

Do Politicians Shape Public Opinion?

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Most research on political representation focuses on how citizens' ideology and partisanship influence their support for political candidates – leaving the question of whether (and how) elected officials influence citizens' positions on political issues open to debate. The hypothesis tested here – using a unique, quasi-experimental design with American National Election Study data between 1956 and 2004 – is that Democratic representatives shift the opinions of constituents in the pro-Democratic and liberal direction, while Republican representatives shift constituents' opinions in the pro-Republican and conservative direction. The findings show that incumbent representatives indeed move their constituents' opinions in a particular direction, and that representatives have a stronger impact on constituents who are more frequently exposed to their messages.

Traditional studies of representation claim that citizens influence the positions taken by their politicians. This research is based on the assumption that politicians' fear of losing the next election generates an incentive to meet their constituents' demands. This claim is also in accordance with the Downsian model of party competition: parties and candidates who maximize the chance of winning a seat shift their policy positions closer to those of the median constituent. Numerous studies have empirically evaluated the correspondence between citizens and elected officials by comparing the preferences of constituents and representatives, the preferences of party supporters and party representatives, or the preferences of constituents and the ideological nature of public policies.¹

Yet others have argued the reverse: that politicians actively seek to alter their constituents' attitudes.² Politicians do not only seek re-election; they also want to enact their desired policies.³ Jacobs and Shapiro argue that politicians choose to shift constituents' preferences closer to their own favoured positions because this strategy

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¹ Warren E. Miller and Donald E. Stokes, 'Constituency Influence in Congress', *American Political Science Review*, 57 (1963), 45–56; Elizabeth R. Gerber and Jeffrey B. Lewis, 'Beyond the Median: Voter Preferences, District Heterogeneity, and Political Representation', *Journal of Political Economy*, 112 (2004), 1364–83; G. Bingham Powell, 'Political Representation in Comparative Politics', *Annual Review of Political Science*, 7 (2004), 273–96; James A. Stimson, Michael B. MacKuen and Robert S. Erikson, 'Dynamic Representation', *American Political Science Review*, 89 (1995), 543–65.

² Elizabeth R. Gerber and John E. Jackson, 'Endogenous Preferences and the Study of Institutions', *American Political Science Review*, 87 (1993), 639–56; Lawrence R. Jacobs and Robert Y. Shapiro, *Politicians Don't Pander: Political Manipulation and the Loss of Democratic Responsiveness* (Chicago: University of Chicago Press, 2000); Hugh Ward, 'Preference Shaping and Party Competition: Some Empirical and Theoretical Arguments', in Judith Bara and Albert Weale, eds, *Democratic Politics and Party Competition* (New York: Routledge, 2006), pp. 245–70.

³ R. Douglas Arnold, *The Logic of Congressional Action* (New Haven, Conn.: Yale University Press, 1990); Richard F. Fenno, *Home Style: House Members in Their Districts* (Boston, Mass.: Little, Brown, 1978); David R. Mayhew, *Congress: The Electoral Connection* (New Haven, Conn.: Yale University Press, 1974).

allows them to pursue their own policy goals without paying any electoral costs.⁴ Similarly, Dunleavy and Ward cast doubt on one of the assumptions of the Downsian model – that the position of the median constituent is fixed and exogenous to party competition. They assert that parties in electoral competition should instead be capable of (and engaged in) changing constituents' preferences in their favour to maximize the chances of both winning elections and enacting favoured policies.⁵ Politicians with strong policy preferences and significant influence on public opinion choose to shift constituents' attitudes rather than conform to their demands.⁶

Politicians can alter constituents' attitudes using two different approaches. First, they can try to change either the content of constituents' overall preferences to match their own (called persuasion)⁷ or the emphasis given to different priorities (called framing or priming).⁸ Secondly, politicians in power can exploit government policies to manipulate constituents' socio-economic situations, which are strongly related to their policy preferences.⁹ For example, Ward notes that the Conservative party in Britain shifted individuals' policy preferences by privatizing numerous public-sector jobs during the 1980s.¹⁰ To be successful, these strategies must align constituents' preferences with politicians' favoured positions and convince the voters that the politicians are responsive to these preferences – and thus mitigate the electoral costs of pursuing favoured policies.

A wide range of empirical strategies has been developed to assess the extent to which politicians and parties influence mass opinion,¹¹ yet most of them have not achieved both high external and internal validity simultaneously.¹² Gabel and Scheve explain that conventional non-experimental designs, including cross-sectional or time-series analyses, are

⁴ Jacobs and Shapiro, *Politicians Don't Pander*.

⁵ Patrick Dunleavy and Hugh Ward, 'Exogenous Voter Preferences and Parties with State Power: Some Internal Problems of Economic Theories of Party Competition', *British Journal of Political Science*, 11 (2011), 351–80.

⁶ Ward, 'Preference Shaping and Party Competition'.

⁷ Jacobs and Shapiro, *Politicians Don't Pander*.

⁸ Dennis Chong and James N. Druckman, 'Framing Theory', *Annual Review of Political Science*, 10 (2007), 103–26; Thomas E. Nelson and Zoe M. Oxley, 'Issue Framing Effects on Belief Importance and Opinion Issue Framing Effects on Belief Importance and Opinion', *Journal of Politics*, 61 (2011), 1040–67. Agenda setting is another way of influencing constituents' preferences, but it does not result in changes in their preferences. See also James N. Druckman, Lawrence R. Jacobs and Eric Ostermeier, 'Candidate Strategies to Prime Issues and Image', *Journal of Politics*, 66 (2011), 1180–202; William G. Jacoby, 'Issue Framing and Public Opinion on Government Spending', *American Journal of Political Science*, 44 (2000), 750–67.

⁹ Dunleavy and Ward, 'Exogenous Voter Preferences and Parties with State Power'.

¹⁰ Ward, 'Preference Shaping and Party Competition', p. 248.

¹¹ James N. Druckman and Kjersten R. Nelson, 'Framing and Deliberation: How Citizens' Conversations Limit Elite Influence', *American Journal of Political Science*, 47 (2003), 729–45; Patricia A. Hurley and Kim Quaille Hill, 'Beyond the Demand-Input Model: A Theory of Representational Linkages', *Journal of Politics*, 65 (2003), 304–26; Gerber and Jackson, 'Endogenous Preferences and the Study of Institutions'; Sandra K. Schneider and William G. Jacoby, 'Elite Discourse and American Public Opinion: The Case of Welfare Spending', *Political Research Quarterly*, 58 (2005), 367–79; John Zaller, *The Nature and Origins of Mass Opinion* (New York: University of Cambridge Press, 1992); B. Dan Wood, *The Myth of Presidential Responsiveness* (New York: Cambridge University Press, 2009).

¹² Exceptions include Matthew Gabel and Kenneth Scheve, 'Estimating the Effect of Elite Communications on Public Opinion Using Instrumental Variables', *American Journal of Political Science*, 51 (2007), 1013–28; Shigeo Hirano and James M. Snyder, Jr, 'Using Multimember District Elections to Estimate the Sources of the Incumbency Advantage', *American Journal of Political Science*, 53 (2009), 292–306; Gregory A. Huber and Kevin Arceneaux, 'Identifying the Persuasive Effects of Presidential Advertising', *American Journal of Political Science*, 51 (2007), 961–81.

likely to suffer from two types of endogeneity problems.¹³ The first problem arises from the potential impact of mass opinion on politicians' behaviour: the statistical significance of the relationship between elite positions and mass opinion does not specify who affects whom. The second endogeneity problem lies in the possibility that politicians' behaviour and mass opinion are shifted simultaneously by unobservable changes in the political environment. Conventional non-experimental strategies often fail to minimize the possibility of a spurious relationship between the elite and the mass. Experimental studies, on the other hand, are free from these endogeneity problems and therefore tend to achieve high internal validity. Laboratory experiments or surveys are a popular method for researchers to use to compare the political attitudes of participants exposed to different types of hypothetical elite messages. Yet experimental designs are disadvantaged with respect to external validity. It is often difficult to apply experimental findings to the political situation on the ground. In short, measuring elite influences on public opinion is a surprisingly challenging task.

This article contributes a unique empirical strategy to the literature and offers new evidence that elites can alter public opinion. We use a Regression Discontinuity (RD) design to examine how American representatives affect their constituents' opinions. The RD design exploits close US House elections (in which Democratic and Republican representatives are almost randomly assigned to constituents) and thus requires milder identifying assumptions in comparison to other non-experimental approaches.¹⁴ The RD design's randomization mechanism generates Democratic and Republican districts that are comparable with respect to observable and unobservable baseline attributes, and thus allows us to circumvent the typical endogeneity problems discussed above. We use the RD design to compare mass attitudes and behaviour in districts that experienced a close election two years previously.

Building on the assumption that Democratic (Republican) representatives attempt to promote pro-Democratic (pro-Republican) views in their districts to secure re-election and enact desired policies, we hypothesize that Democratic representatives shift constituents' opinions in the pro-Democratic and liberal direction, while Republican representatives shift constituents' opinions in the pro-Republican and conservative direction. Drawing on previous research – including that of Zaller, and Gabel and Scheve – we expect that the persuasive effects of incumbent representatives are conditioned by the extent to which constituents are exposed to political information.¹⁵ We hypothesize that incumbent representatives have a stronger effect on the opinion of constituents who are more likely to be exposed to new political information. We thus not only demonstrate the persuasive effects of incumbents on constituents' opinions, but also the contours of those effects as determined by individuals' interest in (and access to) political information.

We use American National Election Study (ANES) survey data (1956–2004) to measure mass opinion. This dataset enables us to analyse a sample of respondents across time and space that has a wide set of attitudinal variables such as party identification, ideology and policy views. We found that individuals in districts with Democratic representatives evaluated the Democratic party and candidates more positively than those in districts with Republican

¹³ Gabel and Scheve, 'Estimating the Effect of Elite Communications on Public Opinion Using Instrumental Variables'.

¹⁴ Jinyong Hahn, Petra Todd and Wilbert der Klaauw, 'Identification and Estimation of Treatment Effects with a Regression-Discontinuity Design', *Econometrica*, 69 (2001), 201–9; David S. Lee and Thomas Lemieux, 'Regression Discontinuity Designs in Economics', *Journal of Economic Literature*, 48 (2010), 281–355.

¹⁵ Zaller, *The Nature and Origins of Mass Opinion*; Gabel and Scheve, 'Estimating the Effect of Elite Communications on Public Opinion Using Instrumental Variables'.

representatives. They are more likely to be a Democrat and a liberal and to support government spending, government aid to blacks and an equal role for women in society. They are also more likely to vote for the Democratic candidate in subsequent Congressional and presidential elections. The effects of representatives' partisanship were found only among people with higher educational attainment and media usage. These findings have important implications for the literature on mass political behaviour and political representation.

HYPOTHESES

To examine the extent to which US representatives influence constituents' opinions, we develop the following simple argument: incumbent representatives advertise their performance and issue positions in their district in an effort to shift constituents' evaluations and policy preferences in their favour. Thus Democratic representatives promote their reputation and pro-Democratic views, while Republican representatives promote their reputation and pro-Republican views. These partisan messages inform constituents about candidates' reputations and positions on issues, and lead them to evaluate candidates more positively and adopt candidates' positions as their own.

This argument is drawn from a vast literature on Congressional politics in the United States. After they are elected, incumbent representatives who pursue both electoral and policy goals target two types of constituent attitudes. First, they seek to alter constituents' evaluations of the representatives and their parties in order to secure their support for the next election. To enhance their personal reputations, representatives can use the benefits of office, such as federal projects and casework, to strengthen their records and advertise their activities.¹⁶ They can also publicize their voting records if their positions are perceived favourably by constituents.¹⁷ To bolster their party's reputation, representatives praise its legislative agenda and achievements.¹⁸ Taken together, representatives inform constituents about their activities to promote their own (and their party's) reputation and improve their chances of re-election.

Secondly, representatives seek to alter constituents' policy positions. If representatives succeed in persuading constituents to support their positions, they acquire a measure of leeway in Washington, D.C. that allows them to pursue their own policy goals without paying any electoral costs.¹⁹ We assume that, on average, Democratic representatives are more likely than their Republican counterparts to send partisan messages that include liberal views on economic issues, because Congressional members of the Democratic party have demonstrated distinctly more liberal or progressive views on economic issues than members of the Republican party since the 1930s.²⁰ For non-economic issues such as race and abortion, partisan differences are less obvious and reflect regional variations.²¹ Yet since the 1970s, the two major parties in Congress have polarized and taken distinctive stances on non-economic

¹⁶ Bruce Cain, John Ferejohn and Morris Fiorina, *The Personal Vote: Constituency Service and Electoral Independence* (Cambridge, Mass.: Harvard University Press, 1987); Steven D. Levitt and James M. Snyder, 'Political Parties and the Distribution of Federal Outlays', *American Journal of Political Science*, 39 (1995), 958–80; Robert M. Stein and Kenneth N. Bickers, *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy* (New York: Cambridge University Press, 1995).

¹⁷ Daniel Lipinski, *Congressional Communication: Content and Consequences* (Ann Arbor: University of Michigan Press, 2004).

¹⁸ Lipinski, *Congressional Communication*.

¹⁹ Fenno, *Home Style: House Members in Their Districts*; Jacobs and Shapiro, *Politicians Don't Pander*.

²⁰ John Gerring, *Party Ideologies in America, 1828–1996* (New York: Cambridge University Press, 1998); Keith T. Poole and Howard Rosenthal, *Ideology and Congress* (New Brunswick, N.J.: Transaction, 2007).

²¹ Poole and Rosenthal, *Ideology and Congress*.

issues as well.²² Thus we assume that pro-Democratic messages have also included more liberal views on non-economic issues than pro-Republican messages in recent decades.

Democratic and Republican representatives reach their constituents in two ways: directly (district visits, newsletters and media appearances)²³ or indirectly (local newspapers and television news).²⁴ Incumbent representatives are motivated (and have the resources) to provide substantial and positive information to their constituents. Since constituents tend to regard their representatives as trusted and knowledgeable sources of information, they are positively disposed to accept their messages.²⁵

Drawing on the above arguments, our first set of hypotheses focuses on how constituents' opinions are influenced by their elected representatives. Although all discussion below is uses the case of constituents in Democratic districts, it also applies to constituents in Republican districts.

HYPOTHESIS 1: Constituents in Democratic districts become more positive about the Democratic candidate and party but less positive about the Republican candidate and party.

HYPOTHESIS 2: Constituents shift their policy positions in the direction of those favoured by their representative, for example constituents in Democratic districts

²² Greg D. Adams, 'Abortion: Evidence for Issue Evolution', *American Journal of Political Science*, 41 (1997), 718–37; Edward G. Carmines and James Stimson, *Issue Evolution* (Princeton, N.J.: Princeton University Press, 1989); Geoffrey Layman, *The Great Divide: Religious and Cultural Conflict in American Party Politics – Power, Conflict, and Democracy* (New York: Columbia University Press, 2001); Geoffrey C. Layman and Thomas M. Carsey, 'Party Polarization and "Conflict Extension" in the American Electorate', *American Journal of Political Science*, 46 (2002), 786–802; James A. Stimson, *Tides of Consent: How Public Opinion Shapes American Politics* (Cambridge: Cambridge University Press, 2004).

²³ Cain, Ferejohn and Fiorina, *The Personal Vote*; Fenno, *Home Style*; Gary C. Jacobson, *The Politics of Congressional Elections*, 4th edn (New York: Longman, 1997); Lipinski, *Congressional Communication*.

²⁴ For example, Arnold reports that local newspapers regularly publish articles on incumbent representatives in reasonably prominent places. Newspaper articles frequently cover representatives' position taking, roll-call voting and their activities related to constituency interests. R. Douglas Arnold, *Congress, the Press, and Political Accountability* (Princeton, N.J.: Princeton University Press, 2004); Jacobson and Cain, Ferejohn and Fiorina report that more than the half of citizens read about their representatives in newspapers. Coverage by local television news is less extensive, yet it also offers information about local representatives. See Brian F. Schaffner, 'Local News Coverage and the Incumbency Advantage in the U.S. House', *Legislative Studies Quarterly*, 31 (2006), 491–511; Danielle Vinson, *Local Media Coverage of Congress and its Members: Through Local Eyes* (Cresskill, N.J.: Hampton Press, 2003). Local news coverage is likely to be favourable, or at least neutral, to representatives' performance and positions. See Arnold, *Congress, the Press, and Political Accountability*; Vinson, *Local Media Coverage of Congress and its Members: Through Local Eyes*; Timothy E. Cook, *Making Laws and Making News: Media Strategies in the U.S. House of Representatives* (Washington, D.C.: The Brookings Institution, 1989); Michael Robinson, 'Three Faces of Congressional Media', in Thomas E. Mann and Norman J. Ornstein, eds, *The New Congress* (Washington, D.C.: American Enterprise Institute, 1981); Schaffner, 'Local News Coverage and the Incumbency Advantage in the U.S. House'; Vinson, *Local Media Coverage of Congress and Its Members*. This is partly because representatives and their staff members provide necessary information for local mass media. See Schaffner, 'Local News Coverage and the Incumbency Advantage in the U.S. House'.

²⁵ William T. Bianco, *Trust: Representatives and Constituents – Michigan Studies in Political Analysis* (Ann Arbor: University of Michigan Press, 1994); Edward G. Carmines and James H. Kuklinski, 'Incentives, Opportunities, and the Logic of Public Opinion in American Political Representation', in John A. Ferejohn and James H. Kuklinski, eds, *Information and Democratic Processes* (Urbana: University of Illinois Press, 1990), pp. 240–68; Fenno, *Home Style*; Arthur Lupia and Mathew D. McCubbins, *The Democratic Dilemma* (New York: Cambridge University Press, 1998).

become more pro-Democratic and supportive of liberal views on both economic and non-economic issues.

HYPOTHESIS 3: If representatives successfully persuade constituents, citizens in Democratic districts are more likely to vote for Democratic candidates in the subsequent national election than those in Republican districts.

The next hypothesis is drawn from recent research that emphasizes the varying effects of political information on attitude change as a function of exposure. Although political elites are an important source of information for citizens who are making decisions,²⁶ constituents are not equally exposed to messages from their representatives. Some constituents are more likely than others to pay attention to politics, and as a result to incorporate new information into their beliefs. Theoretically, the effect of representatives' messages on attitude change should depend on the extent to which constituents are exposed to those messages: constituents who receive new information are more likely to change their opinion than those who do not.²⁷

HYPOTHESIS 4: We expect that the effect of representatives' messages is stronger on those who are more frequently exposed to elite messages.

Prior studies also emphasize the important role of political predispositions in accepting new information. Zaller and also Lupia and McCubbins suggest that citizens are more likely to accept information from like-minded representatives.²⁸ For example, Democrats find the views of Democratic representatives to be more credible and as a result incorporate them into their beliefs. Regrettably, the data used for our empirical analyses do not allow us to test this important hypothesis;²⁹ the article focuses only on the conditioning impact of exposure to elite messages on attitude change.

RESEARCH DESIGN

The hypotheses are tested using the ANES cumulative data from 1956–2004 merged with House election data.³⁰ The ANES cumulative data offer a representative sample of the American electorate and a rich set of comparable survey questions for measuring mass attitudes and behaviour across time and space. Using information on election years, as

²⁶ Carmines and Kuklinski, 'Incentives, Opportunities, and the Logic of Public Opinion in American Political Representation'; Zaller, *The Nature and Origins of Mass Opinion*; Michael Tomz and Paul M. Sniderman, 'Brand Names and the Organizations of Mass Belief Systems' (paper presented at the Annual Meeting of the Midwest Political Science Association, 2005).

²⁷ Dennis Chong and James N. Druckman, 'A Theory of Framing and Opinion Formation in Competitive Elite Environments', *Journal of Communication*, 57 (2007), 99–118; Druckman and Nelson, 'Framing and De-liberation'; Gabel and Scheve, 'Estimating the Effect of Elite Communications on Public Opinion Using Instrumental Variables'; Joanne M. Miller and Jon A. Krosnick, 'News Media Impact on the Ingredients of Presidential Evaluations: Politically Knowledgeable Citizens Are Guided by a Trusted Source', *American Journal of Political Science*, 44 (2000), 301–15; Zaller, *The Nature and Origins of Mass Opinion*.

²⁸ Zaller, *The Nature and Origins of Mass Opinion*; Lupia and McCubbins, *The Democratic Dilemma*.

²⁹ Specifically, the data include no measure of people's political predispositions measured prior to the exposure to new information delivered by representatives. All attitudinal measures are subject to change in response to the representatives' messages.

³⁰ The ANES data are available from the ICPSR data archive. The House election data were generously provided by Gary Jacobson.

well as states and districts in which survey respondents reside, we match US House election data at t with the survey data at $t + 1$, where t denotes the time of the House election. For example, representatives elected in district d in the 1996 Congressional election are expected to affect the attitudes of constituents in d as measured by the 1998 ANES survey. The unit of analysis is the individual respondent.

A number of respondents and Congressional districts are excluded from the analysis, for example if they provide no information about attitudes and behaviour expressed as outcome variables. For the analysis of vote choice in presidential elections, all respondents are dropped in the years of midterm elections. Data from Congressional districts are discarded if (1) they include no survey respondent, (2) an incumbent switched political affiliation between t and $t + 1$ or (3) a third-party candidate won at t .³¹ Data on party switches were obtained from Grose and Yoshinaka.³²

Constituents' attitudes and behaviour are assessed using several measures, which are grouped into three categories. As discussed above, we expect that Democratic and Republican representatives affect constituents' evaluations of themselves and their parties, ideological preferences and vote choice. Party and candidate evaluations were measured using feeling thermometer scores on Democratic or Republican candidates (scores range from 0 to 100) and parties (0 to 97).³³ Higher scores indicate more favourable evaluations. Ideological preferences are measured by party identification, ideological self-placement, support for government job guarantees, government aid to blacks and equal status for women in society. All of these measures are based on a seven-point scale in which higher scores indicate more Democratic or liberal views (that is, a strong Democrat, extremely liberal, higher support for government spending, government aid to blacks and equal status for women). A vote choice in the national elections is coded using an indicator variable that equals 1 if respondents voted for a Democratic candidate in a Congressional or presidential election at $t + 1$, and 0 otherwise.

The extent to which respondents are exposed to information about their representatives is measured by respondents' educational attainment and media usage. Education is used as a

³¹ Broockman excluded districts if multiple seats were selected at t or if a special election was conducted between t and $t + 1$. We found no such case in the data. The analysis includes districts that were redistricted between t and $t + 1$ in order to maximize the number of districts and respondents in the statistical analysis. The results are similar even if respondents in the redistricted areas are excluded. If redistricting between t and $t + 1$ plays a role in our estimation, it will lead to underestimating the causal effect of the Democratic and Republican victory on mass opinion and behaviour. After redistricting, voters initially assigned to either a Democratic or Republican district will have a representative of either the same party or the other party. Those who have a representative of the same party after redistricting have no effect on our estimation because the Democratic or Republican victory at t should have the expected impact on their opinion. However those who have a representative of the other party may affect the estimation. For example, some voters in a Democratic district at t will have a Republican representative after redistricting. These voters will receive more Republican messages even though they are initially assigned to Democratic districts. This is similar to a problem known as non-compliance in experimental research. These voters will lower the sizes of the estimates, because the effects of the Democratic victory work in the opposite direction to my hypothesis (that is, voters who are initially assigned to Democratic districts become more conservative). See David Broockman, 'Do Congressional Candidates Have Reverse Coattails? Evidence from a Regression Discontinuity Design', *Political Analysis*, 17 (2009), 418–34.

³² Christian R. Grose and Antoine Yoshinaka, 'The Electoral Consequences of Party Switching by Incumbent Members of Congress, 1947–2000', *Legislative Studies Quarterly*, 28 (2003), 55–75.

³³ When incumbent representatives do not run for re-election, respondents were asked about a new candidate. We assume that incumbent representatives can lead people to be positive about a new candidate who belongs to the same party.

general measure of how frequently respondents are exposed to new political information through direct contacts with representatives and local mass media. Respondents with at least some college education are categorized as having a high exposure to new information; other respondents are categorized as having a low exposure.³⁴ Although education is not the best measure of exposure to political information,³⁵ the ANES cumulative data offers no better measure. Media usage is measured by how often respondents read newspapers, which allows us to examine the importance of local mass media – particularly newspapers – in informing respondents about their incumbent representatives. Those who read newspapers at least four days a week are categorized as having a high exposure to mass media; the other are considered to have a low exposure.³⁶

Most of the attitudinal and behaviour variables used for these analyses are available only after 1970.³⁷ Importantly, our analysis includes mass preferences on non-economic issues such as government aid to blacks and women's status after 1970, when the Democratic and Republican parties became ideologically polarized on these issues³⁸ and sent clear ideological signals to the mass public.

The key independent variable for testing the hypotheses is the party affiliation of winning candidates in district d during election time t . The House election data include the percentage of Democratic two-party vote share. Uncontested districts are assigned 100 if they are represented by a Democratic representative, and 0 otherwise.³⁹ We first transformed the percentage of Democratic two-party vote share to the Democratic margin of victory by subtracting 50.⁴⁰ Negative scores for the Democratic margin of victory denote a larger share for the Republican vote, while positive scores denote a larger share for the Democratic vote. We then created an indicator variable that equals 1 if the Democratic margin of victory in d is larger than 0 per cent, and 0 otherwise. We assumed that constituents in districts with Democratic representatives receive more liberal messages than those in districts with Republican representatives.⁴¹

³⁴ The percentages of respondents with high and low education are 39 per cent and 61 per cent, respectively.

³⁵ For a discussion of why education is not the best measure of exposure, see John Zaller, 'The Myth of Massive Media Impact Revived: New Support for a Discredited Idea', *Political Persuasion and Attitude Change* (Ann Arbor: University of Michigan Press, 1996), pp. 17–78.

³⁶ The question on the frequency of reading a daily newspaper is available only after 1982. The percentages of respondents with high and low media usage are 50 per cent each. Note that the ANES survey question does not specify whether respondents read a local or national newspaper. I assume that typical respondents read a local newspaper because national newspapers are read by only a small fraction of the American public (for example, in 1999, *The Washington Post* and *USA Today* sold about 1.7 million copies, while the *New York Times* sold about 1.1 million copies on a weekday. The total circulation of daily newspapers in the United States was about 56 million in 1999, according to *Editor & Publisher International Year Book*, 2000.

³⁷ A list of all attitudinal and behavioural variables with the corresponding years of the ANES survey is available upon request.

³⁸ Adams, 'Abortion'; Carmines and Stimson, *Issue Evolution*; Layman, *The Great Divide*; Stimson, *Tides of Consent*. The survey questions are available from the codebook of the ANES cumulative data file.

³⁹ David S. Lee, 'Randomized Experiments from Non-Random Selection in U.S. House Elections', *Journal of Econometrics*, 142 (2008), 675–97; David S. Lee, Enrico Moretti and Matthew J. Butler, 'Do Voters Affect or Elect Policies? Evidence from the U.S. House', *Quarterly Journal of Economics*, 119 (2004), 807–59.

⁴⁰ Lee, 'Randomized Experiments from Non-Random Selection in U.S. House Elections'; Broockman, 'Do Congressional Candidates Have Reverse Coattails?'

⁴¹ Note that there may be some conservative Democrats and liberal Republicans. If many conservative Democrats and liberal Republicans are elected, the impacts of the Democratic (Republican) victory on constituents' opinions are estimated to be weak.

To identify the causal effect of a Democratic (Republican) victory on mass attitudes and behaviour, we relied on an RD design that produces a quasi-experimental setting for causal inference. As discussed previously, conventional empirical strategies may fail to achieve both high external and internal validity simultaneously for showing the persuasive effect of incumbent representatives on their constituents' attitudes and behaviour. Specifically, we have to circumvent two kinds of endogeneity problems: (1) the potential impact of mass opinion on representatives' behaviour (that is, the partisanship of winning candidates might be endogenously determined at t) and (2) non-experimental designs might fail to minimize the possibility that representatives' behaviour and mass opinion are shifted simultaneously by unobservable changes in the political environment. It is extremely difficult to control the effects of unobservable differences across districts that may affect the election outcome and mass attitudes in d if conventional cross-sectional or time-series methods are employed.

This article overcomes these endogeneity problems by using an RD design that exploits random variations associated with close House elections. In highly contested elections, in which the Democratic margin of victory is close to 0 per cent, no political actor can precisely manipulate the final election outcome. Lee argues that whether the Democratic candidates win in a closely contested election is determined 'as if by a flip of a coin'.⁴² Put differently, Broockman maintains that election outcomes are determined by 'exogenous factors like weather and other random events that induce small variations in vote shares'.⁴³ Accordingly, Democratic and Republican representatives are almost randomly assigned to Congressional districts with close elections, which eliminates the effects of all other possible variables that are correlated with a Democratic victory and constituent opinion.⁴⁴ For example, recent district or national partisan trends should not confound the impact of a Democratic victory on mass attitudes and behaviour, because the randomization makes a Democratic victory in a close election exogenous to those trends.⁴⁵ Furthermore, omitted variable bias is trivial, because the key independent variable is randomly assigned and is thus exogenous to any district- or individual-level variables. The near-random assignment of representatives' partisanship to Congressional districts enables us to isolate its causal effect on constituents' attitudes and behaviour.

We implement the RD design using two different methods. First, we graphically display the impact of a Democratic victory on the outcome variables. Specifically, we plotted the binned average values of the dependent variables against the forcing variable (that is, the Democratic vote share, which ranges from -50 to 50). We divided the forcing variable by 2 to generate 50 bins in total. We also plotted the fitted values from a locally weighted polynomial regression estimated separately on each side of the cut-off point.⁴⁶ If a Democratic victory has any impact on constituents' attitudes and behaviour, we should be able to find a spike in the binned local averages and the fitted values at the cut-off point.

Secondly, we estimated a parametric model in order to obtain numerical estimates of how a Democratic victory affects the outcome variables. We follow the approach

⁴² Lee, 'Randomized Experiments from Non-Random Selection in U.S. House Elections', p. 684.

⁴³ Broockman, 'Do Congressional Candidates Have Reverse Coattails?' p. 6.

⁴⁴ Lee and Lemieux, 'Regression Discontinuity Designs in Economics'.

⁴⁵ In addition, the model described below controls differences across election years by including the year-fixed effect.

⁴⁶ This procedure for graphical presentation is recommended by Lee and Lemieux.

developed by Imbens and Kalyanaraman and use the following local linear regression model:⁴⁷

$$A_{id,t+1} = \tau D_{d,t} + \beta_1 V_{d,t} + \beta_2 V_{d,t} D_{d,t} + \omega_t + \varepsilon_{id,t}, \quad (1)$$

where $A_{id,t+1}$ denotes an attitude or vote choice of individual i in d at $t + 1$; $D_{d,t}$ is an indicator variable that equals 1 if district d elects a Democratic representative at t , and 0 if it elects a Republican representative; $V_{d,t}$ denotes the Democratic margin of victory ranging from -50 to $+50$ per cent in d at t ; ω_t denotes year fixed effects; and $\varepsilon_{id,t}$ denotes the error term.⁴⁸ The parameter of interest in Equation 1 is τ , which represents the gap in constituents' attitudes and vote choice in districts with and without a Democratic representative. In other words, τ represents a 'treatment' effect of the presumed pro-Democratic message in Democratic-winning districts on constituents' attitudes. All respondents in Democratic-winning districts are included as a treatment group, while all respondents in Republican-winning districts are included as a control group. As is done in an experimental design, the key independent variable is assumed to be randomly assigned. We expect τ to be positive for the thermometer scores on Democratic candidates and parties, party identification, ideology, policy views and vote choices, and negative for the thermometer scores on Republican candidates and parties.

This modelling approach requires us to determine the optimal bandwidth size. A bandwidth denotes the width of the forcing variable on both sides of the cut-off point. For example, if the bandwidth is set to be $-50 \leq V_{d,t} \leq 50$, survey respondents in all districts are included in estimating Model 1. Lee and Lemieux note that using a large bandwidth allows researchers to include more observations and yield more precise estimates, yet these estimates may be less accurate because the linear specification may be a bad approximation of the relationship between the Democratic margin of victory and the outcome variables.⁴⁹ To avoid an arbitrary choice of bandwidth, we calculate the optimal bandwidth by using the Imbens and Kalyanaraman algorithm.⁵⁰ As a robustness check, we later report results using other bandwidths.

One important underlying assumption needs to be met for the valid use of the RD design: candidates and constituents should have imprecise control over the final outcome of a closely contested election.⁵¹ If this assumption is valid, districts in which Democratic candidates barely won or lost are balanced with respect to observable and unobservable characteristics. Accordingly, we can eliminate the effects of other confounding variables on constituent opinion.

This assumption requires special scrutiny, because recent works by Caughey and Sekhon and by Grimmer et al. show the possibility of systematic sorting around the discontinuity in US House elections.⁵² These works discuss a few reasons why such sorting might occur. Most importantly, they argue that incumbent legislators who won

⁴⁷ Guido Imbens and Karthik Kalyanaraman, 'Optimal Bandwidth Choice for the Regression Discontinuity Estimator', NBER Working Paper, No. 14726 (2009).

⁴⁸ The results reported in the following section are similar even if state-fixed effects are included in this model.

⁴⁹ Lee and Lemieux, 'Regression Discontinuity Designs in Economics'.

⁵⁰ See Imbens and Kalyanaraman for more details of their algorithm. We use the edge kernel for calculating the optimal bandwidth. The R codes for the algorithm were made available by Devin Caughey.

⁵¹ Lee and Lemieux, 'Regression Discontinuity Designs in Economics'.

⁵² Davin M. Caughey and Jasjeet S. Sekhon, 'Regression-Discontinuity Designs and Popular Elections: Implications of Pro-Incumbent Bias in Close U.S. House Races', *Political Analysis*, 19 (2011), 385–408; Justin Grimmer et al., 'Are Close Elections Random?' (Working Paper, Stanford University, 2011).

the district in the previous election, or parties that control the state government, appear to succeed in winning close elections because they may have some authority to manipulate the final election outcomes. This possibility of sorting around the cut-off point is problematic for our study, because districts in which Democratic candidates barely won may in fact be more Democratic and liberal than districts where Democratic candidates barely lost. Put differently, constituents in Democratic districts may be more Democratic and liberal at t than constituents in Republican districts. If this is true, τ in Equation 1 will be overestimated.

We validate the identifying assumption by comparing the baseline covariates in Democratic and Republican districts. We first assess whether there are any differences in individual- and district-level demographic attributes at t that are likely to affect constituent opinion and behaviour at $t + 1$. We then assess whether there are any differences in the outcome variables at t . We report the results of our validation in the next section.

EMPIRICAL ANALYSIS

Main Findings

We begin with a graphical analysis of the outcome variables in Democratic and Republican districts. Figure 1 plots the binned average values of the outcome variables at

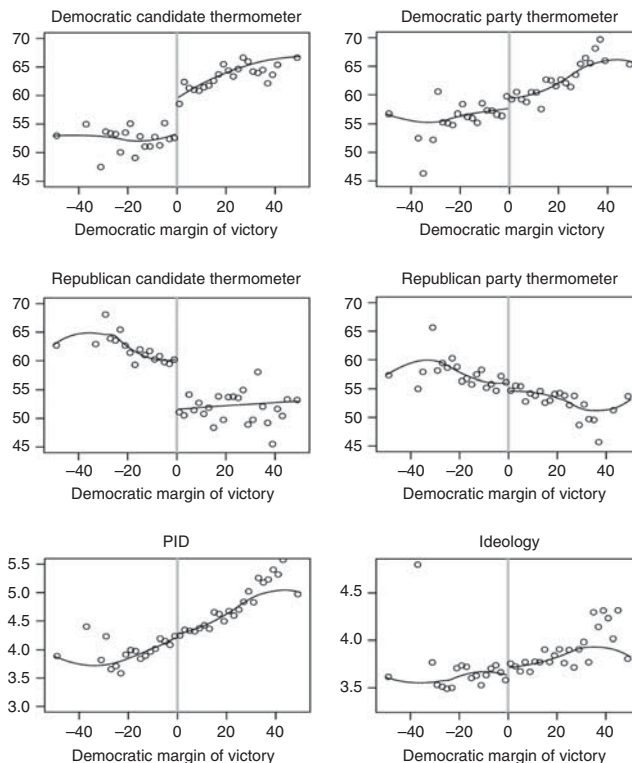


Fig. 1. Differences in opinion and behaviour at $t + 1$

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

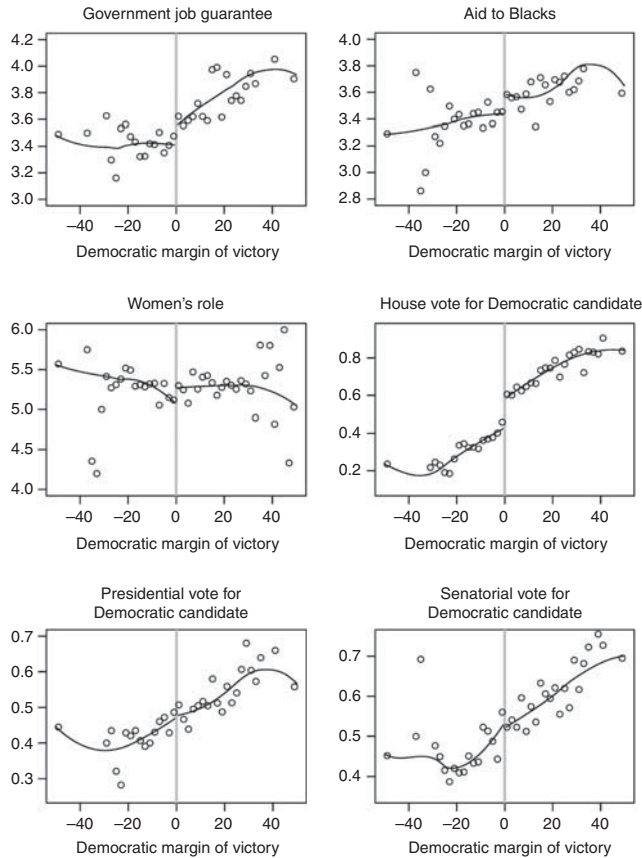


Fig. 1. Differences in opinion and behaviour at $t + 1$ (continued)

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

time $t + 1$ against the Democrats' vote share at time t . The graphs also show the fitted values from a locally weighted polynomial regression model estimated separately on each side of the cut-off point. The vertical lines indicate the cut-off points.

Figure 1 depicts a large discontinuous gap in the scores of the Democratic and Republican thermometer at the cut-off points. The top left graph indicates that respondents in districts where the Democratic candidate barely won at t show a thermometer score that is approximately 7 points higher at $t + 1$ than those in districts where the Democratic candidate barely lost. A similar effect was observed for the Republican thermometer scores. We also found a large gap in the probability of voting for Democratic candidates between Democratic and Republican districts. The probability is 20 percentage points higher in districts where the Democratic candidate barely won than in districts where the Democratic candidate barely lost. The graphs for constituents' views on government job guarantees and aid to blacks also show a gap, yet it is not necessarily discernible. We found no gap for the other outcome variables. In short, Figure 1 offers only limited support for the hypothesis that constituents' opinions are influenced by their elected representatives.

TABLE 1 *Effect of Democratic Victory at t on Mass Opinion at t + 1*

	Dem Thermometer		Rep Thermometer		Preference	
	Cand.	Party	Cand.	Party	PID	Ideology
Treatment Effect	7.250** (1.066)	0.237 (0.893)	-8.445** (0.923)	-1.741* (1.037)	0.009 (0.055)	0.20 (0.053)
Bandwidth	43.275	20.705	21.668	16.785	23.030	18.974
Respondents (N)	1,2126	1,2995	8,696	10,287	28,299	11,896
Districts (N)	1,786	1,242	1,300	982	2721	1489
	Preference			Vote		
	Job	Black	Women	House	President	Senate
Treatment Effect	0.108* (0.065)	0.020 (0.065)	0.098* (0.051)	0.153** (0.018)	0.011 (0.022)	-0.005 (0.022)
Bandwidth	20.691	20.986	47.833	29.625	24.516	27.181
Respondents (N)	14,138	15,929	20,047	17,932	10,744	12,282
Districts (N)	1357	1496	1898	2890	1436	1938

Note: Table entries are the estimated effects of the Democratic victory at time *t* on mass attitudes and behaviour at *t + 1*. The effects are estimated by local linear regression models. Standard errors are in parentheses and based on 1,000 bootstrapped samples. The bandwidths are computed by Imbens & Kalyanaraman’s method. The thermometer scores range 0–100, while the preference variables range from 1–7. The vote choice variables equal 1 if respondents voted for a Democratic candidate. For the vote choice variables, a linear probability model is used. Year fixed effects are included in all of the models. ***p* < 0.05 and **p* < 0.10 (two-tailed tests).

Table 1 confirms the conclusions of our graphical analysis. It reports the estimated treatment effect of a Democratic victory at *t* on constituent opinion and behaviour at *t + 1*, with standard errors in parentheses. The regression analyses include at least 10,000 respondents and 1,000 districts. Table 1 also reports optimal bandwidths, computed using the Imbens and Kalyanaraman method. As discussed previously, the estimates are based on a local linear regression model. Standard errors are computed using 1,000 bootstrapped samples in order to take the uncertainty of the optimal bandwidths into account. The Imbens and Kalyanaraman optimal bandwidths appear to be large for all of the outcome variables, which allows us to include many respondents and districts in the analyses.

The impacts of the Democratic victory at *t* on some of the outcome variables at *t + 1* are estimated to be statistically significant at the 0.05 level and in the expected direction. Consistent with the graphical analysis in Figure 1, the respondents in Democratic districts report higher thermometer scores for Democratic candidates but lower thermometer scores for Republican candidates compared to the respondents in the Republican districts. The estimates are statistically significant at the 0.05 level. The sizes of the estimates are similar to the sizes of the gaps at the cut-off point in the graphical analysis. In addition, the effect of a Democratic victory is also estimated to be positive and significant for the probability of voting for the Democratic candidate in the House election. Respondents in Democratic districts are more likely to vote for a Democratic candidate in the subsequent House election. In contrast, we find no statistically significant result at the 0.05 level for the effects of a Democratic victory on party evaluation, party identification, ideology, policy

views or vote choice in presidential and senatorial elections. Some of the estimates are not statistically significant even at the 10 per cent level.

The weak evidence for some of the outcome variables in Figure 1 and Table 1 may indicate that all individuals are not equally affected by representatives' messages. As discussed above, citizens change their attitudes in response to elite messages only when they receive them. It is therefore important to distinguish those who are likely to receive messages from those who are unlikely to do so.

We first divided the sample into two groups with high and low levels of education. We used the level of educational attainment as a proxy for the extent to which respondents are exposed to their representatives' messages. Figure 2 shows that there are visible gaps at the cut-off point for nine out of twelve outcome variables. We found no gap in the Republican party thermometer score for support for the equal role of women in the vote for the Senatorial candidate. The results for the candidate thermometer scores are almost identical to those in Figure 1. Further, the respondents in the districts where the Democratic candidate barely won at t show higher scores on the scale of party identification, ideology, support for government job guarantee and aid to blacks, and vote for the House and presidential Democratic candidates at $t + 1$, compared to those in districts where the Democratic candidate barely lost.

These results are replicated by the parametric analysis. Table 2 reports the estimated treatment effect of the Democratic victory on the attitudes and behaviour of the respondents by education. Note that the sizes of respondents and districts are smaller in this subgroup analysis than in the previous analysis. All coefficients are estimated to be in the expected direction for the respondents with high levels of education. Ten out of twelve estimates are statistically significant at the 0.05 level.⁵³ Table 2 indicates that the incumbent representatives exert a strong effect on the opinion of highly educated individuals, who are likely to be exposed to partisan messages and information. The thermometer scores on the Democratic candidate are higher by about 7.2 points in Democratic districts than in Republican districts, while the scores on the Republican candidate are higher by about 8.8 points in Republican districts than in Democratic districts. The effect of a Democratic victory is weaker on the thermometer scores on the parties. The Democratic and Republican party thermometer score is different by 2.2 to 2.8 points between the Democratic and Republican districts. Note that a Democratic victory has a significant impact on the Republican party thermometer scores, though the graphical analysis does not show a large gap in the scores at the cut-off point.

Partisan and policy preferences are also strongly affected by the partisanship of incumbent representatives. Surprisingly, the party of the incumbent representatives has a large impact on the party identification and ideological position of respondents with high levels of education. Those in Democratic districts show more pro-Democratic and liberal identifications by 0.14 to 0.30 points on the seven-point scale. This shift in party identification and ideological standpoints is consistent with the view that people's party affiliations are heavily influenced by their immediate political and economic environment.⁵⁴ Further, it appears that the party affiliation of constituents' incumbent

⁵³ Note that there is a possibility that these results capture the effect of time, not education, because of the high correlation between the two.

⁵⁴ Michael B. MacKuen, Robert S. Erikson and James A. Stimson, 'Macropartisanship', *American Political Science Review*, 83 (1989), 1125–42; Robert S. Erikson, Michael B. MacKuen and James S. Stimson, *The Macro Polity* (New York: Cambridge University Press, 2002).

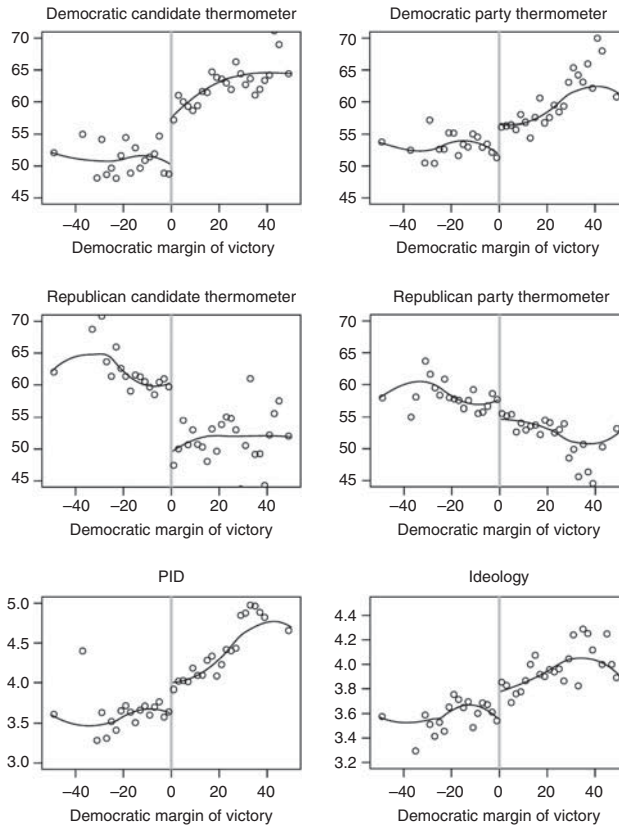


Fig. 2. Differences at $t + 1$ for respondents with a high level of education
 Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

representatives also shifts their views on policy issues. Those in Democratic districts show greater support for government job guarantees and government aid to blacks by 0.18 points on the seven-point scale. Yet a Democratic victory has no significant impact on respondents' views on equal status for women in society.

Table 2 also reports that constituents of Democratic districts are 10–22 per cent more likely than those in Republican districts to vote for the Democratic candidate in House elections. A Democratic victory at t increases the probability of voting for the Democratic candidate at $t + 1$ by 15.0 points when the overall sample is analysed, by 22.0 when the subsample of respondents with a high level of education is analysed and by 10.0 when the subsample of respondents with a low level of respondents is analysed. These results are consistent with Lee's findings, yet the substantive effects we found are larger than Lee's analysis, which showed a 9 per cent increase in the Democratic vote share.⁵⁵

⁵⁵ The overall effect (15.3) in this analysis is larger than Lee's estimate (9), partly because our analysis uses the linear probability model for the binary dependent variable. This implies the possibility of a slight overestimate.

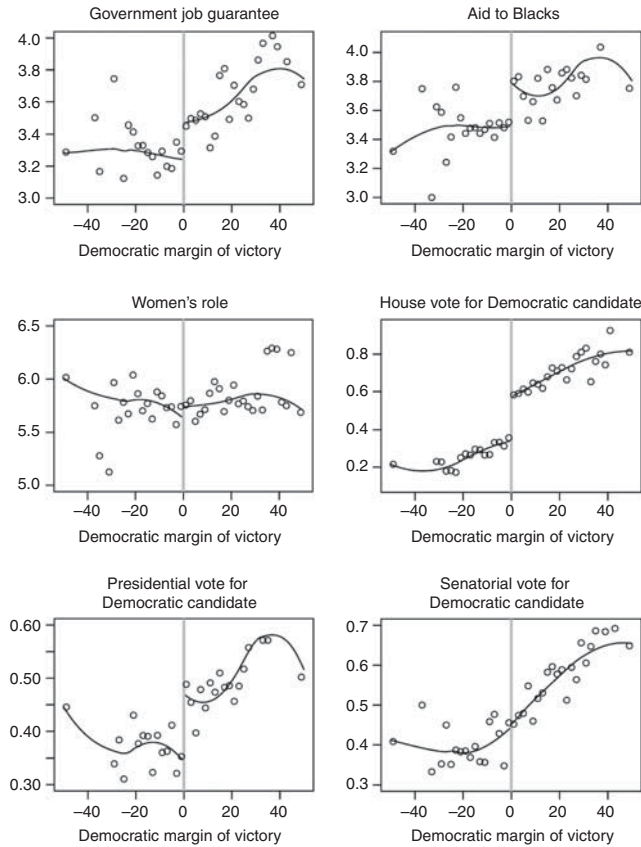


Fig. 2. Differences at $t + 1$ for respondents with a high level of education (continued)

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

In contrast to Broockman’s findings, we find strong support for the reverse coattail effects of Congressional members on presidential candidates if the sample is limited to highly educated respondents. Interestingly, a significant reverse coattail effect is not found when all respondents are included in the analysis, as reported in Table 1. This indicates that Broockman’s null findings may be due to the fact that Broockman paid no attention to heterogeneity in voters’ exposure to political information.⁵⁶

In contrast, Figure 3 and Table 2 report that constituents with a low level of education show less systematic reactions to the presence of Democratic or Republican representatives. The graphs in Figure 3 indicate that – except for the candidate thermometer scores and vote choice in the House election – there is no significant difference in the opinions and behaviour of less educated respondents between the districts where Democratic candidates

⁵⁶ In addition, our supplementary analysis shows that the strong reverse coattail effect exists when we analyse the data after 1980. This implies that the effect of reverse coattail became larger as the major parties became more cohesive. The results of the supplementary analysis are available upon request.

TABLE 2 *Effect of Democratic Victory at t on Mass Opinion at t + 1 by Education*

	Dem Thermometer		Rep Thermometer		Preference	
	Cand.	Party	Cand.	Party	PID	Ideology
<i>High Education</i>						
Treatment Effect	7.236** (1.368)	2.205** (0.966)	-8.828** (1.092)	-2.803** (0.984)	0.295** (0.098)	0.139** (0.064)
Bandwidth	35.951	36.392	40.312	33.733	16.693	32.229
Respondents (N)	6008	8921	6004	8799	7940	9548
Districts (N)	1508	1631	1506	1597	1709	2048
<i>Low Education</i>						
Treatment Effect	6.628** (1.482)	-1.068 (1.244)	-6.964** (1.220)	-0.299 (1.133)	-0.118 (0.072)	-0.122** (0.062)
Bandwidth	37.165	39.914	31.523	24.839	27.429	28.009
Respondents (N)	5,859	9,584	5,087	8,027	18,948	7793
Districts (N)	1,227	1,486	1,155	1,210	2,652	1644
	Preference			Vote		
	Job	Black	Women	House	President	Senate
<i>High Education</i>						
Treatment Effect	0.183** (0.069)	0.182** (0.063)	0.044 (0.066)	0.220** (0.026)	0.110** (0.030)	0.020 (0.032)
Bandwidth	47.722	39.523	37.872	36.018	22.821	29.140
Respondents (N)	9421	10116	8994	8618	4463	5779
Districts (N)	1823	1931	1674	2501	1163	1659
<i>Low Education</i>						
Treatment Effect	0.064 (0.091)	-0.121 (0.083)	0.110 (0.083)	0.102** (0.024)	-0.047* (0.028)	-0.017 (0.026)
Bandwidth	22.566	26.259	74.253	29.304	31.901	39.770
Respondents (N)	8278	10695	13369	9561	6538	7106
Districts (N)	1252	1591	1910	2217	1290	1645

Note: Table entries are the estimated effects of the Democratic victory at time *t* on mass attitudes and behaviour at *t*+1. The effects are estimated by local linear regression models. Standard errors are in parentheses and based on 1,000 bootstrapped samples. The bandwidths are computed by Imbens & Kalyanaraman’s method. The thermometer scores range 0–100, while the preference variables range from 1–7. The vote choice variables equal 1 if respondents voted for a Democratic candidate. For the vote choice variables, a linear probability model is used. Year fixed effects are included in all of the models. ***p* < 0.05 and **p* < 0.10 (two-tailed tests).

barely won and lost. More than half of the coefficients in Table 2 are estimated to have the wrong sign or lose statistical significance at the conventional level. Furthermore, the sizes of the statistically significant coefficients in Table 2 are smaller than those in the second panel. In short, these results indicate that elected representatives affect the opinion of constituents who are more likely to receive their messages.

Next, we divided the sample by level of media exposure, which was measured by the frequency of reading a newspaper each week. We assumed that those who read a newspaper at least four days a week were more likely to receive information on their representative and thus change their attitudes than those who read a newspaper less than four days per week. Since the media usage variable is available only after 1982, our

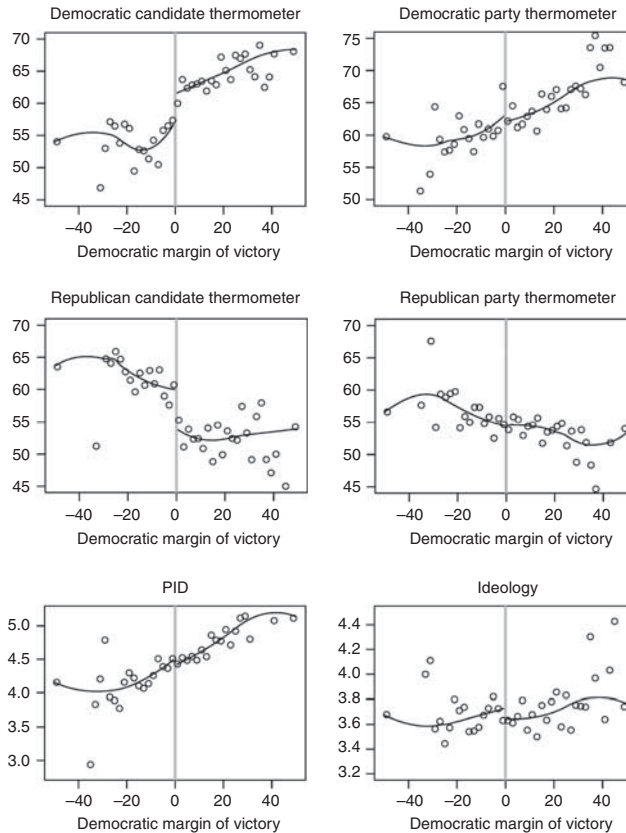


Fig. 3. Differences at $t + 1$ for respondents with a low level of education

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

analysis uses the sample after 1982. Table 3 reports the results for the respondents with high media exposure.⁵⁷ As expected, Table 3 displays significant differences in the thermometer scores on the candidates, the Republican party, party identification, government provisions of jobs and vote choice in the House and presidential elections between the Democratic and Republican districts. In contrast, Table 3 indicates that respondents with low media exposure were mostly unaffected by the party affiliation of their representative. The estimated effects on ideological scores and views on women's status have the wrong sign.⁵⁸

The results of these subgroup analyses suggest that exposure to relevant political information plays an important role in the underlying mechanism connecting elite

⁵⁷ The graphical analysis presents similar results, which are available upon request.

⁵⁸ As noted previously, the media usage variable is available only after 1982. The evidence for the conditioning impact of media consumption in Table 1 might not be generalizable to the prior time period between 1956 and 1980.

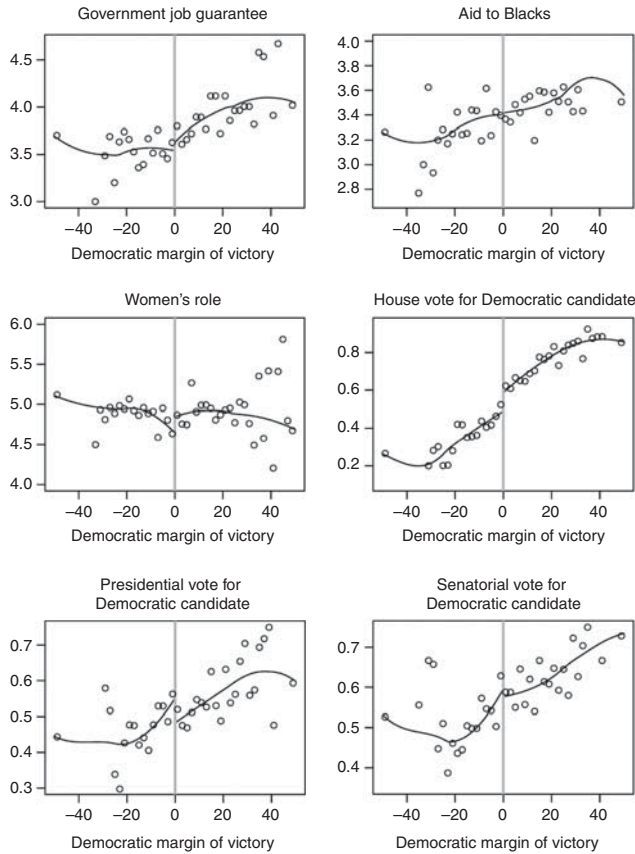


Fig. 3. Differences at $t + 1$ for respondents with a low level of education (continued)

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

messages with constituent opinion and behaviour. However the evidence does not directly show that the exposure mediates the relationship, because education and the frequency of newspaper reading are correlated with other factors such as cognitive ability. Ideally, the amount of exposure to political information on elected representatives would also be randomly assigned to respondents, yet our research design does not allow that. Accordingly, the results of our subgroup analyses require special attention in interpretation.

Robustness Check

We conducted several tests to check the robustness of our findings. We validated the assumption that individuals and districts were similar in their observed baseline covariates below and above the cut-off point of the forcing variable. If the party affiliation of representatives is near-randomly assigned to districts with close elections, it must have no relationship with the individual- and district-level characteristics determined prior to the assignment of party affiliation. To test this assumption, we

TABLE 3 *Effect of Democratic Victory at t on Mass Opinion at t + 1 by Media Consumption*

	Dem Thermometer		Rep Thermometer		Preference	
	Cand.	Party	Cand.	Party	PID	Ideology
<i>High Media Exposure</i>						
Treatment Effect	7.266** (2.099)	1.579 (1.153)	-10.477** (1.351)	-3.368** (1.226)	0.387** (0.118)	0.122* (0.071)
Bandwidth	32.907	41.656	51.564	54.468	28.602	51.006
Respondents (N)	5046	7403	5592	8871	7637	7403
Districts (N)	1165	1314	1375	1569	1432	1683
<i>Low Media Exposure</i>						
Treatment Effect	4.605** (1.478)	-0.128 (1.305)	-5.081** (1.482)	1.147 (1.382)	0.032 (0.122)	-0.167* (0.092)
Bandwidth	33.189	37.850	31.475	21.429	21.085	40.709
Respondents (N)	4107	7078	3846	5302	5697	5477
Districts (N)	1080	1316	1069	961	1125	1400
	Preference			Vote		
	Job	Black	Women	House	President	Senate
<i>High Media Exposure</i>						
Treatment Effect	0.246** (0.094)	0.042 (0.084)	0.095 (0.102)	0.252** (0.033)	0.079* (0.041)	0.051 (0.040)
Bandwidth	46.213	45.588	63.522	34.938	61.365	36.686
Respondents (N)	6104	6675	6626	5037	3723	3442
Districts (N)	1151	1173	1209	1292	898	875
<i>Low Media Exposure</i>						
Treatment Effect	0.011 (0.129)	0.081 (0.143)	-0.184** (0.091)	0.195** (0.046)	0.041 (0.055)	-0.008 (0.051)
Bandwidth	33.269	17.599	40.294	31.334	34.256	37.895
Respondents (N)	5762	3784	5678	3284	2310	2473
Districts (N)	1093	677	1037	1123	681	813

Note: Table entries are the estimated effects of the Democratic victory at time *t* on mass attitudes and behavior at *t* + 1. The effects are estimated by local linear regression models. Standard errors are in parentheses and based on 1,000 bootstrapped samples. The bandwidths are computed by Imbens & Kalyanaraman method. The thermometer scores range from 0 to 100, while the preference variables range from 1 to 7. The vote choice variables equal 1 if respondents voted for a Democratic candidate. For the vote choice variables, a linear probability model is used. Year fixed effects are included in all of the models. ***p* < 0.05 and * *p* < 0.10 (two-tailed tests).

compared individual- and district-level baseline covariates between Democratic and Republican districts by plotting the binned average values of the baseline covariates at time *t* against the Democratic vote share at time *t* with the fitted values from local polynomial regression. Individual-level baseline covariates include standard demographic variables such as education, income, race, age, employment status, religious beliefs, marital status, urbanism and region of residence. Education and income are measured using a four-point scale. Age is measured in years. Other variables are measured using an indicator variable that equals 1 if a respondent is black, unemployed, protestant, married, resides in a rural area or resides in the South, and 0 otherwise. District-level covariates

include the percentage of the population that is over 65, the percentage that is black and the log median income.

Figure 4 presents the results for the twelve baseline covariates. A large gap around the discontinuity was found in the graph showing the racial balance. Black respondents were more likely to reside in Democratic districts than in Republican districts. A gap was also found for the graph on age and the percentage of blacks residing in districts. The other nine graphs showed no discontinuity around the cut-off point.

Table 4 reports the estimated effects of a Democratic victory at t on the baseline covariates at t . Equation 1 is used for estimation. Consistent with the graphical analysis, a Democratic victory has a positive and statistically significant impact on the race variable, while it has no systematic impact on the other demographic variables. These results suggest that individuals and districts are balanced with respect to most of the demographic attributes. Yet the results for the race variable indicate that Democratic districts tend to include more black voters than Republican districts. We cannot deny the possibility that the main findings in Figures 1–3 and Table 1 are partly driven by this imbalance between the districts, since black respondents tend to be pro-Democratic and liberal.

To test the assumption, we examined whether a Democratic victory at t has any relationship with the attitudes measured prior to the determination of the Democratic victory. Similarly, we evaluated the effects of a Democratic victory at t on constituent opinion and behaviour at t . Because respondents had not yet received partisan messages from representatives elected in election t at the time of the survey, we expected to see no systematic differences in their attitudes and behaviour. Figure 5 reports that only two graphs (Republican candidate thermometer and support for government job guarantee) showed a noticeable gap at the cut-off point. In fact, Table 5 shows that a Democratic victory in election t has no significant effect on the other outcome variables.⁵⁹ The coefficients for the Republican candidate thermometer and government job guarantee are significant at the 0.05 and 0.10 levels, respectively. These results suggest that there are some differences in the Republican candidate thermometer score and the view on government job guarantee, and imply that the significant effect of a Democratic victory at t on these variables at $t + 1$ might be due to the imbalance at t .

As a final robustness check, we assessed the sensitivity to bandwidth choice. We re-estimated Equation 1 by changing the size of bandwidth from ± 0 to ± 50 incrementally by 2.5 percentage points. We focused on the sample of respondents with a high level of education to confirm that our main findings in the second panel of Table 1 were not driven by the choice of bandwidth. Figure 6 plots the RD estimates, and the associated 95 per cent confidence intervals, as a function of the bandwidth. The vertical dashed lines indicate optimal bandwidth based on the Imbens and Kalyanaraman algorithm.⁶⁰ Figure 6 shows that the estimated effects of a Democratic victory on the outcome variables appear to vary over the bandwidths, but our main findings with the I–K optimal bandwidth approximate the impacts estimated under the other bandwidths. Importantly, the size of the coefficients vary considerably, and the 95 per cent confidence intervals are larger as the bandwidths are set smaller, because the number of respondents in the small bandwidths decreases considerably. The numbers of respondents and districts are typically below 500 and 200, respectively, when the bandwidth is set at ± 2.5 . Again, the

⁵⁹ The results are similar if the analysis focuses on respondents with high political awareness.

⁶⁰ Imbens and Kalyanaraman, 'Optimal Bandwidth Choice for the Regression Discontinuity Estimator'.

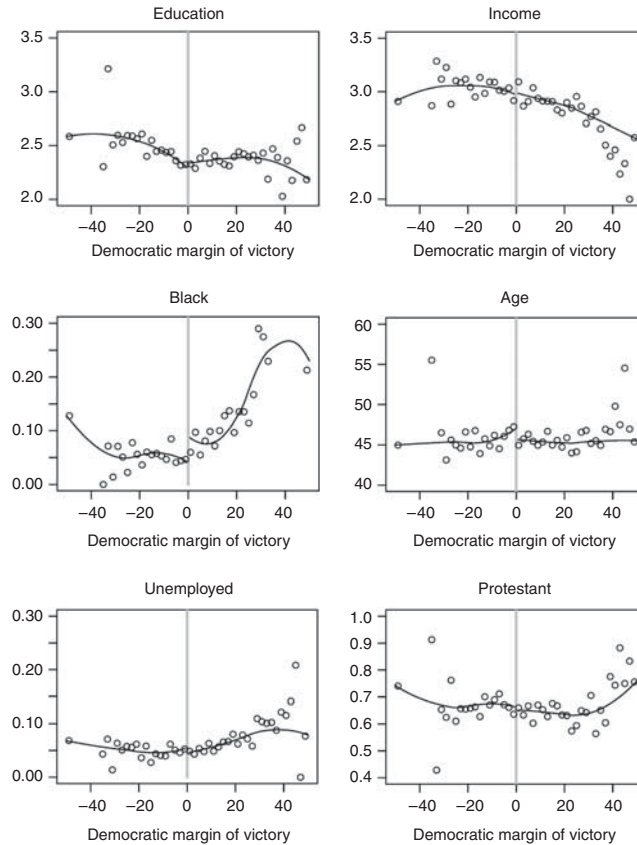


Fig. 4. Differences in demographic attributes at t

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

instabilities of the RD estimates across bandwidths indicate that the estimated impacts of a Democratic victory are partly sensitive to the estimation strategy.

CONCLUSION

This study examined whether politicians shape mass opinion: a question that is central to studies on political behaviour and representation. Yet conventional empirical strategies suffer from limitations that leave us uncertain about the causal effect of elite behaviour on mass opinion. This study used an RD design to overcome these limitations. We exploited random variations associated with close US House elections and created a quasi-experimental setting in which the party affiliation of winning candidates was near-randomly assigned to constituents. We assumed that the nature of the messages that winning candidates delivered to constituents reflected their party affiliation. That is, Democratic representatives send messages that include pro-Democratic and liberal views, while Republican representatives send messages that include pro-Republican and conservative messages. We assumed that

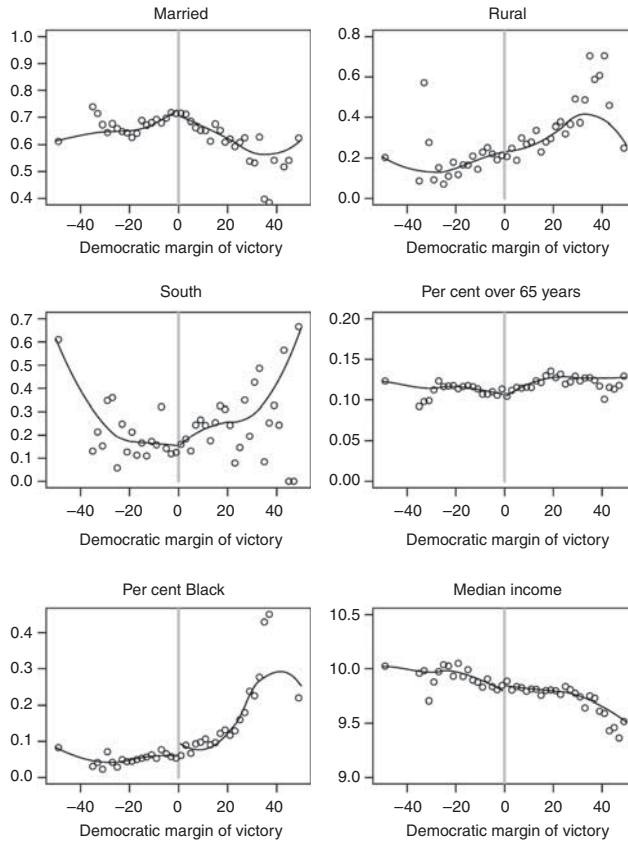


Fig. 4. Differences in demographic attributes at t (continued)

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

constituents receive these views and change their attitudes in a direction consistent with the nature of the messages.

The empirical analysis using the ANES data showed that Democratic representatives shift the opinions of their constituents in the pro-Democratic and liberal direction, while Republican representatives shift opinions in the pro-Republican and conservative direction. The strong effects of representatives' party affiliation are observed only among people with higher levels of education and media exposure. Constituents in districts with Democratic incumbents evaluate the Democratic party and candidates more positively than those in districts with Republican incumbents. Those in Democratic districts are more likely to be a Democrat and liberal – and to support government spending, government aid to blacks and women's equal status in society. Further, those in Democratic districts are more likely to vote for Democratic candidates in subsequent House and presidential elections.⁶¹

⁶¹ As a supplementary analysis, we also examined whether the representatives elected at t have any impact on constituent opinion and behaviour at $t+2$. The results indicated that a Democratic victory has

TABLE 4 *Effect of Democratic Victory at t on Pre-determined Demographic Variables at t*

	Individual					
	Education	Income	Black	Age	Unemployed	Protestant
Treatment Effect	0.015 (0.030)	0.012 (0.032)	0.033** (0.010)	-0.585 (0.436)	-0.007 (0.006)	-0.015 (0.015)
Bandwidth	29.903	28.616	11.663	68.360	25.224	37.337
Respondents (N)	25757	25505	11746	32581	23956	26937
Districts (N)	2545	2506	1077	3208	2338	2708

	Individual				District	
	Married	Rural	South	Over65	Black	Income
Treatment Effect	0.005 (0.016)	-0.012 (0.016)	0.005 (0.014)	-0.004 (0.003)	0.007 (0.010)	0.007 (0.015)
Bandwidth	14.808	17.934	24.673	33.265	14.445	39.980
Respondents (N)	14729	18038	23486			
Districts (N)	1363	1702	2287	3208	2628	1332

Note: Table entries are the estimated effects of the Democratic victory at time t on pre-determined demographic variables at t . The effects are estimated by local linear regression models. Standard errors are in parentheses and based on 1,000 bootstrapped samples. The bandwidths are computed by Imbens & Kalyanaraman method. Year fixed effects are included in all of the models. ** $p < 0.05$ and * $p < 0.10$ (two-tailed tests).

These findings support the view that politicians actively seek to alter their constituents' policy positions. However the opinion linkage between the elite and the masses is much more complicated than traditional studies of representation suggest. Politicians have a strong incentive to persuade constituents to adopt their political views in order to mitigate the electoral costs of pursuing favoured policies. Consistent with the works of Dunleavy and Ward and by Gerber and Jackson, moreover, the evidence also indicates that the assumption of fixed and exogenous voter preferences in the Downsian theory of party competition is unrealistic. We cannot simply expect that politicians will conform to what the median voter demands. Downs himself notes that parties will 'attempt to move voters towards their own location, thus altering it'.⁶² This highlights the importance of modelling party competition by treating voter preferences as an endogenous variable.⁶³

(*Fnote continued*)

a significant impact on the limited set of outcome variables such as candidate thermometer scores, party identification, government job guarantee and the vote in House and Senate elections among people with a high education and high median consumption levels. Importantly, the estimated impacts on these variables are smaller at $t+2$ than at $t+1$. These results seem to suggest that the impacts of representatives' messages on constituent opinion are still large at t_2 but decaying over time. These results are available upon request.

⁶² Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957), p. 140.

⁶³ John E. Jackson, 'Electoral Competition with Endogenous Voter Preferences', in Ken Kollman, John Miller and Scott Pag, eds, *Computational Models in Political Economy* (Cambridge, Mass.: The MIT Press, 2003), pp. 109–42; Ward, 'Preference Shaping and Party Competition'.

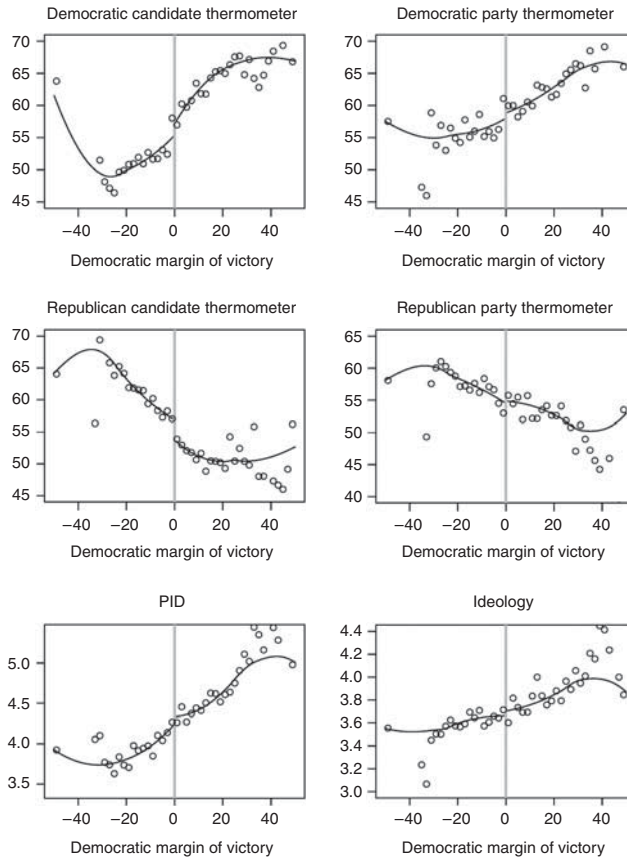


Fig. 5. Differences in pre-determined opinions and behaviour at *t*
 Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

Finally, as suggested by Hurley and Hill, the direction of the relationship between the elite and the masses may vary between policy issues.⁶⁴

These empirical findings do not necessarily imply that the partisan bias in favour of the incumbent’s party is constantly reinforced in the district over time. Constituents are usually surrounded by competitive environments and subject to the partisan messages of other opinion leaders such as presidents, the mass media and discussion partners.⁶⁵ For example, constituents may receive liberal messages from their Democratic representative and conservative messages from the president at the same time. Thus the representative may shift constituents’ opinions in a liberal direction, while the president may shift them in a conservative direction. Our empirical analysis shows the extent to

⁶⁴ Hurley and Hill, ‘Beyond the Demand-Input Model’.

⁶⁵ Druckman and Nelson, ‘Framing and Deliberation’; Jonathan McDonald Ladd and Gabriel S Lenz, ‘Exploiting a Rare Communication Shift to Document the Persuasive Power of the News Media’, *American Journal of Political Science*, 53 (2011), 394–410; Wood, *The Myth of Presidential Responsiveness*.

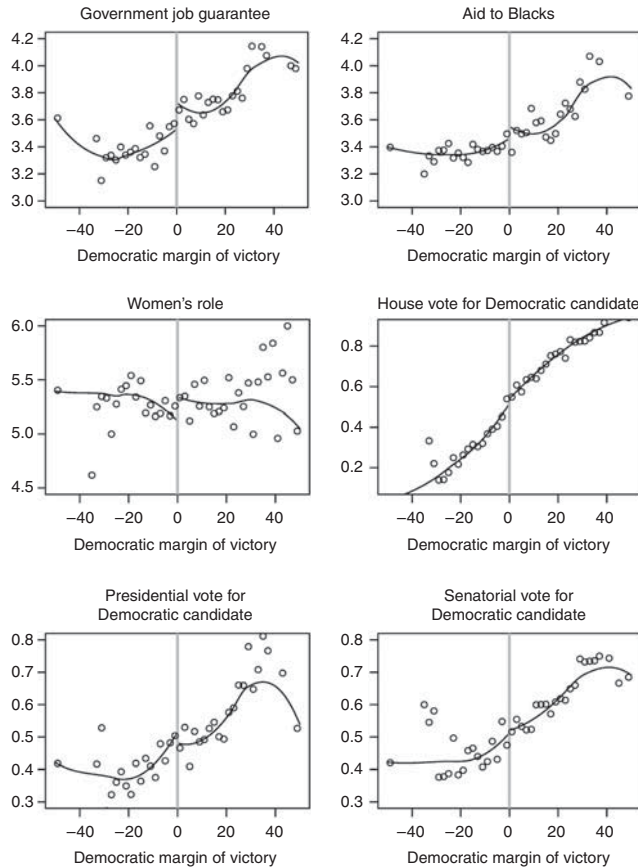


Fig. 5. Differences in pre-determined opinions and behaviour at t (continued)

Note: The circles depict binned average values of the dependent variable. The bin widths are set at 2 percentage points, generating 50 bins. The line represents the fitted values from locally weighted polynomial regressions, estimated separately on each side of the cut-off point using the original individual-level data. We set the span equal to 1.

which representatives affect constituent opinion and behaviour after controlling for the influence of other actors using the randomization mechanism, yet those findings provide no information regarding the influences of other actors. If the influence of representatives' messages is stronger than the total influences of other political actors, the bias in favour of the incumbent's party will be constantly reinforced in the district. This possibility is small because presidents and other political actors also have a strong impact on the formation of mass opinion and behaviour, and because representatives often seek to alter constituents' preferences in a competitive environment in which parties with opposing views also seek to influence public opinion.⁶⁶

⁶⁶ Yet we expect that the partisan bias is reinforced in favour of the incumbent's personal evaluation. It is reasonable to assume that the evaluation of incumbent candidates is affected by their activities but unaffected by other political figures. If representatives keep promoting their reputations, the bias is constantly reinforced in favour of them. This stabilization mechanism is found in the high rate of incumbent re-election.

TABLE 5 Effect of Democratic Victory at *t* on Pre-determined Opinion Variables at *t*

	Dem Thermometer		Rep Thermometer		Preference	
	Cand.	Party	Cand.	Party	PID	Ideology
Treatment Effect	2.205 (1.474)	0.702 (0.845)	-3.389** (1.090)	0.898 (0.746)	0.081 (0.055)	-0.009 (0.051)
Bandwidth	19.485	38.317	30.358	27.889	25.360	20.345
Respondents (<i>N</i>)	6126	7680	5870	9025	9873	9142
Districts (<i>N</i>)	1531	1379	1460	1639	2094	1956

	Preference			Vote		
	Job	Black	Women	House	President	Senate
Treatment Effect	0.130* (0.073)	-0.053 (0.061)	0.069 (0.054)	0.032 (0.023)	-0.019 (0.021)	0.012 (0.024)
Bandwidth	19.230	18.375	44.822	17.065	31.198	28.917
Respondents (<i>N</i>)	8330	10046	9235	8748	5719	5968
Districts (<i>N</i>)	1542	1895	1710	2492	1486	1713

Note: Table entries are the estimated effects of the Democratic victory at time *t* on pre-determined opinion variables at *t*. The effects are estimated by local linear regression models. Standard errors are in parentheses and based on 1,000 bootstrapped samples. The bandwidths are computed by Imbens & Kalyanaraman method. Year fixed effects are included in all of the models. ***p* < 0.05 and **p* < 0.10 (two-tailed tests).

Similarly, the strong elite influence on mass opinion does not necessarily imply that the elite is capable of arbitrarily manipulating public opinion. As discussed above, citizens in competitive democracies tend to be exposed to competing messages from multiple opinion leaders,⁶⁷ which may cancel each other out. In contrast, citizens in less competitive environments, in which a single party dominates the nation, may be susceptible to one-sided messages and elite manipulation. Thus the elite in competitive democracies can inform citizens about politics, but not necessarily manipulate their opinions.

One may wonder how generalizable the findings are to other contexts. The linkage between US House representatives and their constituents is characterized by three specific features that are not always present outside of the United States. First, the single-member district system in the United States allows incumbent representatives to monopolize power within their district and deliver messages to their constituents quite easily, because their constituents live in a geographically concentrated area. In a multi-member district system such as proportional representation, multiple party representatives with opposing views are eligible to send partisan messages to their constituents as elected officials. Furthermore, party representatives may find it difficult to deliver messages to supporters

⁶⁷ Chong and Druckman, 'Framing Public Opinion in Competitive Democracies'; Chong and Druckman, 'A Theory of Framing and Opinion Formation in Competitive Elite Environments'; James N. Druckman, 'Political Preference Formation: Competition, Deliberation, and the (Ir)Relevance of Framing Effects', *American Political Science Review*, 98 (2004), 671-86; Paul M. Sniderman and Sean M. Theriault, 'The Structure of Political Argument and the Logic of Issue Framing', in Willem Saris and Paul M. Sniderman, eds, *Studies in Public Opinion* (Princeton, N.J.: Princeton University Press, 2004), pp. 133-65; Zaller, *The Nature and Origins of Mass Opinion*.

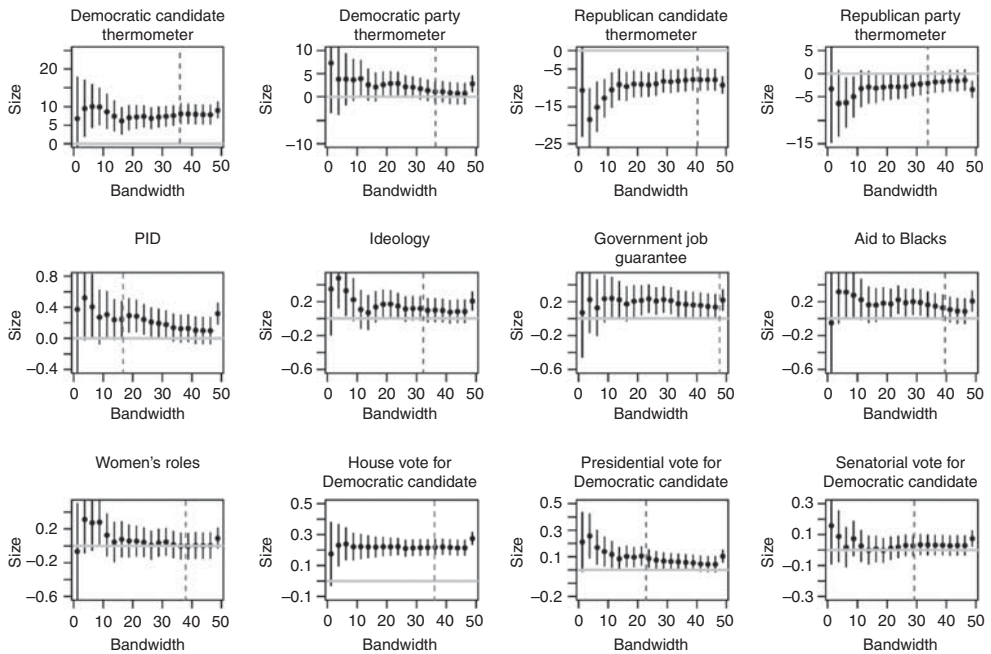


Fig. 6. RD estimates and confidence intervals by bandwidth at $t + 1$ for respondents with a high level of education

Note: The RD estimates are based on the subsample with a high level of education. Circles indicate the point estimates, while the vertical solid lines indicate the 95 per cent confidence intervals. Dotted lines indicate the location of the I-K bandwidth.

who are geographically scattered. Secondly, the ideological division between the two major US parties enables representatives to send clear partisan messages to their constituents. Under a multi-party system in which the ideological differences between parties are less clear, legislators and party leaders may not be able to send clear ideological messages. Thirdly, US representatives can rely on local mass media to advertise their activities and policy positions.⁶⁸ Legislators may not be able to communicate with their constituents or supporters through national mass media that are not likely to focus on a particular legislator.⁶⁹ In short, generalizing our findings beyond the American context requires special attention.

This article leaves a few important questions unanswered. Data limitations require us to assume that the effect of partisan messages is constant regardless of people's political predispositions, yet people with solid predispositions may not be strongly influenced by these messages. In addition, it is crucial to investigate elite influences on mass opinion in competitive environments. For example, Democratic representatives may have a stronger impact on constituents' opinions when the president is Democratic. Future research needs to answer these questions to enhance understanding of the elite-mass opinion linkage.

⁶⁸ Arnold, *Congress, the Press, and Political Accountability*.

⁶⁹ Yet the recent development of news media on the internet may allow legislators and parties to communicate with their supporters more directly and frequently.