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The Impact of Election Information Shocks on Populist Party Preferences: Evidence from Germany

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This paper investigates the effect of aggregate-level information shocks regarding support for a populist right-wing party on the individual disposition to report a respective political preference in survey interviews. Despite controversial debates about the social acceptability of its nationalist and xenophobic program, the German AfD has succeeded to enter the state parliaments as well as the federal parliament in the wake of steadily growing support among the electorate. We apply an event-study approach which links election information shocks provided by official results of state-level elections in Germany and the individual disposition to report an AfD preference. Exploiting quasi-random variation in survey interviews conducted closely around state elections, we show that individual exposure to positive election information shocks significantly increases the probability of reporting an AfD vote intention by around 5 percentage points.

JEL classification: D71, D72, D91, I24

Keywords: Voting behavior, populist parties, collective decision-making, contagion effects, information shocks

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1 Introduction

The most recent changes in the political landscape of Western Democracies involve a significantly increased vote share for right-wing populist parties. While they did not play a prominent role in politics after the Second World War, Mudde (2004) even speaks of a *populist Zeitgeist* in Western Europe since the beginning of the 21st century (see also Rooduijn and Akkerman, 2017; Rooduijn, de Lange, et al., 2014). What is more, established party systems in both Europe and the US have recently been rattled by the unanticipated success of right-wing populist ideas and platforms in a number of elections and referendums, such as the Brexit vote and the outcome of the 2016 U.S. presidential election. In Germany, the rise of the populist right-wing party “Alternative for Germany” (*Alternative fuer Deutschland*, AfD) has gained momentum in a series of German state elections before the party entered the German federal parliament in 2017 with a vote share of 12.6 percent (see figure 1).

Aiming at explaining these unanticipated dynamics, a number of studies suggests that political participation as such as well as self-reported sympathy for certain political attitudes are not only driven by structural determinants like economic deprivation and personal convictions but also by social interdependencies (Kuran, 1987; Lohmann, 1994). In this light, recent research on the U.S. presidential elections shows that the victory of Donald Trump in 2016 triggered contagion effects in reporting anti-immigrant attitudes both within and across the U.S. (Bursztyn et al., 2018; Giani and Méon, 2018). This evidence relates to group-based models of political behavior which incorporate elements from social psychology, suggesting that peer pressure and reputational considerations play a role in explaining reported attitudes (Coate and Conlin, 2004; Grossman and Helpman, 2001; Kuran, 1987).

In this paper, we investigate the dynamics of publicly stated support for the AfD in Germany. Specifically, we apply a quasi-experimental event-study approach that exploits variation in vote intentions reported in opinion surveys conducted closely around state elections in Germany between 2013 and 2017. We hypothesize that state elections can reveal unanticipated information about the aggregate level of AfD support, which affects an individual’s disposition to report a respective party preference in personal survey interviews. To test this link, we define *election information shocks* as positive or negative deviations from pre-election polls. Our empirical results provide systematic evidence that election information shocks associated with larger-than expected AfD vote shares

in state elections raise subsequently reported vote intentions for this party in *other* states by roughly 5 percentage points. Applying matching techniques and placebo tests for time periods without elections supports our argument that election information shocks have a causal impact on self-reported political preferences.

There are two theoretical channels through which election information shocks can affect the individual's reported political attitude. First, election outcomes provide information about the political capability of a party and the performance assessment made by other individuals (Morton, Muller, et al., 2015; Obermaier et al., 2017). This effect is of special importance when the party is new to the political system and information about its actual position is incomplete. We call this the *information channel*. Second, individuals tend to falsify their true voting intention in surveys when they believe that their political attitude is not socially accepted. Right-wing party programs usually rely on authoritarian, xenophobic and ethnocentric elements. In case such attitudes are widely condemned in mainstream media and politics, right-wing parties are associated with a social stigma that may be transferred to individuals openly supporting a respective attitude. As a consequence, right-wing party preferences are systematically under-reported in polls, especially when these are based on personal interviews (Creighton et al., 2018; DellaVigna et al., 2012; Hainmueller and Hangartner, 2013; Philipps and Claney, 1972). However, upon observation of a larger-than expected level of support for controversial attitudes, this social desirability bias is expected to be reduced as individuals will be more likely to state their true political attitude (Kuran, 1987). We call this the *reputation channel*.

The electoral setup of the German federal system in combination with the recent emergence of a far right-wing platform makes this case study well suited to analyze the effect of information shocks on individual attitudes. When founded in 2013, the AfD initially promoted fiscal conservatism and, in particular, opposed the EU policies designed to save highly indebted member states. Yet from 2015 onward, the party strongly shifted to the right, focusing almost exclusively on immigration and nationalism, with some outright xenophobic elements (a near-taboo in Germany). This programmatic shift was rewarded by voters in terms of electoral success, especially after the peak of the European refugee crisis in 2015 (see figure 1). While failing to pass the necessary threshold of votes in the 2013 federal election, the AfD succeeded to enter all of the 14 German state assemblies that were up for election between 2013 and 2017. The peculiar evolution of the party implies two important sources of variation: First, given the short party history and the lack of political representation at the federal level, there was pro-

nounced uncertainty about the capability of the party as an electoral alternative and the competencies and goals of its leaders during this election cycle. Second, the political position of the party changed substantially over time, inducing pronounced uncertainty about its political stance within the established party system and its perception as a socially accepted political platform by the public. While voters were not sure where to place the AfD on the left-right scale in 2013, the narrow focus on immigration after 2015 has led to a rising public perception of the party as a far right-wing platform (Cantoni et al., 2017; Salzbach, 2016), which has been magnified by a respective media coverage. Publicly stating support for the AfD might thus be associated with a social stigma, especially after 2015. In summary, both types of uncertainty suggest that information shocks about the aggregate level of AfD support might have induced contagious effects on individual political attitudes during this period through both, the information and the reputation channel.

In order to empirically investigate this link, we have to identify events that reveal reliable information about a large and sudden shift in aggregated preferences. As noted before, after the disappointing performance in the 2013 federal election the party successfully gained parliamentary representation in all subsequent state elections with vote shares ranging from 5.5 (Hamburg) to 24.3 percent (Saxony-Anhalt). Yet, pre-election polls had pronounced difficulties in correctly predicting AfD vote shares in the state election outcomes during this election cycle. Figure 3 compares estimated vote shares with actual election results in all state elections held between 2013 and 2017. It shows that the polls based on survey data systematically underestimated the election outcome of the AfD in all but two state elections with deviations of up to 35 percent. Therefore, the state election outcomes and particularly their deviation from pre-election polls represent a suitable candidate to measure the effect of *election information shocks* on individual vote intentions (Giani and Méon, 2018). To derive information about the *expected* AfD vote share, we apply two different approaches. First, we compare the state-level election outcome with the most recent forecast of the AfD vote share for the election in question (see figure 3). Second, we compare the state-level election outcome with the current AfD vote share at the *federal* level. Both measures yield the deviation of the actual election outcome from the expected aggregate level of support and thus reveal information about the direction and magnitude of the election information shocks.

In order to measure self-reported vote intentions, we rely on individual-level data from the comprehensive German *Politbarometer* survey. Importantly, we are interested in

the *reported* vote intentions rather than true political stances. The former may be driven by social desirability concerns which in turn will be affected by the reputation channel of election information shocks and thus be part of our treatment effect. Our dataset provides us with a large sample of repeated cross-sections on vote intentions and individual-level characteristics which can be used to test how election outcomes at the state level affect the vote intentions of individuals at the federal level.

Relating state-level election outcomes to vote intentions for *federal elections* alleviates the problem that election outcomes and individual preferences within the same constituency are obviously not independent, giving rise to the so-called *reflection problem* (Manski, 1993; Manski, 2000). Yet, this problem may persist in our framework because political attitudes are highly correlated across political levels. To address the reflection problem, we thus relate the election outcome in one state to federal-level vote intentions reported in all *other* states, except the state where the election in question was held.

However, even if we can disentangle election outcomes and individual preference formation, there are potential contextual effects (fundamentals that affect political preferences across constituencies) and correlated effects (constituencies share the same characteristics) that confound the endogenous effect of interest. We seek to control for these effects by exploiting variation in individual reported preferences in the two polls that are closest to the election date, arguing that structural factors can be assumed constant within the chosen time frame. We compare respondents interviewed after the election (the treatment group) and those interviewed before the election (the control group). Exploiting the fact that state elections in Germany are staggered, we can identify multiple shock events that are related to individual preferences in closely surrounding polls. These randomized treatments improve our argument that election information shocks have a causal impact on self-reported individual attitudes. Applying entropy balancing and including state-of-living \times election fixed effects as well as time trends, we show that our treatment effect is robust to several econometric specifications. In addition, we find no significant effects when applying placebo tests for comparable time windows without elections, suggesting that our treatment effect is not driven by a general trend in AfD vote shares.

The remainder of this paper is organized as follows. Section 2 provides an overview of the scientific context in which our investigations are placed. Section 3 elaborates on our identification strategy and sample. Estimation results are presented in Section 4. Section 5 concludes.

2 Case Selection and Theoretical Framework

The AfD

The AfD shows some characteristics, both with regard to its political platform and its public behavior, which lead scholars to classify it as a populist right-wing party. Following Golder (2003) and Mudde (2004), populism is generally characterized by a normative separation of society into two opposing groups, the *people* and a (mostly unjust) *political elite*. Populism is not a full ideology, meaning that it can freely be combined with socialist, libertarian, conservative or nationalist worldviews. What is meant by the term *people* depends on the political alignment of the movement (Rooduijn and Akkerman, 2017; Rooduijn, de Lange, et al., 2014; Rooduijn and Pauwels, 2011). Right-wing populist parties refer to the native population of a country and claim that immigrants represent a fierce competition for jobs and public goods (Funke et al., 2016; Mudde, 2004; Oesch, 2008). In line with this nationalist view, right-wing populist parties favor restrictive trade and immigration policies and take up a sceptical attitude towards international agreements (Acemoglu et al., 2012; Mudde, 2004; Rooduijn and Akkerman, 2017; Rooduijn, de Lange, et al., 2014). In order to convey their people-centered and anti-elite message, populist parties usually make use of a direct and simple rhetoric which rather relies on emotional attachment than on facts (Immerzeel and Pickup, 2015; Mudde, 2004; Rooduijn and Akkerman, 2017; Rooduijn and Pauwels, 2011). Electoral support for populist right-wing parties is registered among voters being concerned with the recent socio-economic upheaval in terms of global integration, economic instabilities and demographic changes. They wish to express their resentment to immigration and cultural diversity, which is perceived as a threat to their own national identity, and their fear of being dislodged from the labor market (Dülmer and Klein, 2005; Funke et al., 2016; Morton and Ou, 2015; Oesch, 2008; Rooduijn and Akkerman, 2017; Rooduijn, de Lange, et al., 2014).

The German AfD was founded in 2013 as a special-issue party opposing the EU's financial-support policies in the aftermath of the euro crisis. Since the AfD initially focussed on euro-scepticism, typical right-wing and nationalist tendencies as well as populist rhetorics were rather unincisive (Arzheimer, 2015; Schmitt-Beck, 2014). However, the party underwent a fundamental transformation in the course of the so-called *refugee crisis* in 2014/15 during which hundreds of thousands of people entered the Eu-

ropean mainland seeking asylum, primarily in the Western part of the continent. The leadership of the AfD was demised to the nationalist and highly immigration-critical wing among its members. In the time following, the party emphasized its well-defined position against the immigration-friendly policies of the Merkel administration. Instead, the AfD pressed for strictly regulating immigration, especially from muslim countries. Not only has the AfD drawn near to other European parties with a similar platform (the then-called *Front National* in France, the Dutch *PVV* or the Austrian *FPÖ*), some AfD members have even been linked to right-wing extremist organizations (Berbair et al., 2015; Hambauer and Mays, 2018; Salzbach, 2016). Various party officials have caused irritation and controversies by joining anti-foreign rallies or using strongly xenophobic language in public statements. The party furthermore employs the typically populist separation of society into privileged natives and immigrants who pose a risk to German identity, security and the welfare state (Arzheimer, 2015).

Shortly after its foundation, the AfD has started to participate in German elections both at the national and subnational level. In the 2013 general election, it just failed to pass the necessary threshold of 5 percent of valid votes in order to enter the federal parliament, obtaining a vote share of 4.7 percent. In 2014, the AfD was able to achieve great successes in the state elections in Brandenburg, Saxony and Thuringia and entered the state parliament in all three states with vote shares of roughly 10 percent and higher. Until 2017, the party had step by step won seats in 14 of 16 German state parliaments, yet constituting the parliamentary opposition in all cases. It finally entered the federal parliament in 2017 having obtained a vote share of 12.6 percent¹.

The legitimacy of expressing support for the AfD has been controversially discussed ever since the party emerged. The rejection of globalization and open borders as well as verbal attacks on immigrant groups from a different cultural origin were considered to contradict the idea of a modern and liberal society and therefore to represent undesirable worldviews. The AfD is often stigmatized as anti-democratic or unelectable (Berbair et al., 2015). What is more, due to the national history, Germany's political landscape is a very special case. Parties featuring nationalist, xenophobic or even racist policies have been banned from the political stage after World War II (Cantoni et al., 2017). Therefore, openly sympathizing with movements of this kind is likely associated with social proscription. In economic terms, the social costs of being a professed AfD sup-

¹ Official election results at the federal and the state level are obtained from the German Federal Statistical Office

porter could be prohibitively high. What made it even harder for the voting population to evaluate the political agenda of the AfD was the party's shift with regard to program components. This development was accompanied by heated intra-party debates, entailing changes in personnel and public presentation (Hambauer and Mays, 2018). In order to assess the electability of the new and unexperienced party, voters were thus in permanent need of information about the actual public reputation as well as about its members' abilities to execute political offices. While for established parties, the electorate can rely on past performance to assess political capability, they were lacking the corresponding information with regard to the new AfD during this period.

Theoretical Foundations and Related Literature

What may help the electorate to gather the missing information is to rely on pre-election polls or previous election outcomes. These shed light on the public perception of a party and provide a reference point for indecisive voters. A number of empirical studies has been concerned with the potential impact of polls on voting, both with respect to party or candidate information and behavioral interdependencies among voters. Regarding the former, Obermaier et al. (2017) find that experiment participants use poll results as a sign of quality and aptitude of a political party. They are more likely to vote for a party with a strong poll result, assuming that their fellow voters' support is based on convincing information about the party's quality. This empirical observation reflects our supposition of an *information channel* which causes contagious effects in voting. It is closely related to the theoretical approach of *informational cascades* (Bikhchandani et al., 1992; Bikhchandani et al., 1998; Cao et al., 2011). As set out in the essential economic theory of voting, collecting encompassing information about the quality of parties and candidates involves prohibitively high costs so that informed voting is never a utility-maximizing choice (Downs, 1957). Yet, costs can dramatically be reduced by simply adopting the choices of other individuals, under the assumption that they collected and correctly evaluated the necessary information on political competitors. A behavioral cascade may settle if a decision maker observes at least two predecessors having chosen the same candidate. Regardless of the true aptitude of this candidate, all subsequent decision makers follow this choice in order to minimize their informational costs (Bikhchandani et al., 1992; Bikhchandani et al., 1998; Cao et al., 2011). In our setting, a strong poll result may reduce the information deficit regarding political capability of the AfD, in particular with respect to its main field of activity, immigration

politics. This newly acquired information may change utility from supporting the AfD for some voters, leading to higher advocacy.

The second channel describes contagion as the consequence of an effort to increase one’s social reputation, therefore labeled the *reputation channel*. A majority of related empirical studies finds election polls to cause a *bandwagon effect* (Dahlgaard et al., 2016; Klor and Winter, 2018; Mehrabian, 1998; Obermaier et al., 2017). Utility-maximizing voters wish to electorally support the winner of a party in order not to “waste” their vote. They consequently side with the likely winner according to current poll results. Bandwagoning is empirically observed with respect to expressing sympathy for a candidate (Dahlgaard et al., 2016), actual election choices in real-world or experimental settings (Dahlgaard et al., 2016; Khalil et al., 2016; Mehrabian, 1998; Morton, Muller, et al., 2015; Obermaier et al., 2017) as well as turnout decisions, where – in case of turning out – the party leading the polls is cast a ballot for (Bursztyn et al., 2018; Klor and Winter, 2018). An often-mentioned point of criticism of polls is that the bandwagon effect can cause election forecasts to be self-fulfilling. The party leading the polls wins the election because they receive a majority of votes based on the fact that voters expect them to win.

A second explanation that is related to the reputation channel is a desire for *social compliance*. Joining in to support a leading candidate may generate utility from being in line with a predominant social behavior. This line of argumentation transfers the theoretical idea of threshold models to the act of voting. Individuals may be willing to purposely falsify their private preferences for the sake of deriving reputational utility once a certain behavior is adopted by a sufficiently large majority of society (Granovetter, 1978; Kaempfer and Lowenberg, 1992; Kuran, 1987; Kuran, 1989; Morton and Ou, 2015). Likewise in our setting, we assume that a potential loss of social reputation associated with a potentially unusual or unacceptable behavior decreases in the number of fellow citizens exhibiting this behavior. Opinion polls and previous election results reveal information about the degree of legitimacy of supporting a new, populist party’s program. Specifically, in the light of strong poll results or high vote shares received, sympathizers are less likely to continue falsifying their preferences in favor of accepted and established platforms. Instead, they feel safe enough to openly express their advocacy for the populist party.

Along with these behavioral interdependencies, an important determinant or mediator of AfD preferences is media consumption. Although Dahlgaard et al. (2016) say that “it is

almost impossible to avoid polls”, Faas et al. (2008) emphasize the fact that information on political parties generated by polls can only influence voting decisions if the individual actually learns about the results. According to the authors, personal networks as well as other forms of media coverage may impact on opinion formation. A generally high importance of the extent and tone of media coverage with respect to populist support has been examined in a number of recent studies. Boomgarden and Vliegenthart (2009) observe support for nationalist policies to increase if media outlets refer to immigration issues in a negative way. Moreover, a positive presentation of populist leaders promotes a corresponding perception and sympathy among the electorate (Bos et al., 2011; Lubbers et al., 2002; van der Brug et al., 2000). It therefore appears reasonable to include media consumption as a control variable in an empirical analysis of survey effects on voting decisions.

These lines of argumentation result in our main empirical hypothesis, supposing that a stronger public preference for a political platform leads to a higher individual propensity to express support for this party. The German federal system in combination with the peculiar evolution of the AfD allows us to use state election outcomes as a source of new and unexpected information about aggregated preferences to test this hypothesis for the AfD. Official election outcomes provide reliable and publicly available information on political preferences in a state. Also, German state elections have been observed as *barometer elections* which reflect general changes in voter attitudes and preferences, even at the more aggregated federal level (Anderson and Ward, 1996; Jeffery and Hough, 2001; Jeffery and Hough, 2003). In contrast, survey results may be downward biased with regard to the likelihood of indicating an AfD preference because survey participants try to avoid social rejection when reporting a political preference to the interviewer (Creighton et al., 2018; Hainmueller and Hangartner, 2013; Philipps and Claney, 1972). A positive aggregate shift in public support for the AfD, as revealed by unexpected state election outcomes, in turn may reduce the social desirability bias in reported AfD support at the individual level. With our empirical approach, we thus explicitly aim at explaining changes in the willingness of individuals to admit a right-wing party preference in a social interaction that may be driven by social desirability.

3 Empirical Strategy

Sample

To test the effect of state-level elections on self-reported voting intentions at the individual level, we use an event-study design with quasi-randomized treatment and a repeated cross-section of surveyed individuals. Exploiting survey² data around state-level elections, treatment is defined as individual exposure to an election information shock. By this term, we refer to the deviation of a very recent state-level election result from the previously reported poll ratings. For the new information to be a *shock*, it must be unanticipated meaning that the information provided has to be different from the already-known polls. We study the period between the two most recent federal elections in Germany, held on September 22, 2013 and on September 24, 2017. During this period, the AfD gained increasing relevance as an electoral platform but was not represented in the federal parliament. At the state level, 14 out of 16 elections were held during this election cycle.³

Importantly, we expect the effect of exposure to unexpected information about the average level of AfD support to be equal in sign to the shock. A higher-than expected vote share should increase the propensity that an individual reports a respective party preference, while a lower-than expected vote share should reduce it. To test these heterogeneous effects, we split our sample into positive and negative election information shocks. To derive information about the *expected* AfD vote share, we apply two different strategies. First, we compare state-level election outcomes to the most recent pre-election polls for this specific election, as depicted in figure 3a. Second, we compare the state-level election outcomes to the most recent poll ratings of the AfD vote share at the *federal* level published before the election in question, as reported in figure 3b.⁴ The

² Throughout the paper, we use the term *survey* to refer to the raw interview data collected. By *poll*, we refer to the aggregate estimate of political support based on these raw data, which is published as current political mood.

³ Two states, Bavaria and Lower Saxony, held elections before or after the federal election cycle. In Bavaria, elections were on September 15, 2013; in Lower Saxony, elections were on January 20, 2013 and October 15, 2017.

⁴ Data on the expected vote shares for both the state level and the federal level are taken from different polls conducted by *Politbarometer* and published online (<http://www.forschungsgruppe.de/Aktuelles/Politbarometer/>). These figures are based on an estimation model of the raw survey data that accounts for additional assumptions about voting persistence and macro-economic fundamentals. The estimates therefore differ from the average vote shares as reflected in the raw data. For the federal-level poll, we take the estimate published based on the most recent national survey conducted before the election in

first approach presupposes that state-specific poll ratings about the expected AfD vote share are available and consumed by all individuals in the treatment group. While state-level elections *outcomes*, especially those that stand out relative to the national average, are usually covered intensively by the major media outlets, public interest in the run-up to these elections is often low. For this reason, one may question whether individuals, in particular those residing in states other than the one up for election, evaluate the signal received by state elections based on these state-specific election polls. In fact, figure A.2 shows that this is unlikely. The figure displays relative frequencies of Google searches on the respective state name in the four weeks around the election in question, showing sharp peaks in searches just at the date of the election. Hence, issue salience of state-level politics is relatively low before the election date, at least in other states. While this pattern supports our event-type identification strategy (state-level election outcomes are not anticipated by individuals), it provides a drawback for our approach to measure the direction of an election information shock based on state-specific polls. For these reasons, we apply our second strategy, relating state-level election outcomes to federal-level poll ratings, as our baseline approach to measure the direction of an election information shock. This measure gives us an idea about how much a state-level election outcome deviates from the average AfD support at the national level. We assume that individuals are more likely to compare the information received by state elections to the (perceived) general level of AfD support rather than state-level polls. As reported in figure 3a, state-level vote shares positively deviated from federal polls in Saxony, Brandenburg, Thuringia, Hamburg, Baden-Wuerttemberg, Rhineland-Palatinate, Saxony-Anhalt, Mecklenburg-Hither Pomerania and Berlin. These elections comprise our sub-sample of *positive* election information shocks. In contrast, state-level vote shares negatively deviated from federal polls in Bremen, Schleswig-Holstein, North Rhine-Westphalia and Saarland, constituting the sub-sample of *negative* election information shocks.⁵ We use these sub-samples for our baseline analysis. In the robustness section, we show that our results do not change when using state-level poll ratings to measure the direction of the election information shock.

question. For the state-level poll, we take the most recent estimate based on a state-specific survey which is usually published two to three days before the election in question.

⁵ Figure 3 shows the relative deviation of the most recent poll from the actual election outcomes. Therefore, a negative deviation indicates a *positive* election information shock (i.e. higher-than expected vote share), whereas a positive deviation indicates a *negative* election information shock (i.e. lower-than expected vote share).

Data on individual vote intentions comes from the *Politbarometer* surveys. To obtain the data, the *Forschungsgruppe Wahlen* (Election Research Group) conducts telephone interviews in intervals of two to three weeks with a sample size of approximately 1,250 respondents per survey. The surveys cover different topics concerned with current political events and issues but a core set of questions is asked in every round. Foremost, respondents are asked about their readiness to participate in an upcoming, hypothetical federal election and – conditional on reporting a turnout intention – about their voting intention (the so-called *Sunday Question*). The exact wording of the question is: “If there were federal elections next Sunday, which party would you vote for?” We use the answer to this question to construct our dependent variable capturing the individual party preference at the federal level of politics.

In addition, the surveys document a wide range of demographic and socio-economic characteristics of the respondents as well as specific political judgements and attitudes, e.g. ratings of the performance of different parties and politicians or the self-reported position of the respondent on a political left-right scale. The survey dates are usually fixed at the beginning of the year but their frequency may be increased around important events. In the run-up to federal elections, interviews are conducted in a weekly cycle. What is important with regard to our research design is the fact that the *Politbarometer* surveys are not used to collect information on political moods prior to state-level elections. For this purpose, separate surveys are performed around the respective election in the state in question. In addition, all surveys apply a rigorous sample selection strategy that is based on randomly generated phone numbers of German households and birthdays of their members. Interviews are conducted between Tuesday and Thursday of the respective survey week. For these reasons, we can assume that the interview date of a given individual is random with respect to state-level election dates. Applying sample weights, each survey contains a sample of individuals that is representative for the eligible voting population in Germany.

Importantly, even though the sample drawn in each survey round is representative, average vote shares can deviate substantially from the nearest election outcome. Therefore, the expected vote shares published through media outlets are usually based on a predictive model that includes additional assumptions about voting persistence and macro-economic fundamentals. Reasons for the deviation between these predictions and the vote shares based on the raw data relate, among other things, to current events and political cycles, undecided voters or differences in vote intentions and voting behav-

ior. Regarding the latter, this links back to the problem of social desirability in personal interactions. In fact, polls like the Politbarometer have been repeatedly criticized for systematically underestimating the share of far right-wing political preferences (Bergmann and Diermeier, 2017; Evans and Ivaldi, 2010). While this imposes a challenge for many empirical applications that aim at explaining actual voting behavior, this is not the case in our empirical setup since we focus on the disposition to *self-report* a certain political preference rather than revealing this preference through a consistent voting decision.

The poll data contains information about the (calendar) *week of survey* (WoS) for each individual. We match this information with the (calendar) *week of election* (WoE) of the state-level elections. Following Mitra et al. (2017), we compare this latter date to the WoS and create two groups: one comprising the *treated* individuals that are exposed to an election information shock, i.e. interviewed after the election, and one comprising the *control* individuals that are not exposed to an election information shock, i.e. interviewed before the election. To this end, we define for each election e an “election window” (δ_e) which identifies the period in which the polls closest to the WoE are conducted. δ_e is given by

$$\delta_e = [\underline{\delta}_e, \overline{\delta}_e] \text{ with } \begin{cases} \overline{\delta}_e = \min\{t\}_{t > t_e}, & WoE_e = t_e \\ \underline{\delta}_e = \max\{t\}_{t < t_e}, & WoE_e = t_e \end{cases}$$

where the boundary $\overline{\delta}_e$ refers to the closest poll after the election and thus represents the treatment group, and $\underline{\delta}_e$ refers to the closest poll before the election (i.e. the control group). Importantly, every individual is assigned to a maximum of one election window δ_e .

Crucially, for our identification strategy to be valid, we need to ensure that treated individuals are affected by only one election information shock, whereas individuals in the control group need to be unaffected by state elections. Given our set of candidate election windows, we therefore check whether these windows overlap and whether we can identify other confounding events. The dates of German state elections are subject to state regulation and have historically evolved over time. Some elections take place at the same date. During our sample period, this is the case for the elections in Baden-Wuerttemberg, Rhineland-Palatinate and Saxony-Anhalt which were simultaneously held on March 13, 2016 and for Brandenburg and Thuringia, held on September 14, 2014. Importantly, the state-level AfD vote shares in both instances positively deviate from the pre-election

state-level polls and from national averages. We therefore treat these two groups of elections as one election event, respectively, assuming that the direction of the effect on self-reported vote intention is the same within the election window.

In addition, in some instances two state elections followed each other too quickly in order to identify non-overlapping WoS. In Schleswig-Holstein and North Rhine-Westphalia elections took place in two subsequent weeks (May 7 and May 14, 2017), corresponding to calendar weeks 18 and 19. Poll data is available for calendar weeks 17 and 20, narrowly enclosing these elections. Therefore, we can treat these elections as one election event as well, making sure that treated individuals in this election window are exposed to both elections while non-treated individuals are interviewed before the first election. We apply the same strategy to the elections in Mecklenburg-Vorpommern and Berlin which took place within a comparably short time period (September 4 and September 18, 2016) and where the nearest WoS include both election events. Finally, the election windows for Saxony (August 31, 2014) and Brandenburg and Thuringia (September 14, 2017) overlap such that the treatment group for the former would at the same time be the control group for the latter two elections. We therefore drop the elections in Brandenburg and Thuringia from our sample, as the control group may be affected by the earlier election in the neighboring state. To ensure that we do not overestimate the treatment effect for Saxony, we drop all individuals residing in Brandenburg and Thuringia from the treatment group in this election window. Specifically, the self-reported vote intentions of these individuals may be influenced by effects that are actually related to the upcoming elections in their respective home state (e.g. through electoral campaigns, regional media coverage etc.).

In a final step, we identify other potentially confounding events that coincide with our election windows. This is necessary in order to ensure that our treatment effect is only driven by the information disseminated by state elections rather than by some other confounding event. Based on newspaper research, we identify a series of events that potentially provide unexpected information about the average support for the AfD.⁶ We also control for elections held at other administrative levels (e.g. federal elections, European elections) that potentially coincide with our election windows. In fact, the

⁶ One example for such an event is the occurrence of the so-called *Pegida* movement (the acronym can be translated as *Patriotic Europeans Against the Islamisation of the Occident*), a wave of nationalist, anti-Islam, far-right demonstrations that were joined by a number of high-rank AfD politicians. The demonstrations were subject to a dynamic rise in support with a maximum of participants reaching 25,000 in January 2015.

state election of Hesse in 2013 coincides with the federal election held on the same day (September 22, 2013). We therefore exclude this election from our sample. All other events that we identify do not overlap with the chosen election windows. Appendix figure A.1 presents a time line of events. This procedure leaves us with a sample of seven election windows that cover a total of eleven single elections and a sample size of 20,525 individual-level observations. An overview of the WoE and WoS for each election window is provided in table 1. Summary statistics are presented in the appendix.

Empirical Specification

Our empirical approach closely relates to the strategies recently applied in Depetris-Chauvin and Durante (2017), Giani and Méon (2018), and Mikulaschek et al. (2016). We aim to estimate the short-run effect of elections in one state on self-reported vote intentions for the federal level of individuals residing in other states. Our estimation model reads as follows:

$$Y_{i,t,e}^r = \beta D_{i,t,e}^{-r} + \gamma_{r,e} + \Gamma' X_i + \Pi' Z_t + \varepsilon_{i,t}^r \quad (1)$$

where i denotes the individual, t denotes the week of survey (*WoS*) and r denotes the state of residence. e refers to the election window. $\varepsilon_{i,t}^r$ is an individual-level error term, clustered at the state level. Our dependent variable is a binary indicator that takes the value 1 if an individual reports an AfD voting intention in the Sunday Question, and is zero otherwise. We code $Y_{i,t,e}^r$ as zero for all individuals who report a voting intention different from the AfD, who report to have no vote intention or who report not to know their vote intention. We deem the latter two manifestations to be of special importance to examine the effect of aggregate vote shares to mobilize supporters at the individual level. Right-wing parties, like the AfD, have been shown to be particularly efficient in mobilizing non-voters.

$D_{i,t,e}^{-r}$ defines our treatment variable, the election information shock. If a respondent i is interviewed after an election, then $D_{i,t,e}^{-r} = 1\{t > t_e\}$. If a respondent i is interviewed before the date of the election, then $D_{i,t,e}^{-r} = 0\{t < t_e\}$. Our key parameter of interest is thus β . This coefficient captures the average difference in the individual likelihood to report an AfD preference in the first poll conducted after the election compared to the last poll before the election. In our baseline analysis, we define as treatment the

mere exposure of an individual to a state election, without taking into account what type of information is likely disseminated by the election outcome. We then analyze the heterogeneity of different shocks in terms of magnitude and sign of the information disseminated based on sub-sample analyses that compare elections with larger-than expected AfD vote shares to elections with lower-than expected AfD vote shares.

A few points merit careful attention: First, we include state-of-living \times election-window fixed effects ($\gamma_{r,e}$). Our treatment effect thus gives the average difference in AfD voting intentions for respondents who are interviewed before and after the *same* election (i.e. belong to the same e) and reside in the same state r . Second, we test the effect of the state election in r only for respondents in all other states $-r$. We hereby tackle what Manski (1993) calls the “reflection problem”: it is *a priori* not clear whether the observed AfD vote share impinges upon the (reported) individual preferences within the same area or whether the average vote share is simply the aggregation of all individual preferences in this area. Hence, our treatment will not be exogenous when including respondents of the same state. In contrast, we can assume that election outcomes in one state are not driven by vote intentions reported in polls closely before and after an election in *other* states, after controlling for a common time trend and election-window fixed effects. Third, each individual is assigned to only one election window (either in the control or treatment group) implying that each individual is exposed to only one election information shock and ignoring potentially cumulative effects of repeated exposure. Finally, individuals that are interviewed in WoS that do not fall into an election window are dropped from the sample.

In order to identify an unbiased estimate $\hat{\beta}$ of the treatment effect, there are three critical assumptions that must hold: First, individual respondents in the treatment and in the control group should not differ systematically with respect to their individual-level characteristics. Since we are lacking panel data, we include a vector of individual-level controls, X_i . Among these controls are gender, age, the highest level of education, employment status⁷ and marital status. We also include a vector of political attitudes as party preferences are likely to be correlated with other political attitudes and may differ across treatment and control group. These comprise attitudes such as one’s party choice in the last federal election, self-placement on the left-right scale, satisfaction with the government and the importance of the immigration issue. Theoretically, if

⁷ The respective status groups are included as a set of dummies with full-time employment representing the reference group. Apart from that, the respondent can indicate to be in school, part-time employed, marginally employed, unemployed, in vocational training or retired.

unexpected information about the AfD’s electoral success reduces the social desirability bias associated with this party, the individual likelihood to report a previous AfD vote or a more right-wing ideological position may be affected by the treatment and could thus confound the estimated treatment effect. In addition, electoral campaigning of the AfD focuses heavily on a fundamental critique of the established parties, in particular regarding immigration policies. Part of the electoral success can thus be explained by protest motives rather than voter alignment. Even though we do not seek to explain the individual’s motivation of having an AfD party preference, but rather analyze her disposition to *report* such a preference, levels of disappointment with the incumbent government might be affected by the observation of the government’s performance in state-level election outcomes, which could confound our results as well.

Since the survey rounds of the Politbarometer are meant to be representative for the voting-age population, the distribution of covariates in the treatment and control group is generally very similar as is confirmed in the covariate balance tests in appendix table A.1. However, there might be some differences when comparing specific rounds within our election windows, in particular regarding the distribution of political attitudes (see table A.2 – A.8). Therefore, we follow Hainmueller (2012) and apply entropy balancing. This matching technique weights our control units such that the distribution of covariates among the control group matches the distribution of the same covariates among the treatment group with respect to the first three moments. In addition, we apply an even more demanding balancing strategy by constructing entropy weighting schemes at the election-window level. In other words, weights are applied such that a treated individual in election window δ_e is compared to control individuals from the *same* δ_e , matching on the state of living as well as the demographic and socio-economic covariates. This makes sure that the estimated treatment effect is based on a comparison of individual vote intentions before and after the same elections and only between individuals that reside in the same state and show comparable socio-economic characteristics. This strategy allows us to control for a large fraction of unobserved heterogeneity that is driven by state-specific voting patterns and by general trends in AfD support. Finally, as an alternative approach, we match on political attitudes as well. In principle, we are interested in matching individuals with the same political beliefs. However, as discussed before, these variables are potentially affected by the treatment, which could explain the differences across treatment and control group. We are therefore cautious in matching on these covariates, as this may render matching endogenous to the treatment. Therefore,

we report estimates for both matching strategies. After this pre-processing, covariate imbalance between control and treatment group becomes negligible.⁸

A second important assumption for identification in our model is that state-level elections actually disseminate novel and unexpected information about the aggregate level of support for the AfD that was *not* anticipated by individuals in the control group. As motivated above, the specific case of the AfD is well suited to identify such effects because of the young but controversial history of this party combined with its absence in federal politics, which resulted in a pronounced degree of uncertainty about the true level of aggregate support for this party during this period. Yet, if respondents in the control group anticipated state-level election results, our estimate will be downward-biased. As shown in figure A.2 on the rates of public interest around state elections, this is unlikely. The figure confirms our prior that individuals – especially those residing in states other than the state that is to hold an election – are, on average, not interested in state-level politics. We feel thus confident in assuming that election outcomes were not anticipated by respondents. In the unlikely case that such an anticipation exists for some elections (e.g. in North-Rhine Westphalia), we interpret our results as conservative estimates of the true treatment effect.

Finally, a last crucial assumption for identification of a causal effect of state elections on self-reported vote intentions is that there are no other confounding events or macro-level trends that coincide with state-level elections. We apply a careful sample selection strategy to make sure that our results are not driven by specific confounding events. In addition, our event-study approach focuses on changes in reported vote intentions in a short period of time around an observed state election, arguing that most macro-level influences do not significantly vary over this period of time. However, the estimated treatment effect may still be affected by a generally positive trend in AfD support (see figure 1). For this reason, we include a quadratic time trend in all our specifications, as captured by Z_t , to control for the possibility that the treatment and the control groups were exposed to unobserved (non-linear) time-variant effects at the macro level.

⁸ Appendix tables A.2 – A.8 present covariate imbalance statistics for each election window.

4 Results

We present our baseline results in table 3. In panel A, we include all election windows that were exposed to an election information shock. In panel B, we only include election windows with positive election information shocks, while in panel C we only consider election windows with negative shocks. To identify the direction of an election information shock, we apply our baseline procedure and compare state-level AfD election outcomes to the current national average of AfD support. To test our hypotheses, we perform step-by-step Logit regressions. In model (1), we only include state-of-living \times election-window fixed effects as well as a quadratic time trend. In model (2), we add demographic characteristics, while in model (3) we also include the individual's employment status. Since party preferences are likely to be correlated with other political attitudes and might differ across our treatment and control group, we include several indicator variables for political attitudes in model (4). In model (5) and (6), we weight the control units in order to match the covariates' distribution of the treated units for each election-window, with and without including the political control vector among the list of matching covariates.

In panel A, we do not find a significant treatment effect for any of our specifications. This is not surprising, given that the estimated effects might hide treatment heterogeneity with respect to the information revealed by state elections. In fact, when looking at the sub-sample of elections that induce positive information shocks, we find a positive treatment effect that is significant and comparable in magnitude for most of the specifications. Importantly, this effect is robust to both of our matching strategies, suggesting that sample imbalance, even with respect to general political attitudes, is not severe in our application. In our preferred specification in column (5), which matches individuals in each election window based on their demographics, socio-economic characteristics and the state of living, and includes the political controls as covariates in the estimation, we find that being exposed to a higher-than expected state-level election outcome for the AfD increases the likelihood that a respondent reports an AfD vote intention by 5 percentage points. This is a sizable effect when compared to the average probability of reporting an AfD party preference, which is 6.4 percent in our sample. In contrast, we find no significant – and, if anything, a negative – effect of the exposure to lower-than expected state-level AfD vote shares on individually reported voting intentions. These results support our identification strategy as they suggest that the effect of vote

intentions is in line with the type of information provided by the state elections (rather than some other underlying factor). In addition, the sub-samples split our complete sample across different time periods (including both earlier and later elections in each sub-sample) and, to a lesser extent, across the East-West geographic divide. This makes us confident to argue that the results, *conditional* on the included time trend, are not driven by macro-level trends.

Next, we test whether our results are robust to alternative definitions of the *expected* AfD vote share. Given the presupposed treatment heterogeneity, correctly identifying the direction of the election information shock is certainly important in our application. As an alternative approach, we compare the state-level election outcomes to the most recent state-level poll that was published before the election.⁹ Moreover, we split our sample along the magnitude of the information shock. Specifically, we compare election windows where the deviation of the state-level vote share from the most recent federal-level poll is larger/smaller than the median deviation from the federal poll.¹⁰ The results are presented in figure 4. They confirm our expectation: election information shocks with positive deviations from state-level polls and those with above-median deviations from the federal average have a positive and significant effect on AfD voting intentions at the individual level. However, negative and below-median deviations are not significantly associated with individual voting intentions.

In figure 5, we investigate more closely the elections included in our sample. The figure shows separate regressions for each election window in the chronological order by which the elections occurred. We find significant effects for three election windows: Saxony, Baden-Wuerttemberg, Rhineland-Palatinate and Saxony-Anhalt as well as Mecklenburg-Hither Pomerania and Berlin. Two interesting things stand out from these election-level results. First, we find larger and significant effects for East German state elections, which can be explained by the fact that the AfD has been particularly successful to mobilize voters in these states and thus, AfD vote shares have been highest in these states. Second,

⁹ More precisely, we distinguish between positive deviations of AfD election outcomes from state-level polls and ambiguous (negative) deviations from state-level polls. State-level polls overestimated the AfD vote share in Mecklenburg-Hither Pomerania and in Schleswig-Holstein. Due to the staggered nature of election dates, both elections fall into an election window with another election (Berlin and North-Rhine Westphalia) where AfD vote shares were larger than estimated by polls. The information signal induced by these events can thus be considered as ambiguous. While overlapping for some elections, note that these sub-samples differ from table 3 (information on the elections included is provided in the footnote of figure 4).

¹⁰ The median is 0.02 (Hamburg).

election windows enclosing multiple election events tend to have a more pronounced effect on individual voting intentions, which is also in line with our theoretical expectations.

One important transmission channel of the effect of state-level elections on individual vote intentions is the extent to which these elections are covered by media reporting. Figure 6 shows the marginal treatment effect from our baseline estimation when interacted with media coverage. As a proxy for media coverage, we use the relative frequencies of Google searches for the party name “AfD” (or *Alternative fuer Deutschland*). As can be seen from the figure, the effect of election information shocks on AfD vote intentions is indeed increasing in the degree of media coverage by the time of election.

In Germany, an important socio-economic as well as political cleavage is along the geographic divide between the East (former GDR) and West German states. Since individuals may be more affected by election outcomes in states they feel more closely connected to in socio-economic and cultural terms, we test whether there are heterogeneous effects across eastern and western states. In figure 7, we test the effect of election information shocks in the West (East) on (i) all individuals (West on all; East on all), (ii) individuals in the same broad geographic peer group (West on West; East on East), and (iii) on individuals in the other geographic peer group (West on East; East on West). We find no evidence for such geographic peer-group effects. Rather, the results confirm that exposure to East German state elections had the largest effect on AfD voting intentions, irrespective of whether individuals live in the East or the West.

We may be concerned that our treatment effect is still capturing other confounding events or macro-level trends. Therefore, we conduct placebo tests by estimating our empirical model for *counterfactual* election windows. To this end, we need to identify windows of two subsequent polls that are not affected by a state election, but might be driven by similar cyclical or macro-level factors. We apply two different placebo tests. First, we choose comparable time windows one year before the actual state election, i.e. taking the survey rounds conducted in the same treatment and control WoS, but one year prior to the state election in question. When no poll was conducted in a specific WoS, we select the closest WoS that still qualifies as a treatment (i.e. taking place after the counterfactual election) and as a control group. This approach tests whether our results are confounded by unobserved cyclical or long-term effects. Second, we select the two most recent survey waves *before* the actual election in question as our counterfactual election window. In other words, we take the control WoS from the main analysis as our counterfactual treatment group. This approach accounts for unrelated short-term

effects as well as for an underlying time trend that may drive our baseline results. The estimates from these two placebo tests are presented in tables 4 and 5. Reassuringly, we find no robustly significant effects of the counterfactual election information shocks. These results provide strong support for our claim that the treatment effect in fact captures the impact of state-level elections on individual voting intentions.

Finally, we want to learn more about the importance of the hypothesized information and reputation channels of election information shocks with regard to AfD party support. In particular, we would like to isolate these two channels in order to assess whether the found contagion effects are specific to (right-wing) populist parties (and hence, driven by the reputation channel) or a more general phenomenon that applies to all political platforms (and hence, driven by the information channel). Unfortunately, we are not able to empirically differentiate between these two channels when observing post-election preferences for the AfD, as the party was both new to the political system (affecting the information channel) and suspected of being not socially acceptable by wide parts of society and the media (affecting the reputation channel). One attempt that helps us to approach this question is to look at individual preferences for *other* parties in the German political system, for which we can plausibly isolate one of the channels, and compare the findings to our AfD results.

One potential candidate is the liberal party (*Freie Demokratische Partei*, FDP). Despite a long history in the German party system, in 2013 the FDP failed to enter the national parliament for the first time after a disastrous electoral campaign. Subsequently, the party lacked parliamentary representation at the federal level, even though it was still represented in several state assemblies. However, since public funding of political parties in Germany is conditional on parliamentary representation, the party's capacity to invest in political campaigns was substantially reduced during this period and, following the federal vote, the party struggled to surpass the five-percent threshold in several state elections. In addition to the reduction in electoral visibility at the federal level, the party underwent a pronounced programmatic shift including a replacement of most leading party positions. Despite their very different historical roles in the German party system, we argue that the FDP is comparable to the AfD during our sample period in the sense that for both parties the electorate was unable to assess the actual political agenda (at the federal level) and the abilities of the party members. Consequently, for both parties we expect that (unanticipated) state election outcomes provided valuable information to the electorate that improved and aligned the performance assessment of

the respective party. In contrast, concerning the parties' ideology, the liberal center-right position of the FDP stands in sharp contrast to the far-right wing agenda of the AfD. There is thus no reason to expect that survey responses on political support for the former are driven by social desirability concerns. Hence, if election information shocks affected individual AfD preferences only through the information channel and if the information channel affects all political platforms in the same way (which seems a plausible assumption), we would expect to see very similar results for the FDP as well. By isolating the information channel for FDP support, we can thus derive some indication on whether our results for AfD support are driven by the information channel. In table 6, we report coefficient estimates on the effect of state-election outcomes on subsequently reported FDP preferences for our baseline estimation framework. We show the point estimates for the most parsimonious specification and for our preferred model that includes the full set of individual-level controls and applies entropy balancing matching. Overall, we find no systematic evidence for a significant effect of state-level election outcomes on individual preferences. Even though state election outcomes deviated substantially from the current federal-level vote shares in several elections (see figure A.3), we find a significantly positive effect only for the state election in Hamburg as depicted in appendix figure A.5. These results suggest that the signal induced by state elections on the feasibility of the FDP as an electoral alternative was not sufficient to significantly impact on self-reported preferences. While we are cautious in giving too much prominence to these findings and acknowledge the case-specific nature of the results, they may nevertheless indicate that the information channel is not sufficient to fully explain the strong effects found for the AfD.

As a second counterfactual test of the relative importance of the information and the reputation channel, we would ideally like to investigate the effects of election information shocks for a party that shares with the AfD the same degree of (right-wing) populism/extremism and social rejection but which has long been established in the German party system and was represented in the Bundestag during our sample period, thereby isolating the reputation channel. The most natural candidate for such a test in the German party system is the party The Left (*Die Linke*). Being the successor party of the socialist SED in the former German Democratic Republic (GDR), the party is unambiguously classified as a communist or radical left platform by expert evaluations such as the Manifesto Project Database (MPD) or the Chapel Hill Expert Survey (CHES). Yet, it represents a quite established political movement in Germany, in particular in the former GDR states where it obtained vote shares of up to 30 percent after the German

Reunification and joined several state governments, performing in a rather pragmatic manner. Thus, public perception of this party as a socially accepted platform may be less controversial compared to the AfD. In fact, the regression results reported in table 6 do not show evidence of a systematic link between unexpected state-level election outcomes and subsequently reported party preferences. If anything, negative election information shocks appear to lower the likelihood of a subsequently reported preference for The Left.¹¹

Since one final concern with our results is that they may be driven by the observed positive trend in overall AfD support throughout our sample period, we also compare our baseline results to the effects of state elections on self-reported support for the Social Democrats (*Sozialdemokratische Partei Deutschland*, SPD). We chose this party because it experienced a strong trend in aggregate support throughout our sample period as well, yet with a negative sign (with one exception in 2015).¹² Thus, if our treatment effect on self-reported AfD preferences was only driven by the general positive trend in overall support, we would expect to find very similar results for the SPD, yet pointing in the opposite direction. Again, when applying our estimation framework to link aggregate and self-reported SPD preferences, we find no evidence for a significant treatment effect that may be driven by a negative time trend (see table 6).

Overall, by investigating the link between election information shocks and self-reported preferences for different parties, we derive the tentative conclusions that (i) the results for self-reported AfD support cannot be explained solely by the information channel (neither the reputation channel), and (ii) that the results are not driven by confounding factors like a general time trend.

¹¹ One caveat of the results in table 6 might be the strategy by which we measure the direction of an election information shock (positive vs. negative) for The Left. Following our baseline approach, we define a state election as inducing a positive shock when the state-specific vote share exceeds the most recent federal-level poll. This might not be an adequate strategy for The Left, since the party has its main electoral base in the East German states. Therefore, the federal average is most likely a distorted proxy of the actual perception of public support for this party which is higher (lower) in eastern (western) states. A more natural approach appears to be the deviation from the most recent pre-election poll on the specific state election. Yet, applying this alternative definition of election information shocks did not change our results qualitatively (Results available from the authors on request.).

¹² The positive spike in figure A.6 was driven by the election of Martin Schulz as party leader and the party's candidate for chancellorship in the upcoming federal election.

5 Conclusion

We investigate the effect of information shocks provided by elections at a sub-national level on the individual disposition to report a populist right-wing party preference. We consider the case of Germany where the right-wing populist AfD has registered considerable support among the electorate since its foundation in 2013. It managed to enter 14 out of 16 state parliaments between 2013 and 2017 and finally won seats in the federal parliament in 2017. Provided the highly controversial AfD platform featuring nationalist, xenophobic and far-right elements, we examine whether a strong election result in one state has caused individuals in other states to indicate an AfD preference in survey interviews.

Our underlying reasoning relates to the twofold information deficit of voters regarding newly emerging parties. First, the electorate is unable to assess the actual political agenda of the new party or the abilities of its members. An observed increase in public support may thus serve as a signal of a positive evaluation of party qualities by fellow voters (information channel). Second, due to program shifts and the heated debate about the legitimacy of AfD positions, voters are lacking information about the party's social acceptability. Revealed political preferences in terms of voting decisions may provide a reliable point of orientation for voters fearing social rejection in case of publicly stating an AfD preference (reputation channel).

We apply a quasi-experimental event-study design employing repeated cross-sectional data from the German Politbarometer survey. We compare the average individual likelihood to report an AfD preference for individuals interviewed right after a state election and thus subject to an election information shock to those interviewed right before the election and thus unaffected by newly acquired information. Our empirical results provide systematic evidence that the information shocks associated with larger-than expected AfD vote shares in state elections raise subsequently reported vote intentions for this party in *other* states by roughly 5 percentage points. Applying entropy balancing and showing placebo tests for comparable time periods without elections supports our argument that election information shocks have a causal impact on self-reported individual political preferences.

We provide first promising evidence of information shock effects on populist preferences. However, some empirical issues open space for further research. Due to the repeated

cross-section structure of the used data, we cannot perfectly compare individuals in the treatment and control group. Therefore, we cannot ultimately rule out that political preferences are influenced by unobserved individual features. Further analysis could exploit the counterfactual election windows to construct a difference-in-difference approach that allows to control for unobserved heterogeneity in a more systematic way.

Moreover, our empirical analysis is silent about the effect of election information shocks on the individual's true party preference because we can only observe reported preferences. However, we can do some theorizing about how the information shock will affect the true preferences if we can distinguish between the two channels. If the information channel is at work and the vote intention for the AfD increases, we can infer that the probability of having a true AfD preference has also increased. If, in contrast, the reputation channel is at work *ceteris paribus*, only the utility from *reporting* a certain party preference has increased and thus, an increasing public support for the AfD suggests that more people reveal their true attitude based on a stable underlying set of preferences. Finally, our analysis offers an interesting approach to analyze how the social desirability inherent in most survey data is affected by aggregate information shocks. We would therefore like to extend our analysis by isolating the information and the reputation channel in order to understand better how shifts in public opinion impact on individual preferences. Variation in the degree of social stigmatization of the party as an extreme right-wing platform may provide a promising approach to identify the reputation channel of election information shocks.

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Tables

Table 1: Sample.

Federal State	Type of shock	Election Date	WoE	WoS Control Group	WoS Treatment Group
Saxony	positive	Aug 31, 2014	35	34	36
Hamburg	positive	Feb 15, 2015	7	5	9
Bremen	negative	May 10, 2015	19	16	21
Baden-Wuerttemberg	positive	March 13, 2016	10	7	11
Rhineland-Palatinate	positive				
Saxony-Anhalt	positive				
Mecklenb. Hither-Pomerania	positive	Sep 4, 2016	35	32	38
Berlin	positive	Sep 18, 2016	37		
Saarland	negative	March 26, 2017	12	10	14
Schleswig-Holstein	negative	May 7, 2017	18	17	20
North Rhine-Westphalia	negative	May 14, 2017	19		

Table 2: Summary statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>Dependent variable:</i>					
AfD preference	20,525	0.059	0.236	0	1
<i>Independent variables:</i>					
Election information shock	20,525	0.499	0.5	0	1
Gender	20,394	0.473	0.499	0	1
Age	20,394	7.621	2.207	1	10
Age squared	20,394	62.945	28.843	1	100
Married	20,394	0.599	0.49	0	1
Low education	20,394	0.183	0.387	0	1
Medium-level education	20,394	0.362	0.481	0	1
In school	20,394	0.005	0.068	0	1
Part-time employment	20,394	0.122	0.327	0	1
Marginally employed	20,394	0.001	0.038	0	1
Unemployed	20,394	0.02	0.142	0	1
In vocational training	20,394	0.027	0.163	0	1
Retired	20,394	0.345	0.475	0	1
Other employment status	20,394	0.033	0.177	0	1
Voted for AfD in the last federal election?	17,507	0.023	0.149	0	1
Self-positioning on left-right scale	17,507	5.445	1.893	1	11
Satisfaction with current government	17,507	7.05	2.49	1	11
Immigration as most important issue?	17,507	0.538	0.499	0	1

Table 3: Effect of election information shocks on self-reported voting intentions.

DV: AfD vote intention	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Pooled sample</i>						
Post-election	0.0193 (0.0185)	0.0204 (0.0184)	0.0201 (0.0183)	0.00519 (0.0136)	0.00944 (0.00896)	0.00880 (0.00806)
N	20,525	20,394	20,394	17,507	17,507	17,507
<i>Panel B: Positive shocks</i>						
Post-election	0.0446* (0.0268)	0.0351** (0.0155)	0.0467* (0.0280)	0.0164 (0.0241)	0.0497** (0.0248)	0.0522** (0.0250)
N	11,095	11,018	11,018	9,694	9,694	9,694
<i>Panel C: Negative shocks</i>						
Post-election	-0.0213 (0.0330)	-0.0221 (0.0312)	-0.0221 (0.0304)	-0.0483 (0.0403)	0.0284 (0.0374)	0.0377 (0.0380)
N	9,430	9,376	9,357	7,757	7,757	7,757
Election \times state-of-living FE	Y	Y	Y	Y	Y	Y
Time trend	Y	Y	Y	Y	Y	Y
Demographics		Y	Y	Y	Y	Y
Socio-economics			Y	Y	Y	Y
Political attitudes				Y	Y	Y
Entropy balancing (eb)					Y	Y
eb on political attitudes						Y

Note: Coefficients for treatment effect (*post-election*): average marginal effects following Logit estimation. Standard errors robust and clustered at the state-of-living (in parentheses). Election windows included in panel B are: SN, HH, (BW, RP, ST), (MV, BE). Election windows included in panel C are HB, (SH, NW), SL. Demographics: age (18-70+, 10 cat.), age squared, gender (0-1), marital status (0-1), full set of dummies on education attainment (low, medium, high, in school). Socio-economics: full set of dummies on employment status (full time, part time, marginal, unemployed, in training, retired, other). Political attitudes: last vote AfD (0-1), self-positioning on left-right-scale (0-10), scaling of government performance (0-10), immigration perceived as most important issue (0-1). In models (1) to (4), sample weights are applied which are provided with the poll data. In models (5) and (6), matching weights from entropy balancing are applied. In model (5), matching is applied for each election window and based on the demographic and socio-economic covariates as well as the state of living. In model (6), the political attitudes are matched as well. Significance levels:*** p<0.01, ** p<0.05, * p<0.1.

Table 4: Results for placebo election information shocks I.

DV: AfD vote intention	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Pooled sample</i>						
Post-counterfactual election	0.0176 (0.0859)	0.0173 (0.0846)	0.0166 (0.0839)	-0.00894 (0.0493)	0.0153 (0.0261)	0.0141 (0.0273)
N	17,898	17,729	17,729	15,420	15,420	15,420
<i>Panel B: Positive shocks</i>						
Post-counterfactual election	0.00274 (0.0217)	0.00131 (0.0209)	0.00188 (0.0209)	-0.0144 (0.0252)	-0.00463 (0.0127)	-0.00339 (0.0128)
N	11,853	11,745	11,745	10,183	10,183	10,183
<i>Panel C: Negative shocks</i>						
Post-counterfactual election	0.00708 (0.0636)	0.00785 (0.0641)	0.00993 (0.0630)	0.0153 (0.0458)	-0.0291 (0.0396)	-0.0276 (0.0401)
N	6,045	5,984	5,984	5,230	5,230	5,230
Election \times state-of-living FE	Y	Y	Y	Y	Y	Y
Time trend	Y	Y	Y	Y	Y	Y
Demographics		Y	Y	Y	Y	Y
Socio-economics			Y	Y	Y	Y
Political attitudes				Y	Y	Y
Entropy balancing (eb)					Y	Y
eb on political attitudes						Y

Note: Coefficients for treatment effect (*post-counterfactual election*): average marginal effects following Logit estimation. Standard errors robust and clustered at the state-of-living (in parentheses). Control variables as in table 3. Results shown for *counterfactual* election windows one year *before* the actual election. Counterfactual election windows in panel B are included for: SN, HH, (BW, RP, ST), (MV, BE). Placebo election windows included in panel C are included for HB, (SH, NW). No Counterfactual window available for SL, because the pre-year window overlaps with the election in BW, RP and ST. Significance levels:*** p<0.01, ** p<0.05, * p<0.1.

Table 5: Results for placebo election information shocks II.

DV: AfD vote intention	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Pooled sample</i>						
Post-counterfactual election	0.00400 (0.0162)	0.00396 (0.0162)	0.00299 (0.0162)	0.00483 (0.0125)	0.00211 (0.0117)	0.00847 (0.0117)
N	21,331	21,215	21,215	18,103	18,103	18,103
<i>Panel B: Positive shocks</i>						
Post-counterfactual election	0.0108 (0.0111)	0.00978 (0.0107)	0.00902 (0.0110)	0.00369 (0.00987)	0.000861 (0.0111)	0.00518 (0.0106)
N	11,875	11,750	11,750	10,272	10,272	10,272
<i>Panel C: Negative shocks</i>						
Post-counterfactual election	-0.00881 (0.00840)	-0.0100 (0.00810)	-0.0104 (0.00823)	-0.0174** (0.00856)	-0.00799 (0.00543)	-0.00840 (0.00529)
N	9,456	9,415	9,400	7,773	7,773	7,773
Election \times state-of-living FE	Y	Y	Y	Y	Y	Y
Time trend	Y	Y	Y	Y	Y	Y
Demographics		Y	Y	Y	Y	Y
Socio-economics			Y	Y	Y	Y
Political attitudes				Y	Y	Y
Entropy balancing (eb)					Y	Y
eb on political attitudes						Y

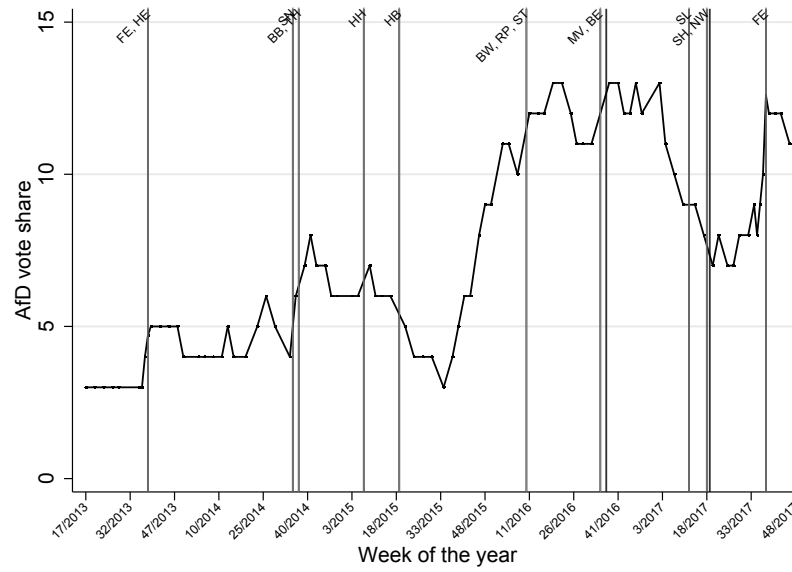
Note: Coefficients for treatment effect (*post-counterfactual election*): average marginal effects following Logit estimation. Standard errors robust and clustered at the state-of-living (in parentheses). Control variables as in table 3. Results shown for *Counterfactual* election windows that consist of the two most recent survey waves *before* the actual election. Counterfactual election windows in panel B are included for: SN, HH, (BW, RP, ST), (MV, BE). Counterfactual election windows included in panel C are included for HB, SL, (SH, NW). Significance levels:*** p<0.01, ** p<0.05, * p<0.1.

Table 6: Effect of election information shocks on self-reported voting intentions: Results for other parties.

DV: Vote intention for	Liberals (FDP)		Social Democrats (SPD)		The Left (Die Linke)	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Pooled sample</i>						
Post-election	0.000391 (0.0115)	0.0178** (0.00721)	-0.0331 (0.0240)	-0.0141 (0.0141)	-0.0124 (0.0145)	-0.0177* (0.0104)
N	20,351	17,215	20,861	17,821	20,861	17,821
<i>Panel B: Positive shocks</i>						
Post-election	-0.0402 (0.0430)	-0.0345 (0.0385)	-0.0273 (0.0394)	-0.0282 (0.0236)	-0.0207 (0.0206)	-0.00778 (0.0116)
N	11,749	10,063	12,307	10,561	15,343	13,087
<i>Panel C: Negative shocks</i>						
Post-election	-0.0136 (0.0115)	0.00598 (0.0112)	0.0134 (0.0516)	0.0673 (0.0522)	-0.0102 (0.00759)	-0.0142** (0.00560)
N	8,602	7,152	8,554	7,260	5,518	4,729
Election \times state-of-living FE	Y	Y	Y	Y	Y	Y
Time trend	Y	Y	Y	Y	Y	Y
Demographics		Y		Y		Y
Socio-economics		Y		Y		Y
Political attitudes		Y		Y		Y
Entropy balancing (eb)		Y		Y		Y

Note: Coefficients for treatment effect (*post-election*): average marginal effects following Logit estimation. Standard errors robust and clustered at the state-of-living (in parentheses). Positive shocks (panel B): Positive deviation of the state-level vote share from the most recent federal-level poll. Negative shocks (panel C): Negative deviation of the state-level vote share from the most recent federal-level poll. Election windows included in Panel B and C are listed by party as follows. FDP (columns 1 and 2): Panel B: HH, HB, (BW, RP, ST), (SH, NW). Panel C: SN, (MV, BE), SL. SPD (columns 3 and 4): Panel B: HH, HB, (MV, BE), (SH, NW). Panel C: SN, (BW, RP, ST), SL. Die Linke (columns 5 and 6): Panel B: SN, HH, HB, (MV, BE), SL. Panel C: (BW, RP, ST), (SH, NW). Control variables as in table 3. Matching is applied for each election window and based on the demographic and socio-economic covariates as well as the state of living. Significance levels:*** p<0.01, ** p<0.05, * p<0.1.

Figures



Note: Federal-level AfD polls and dates of state elections in chronological order from 2013 to 2017.. We exclude two state elections that do not fall into the respective election cycle, namely in Bavaria in 2013 and in Lower Saxony in 2017, as these were held shortly before and after the federal elections, respectively. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia. FE = Federal elections.

Figure 1: AfD vote shares and state elections.

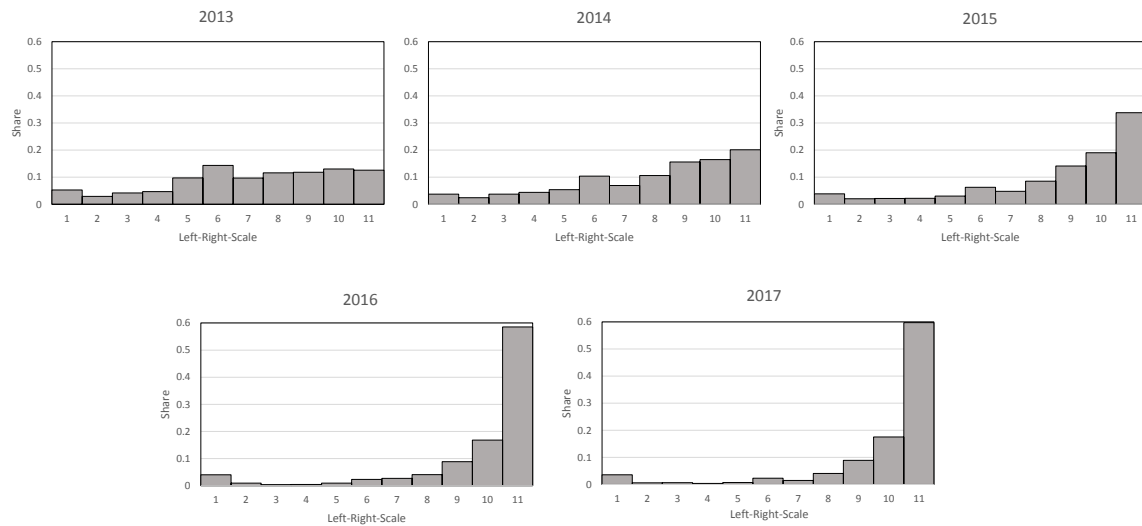
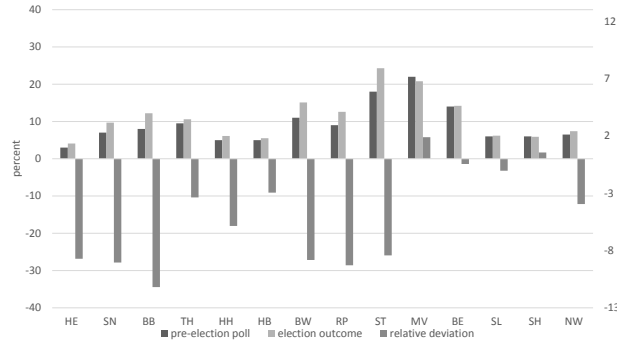
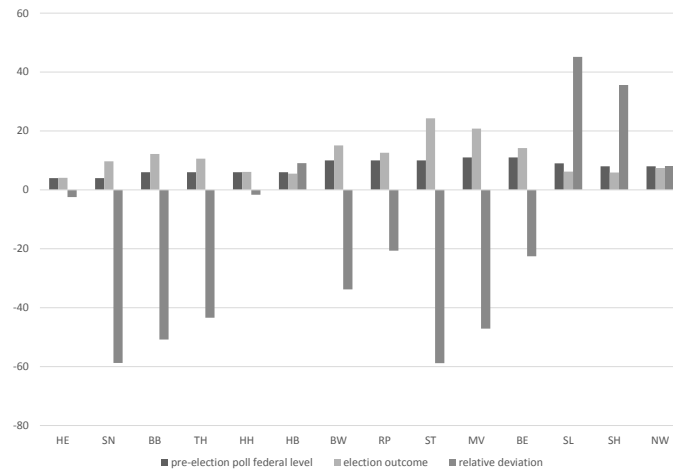


Figure 2: AfD ratings on a 1-to-10 left-right-scale in the German Longitudinal Election Study.



Note: Results for state elections in chronological order from 2013 to 2017. *Pre-election poll state level* reports the most recent pre-election poll for the respective state election (published ca. three days before the election). *Relative deviation* measures the percentage deviation of the poll from the realized vote share. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

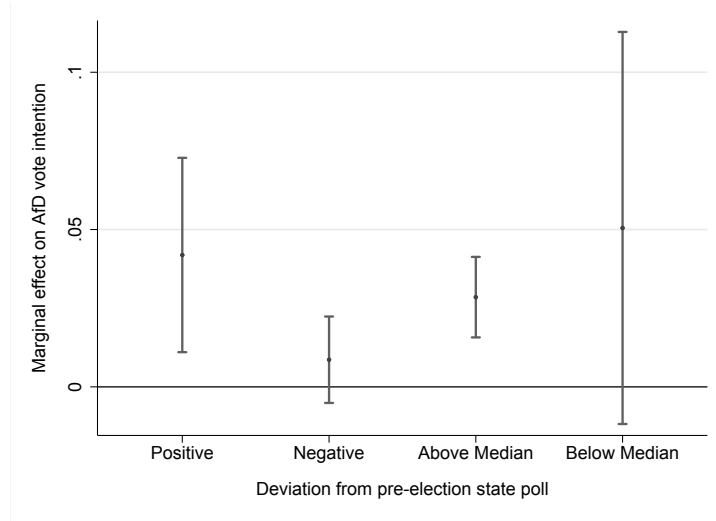
(a) State-level election outcomes vs. pre-election polls.



Note: Results for state elections in chronological order from 2013 to 2017. *Pre-election poll federal level* measures the current estimated AfD share at the federal level (as published by the most recent general poll *before* the state election). *Relative deviation* measures the percentage deviation of the poll from the realized vote share. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

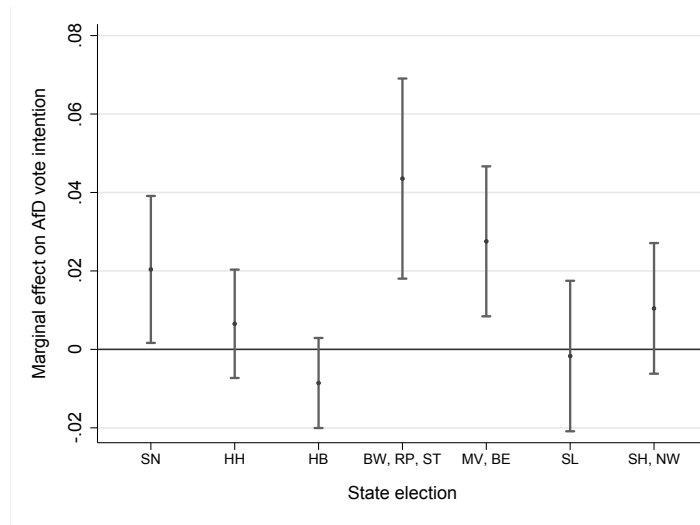
(b) State-level election outcomes vs. federal-level polls.

Figure 3: Vote shares for the AfD in German state elections and pre-elections polls.



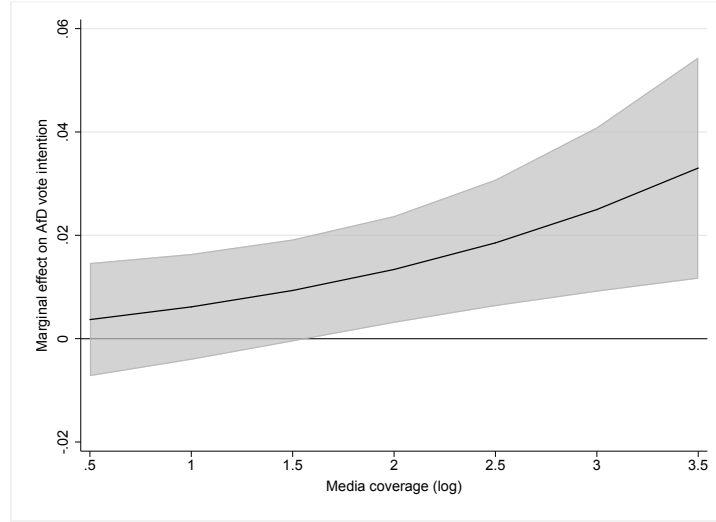
Note: Average marginal effects following Logit regressions on model (5) from table 3. *Positive* = positive deviation of AfD election outcome (vote share) from pre-election state-level poll. Included elections: SN, HH, HB, (BW, RP, ST), SL. *Negative* = negative deviation of AfD election outcomes from pre-election state-level poll. Included countries: (MV, BE), (SH, NW). *Above-median* = Above-median deviation of the AfD election outcome from the most recent federal-level poll. Countries included: SN, (BW, RP, ST), (MV, BE). *Below-median* = Below-median deviation of the AfD election outcome from the most recent federal-level forecast. Countries included: HH, HB, SL, (SH, NW).

Figure 4: Positive vs. negative election information shocks – Alternative sample splits.



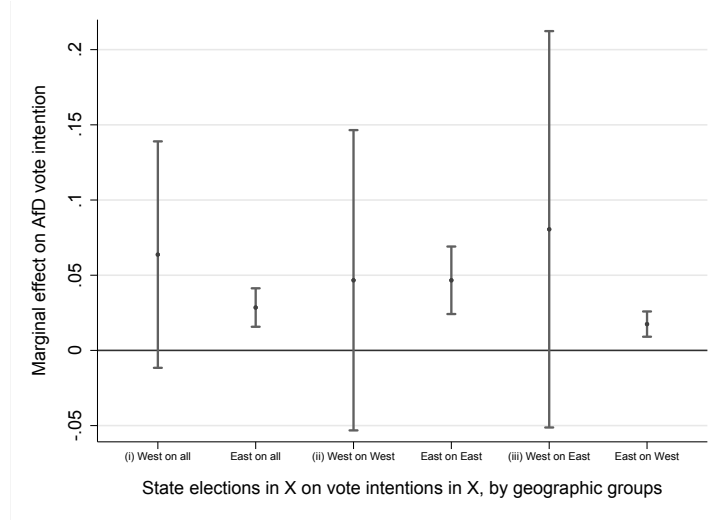
Note: Average marginal effects Logit regressions on model (5) from table 3. Results for state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

Figure 5: Results by election window.



Note: Average marginal effects following Logit regression for full sample on model (5) from table 3, including *media coverage*, *log* and its interaction with *post-election*. *media coverage*, *log* measures relative frequencies of Google searches of the word “AfD” (or *Alternative fuer Deutschland*) for each week. For the control group, we take the value of this variable in the control WoS. For the treatment group, we use the value of the variable in the week of the election to account for a direct link between elections and media coverage.

Figure 6: Election information shocks and media coverage.



Note: Average marginal effects following Logit regressions on model (5) from table 3. Separate regressions for sub-samples based on broad geographic peer groups (Eastern vs. Western German states). Effect of Western (Eastern) state elections on (i) all individuals (West on all; East on all), (ii) individuals in the same broad geographic peer group (West on West; East on East), and (iii) on the other geographic peer group (West on East; East on West). Western German states: HE, HH, HB, BW, RP, SL, SH, NW. Eastern German states: BB, TH, SN, ST, MV. BE (Berlin) assigned to Eastern Germany.

Figure 7: Results by geographic peer groups.

A Appendix A

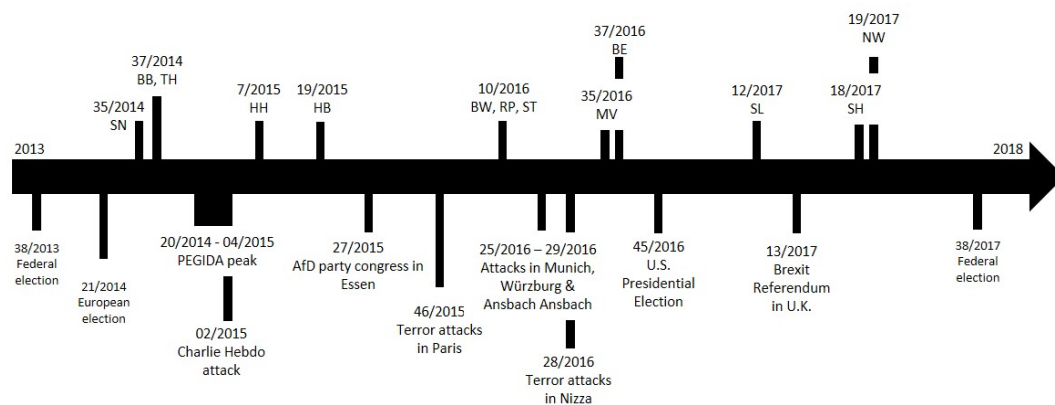


Figure A.1: Time line of events.

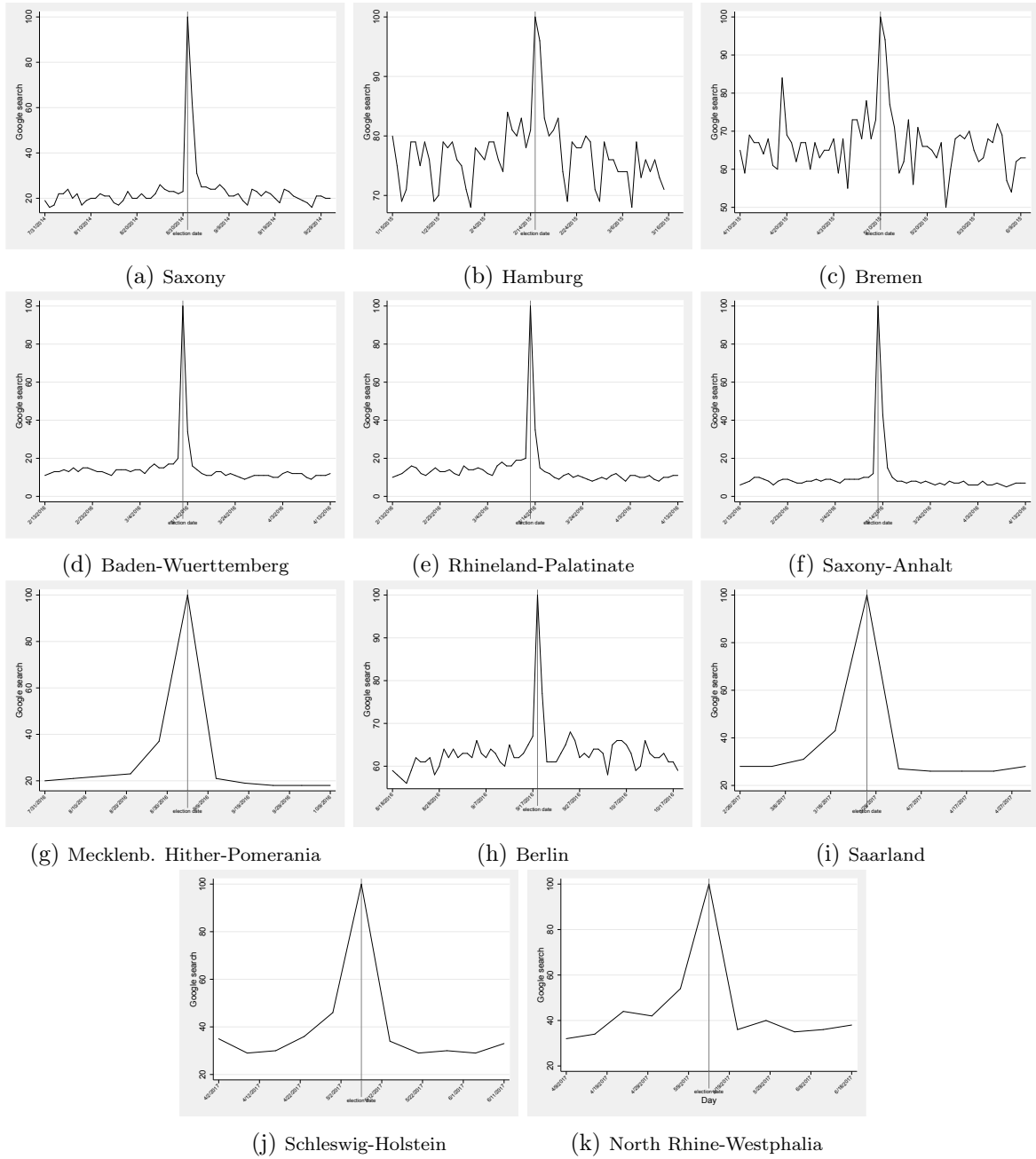


Figure A.2: Relative frequencies of Google searches for a federal state around the respective state election.

Table A.1: Imbalance Test for Full Sample.

Dependent Variable	β for Treatment	Observations	R-squared
Gender	0.00215 (0.00651)	23,546	0.000
Age	-0.00641 (0.0287)	23,546	0.000
Age squared	-0.0260 (0.375)	23,546	0.000
Married	-0.00202 (0.00640)	23,463	0.000
Low education	0.00411 (0.00502)	23,443	0.000
Medium-level education	-0.00473 (0.00628)	23,443	0.000
In school	-0.000281 (0.000893)	23,443	0.000
Part-time employed	-0.00244 (0.00426)	23,546	0.000
Marginally employed	0.000615 (0.000530)	23,546	0.000
Unemployed	0.000682 (0.00188)	23,546	0.000
In vocational training	0.00143 (0.00212)	23,546	0.000
Retired	0.00186 (0.00619)	23,546	0.000
Other employment status	0.00192 (0.00232)	23,546	0.000
Voted for AfD in the last federal election?	0.000844 (0.00186)	23,546	0.000
Self-positioning on left-right-scale	0.00806 (0.0255)	22,287	0.000
Satisfaction with current government	0.0799** (0.0331)	23,146	0.000
Immigration as most important issue?	-0.0190*** (0.00682)	21,449	0.000

Notes: β gives the OLS estimate for treatment using the indicated variables as dependent variables. Standard errors are clustered at the state-level and reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.2: Imbalance statistics for election window 1: Saxony.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.494	0.250	0.484	0.230	0.494	0.250	0.01
Age	1-10	7.686	4.571	7.568	4.828	7.686	4.572	0.1
Married	0-1	0.595	0.241	0.606	0.239	0.595	0.241	-0.01
Low education	0-1	0.167	0.140	0.17	0.141	0.167	0.140	-0.003
Medium-level education	0-1	0.369	0.233	0.375	0.235	0.369	0.233	-0.006
In school	0-1	0.001	0.001	0.004	0.004	0.002	0.002	-0.003
Part-time employed	0-1	0.128	.112	0.144	0.123	0.128	0.112	-0.016
Marginally employed	0-1	0.002	0.002	0.001	0.001	0.002	0.002	-0.001
Unemployed	0-1	0.021	0.020	0.022	0.021	0.021	0.020	-0.001
In vocational training	0-1	0.029	0.029	0.028	0.027	0.029	0.029	-0.001
Retired	0-1	0.350	0.228	0.326	0.220	0.350	0.228	0.024
Other employment status	0-1	0.030	0.030	0.032	0.031	0.030	0.030	-0.002
Satisfaction with current government	1-11	7.426	5.5	7.448	4.973	7.426	5.499	-0.022
Self-positioning on left-right scale	1-11	5.6	3.669	5.465	3.662	5.6	3.669	0.135
Immigration as most important issue?	1-11	0.183	0.150	0.130	0.113	0.183	0.150	0.053
Voted for AfD in the last federal election?	0-1	0.032	0.031	0.030	0.026	0.032	0.031	0.002
State of living	1-17	9.648	21.61	9.634	21.77	9.648	21.61	0.014

Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.3: Imbalance statistics for election window 2: Hamburg.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.468	0.249	0.456	0.248	0.468	0.249	0.012
Age	1-10	7.754	4.465	7.74	4.247	7.754	4.465	0.014
Married	0-1	0.635	0.232	0.645	0.230	0.635	0.232	-0.01
Low education	0-1	0.194	0.156	0.195	0.157	0.194	0.156	-0.001
Medium-level education	0-1	0.365	0.232	0.35	0.227	0.365	0.232	0.015
In school	0-1	0.005	0.005	0.006	0.005	0.005	0.005	-0.001
Part-time employed	0-1	0.113	0.1	0.125	0.109	0.113	0.1	-0.012
Marginally employed	0-1	0.001	0.001	0.001	0.001	0.001	0.001	0
Unemployed	0-1	0.031	0.03	0.023	0.022	0.031	0.03	0.008
In vocational training	0-1	0.023	0.023	0.015	0.015	0.023	0.023	0.008
Retired	0-1	0.370	0.233	0.349	0.227	0.37	0.233	0.021
Other employment status	0-1	0.032	0.031	0.025	0.025	0.032	0.031	0.007
Satisfaction with current government	1-11	7.327	5.744	7.207	6.053	7.327	5.74	0.12
Self-positioning on left-right scale	1-11	5.499	3.602	5.498	3.433	5.499	3.602	0.001
Immigration as most important issue?	1-11	0.414	0.243	0.311	0.215	0.414	0.243	0.103
Voted for AfD in the last federal election?	0-1	0.034	0.033	0.032	0.031	0.034	0.033	0.002
State of living	1-17	9.866	21.18	9.528	21.6	9.866	21.18	0.338

Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.4: Imbalance statistics for election window 3: Bremen.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.476	0.25	0.466	0.249	0.476	0.25	0.01
Age	1-10	7.639	4.687	7.719	4.701	7.639	4.687	-0.08
Married	0-1	0.601	0.24	0.632	0.233	0.601	0.24	-0.031
Low education	0-1	0.165	0.138	0.157	0.132	0.165	0.138	0.008
Medium-level education	0-1	0.351	0.228	0.368	0.233	0.351	0.228	-0.017
In school	0-1	0.006	0.006	0.007	0.007	0.006	0.006	-0.001
Part-time employed	0-1	0.124	0.109	0.135	0.117	0.124	0.109	-0.011
Marginally employed	0-1	0.003	0.003	0.003	0.003	0.003	0.003	0
Unemployed	0-1	0.02	0.02	0.025	0.025	0.02	0.02	-0.005
In vocational training	0-1	0.031	0.03	0.024	0.023	0.031	0.03	0.007
Retired	0-1	0.343	0.225	0.352	0.228	0.343	0.225	-0.009
Other employment status	0-1	0.031	0.03	0.027	0.026	0.031	0.03	0.004
Satisfaction with current government	1-11	7.134	5.666	7.409	5.243	7.134	5.666	-0.275
Self-positioning on left-right scale	1-11	5.316	3.23	5.389	3.785	5.316	3.232	-0.073
Immigration as most important issue?	1-11	0.53	0.249	0.54	0.249	0.53	0.249	-0.01
Voted for AfD in the last federal election?	0-1	0.026	0.026	0.027	0.026	0.026	0.026	-0.001
State of living	1-17	9.65	21.65	9.774	21.5	9.65	21.65	-0.124

Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.5: Imbalance statistics for election window 4: Baden-Wuerttemberg, Rhineland-Palatinate, Saxony-Anhalt.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.441	0.247	0.456	0.248	0.441	0.247	-0.015
Age	1-10	7.483	5.171	7.583	4.767	7.483	5.171	-0.1
Married	0-1	0.623	0.235	0.598	0.241	0.622	0.235	0.025
Low education	0-1	0.14	0.12	0.157	0.132	0.14	0.12	-0.017
Medium-level education	0-1	0.368	0.233	0.36	0.231	0.368	0.233	0.008
In school	0-1	0.005	0.005	0.005	0.005	0.005	0.005	0
Part-time employed	0-1	0.118	0.104	0.12	0.106	0.118	0.104	-0.002
Marginally employed	0-1	0.001	0.001	0.001	0.001	0.001	0.001	0
Unemployed	0-1	0.013	0.012	0.022	0.022	0.013	0.012	-0.009
In vocational training	0-1	0.028	0.028	0.022	0.022	0.028	0.028	0.006
Retired	0-1	0.331	0.222	0.341	0.225	0.331	0.222	-0.01
Other employment status	0-1	0.032	0.031	0.032	0.031	0.032	0.031	0
Satisfaction with current government	1-11	6.862	6.769	6.443	7.669	6.86	6.774	0.419
Self-positioning on left-right scale	1-11	5.347	3.176	5.47	3.639	5.348	3.178	-0.133
Immigration as most important issue?	1-11	0.771	0.177	0.876	0.108	0.771	0.177	-0.105
Voted for AfD in the last federal election?	0-1	0.016	0.016	0.017	0.017	0.016	0.016	-0.001
State of living	1-17	9.77	21.48	9.655	21.53	9.77	21.48	0.115

Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.6: Imbalance statistics for election window 5: Mecklenburg Hither-Pomerania.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.485	0.25	0.44	0.247	0.485	0.25	0.045
Age	1-10	7.62	4.675	7.572	5.077	7.62	4.677	0.048
Married	0-1	0.588	0.242	0.564	0.246	0.588	0.242	0.024
Low education	0-1	0.15	0.128	0.154	0.131	0.15	0.128	-0.004
Medium-level education	0-1	0.372	0.234	0.361	0.231	0.372	0.234	0.011
In school	0-1	0.003	0.003	0.003	0.003	0.003	0.003	0
Part-time employed	0-1	0.119	0.105	0.107	0.096	0.119	0.105	0.012
Marginally employed	0-1	0.001	0.001	0.001	0.001	0.001	0.001	0
Unemployed	0-1	0.02	0.02	0.018	0.017	0.02	0.02	0.002
In vocational training	0-1	0.02	0.02	0.032	0.031	0.02	0.02	-0.012
Retired	0-1	0.338	0.224	0.334	0.223	0.338	0.224	0.004
Other employment status	0-1	0.034	0.033	0.031	0.03	0.034	0.033	0.003
Satisfaction with current government	1-11	6.561	6.549	6.555	6.94	6.561	6.55	0.006
Self-positioning on left-right scale	1-11	5.329	3.921	5.429	3.574	5.33	3.921	-0.1
Immigration as most important issue?	1-11	0.684	0.216	0.714	0.204	0.684	0.216	-0.03
Voted for AfD in the last federal election?	0-1	0.013	0.013	0.017	0.017	0.013	0.013	-0.004
State of living	1-17	9.665	21.51	9.659	22.03	9.665	21.51	0.006

Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.7: Imbalance statistics for election window 6: Saarland.

	Range	Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		Δ Mean
		Mean	Variance	Mean	Variance	Mean	Variance	
Gender	0-1	0.448	0.248	0.465	0.249	0.448	0.248	-0.017
Age	1-10	7.527	5.01	7.699	4.465	7.527	5.01	-0.172
Married	0-1	0.599	0.24	0.601	0.24	0.599	0.24	-0.002
Low education	0-1	0.158	0.133	0.139	0.119	0.158	0.133	0.019
Medium-level education	0-1	0.35	0.228	0.352	0.228	0.35	0.228	-0.002
In school	0-1	0.003	0.003	0.005	0.005	0.003	0.003	-0.002
Part-time employed	0-1	0.138	0.119	0.125	0.109	0.138	0.119	0.013
Marginally employed	0-1	0.003	0.003	0.001	0.001	0.003	0.003	0.002
Unemployed	0-1	0.017	0.017	0.014	0.013	0.017	0.017	0.003
In vocational training	0-1	0.035	0.034	0.023	0.023	0.035	0.034	0.012
Retired	0-1	0.318	0.217	0.338	0.224	0.318	0.217	-0.02
Other employment status	0-1	0.035	0.034	0.027	0.027	0.035	0.034	0.008
Satisfaction with current government	1-11	7.104	6.281	7.034	6.118	7.104	6.281	0.08
Self-positioning on left-right scale	1-11	5.454	3.742	5.413	3.491	5.454	3.742	0.041
Immigration as most important issue?	1-11	0.559	0.247	0.589	0.242	0.559	0.247	-0.03
Voted for AfD in the last federal election?	0-1	0.021	0.021	0.017	0.016	0.021	0.021	0.004
State of living	1-17	9.483	21.28	9.571	21.78	9.484	21.28	-0.088

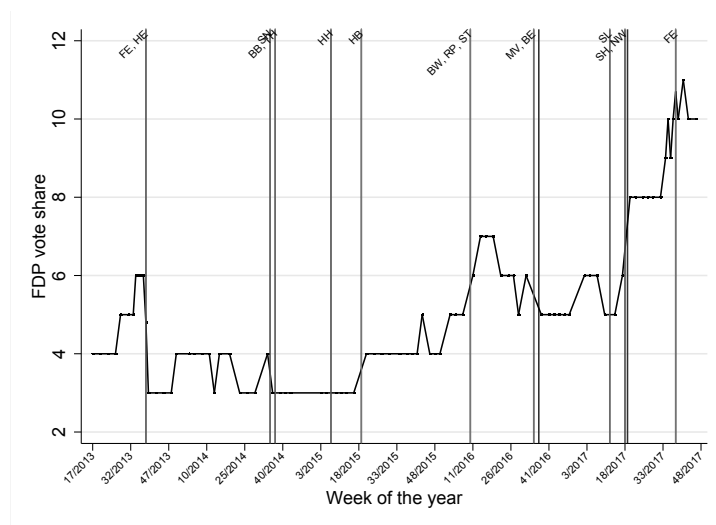
Note: Descriptive statistics and imbalance before and after entropy balancing.

Table A.8: Imbalance statistics for election window 7: Schleswig-Holstein, North Rhine-Westphalia.

		Treatment		Control				Imbalance
		Unconditional		Unconditional		After balancing		
	Range	Mean	Variance	Mean	Variance	Mean	Variance	Δ Mean
Gender	0-1	0.458	0.248	0.441	0.247	0.458	0.248	0.017
Age	1-10	7.603	4.498	7.52	4.999	7.602	4.5	0.083
Married	0-1	0.63	0.233	0.601	0.24	0.63	0.233	0.029
Low education	0-1	0.168	0.14	0.136	0.118	0.168	0.14	0.032
Medium-level education	0-1	0.338	0.224	0.349	0.227	0.35	0.224	-0.011
In school	0-1	0.003	0.003	0.003	0.003	0.003	0.003	0
Part-time employed	0-1	0.13	0.113	0.101	0.091	0.13	0.113	0.029
Marginally employed	0-1	0.001	0.001	0.001	0.001	0.001	0.001	0
Unemployed	0-1	0.025	0.024	0.012	0.012	0.025	0.024	0.013
In vocational training	0-1	0.023	0.023	0.041	0.04	0.023	0.023	-0.018
Retired	0-1	0.299	0.21	0.335	0.223	0.299	0.21	-0.026
Other employment status	0-1	0.034	0.033	0.031	0.03	0.034	0.033	0.003
Satisfaction with current government	1-11	7.256	5.692	7.25	5.861	7.256	5.692	0.006
Self-positioning on left-right scale	1-11	5.516	3.712	5.306	3.581	5.515	3.712	0.21
Immigration as most important issue?	1-11	0.47	0.249	0.568	0.246	0.47	0.249	-0.098
Voted for AfD in the last federal election?	0-1	0.016	0.015	0.012	0.012	0.016	0.015	0.004
State of living	1-17	9.209	21.08	9.385	21.97	9.209	21.08	-0.176

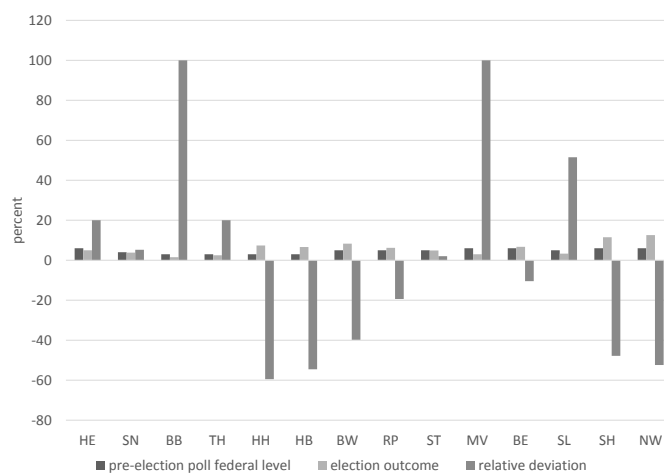
Note: Descriptive statistics and imbalance before and after entropy balancing.

Results for other parties



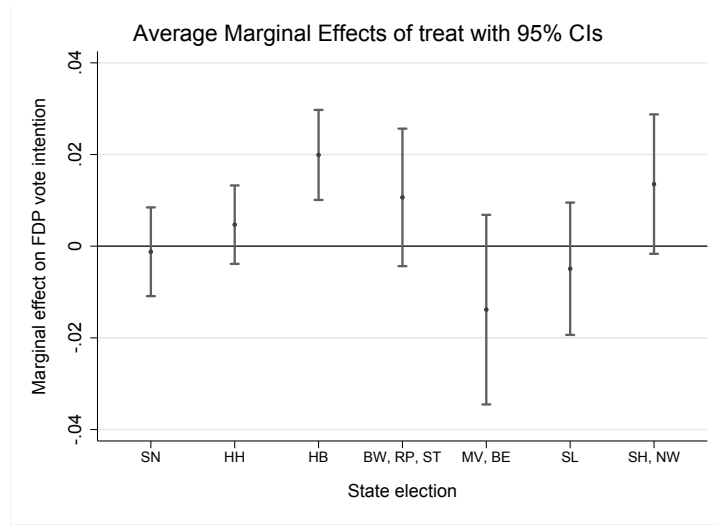
Note: Federal-level FDP polls and dates of state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia. FE = Federal elections.

Figure A.3: Vote shares for the liberal party (FDP) and state elections.



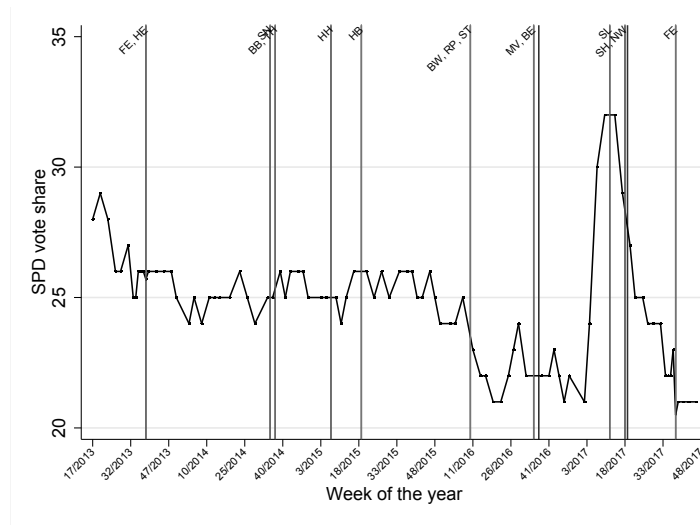
Note: Results for state elections in chronological order from 2013 to 2017. *Pre-election poll federal level* measures the current estimated SPD share at the federal level (as published by the most recent general poll *before* the state election). *Relative deviation* measures the percentage deviation of the poll from the realized vote share.

Figure A.4: Vote shares for the FDP: state-level election outcomes vs. federal-level polls.



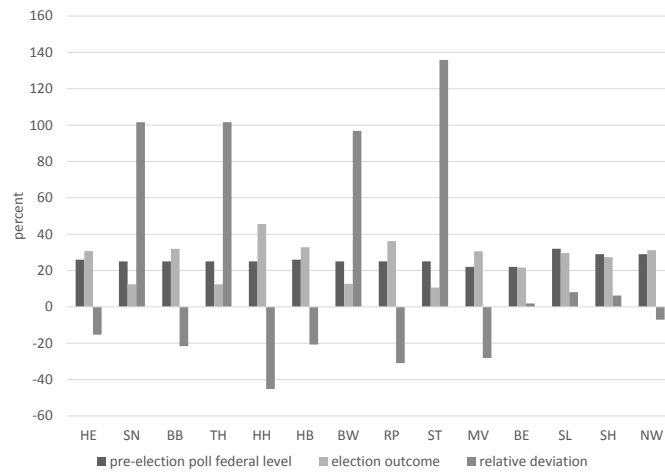
Note: Average marginal effects Logit regressions as in model (2) of table 6. Results for state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

Figure A.5: Regression results for the liberal party (FDP) by election window.



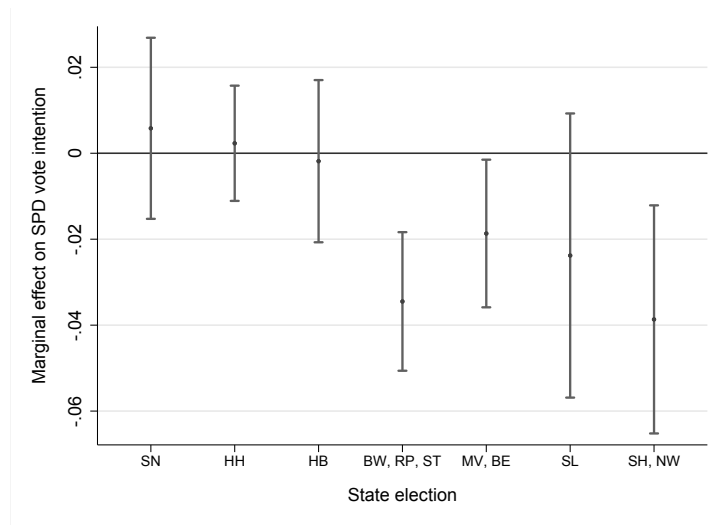
Note: Federal-level SPD polls and dates of state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia. FE = Federal elections.

Figure A.6: Vote shares for the Social Democrats (SPD) and state elections.



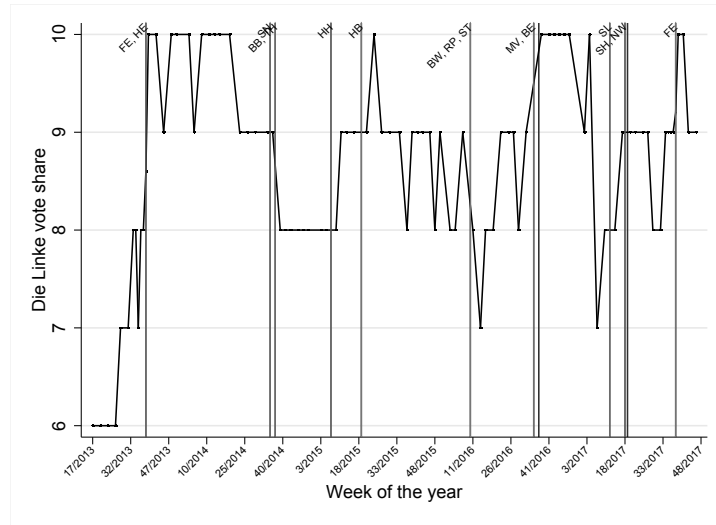
Note: Results for state elections in chronological order from 2013 to 2017. *Pre-election poll federal level* measures the current estimated FDP share at the federal level (as published by the most recent general poll *before* the state election). *Relative deviation* measures the percentage deviation of the poll from the realized vote share.

Figure A.7: Vote shares for the SPD: state-level election outcomes vs. federal-level polls.



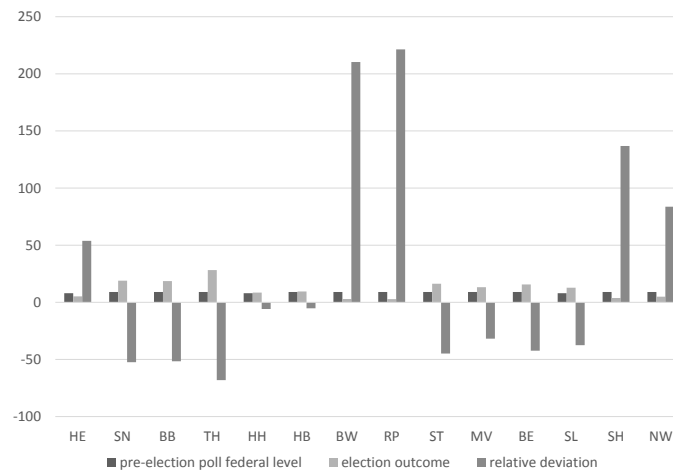
Note: Average marginal effects Logit regressions as in model (4) of table 6. Results for state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

Figure A.8: Regression results for the Social Democrats (SPD) by election window.



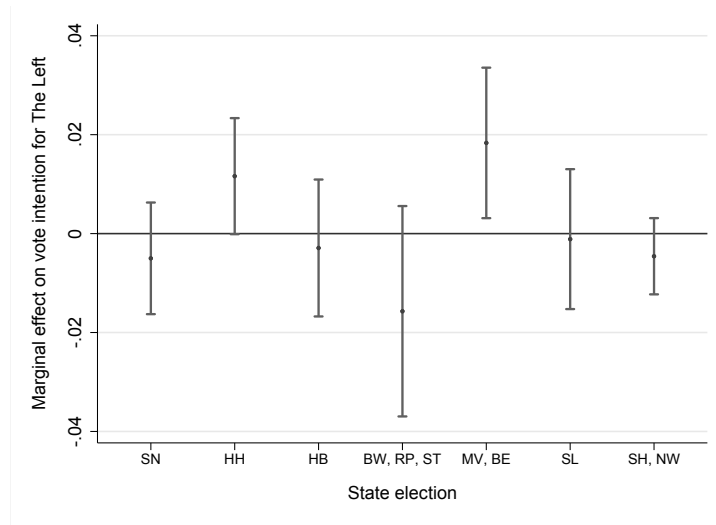
Note: Federal-level polls for The Left (Die Linke) and dates of state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia. FE = Federal elections.

Figure A.9: Vote shares for The Left (Die Linke) and state elections.



Note: Results for state elections in chronological order from 2013 to 2017. *Pre-election poll federal level* measures the current estimated vote share for The Left (Die Linke) at the federal level (as published by the most recent general poll *before* the state election). *Relative deviation* measures the percentage deviation of the poll from the realized vote share.

Figure A.10: Vote shares for The Left (Die Linke): state-level election outcomes vs. federal-level polls.



Note: Average marginal effects Logit regressions as in model (6) of table 6. Results for state elections in chronological order from 2013 to 2017. HE = Hesse, SN = Saxony, BB = Brandenburg, TH = Thuringia, HH = Hamburg, HB = Bremen, BW = Baden-Wuerttemberg, RP = Rhineland-Palatinate, ST = Saxony-Anhalt, MV = Mecklenburg-Hither Pomerania, BE = Berlin, SL = Saarland, SH = Schleswig-Holstein, NW = North Rhine-Westphalia

Figure A.11: Regression results for The Left (Die Linke) by election window.