cases where the incumbent party and the party leading the polls do not coincide constitute examples of possible upset victories, as polls predictions may not be met at the constituency level. A possible explanation is that voters in a constituency which is safe could fear that another party may win the local race due to the predicted scenario at the national level; the uncertainty may motivate higher relative participation by the supporters of the local incumbent. In addition, results from Table 6 suggest this would go hand in hand with a more fragmented opposition. Conversely, when results appear to be quite certain (i.e. incumbent and poll leading party coincide) part of the electorate may think their vote would not make much of a difference and eventually not turn out at the ballots. This may be especially true for supporters of minor parties, consistently with Table 6. These results are also aligned with finding a negative effect on turnout in Table 5, which is even stronger when analysing this same sub-sample (see Table A.2).

I now present graphical analysis where I display the effect of the polls by quintiles of safeness distribution on these two outcomes of interest, considering distinctly (local) incumbent and follower parties. Estimates underlying the next figures are available in table format in the appendix (see Table A.4).

Figure 7: Share effect by degree of safeness of a constituency



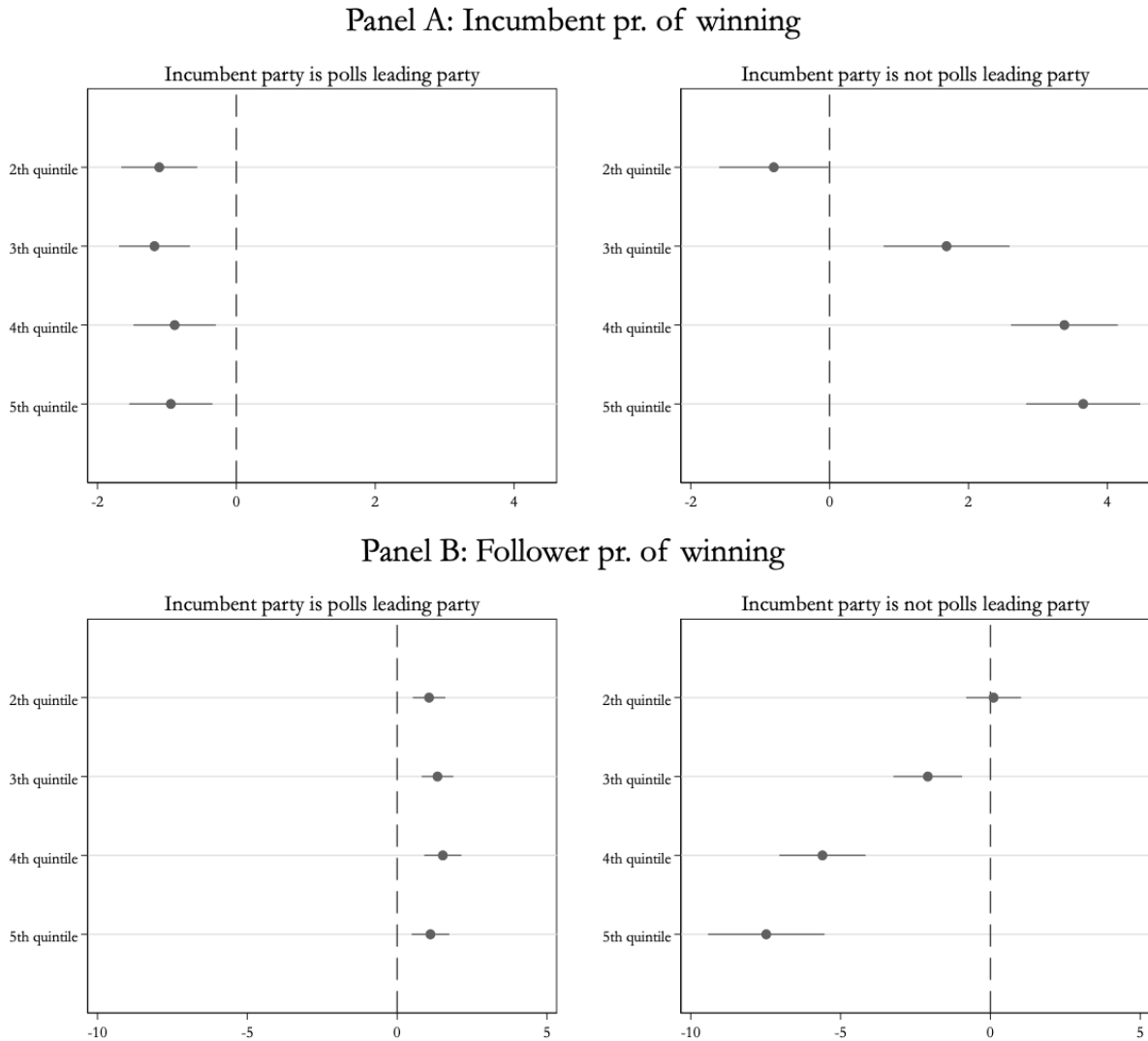
Note: Graph displays estimated coefficients for the interaction between  $Pollmargin_{w1}$  and quintiles of  $Adj.margin_{t-1}$ . Equivalent to the specification in column (1-4) of Table A.4 .

Panel A of Figure 7 shows that vote shares for incumbent parties are not statistically affected by variations in polls margin and do not differ systematically across safe and non-safe constituencies independently of whether their party is leading the polls (see also Table A.4, columns 1 and 2).<sup>26</sup> The left graph of Panel B, together with results from column (3) of Table A.4, shows that polls margin has a positive effect on the vote shares of the followers when the incumbent party is leading the polls, and the effect appears to be slightly stronger

<sup>26</sup>With the exception of constituencies in the highest quintile of safeness distribution.

in safer constituencies. On the right of Panel B (i.e. considering constituencies where the incumbent party is behind in the polls) I observe that polls margin has a negative impact on the vote shares of the followers, and that the interquintile difference in the estimated impact is more pronounced, with coefficients being larger in safer seats. However, whether polls margin affect the final results is not clear from looking at vote shares alone. I thus replicate these graphs focusing on the chances of victory.

Figure 8: Pr. of winning effect by degree of safeness of a constituency



Note: Graph displays estimated coefficients for the interaction between  $Pollmargin_{w1}$  and quintiles of  $Adj.margin_{t-1}$ . Equivalent to the specification in column (5-8) of Table A.4 .

Figures 7 and 8 deliver consistent insights which can be interpreted in light of previous sec-



tions. First, when the local incumbent party is leading the polls, the reduction in turnout associated with larger polls margin seems detrimental for the incumbent party and beneficial for the follower. While this does not fully emerge by looking at vote shares, it is quite evident in the analysis of the probability of victory. All in all, these figures go along with the findings in Table 6, which report enhanced vote shares concentration. Second, when the local incumbent is behind in the polls, it consistently emerges that incumbents in safer seats gain more both in terms of vote shares and probability of victory as the polls predict a larger gap in favour of opposing parties. This could be explained by two complementary factors: on the one hand, supporters of the incumbents may turn out more in response to the rising success of the opposition; on the other hand, the composition of votes cast in favour of opposing parties may change, becoming more fragmented. As a consequence, if the latter effect offsets the former, polls prediction may lead to lower concentration of vote shares, consistently with the results displayed in Table 6. For instance, consider the following numerical example, as displayed in Table 8. Take the hypothetical scenario presented in column (1), of a constituency where the previously elected MP is Labour and the national polls predict a positive margin in favour of the Conservative party. In column (2) I show how an increase in polls margin in favour of the Conservative party may change the electoral outcomes.

Table 8: Numerical example

	<b>Case: Incumbent party = Labour; Poll leading party = Conservative</b>	
	<i>Pollmargin (Con &gt; Lab)</i>	<i>Pollmargin (Con &gt;&gt; Lab)</i>
	(1)	(2)
Turnout	71%	68%
Share Lab	52%	53%
Share Con	27%	21%
Share LD	20%	21%
Share UKIP	1%	5%
HHI	0.38	0.37

Notes: The table illustrates a hypothetical scenario which assumes a constituency with a previously elected Labour MP (constituency-level incumbent) and national polls favouring the Conservative party. The opinion poll margin is more competitive in column (1) and less competitive in column (2). Coherent with the evidence presented above, column (2) thus shows possible changes in the outcome variables listed for an increase in *Pollmargin*.

Consistently with results in Table 5, turnout would diminish. Then, as discussed in the

party-level analysis, I would observe an increase in the vote share for the incumbent party (Labour in this example) and a reduction in that of the follower. Moreover, in line with findings reported in Table 6, I could observe higher fragmentation of vote shares, thus a lower level of concentration.

Summing up, the evidence reported so far highlights the presence of a link between voters' participation, vote shares distribution and outcomes at the party level, as they are all coherently affected by national polls and the electoral history of a constituency.

### **3.4 Individual-level evidence**

To this point I used aggregate data to show that electoral history of a constituency and national opinion polls jointly influence voters' behaviour. As a final step, I test the combined influence of these two factors directly looking at their impact on individual variation in political engagement, as a proxy for willingness to participate in general elections.

Table 9 presents estimates of equation (5) where the dependent variable is a dummy taking value one if the respondent does not support any party. The coefficient of interest is that of the interaction between the previous election margin for the constituency of the respondent and the national polls margin that she is exposed to 1 week prior her interview. Estimates are generally sensitive to the inclusion of fixed effects and *Pollmargin* as control, thus magnitudes should be interpreted with caution.

Panel A focuses on individuals interviewed before the general election date. Interaction coefficients are positive and often significant suggesting that the less competitive the election is predicted to be, the higher the chance of voters not supporting any party. More so in safer constituencies. Panel B illustrates estimates for the sample of individuals interviewed after the elections. The interaction term turns now negative or insignificant, suggesting the main impact on participation emerges only when expected, if the information provided by polls is relevant for the voting decision. The negative coefficient may imply some form of ex-post regret from little political engagement.

Table 9: Opinion polls margin interacted with previous election margin and political support (1 week window)

Panel A - Dep. var.:						
Do not support any party ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	0.903*** (0.336) [0.007]	0.870** (0.381) [0.023]	0.479** (0.199) [0.017]	0.564 (0.402) [0.161]	0.591* (0.355) [0.096]	0.568 (0.403) [0.158]
Pollmargin <sub>w1</sub>		0.051 (0.269) [0.851]		-0.041 (0.170) [0.810]		0.031 (0.279) [0.910]
Adj. margin <sub>t-1</sub>	-0.040* (0.023) [0.079]	-0.038 (0.024) [0.111]	0.029 (0.036) [0.431]	0.025 (0.039) [0.516]	0.024 (0.039) [0.545]	0.024 (0.039) [0.539]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,352	26,352	26,352	26,352	26,352	26,352
R-squared	0.000	0.000	0.046	0.046	0.046	0.046
Panel B - Dep. var.:						
Do not support any party ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.493** (0.230) [0.032]	-0.648* (0.367) [0.078]	-0.528** (0.207) [0.011]	-0.295 (0.389) [0.448]	-0.419* (0.236) [0.076]	-0.299 (0.389) [0.441]
Pollmargin <sub>w1</sub>		0.086 (0.163) [0.598]		-0.114 (0.161) [0.480]		-0.065 (0.173) [0.708]
Adj. margin <sub>t-1</sub>	0.031 (0.020) [0.125]	0.040 (0.026) [0.126]	-0.002 (0.037) [0.960]	-0.016 (0.042) [0.697]	-0.003 (0.037) [0.934]	-0.011 (0.042) [0.790]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	44,272	44,272	44,272	44,272	44,272	44,272
R-squared	0.000	0.000	0.027	0.027	0.027	0.027

Notes: The dependent variable is an indicator taking value one if the respondent does not support any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Mirroring results emerge in Table 10, where equation (5) is estimated using a different dependent variable, i.e. indicator for whether the respondent does not support nor feel close

to a political party and would not vote for any. Results are very similar when expanding the opinion polls window individuals are exposed to (see appendix Table A.5 to A.10). The evidence just presented is coherent to the aggregate level analysis of section 3.1.

Table 10: Opinion polls margin interacted with previous election margin and political engagement (1 week window)

Panel A - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>tw1</sub> * Adj. margin <sub>t-1</sub>	0.827*** (0.290) [0.005]	0.478 (0.319) [0.134]	2.005*** (0.161) [0.000]	0.273 (0.315) [0.388]	0.511* (0.279) [0.067]	0.243 (0.315) [0.440]
Pollmargin <sub>tw1</sub>		0.536** (0.261) [0.040]		0.834*** (0.138) [0.000]		0.368 (0.261) [0.159]
Adj. margin <sub>t-1</sub>	-0.060*** (0.017) [0.000]	-0.044*** (0.017) [0.008]	-0.084*** (0.029) [0.004]	-0.016 (0.030) [0.600]	-0.015 (0.029) [0.608]	-0.008 (0.030) [0.792]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,352	26,352	26,352	26,352	26,352	26,352
R-squared	0.009	0.009	0.058	0.060	0.060	0.060
Panel B - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>tw1</sub> * Adj. margin <sub>t-1</sub>	-0.594*** (0.187) [0.002]	-0.169 (0.287) [0.556]	-1.685*** (0.173) [0.000]	0.007 (0.300) [0.981]	-0.675*** (0.188) [0.000]	-0.036 (0.298) [0.903]
Pollmargin <sub>tw1</sub>		-0.236* (0.121) [0.051]		-0.825*** (0.123) [0.000]		-0.347*** (0.127) [0.006]
Adj. margin <sub>t-1</sub>	0.032* (0.017) [0.054]	0.008 (0.022) [0.718]	0.086** (0.034) [0.013]	-0.018 (0.035) [0.604]	0.074*** (0.028) [0.009]	0.032 (0.032) [0.321]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	44,272	44,272	44,272	44,272	44,272	44,272
R-squared	0.010	0.010	0.037	0.038	0.042	0.042

Notes: The dependent variable is an indicator taking value one if the respondent does not support, feel close nor would vote for any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## 4 Conclusion

This work expands the literature on the causal effect of anticipated election closeness on voter participation. I specifically investigate the role of opinion polls in the context of UK general elections for two reasons. First, despite their national nature, voters express electoral preferences for their local MP which allows to use constituency-by-year variation in previous election margin. Second, the institutional stability of the electoral system allows to study the impact of polls in a historical context. Findings suggest that individuals decision to vote depends not only on political orientation, but on the combination of the perceived tightness of the race at the national level (as inferred by the polls) and the electoral history of her constituency (as measured by the local margin of the incumbent party in previous elections). The decision to turnout has then repercussions on electoral outcomes being beneficial to some party and detrimental to others.

I first present consistent evidence that polls predictions and local preferences interact with one another. Precisely, the less competitive the election is predicted to be, the lower is turnout and the effect is larger the safer the seat. This further affects the composition of the electorate increasing the concentration of shares when the two information are aligned and reducing it otherwise. Sensing this could shape final results, I dug deeper into local party outcomes. Evidence shows that, when the local incumbent party is leading the polls, the reduction in turnout associated with larger polls margin seems detrimental for the incumbent and beneficial for the follower, which goes along with enhanced vote shares concentration. On the other hand, when the local incumbent is behind in the polls, incumbents in safer seats gain more as the polls predict a larger gap in favour of opposing parties. This could be explained by a non-reduction in incumbent support coupled with a fragmentation of the opposition, leading to a reduction in concentration of shares. Finally, I exploit quasi-random individual-level exposure to opinion polls to corroborate the above findings that the interaction of polls predictions and past local preferences influences voters' political engagement. Relationship which emerges only before an election, when opinion polls are relevant to voters.

In synthesis, the extensive set of findings points coherently in one direction: national opinion polls and the political roots of a constituency play a key role in shaping local electoral results. This underlines the importance of welfare considerations when referring to dif-

ferent polling systems. This is due to opinion polls potential to shape electoral outcomes deviating from more genuine counterfactual results. In addition, it seems that the existence of safe seats, due to its impact on turnout, may result in enlarging the pool of voters who feel disenfranchised and without voice, which may foster more extreme policy positions. This could have repercussions on the quality of elected politicians and possibly lead to radical outcomes which entail strong economic consequences (e.g. the Brexit vote).

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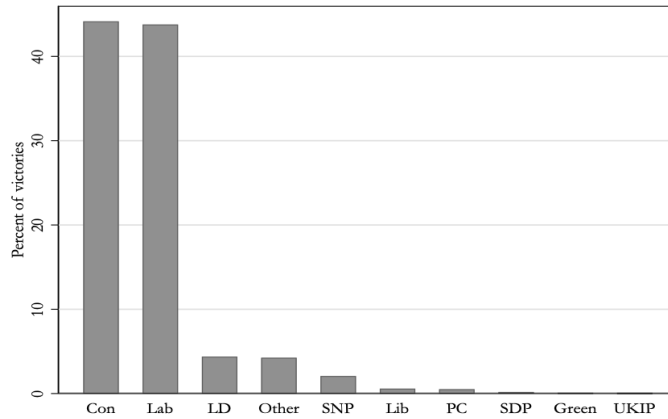
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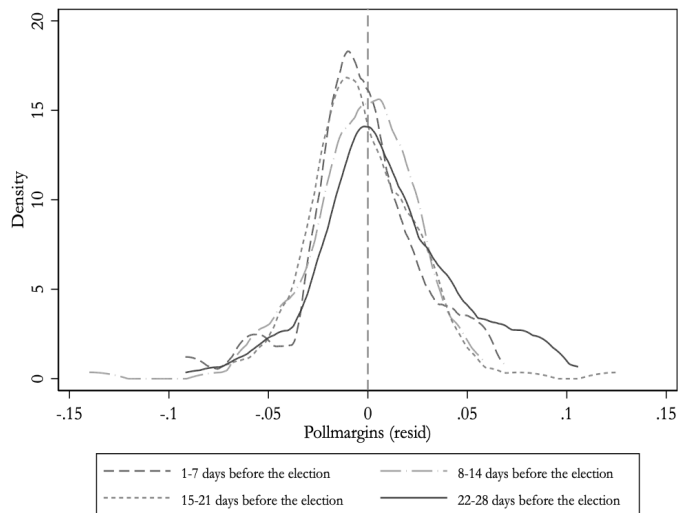
# Appendix

Figure A.1: Party victories across all seats in 1983-2017 general elections



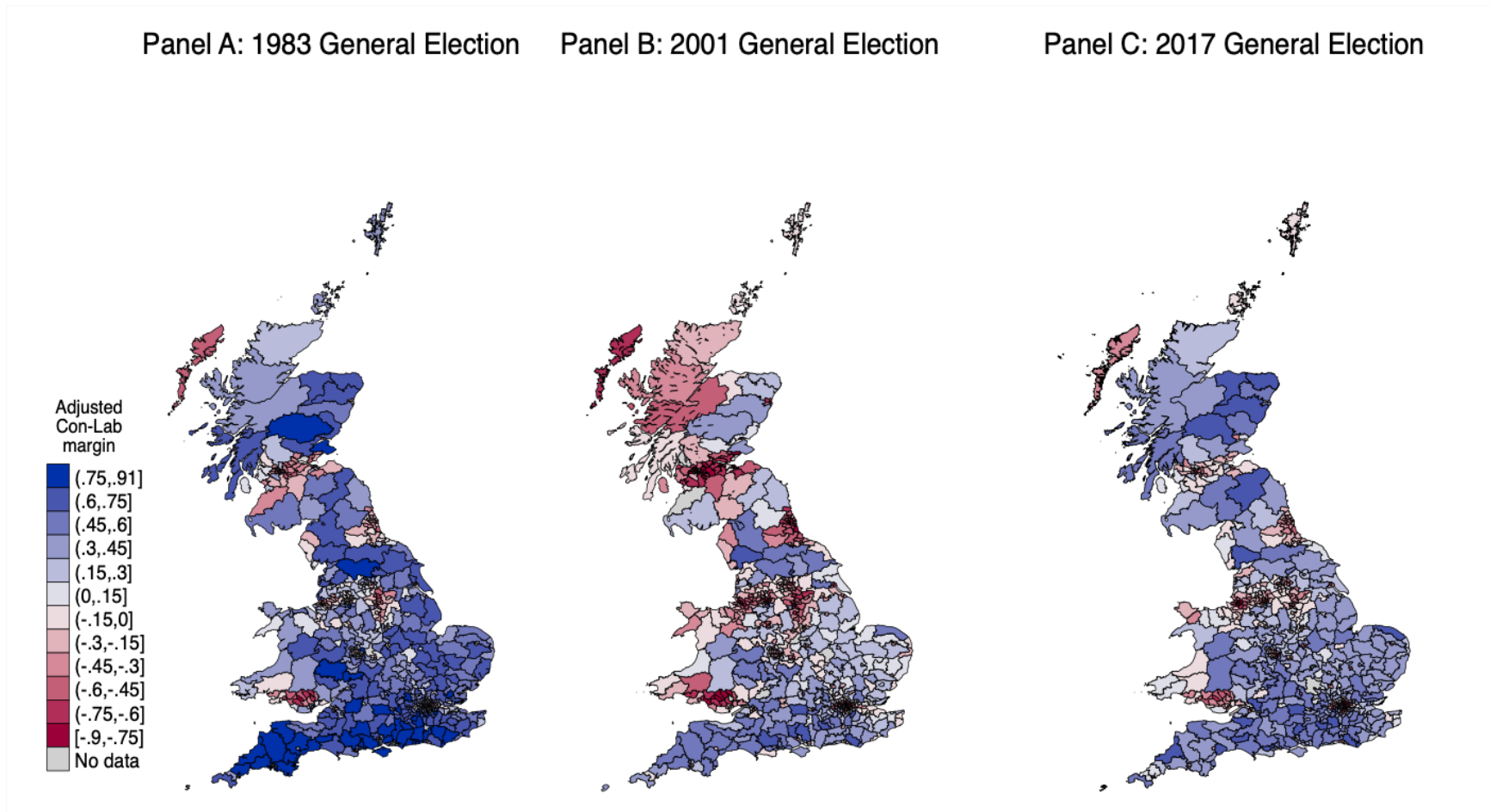
Note: Bars represent the share of winning candidates associated to each party across the full sample of constituencies (seats) across all general elections from 1983 to 2017.

Figure A.2: Variation in polls margins in different weeks preceding the elections



Note: Residual variation in the polls margins after controlling for election fixed effects. Margins are in absolute terms.

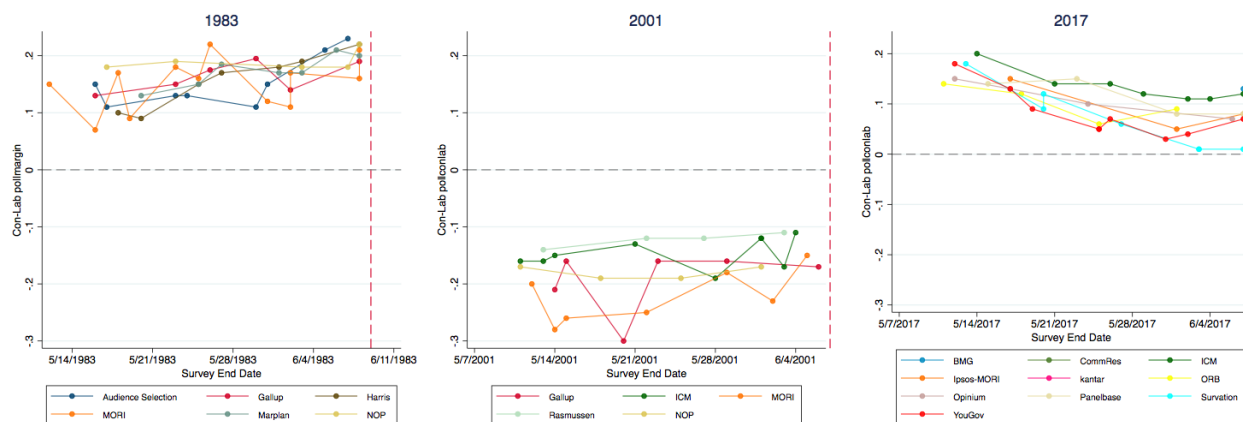
Figure A.3: Adjusted margin of victory across general elections (Conservative - Labour) in absolute terms



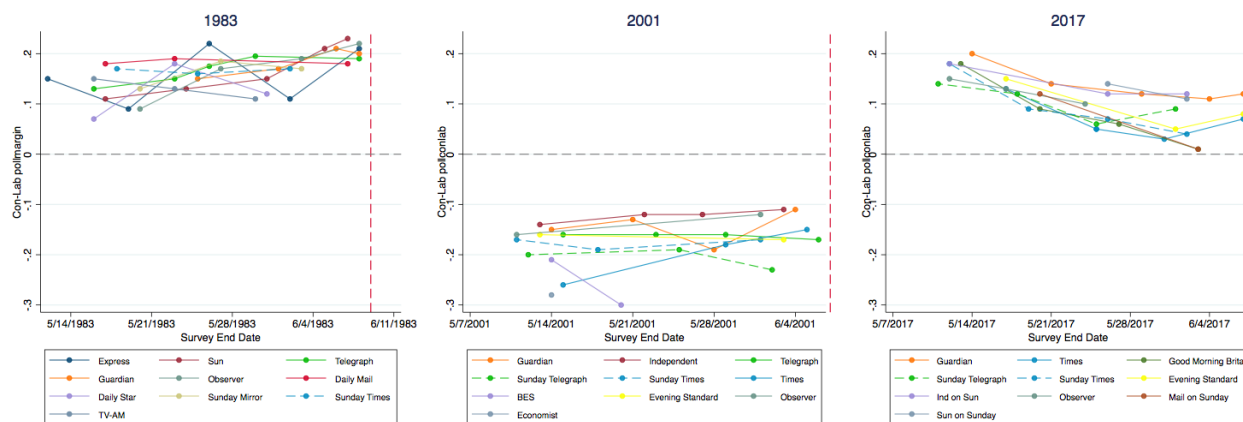
Note: Shades map the variation in vote share margin between Conservative and Labour parties across general elections, adjusted dividing by the sum of the two party shares. Blue shades refer to seats favouring the conservative candidate, red shades refer to seats favouring the labour candidate.

Figure A.4: Weekly variation in polls margins

**Panel A: Variation by pollster**



**Panel B: Variation by publisher**



Note: Estimates show opinion poll margins between Conservative and Labour parties in a given week before the general election date and across general elections. Colors represent pollsters (panel A) or publishers (panel B) associated to each estimated margin.

Table A.1: Opinion polls, safeness of a constituency and turnout

	Dep. var.: Turnout									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Pollmargin <sub>w1</sub>	-0.0178** (0.0071)	-0.0024 (0.0070)								
# of polls <sub>w1</sub>		0.0006*** (0.0001)								
Pollmargin <sub>w2</sub>			-0.0849*** (0.0073)	-0.0522*** (0.0074)						
# of polls <sub>w2</sub>				0.0008*** (0.0001)						
Pollmargin <sub>w3</sub>					-0.1503*** (0.0070)	-0.1600*** (0.0078)				
# of polls <sub>w3</sub>						-0.0003** (0.0001)				
Pollmargin <sub>w4</sub>							-0.0571*** (0.0060)	-0.0893*** (0.0067)		
# of polls <sub>w4</sub>								-0.0022*** (0.0002)		
Adj. margin <sub>t-1</sub>									-0.0484*** (0.0040)	-0.0425*** (0.0043)
Constituency FE	X	X	X	X	X	X	X	X	X	X
Year FE									X	
Region*Year FE										X
Observations	5,599	5,599	5,599	5,599	5,599	5,599	5,599	5,599	4,676	4,676
R-squared	0.4286	0.4295	0.4323	0.4341	0.4423	0.4424	0.4310	0.4400	0.9240	0.9458

Notes: *Turnout* is the ratio between the total number of votes and the number of eligible voters of a constituency. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in a certain time frame, subscripts indicate a specific week before the election date (1=last, ..., 4=fourth to last). *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.2: Opinion polls, safeness of a constituency and their joint effect on turnout

	Dep. var.: Turnout					
	All sample		Incumbent party is leading polls		Incumbent party is not leading polls	
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.1775*** (0.0291)	-0.1763*** (0.0275)	-0.2392*** (0.0615)	-0.2945*** (0.0563)	-0.0534* (0.0302)	-0.0717** (0.0285)
Adj. margin <sub>t-1</sub>	-0.0343*** (0.0050)	-0.0287*** (0.0051)	-0.0347*** (0.0102)	-0.0476*** (0.0089)	-0.0087 (0.0085)	-0.0014 (0.0072)
Constituency FE		X	X	X	X	X
Year FE		X		X	X	
Region*Year FE			X	X		X
Observations		4,676	4,676	2,306	2,306	2,370
R-squared		0.9247	0.9463	0.9498	0.9655	0.9313

Notes: *Turnout* is the ratio between the total number of votes and the number of eligible voters of a constituency. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the election date. *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Incumbent parties are defined at the constituency level. Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.3: Opinion polls, safeness of a constituency and their joint effect on HHI

	Dep. var.: HHI							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.2651*** (0.0514)	-0.1602*** (0.0503)						
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>			-0.2491*** (0.0522)	-0.1517*** (0.0504)				
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>					-0.2494*** (0.0476)	-0.1536*** (0.0449)		
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>							-0.2495*** (0.0410)	-0.1519*** (0.0388)
Adj. margin <sub>t-1</sub>	0.0606*** (0.0065)	0.0474*** (0.0067)	0.0599*** (0.0066)	0.0470*** (0.0067)	0.0615*** (0.0064)	0.0482*** (0.0064)	0.0636*** (0.0060)	0.0495*** (0.0060)
Constituency FE	X	X	X	X	X	X	X	X
Year FE	X		X		X		X	
Region*Year FE		X		X		X		X
Observations	4,676	4,676	4,676	4,676	4,676	4,676	4,676	4,676
R-squared	0.6747	0.7801	0.6744	0.7800	0.6752	0.7803	0.6762	0.7806

Notes: Notes: *HHI* is the sum of squares of constituency-level vote shares for all parties. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in a certain time frame, subscripts indicate a specific week before the election date (1=last, ..., 4=fourth to last). *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Results displayed in Table A.4 come from estimates of this model:

$$y_{p,c,t} = \beta \text{Pollmargin}_{wi,t} * \text{Adj.margin}_{c,t-1} + \delta \text{Adj.margin}_{c,t-1} + \gamma' X_{p,c,t} + \epsilon_{p,c,t}$$

Table A.4: Opinion polls, safeness of a constituency and their joint effect on party shares and pr. of winning

	Dep. var.:							
	Vote Share				Pr. of Winning			
	Incumbent		Follower		Incumbent		Follower	
<i>I = P</i>	<i>I ≠ P</i>	<i>I = P</i>	<i>I ≠ P</i>	<i>I = P</i>	<i>I ≠ P</i>	<i>I = P</i>	<i>I ≠ P</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Pollmargin <sub>w1</sub> * Adj. margin <sub>t-1</sub>	-0.0634 (0.0821)	-0.0984 (0.0623)	0.5588*** (0.0719)	-1.3001*** (0.1808)	-1.6799*** (0.5166)	7.5263*** (0.6207)	3.2762*** (0.6366)	-12.0562*** (1.1657)
Adj. margin <sub>t-1</sub>	0.2458*** (0.0142)	0.2418*** (0.0188)	-0.4210*** (0.0174)	-0.0623* (0.0320)	0.8579*** (0.1072)	0.2531* (0.1381)	-1.3200*** (0.1427)	0.2641 (0.1760)
Party FE	X	X	X	X	X	X	X	X
Constituency FE	X	X	X	X	X	X	X	X
Region*Year FE	X	X	X	X	X	X	X	X
Observations	2,026	1,706	1,337	1,252	2,026	1,706	1,337	1,252
R-squared	0.9046	0.9217	0.9389	0.8028	0.5018	0.6745	0.5168	0.6270

Notes: Dependent variables are: constituency-level party vote shares, and an indicator for whether the party won the constituency race. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the last week before the election date. *Adj.margin* is the absolute difference between Conservative and Labour constituency-level vote shares in the previous general election, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Incumbent and follower parties are defined at the constituency level. Odd columns refer to constituencies where the incumbent party is polls leading party, even columns the opposite. Constituency-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.5: Opinion polls margin interacted with previous election margin and political support (2 weeks window)

Panel A - Dep. var.:						
Do not support any party ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>	0.780** (0.346) [0.024]	0.789** (0.377) [0.037]	0.416** (0.197) [0.036]	0.455 (0.392) [0.247]	0.425 (0.358) [0.236]	0.453 (0.393) [0.250]
Pollmargin <sub>w2</sub>		-0.018 (0.290) [0.951]		-0.019 (0.167) [0.911]		-0.047 (0.301) [0.876]
Adj. margin <sub>t-1</sub>	-0.035 (0.023) [0.125]	-0.035 (0.024) [0.142]	0.029 (0.036) [0.425]	0.027 (0.039) [0.483]	0.029 (0.039) [0.462]	0.028 (0.039) [0.478]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.000	0.000	0.045	0.045	0.045	0.045

Panel B - Dep. var.:						
Do not support any party ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>	-0.234 (0.227) [0.303]	-0.321 (0.368) [0.384]	-0.310 (0.208) [0.136]	-0.025 (0.381) [0.949]	-0.141 (0.233) [0.546]	-0.041 (0.380) [0.914]
Pollmargin <sub>w2</sub>		0.049 (0.160) [0.761]		-0.142 (0.153) [0.353]		-0.055 (0.164) [0.738]
Adj. margin <sub>t-1</sub>	0.016 (0.020) [0.422]	0.021 (0.026) [0.421]	-0.004 (0.035) [0.912]	-0.021 (0.040) [0.596]	-0.005 (0.035) [0.897]	-0.011 (0.040) [0.781]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	48,943	48,943	48,943	48,943	48,943	48,943
R-squared	0.000	0.000	0.025	0.026	0.026	0.026

Notes: The dependent variable is an indicator taking value one if the respondent does not support any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the second to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.6: Opinion polls margin interacted with previous election margin and political engagement (2 weeks window)

Panel A - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>	0.870*** (0.288) [0.003]	0.501 (0.313) [0.110]	2.040*** (0.157) [0.000]	0.324 (0.311) [0.298]	0.590** (0.277) [0.033]	0.301 (0.310) [0.332]
Pollmargin <sub>w2</sub>		0.672** (0.272) [0.014]		0.825*** (0.136) [0.000]		0.482* (0.280) [0.086]
Adj. margin <sub>t-1</sub>	-0.062*** (0.016) [0.000]	-0.045*** (0.017) [0.007]	-0.083*** (0.029) [0.005]	-0.015 (0.030) [0.620]	-0.018 (0.029) [0.546]	-0.010 (0.029) [0.737]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.009	0.009	0.059	0.060	0.060	0.061
Panel B - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w2</sub> * Adj. margin <sub>t-1</sub>	-0.559*** (0.159) [0.000]	-0.283 (0.262) [0.281]	-1.553*** (0.154) [0.000]	0.050 (0.271) [0.854]	-0.571*** (0.158) [0.000]	-0.046 (0.263) [0.861]
Pollmargin <sub>w2</sub>		-0.155 (0.120) [0.198]		-0.799*** (0.116) [0.000]		-0.289** (0.118) [0.015]
Adj. margin <sub>t-1</sub>	0.026* (0.015) [0.099]	0.009 (0.022) [0.672]	0.052* (0.031) [0.091]	-0.044 (0.031) [0.161]	0.048** (0.024) [0.049]	0.014 (0.028) [0.627]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	48,943	48,943	48,943	48,943	48,943	48,943
R-squared	0.011	0.011	0.036	0.037	0.042	0.042

Notes: The dependent variable is an indicator taking value one if the respondent does not support, feel close nor would vote for any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the second to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.7: Opinion polls margin interacted with previous election margin and political support (3 weeks window)

Panel A - Dep. var.:						
Do not support any party ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>	0.885** (0.350) [0.012]	0.796** (0.377) [0.035]	0.454** (0.199) [0.023]	0.467 (0.393) [0.235]	0.551 (0.366) [0.132]	0.475 (0.394) [0.228]
Pollmargin <sub>w3</sub>		0.170 (0.295) [0.564]		-0.006 (0.165) [0.970]		0.136 (0.301) [0.652]
Adj. margin <sub>t-1</sub>	-0.040* (0.023) [0.083]	-0.036 (0.024) [0.141]	0.029 (0.036) [0.428]	0.028 (0.039) [0.470]	0.024 (0.039) [0.532]	0.027 (0.039) [0.501]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.000	0.000	0.045	0.045	0.046	0.046

Panel B - Dep. var.:						
Do not support any party ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>	-0.173 (0.229) [0.450]	-0.395 (0.385) [0.306]	-0.252 (0.210) [0.232]	-0.108 (0.396) [0.785]	-0.063 (0.230) [0.784]	-0.124 (0.395) [0.753]
Pollmargin <sub>w3</sub>		0.122 (0.164) [0.458]		-0.071 (0.161) [0.658]		0.033 (0.170) [0.845]
Adj. margin <sub>t-1</sub>	0.012 (0.020) [0.540]	0.025 (0.027) [0.350]	-0.009 (0.035) [0.790]	-0.018 (0.040) [0.656]	-0.010 (0.035) [0.782]	-0.006 (0.041) [0.887]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	49,012	49,012	49,012	49,012	49,012	49,012
R-squared	0.000	0.000	0.025	0.025	0.026	0.026

Notes: The dependent variable is an indicator taking value one if the respondent does not support any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the third to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



Table A.8: Opinion polls margin interacted with previous election margin and political engagement (3 weeks window)

Panel A - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>	0.929*** (0.292) [0.002]	0.516 (0.314) [0.100]	2.061*** (0.159) [0.000]	0.325 (0.312) [0.298]	0.664** (0.277) [0.017]	0.313 (0.311) [0.315]
Pollmargin <sub>w3</sub>		0.792*** (0.277) [0.004]		0.836*** (0.136) [0.000]		0.623** (0.284) [0.029]
Adj. margin <sub>t-1</sub>	-0.065*** (0.016) [0.000]	-0.046*** (0.017) [0.006]	-0.084*** (0.029) [0.004]	-0.013 (0.030) [0.649]	-0.020 (0.029) [0.487]	-0.011 (0.029) [0.716]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.009	0.009	0.059	0.061	0.060	0.061
Panel B - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w3</sub> * Adj. margin <sub>t-1</sub>	-0.485*** (0.171) [0.005]	-0.160 (0.282) [0.571]	-1.517*** (0.166) [0.000]	0.169 (0.292) [0.562]	-0.494*** (0.170) [0.004]	0.089 (0.280) [0.750]
Pollmargin <sub>w3</sub>		-0.179 (0.127) [0.159]		-0.836*** (0.123) [0.000]		-0.316** (0.124) [0.011]
Adj. margin <sub>t-1</sub>	0.021 (0.016) [0.196]	0.002 (0.022) [0.943]	0.044 (0.031) [0.156]	-0.056* (0.032) [0.085]	0.042* (0.024) [0.085]	0.005 (0.028) [0.869]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	49,012	49,012	49,012	49,012	49,012	49,012
R-squared	0.011	0.011	0.035	0.037	0.042	0.042

Notes: The dependent variable is an indicator taking value one if the respondent does not support, feel close nor would vote for any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the third to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.9: Opinion polls margin interacted with previous election margin and political support (4 weeks window)

Panel A - Dep. var.:						
Do not support any party ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>	0.917*** (0.351) [0.009]	0.810** (0.378) [0.032]	0.463** (0.198) [0.020]	0.489 (0.393) [0.214]	0.591 (0.367) [0.108]	0.499 (0.394) [0.206]
Pollmargin <sub>w4</sub>		0.210 (0.309) [0.497]		-0.012 (0.166) [0.941]		0.170 (0.317) [0.592]
Adj. margin <sub>t-1</sub>	-0.042* (0.023) [0.069]	-0.037 (0.024) [0.131]	0.029 (0.036) [0.430]	0.028 (0.039) [0.482]	0.023 (0.039) [0.558]	0.026 (0.039) [0.518]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.000	0.000	0.046	0.046	0.046	0.046
Panel B - Dep. var.:						
Do not support any party ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>	-0.070 (0.235) 0.766	-0.399 (0.397) 0.315	-0.167 (0.212) 0.430	-0.187 (0.404) 0.644	0.036 (0.232) 0.877	-0.204 (0.402) 0.612
Pollmargin <sub>w4</sub>		0.179 (0.165) 0.279		0.010 (0.165) 0.953		0.128 (0.172) 0.455
Adj. margin <sub>t-1</sub>	0.006 (0.020) 0.761	0.025 (0.027) 0.355	-0.016 (0.035) 0.644	-0.015 (0.040) 0.706	-0.016 (0.035) 0.646	-0.001 (0.041) 0.978
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	49,012	49,012	49,012	49,012	49,012	49,012
R-squared	0.000	0.000	0.025	0.025	0.026	0.026

Notes: The dependent variable is an indicator taking value one if the respondent does not support any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the fourth to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0, 1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.10: Opinion polls margin interacted with previous election margin and political engagement (4 weeks window)

Panel A - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>pre election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>	0.936*** (0.294) [0.002]	0.513 (0.313) [0.101]	2.046*** (0.157) [0.000]	0.315 (0.309) [0.309]	0.656** (0.276) [0.018]	0.304 (0.308) [0.324]
Pollmargin <sub>w4</sub>		0.829*** (0.285) [0.004]		0.834*** (0.135) [0.000]		0.642** (0.291) [0.028]
Adj. margin <sub>t-1</sub>	-0.066*** (0.016) [0.000]	-0.046*** (0.017) [0.006]	-0.084*** (0.029) [0.004]	-0.013 (0.030) [0.671]	-0.020 (0.029) [0.485]	-0.010 (0.029) [0.727]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	26,353	26,353	26,353	26,353	26,353	26,353
R-squared	0.009	0.010	0.059	0.061	0.060	0.061
Panel B - Dep. var.:						
Do not support, feel close or vote a party tomorrow ( <b>post election</b> )						
	(1)	(2)	(3)	(4)	(5)	(6)
Pollmargin <sub>w4</sub> * Adj. margin <sub>t-1</sub>	-0.406** (0.171) [0.018]	0.035 (0.282) [0.902]	-1.458*** (0.169) [0.000]	0.360 (0.296) [0.223]	-0.429** (0.170) [0.012]	0.287 (0.280) [0.306]
Pollmargin <sub>w4</sub>		-0.240* (0.130) [0.064]		-0.901*** (0.126) [0.000]		-0.383*** (0.127) [0.003]
Adj. margin <sub>t-1</sub>	0.016 (0.016) [0.324]	-0.010 (0.022) [0.652]	0.038 (0.031) [0.229]	-0.069** (0.033) [0.036]	0.038 (0.024) [0.119]	-0.008 (0.028) [0.787]
Year FE	X	X			X	X
Constituency FE			X	X	X	X
Observations	49,012	49,012	49,012	49,012	49,012	49,012
R-squared	0.011	0.011	0.035	0.037	0.042	0.042

Notes: The dependent variable is an indicator taking value one if the respondent does not support, feel close nor would vote for any party. *Pollmargin* is the absolute difference between Conservative and Labour vote shares averaged across all national pollsters in the fourth to last week before the respondent interview date. *Adj.margin* is the absolute difference between Conservative and Labour vote shares in the previous general election in the respondent's constituency, adjusted by the sum of those vote shares. All margins are  $\in (0,1)$ . Constituency-level clustered standard errors are presented in parentheses, p-values in brackets, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.11: Pollster differences in reported opinion poll shares and margin

	Dep. var.:		
	share Conservative	share Labour	Pollmargin
Angus Reid	0.0024 (0.0050)	-0.0479*** (0.0074)	0.0142 (0.0114)
Ashcroft	0.0011 (0.0058)	-0.0318*** (0.0068)	-0.0175 (0.0129)
Audience Selection	-0.0177*** (0.0032)	-0.0178*** (0.0021)	-0.0085** (0.0038)
BMG	0.0145** (0.0062)	-0.0216*** (0.0058)	-0.0056 (0.0143)
BPIX	0.0112** (0.0046)	-0.0184** (0.0069)	-0.0382*** (0.0104)
ComRes	0.0113** (0.0047)	-0.0082 (0.0064)	-0.0148 (0.0120)
Gallup	0.0062* (0.0035)	0.0016 (0.0040)	-0.0071 (0.0098)
Harris	0.0007 (0.0022)	-0.0066** (0.0024)	-0.0074 (0.0058)
ICM	0.0089** (0.0038)	-0.0160*** (0.0022)	-0.0191** (0.0074)
Kantar	-0.0122 (0.0077)	-0.0166** (0.0072)	-0.0283 (0.0185)
Marplan	0.0029 (0.0031)	-0.0046 (0.0050)	-0.0008 (0.0064)
NMR	-0.0071 (0.0065)	-0.0211*** (0.0036)	-0.0222*** (0.0064)
NOP	-0.0005 (0.0031)	-0.0026*** (0.0008)	0.0018 (0.0052)
Neilsen	0.0244*** (0.0056)	-0.0066* (0.0032)	-0.0318*** (0.0077)
ORB	0.0028 (0.0077)	-0.0016 (0.0072)	-0.0283 (0.0185)
Opinium	0.0039 (0.0053)	-0.0100 (0.0061)	-0.0255* (0.0131)
Panelbase	-0.0071 (0.0061)	-0.0034 (0.0058)	-0.0142 (0.0148)
Populus	-0.0028 (0.0048)	-0.0022 (0.0064)	-0.0248** (0.0119)
Rasmussen	0.0264*** (0.0058)	-0.0441*** (0.0060)	-0.0686*** (0.0143)
Survation	-0.0130* (0.0063)	-0.0069 (0.0060)	-0.0349** (0.0149)
TNS BMRB	-0.0019 (0.0048)	-0.0071 (0.0072)	-0.0334*** (0.0118)
YouGov	0.0041 (0.0046)	-0.0043 (0.0061)	-0.0317** (0.0120)
Observations	474	474	474
R-squared	0.9322	0.9503	0.8727

Notes: Polls margins are in absolute terms. All dependent variables are  $\in (0, 1)$ . Covariates represent pollsters' fixed effects. The excluded pollster house is MORI (Ipsos-MORI after 2005 GE) as it covers all general elections considered. All regressions include week-by-year fixed effects. Pollster-level clustered standard errors are presented in parentheses, asterisks indicate \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .