Media Markets, Special Interests, and Voters

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Abstract

This paper examines the role of mass media in countering special interest group influence by studying county-level support for candidates to the US Senate from 1980 to 2002 as a function of media exposure and campaign finance profiles. I use the concentration of campaign contributions from Political Action Committees to proxy capture of politicians by special interests, and compare the reaction of incumbent vote margins to increases in concentration in two different types of media markets – in-state media markets and out-of-state media markets. Unlike in-state media markets, out-of-state markets focus on neighboring states' politics and elections. Thus, if citizens punish political capture, increases in concentration of special interest contributions to a particular candidate should reduce his vote share in in-state counties relative to the out-of-state counties, where the candidate receives less coverage. I find that a one standard deviation increase in concentration of special interest contributions to incumbents reduces their vote share by about 0.5 to 1.5 percentage points in in-state counties relative to the out-of-state counties. Results are similar in specifications that rely solely on variation in concentration across time within the same county, and when the sample is limited to in-state counties that are contiguous to out-of-state counties and have similar demographic structures. A placebo test where in-state counties bordering out-of-state ones are compared to other in-state counties shows no effect, confirming the identification hypothesis that the results are not driven by geographic characteristics or distance from the media center of the state.

JEL classification: D72, L82

1   Introduction

Interest groups pursue different strategies to influence policy. These include gathering information that supports their positions, taking their arguments to politicians and the public to win sympathy, and undertaking disruptive activities to coerce policymakers into making concessions (Grossman and Helpman, 2001). Yet, the activity that receives perhaps the most attention from media, the public, academia, and policymakers, is interest groups' campaign contributions to parties and candidates as a vehicle for influencing policy.

How can these practices be avoided? In a democracy, elections form the most basic safeguard against potential undue influence of interest groups through campaign money. If financial support from special interest groups appears improper, voters may punish the candidate by voting against him. Of course, for this mechanism to be valid voters need to be well informed. Since the main source of political information for voters is mass media, the presence of a free, independent mass media is a key component of democratic political institutions.

In this paper, I examine the role of mass media in countering special interest group influence. I do so by examining the extent to which county-level support for candidates to the United States Senate from 1980 to 2002 varies as a function of media exposure and candidates' campaign finance profiles.

To measure media exposure I rely on media market structure. More concretely, I compare Senate election results for counties located in in-state TV markets (markets centered within a given state) with those located in out-of-state TV markets (markets centered in a city outside of a given state). Voters in out-of-state markets receive much less television coverage of their state's politics than voters covered by in-state media markets (Ansolabehere et al., 2006). Thus, comparing the behavior of in-state market voters with voters in out-of-state media markets provides one possible approach to examine the role of mass media.

I use campaign contribution data to construct a proxy for "capture" of politicians by special interests. In particular, I use data on contributions from Political Action Committees (PACs) to candidates to build Herfindahl concentration indices, at both the PAC and more aggregate industry levels. The idea behind this approach is that a more concentrated pattern of contributions (i.e., a high Herfindahl index) is a good proxy for the extent to which a candidate is "captured" by narrow interest groups. Put differently, candidates with more dispersed contribution sources are preferred by voters because they are less susceptible to capture by one of the (many) interest groups sponsoring them.

My main finding is that an increase in the concentration of campaign contributions leads to a differential response from voters across different media markets. The estimates suggest that the share of the two-party vote for an incumbent with a Herfindahl index one-standard deviation higher than average will be about 0.5 to 1.5 percentage points lower in in-state counties relative to out-of-state counties, where the candidate receives less coverage.

I address the concern that these results may be driven by the fact that counties in out-of-state dominated media markets are different in other dimensions to in-state counties. In particular, the negative impact of the interaction between campaign contribution concentration and increased media exposure is present in specifications with county fixed effects, which rely solely on variation in the Herfindahl indices across time within the same county to estimate the coefficient of interest. Also, I focus on in-state counties that are geographically contiguous to out-of-state counties. After demonstrating that they are similar to out-of-state counties on a number of observable characteristics, I reestimate the effect using solely these observations and find similar results.

I perform an additional robustness check with a placebo test designed to verify whether the movement from in-state to out-of-state counties captures a general geographic trend in the response to concentrated contributions that is unrelated with media exposure. To this end, I define the in-state counties that border out-of-state counties to be the (placebo) out-of-state counties. Then, I compare them to adjacent in-state counties in the same state. Since these sets of counties are both in-state counties with good access to information, there should be no correlation between increases in concentration and moving across county categories. Indeed, I find no correlation between increases in concentration and moving across county categories.

As noted, I use the pattern of campaign contributions as the main proxy for political capture by interest groups. Conveniently, I can build a simple measure for every representative based on campaign finance data alone. Still, it is important to take a step back and ask how voters think about special interest money. Historical anecdotes and the press' treatment of campaign money seems to indicate a clear answer: most voters dislike campaigns fueled by interest money. However, the answer is not obvious. When special interest groups have an informational advantage, their contributions may signal candidate quality. My results suggest, however, that voters assess interest group money negatively. Also, I present evidence that they do so in a relatively sophisticated way. Specifically, voters punish *total* interest group money less than they punish concentration of interest group money from a few sectors. These results support the idea that voters punish "capture" of politicians by narrow interest

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groups.

A related point is whether the suggested mechanism demands an unrealistic degree of knowledge on the part of voters. But even if individuals do not know the approximate pattern of campaign contributions (a reasonable assumption for most voters), a candidate with a more concentrated pattern of contributions is prone to being pinpointed by journalists or his opponent as potentially "captured." Such a candidate is likely to figure in ads and news as linked to the economic sectors that heavily contribute to his campaign.

To verify that this is the case, I conduct automated news searches for a sample of US newspapers, counting how frequently are Senate candidates featured in news stories. For each candidate, I also count the number of stories that discuss PAC money in the campaign ("PAC stories"). The results are reassuring about the validity of the approach. There is a positive and significant correlation between the share of PAC stories for a candidate and the candidate's Herfindahl concentration index. This suggests that the concentration indices do proxy for media exposure of campaign contribution profiles. An additional important advantage of this exercise is that it helps address the concern that campaign finance concentration captures some other omitted candidate characteristics which differentially affect their performance across counties (e.g. if candidates with higher Herfindahls are more or less "popular"). Indeed, by computing the number of PAC stories as a share of the candidates' total number of stories, I directly normalize by how popular or appealing the candidate is in the media. And, more compellingly, there is in fact no correlation between the candidates' Herfindahl and his total number of news stories[1].

Moreover, additional results highlight the role of information and the robustness of the main results. Given that a large theoretical and empirical literature suggests an association between better information and higher turnout, I examine whether turnout is higher in-state than out-of-state. I find that in-state counties do have larger turnout than their (otherwise similar) contiguous, out-of-state neighbors. My estimates imply a 1.7 to 2 percentage point higher turnout in in-state counties. Furthermore, a regression of turnout on a dummy for the placebo out-of-state counties versus other in-state neighbors finds no effect, which confirms the hypothesis that information (not other differences resulting from moving toward out-of-state counties) drives differences in turnout.

This set of results opens the discussion concerning whether the concentration of campaign

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[1]The only drawback of this exercise is that online newspaper archives are typically available only since the 1990s (at best). Hence, I cannot systematically code the share of PAC stories as an alternative measure of "capture" to replicate my main specifications with this variable. However, as indicated the correlations where information is available lend support to the validity of the approach.

finance money for Senate candidates has negative spillovers for fellow party members running for other offices. To test this idea, I examine if in years where, for example, the Democratic senator has a relatively high Herfindahl, the Democratic Presidential (or House) candidate tends to do worse in in-state counties relative to out-of-state counties. I find no important spillover effects of this sort[2].

This non-result, however, reaffirms that the main findings are not driven by partisan trends. Indeed, a potentially serious objection to my findings is that partisanship moves in different directions in different counties across different years. Unfortunately, I cannot control for a full set of county-year fixed effects, since the variation I use to estimate the key interaction terms is at this level. However, the regressions for Presidential and Congressional races can in fact be thought of as placebo tests to rule out this interpretation. If important partisan trends were driving the results, specifications with vote share of fellow party members as the dependent variable should mirror the effects observed for the vote share of the incumbent.

In sum, the overall evidence presented in this paper supports the idea that mass media, by informing voters, may reduce the influence of special interest groups in policy. Better access to mass media allows voters to react to potentially negative information about their candidates, and specifically to the possible influence of narrow interests in the politicians' agenda.

The results also reaffirm the idea that patterns of special interest campaign contributions signal political capture of representatives to voters. The fear of politicians' capture has long been prevalent in the United States politics and mass media, and some of the most famous political scandals have involved the alleged use of contributions in exchange for favors[3]. The

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[2]I also find little evidence of other types of information spillovers. For example, it does not appear that voters in out-of-state counties rely on partisan cues and punish the candidate of the party with a high Herfindahl index in the neighboring state (from which they receive information), nor that they rely on comparisons between the campaign finance profiles of candidates in their state with those in neighboring states.

[3]The topic has been at the center of the policy debate since at least 1957, when allegations of improper influence of this sort led Senate to establish the Special Committee to Investigate Political Activities, Lobbying, and Campaign Contributions. A famous earlier attempt to control interest money was President Theodore Roosevelt's argument, in 1905, for a ban on all political contributions by corporations, and his call, in 1907, for public financing of federal candidates via candidates' political parties. In 1989, the "Keating Five" scandal (so named because it involved five senators accused of improperly intervening in 1987 on behalf of Charles H. Keating, Jr.) attracted public attention. Keating provided substantial political contributions to each involved senator and was chairman of Lincoln Savings and Loan Association, an institution targeted in investigations by the Federal Home Loan Bank Board in the midst of the Savings and Loan crisis of the late 1980s and early 1990s.

subject most recently hit the headlines in connection with the recent financial meltdown. Analysts have emphasized the political force of Wall Street banks in Washington as the fundamental cause of the crisis. While certainly not their sole source of influence, campaign contributions are among the perceived sources of power for special interests. Johnson and Kwak (2010) express it clearly:

> Financial sector money poured into the campaign war chests of congressional representatives (...) Campaign contributions and the revolving door between the private sector and government service gave Wall Street banks influence in Washington, but their ultimate victory lay in shifting the conventional wisdom in their favor (...) Of course, when cracks appeared in the consensus, such as in the aftermath of the financial crisis, the banks could still roll out their conventional weaponry— campaign money and lobbyists (p. 5).

Similar concerns about the influence of banks before and during the financial crisis and subsequent bank reform arose in the recent "mid-term elections." To cite one example, one perspective noted that Spencer Bachus (R.-Ala), the man most likely to become chairman of the House Financial Services Committee "received well over a million dollars from political action committees representing banks, insurance companies and auditors over the past two election cycles. And wasting no time, on Wednesday, reports the Financial Times, Bachus sent a letter to the Financial Stability Oversight Council (...) that reads as if dictated by bank lobbyists"[4].

In short, in the US as in many countries there is a general perception that special interest groups can exercise to some degree the levers of power, using campaign contributions as a primary instrument to do so. Yet, there also exist key institutions, free media among them, that exert control over such influence. For instance, many argue that an active, informative press reduced corruption in the Progressive Era[5]. Discussing the period of antitrust reform in the early XXth Century, Acemoglu and Robinson (2010) highlight the role of a free press to expose the excesses of Robber Barons as well as corruption in local and federal politics. Among the examples discussed, one of the most telling about the potential of a free press to

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[4]"Republicans begin carving up bank reform", by Andre Leonard. In Salon, November 4, 2010. http://www.salon.com/technology/how_the_world_works/2010/11/04/spencer_bachus_wall_streets_man_in_washington/index.html

[5]Along these lines, Glaeser et al. (2004) argue that the US newspaper industry between 1870 and 1920, which expanded its circulation and became more informative and less partisan, partly caused the decline of political corruption in that period. Moreover, the entry of US daily newspapers from 1869-1928 produced a more active electorate, increasing voter turnout (Gentzkow et al., 2009).

counter special interest influence is that of famous "muckraker" Ira Tarbell. Tarbell wrote the "History of the Standard Oil Company," which played a key role in moving public opinion against Rockefeller and his business interests in Standard Oil.

As Acemoglu and Robinson (2010) note, the US experience in the first half of the 20th century emphasizes that free media is a key component of the set of "inclusive institutions" that determine economic success. Absent these institutions, under absolutism or under dictatorships, the US public probably would not have mobilized against the power and abuses of Robber Barons and their trusts.

The evidence in this paper supports this view that mass media, by informing voters, constitutes a vital component of the "inclusive institutions" which promote political and economic development by reducing the influence of special interest groups in policy.

1.1 Related literature

This paper is related to several strands of literature, most notably, to the relatively recent but fast-growing economics literature on the political economy of mass media (see Prat and Strömberg (2010)).

A central topic in this line of research is the role of free media in affecting policy and improving political accountability[6]. Although not focused on the potential effect of better information on reduced interest group influence, several empirical papers show how availability of information empowers voters and affects policy (see, for instance, Strömberg (2004b) and Besley and Burgess (2002)). Snyder and Strömberg's (2010) work, which estimates the impact of press coverage on citizen knowledge, politicians' actions, and policy, closely relates to this paper. The authors exploit the match, or "congruence" between newspaper markets and US congressional districts. Varying congruence causes news coverage of politics to vary across districts, but unlike other measures of media availability, it does not directly affect key outcome variables of interest. Results are largely supportive of the key role of media in facilitating political accountability. Along these lines but in a developing country context, Ferraz and Finan (2008) find that news about local corruption as uncovered by (randomly

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[6]Several theoretical contributions imply a role of media in countering special interest group influence. For instance, in Strömberg's (2001, 2004a) theory, mass media counteracts special interest group influence for two reasons. First, the increasing returns to scale nature of their technology and their need for advertising revenue induce media outlets to provide news to large groups rather than small interests. Thus, mass media entices politicians to "pay more attention" to the better-informed, larger audience. Second, by reducing the share of uninformed voters, free media reduces the effectiveness of advertising purchased with campaign contributions.

assigned) audit reports on Brazil's municipal mayors hurts incumbent's electoral performance. Furthermore, these effects are more pronounced in municipalities where local radio is present to divulge the information. In a field experiment, Banerjee et al. (2010) provide Indian slum dwellers with newspapers containing report cards on candidate qualifications and performance. The results indicate that better information increases voter turnout, reduces the incidence of cash-based vote buying, and causes electoral gains for better performing incumbents.

This paper follows this line of research by studying the role of free media on improving political accountability, and in particular in changing the electoral support for certain types of candidates. However, unlike previous work, it emphasizes the role of mass media in countering special interest group influence.

In terms of the empirical strategy, the differences between in-state and out-of-state counties exploited in this paper were first studied by Ansolabehere et al. (2006). While these authors study a different question, my results may explain their surprising result: no effect of television coverage on the incumbency advantage for senators and governors. This runs against the conventional view that the rise of television played an important part in the rise of the incumbency advantage in the US (see, e.g. Erickson (1995)). This conventional logic is largely based on two premises. First, incumbents have an advantage when raising campaign funds. Second, television maximized the impact of campaign funds by facilitating personal appeal to voters. Both premises may well be true, but television can also inform voters about potentially negative candidate traits. With concentration of campaign contributions acting as a proxy for the degree of capture, this paper shows that incumbents (more so than challengers) are likely to be depicted as captured in media markets and get punished by voters.

The paper is also related to a vast empirical and theoretical literature on campaign contributions. Much of the theoretical work assumes that there are "informed voters" who vote for candidates based on their policy positions, and "uninformed" voters who can be swayed by campaign advertising. Funds for advertising, provided by interest groups, depend upon the positions taken by the candidates, and these positions take their implications for contributions and votes into account (Morton and Cameron (1992) offer an early review)[7]. While this work incorporates the response of voters to overall campaign expenditures, less

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[7]A much-cited contribution by Grossman and Helpman (1996) builds on Baron (1994) offering a model in which campaign giving by interest groups may be motivated by both an electoral motive (help politicians with favorable positions win elections) and by an influence motive (a straightforward *quid pro quo* of money for services).

research investigates how the sources of money raised by politicians influence voters. This occurs partly because the approach described above assumes that "uninformed" voters do not have rational expectations. As emphasized by Coate (2004), if they did, they could realize that a party involved in advertising must distort its policy platform to obtain the necessary funds, and switch their votes *against* the advertised party! Similarly, the empirical work has focused mostly on the effect of *gross* campaign expenditures on electoral outcomes and in altering policy positions or securing favors (see Stratmann (2005) for a review).

More recent work reviewed in Prat (2006) seeks to provide a more satisfying analysis assuming that voters update their beliefs rationally. In this approach, private campaign finance creates a trade-off between a policy distortion and an informational benefit. In equilibrium, qualified candidates receive more contributions than unqualified candidates, and this provides voters with information about candidates' quality. However, candidates may need to distort their policy choices (away from voters' interests) in order to attract private donations. An empirical exercise inspired by these theories of campaign finance with rational voters is conducted by Prat et al. (2006). Using a survey-based dataset about the effectiveness of state legislators in North Carolina, they ask what voters can learn about the candidate characteristics from the amount and pattern of contributions received during the campaign[8].

Only a few other papers have examined the impact of campaign finance composition on voter behavior[9]. Vanberg (2008) uses data on the US House of Representatives from 1990 to 2002 and finds no evidence of a negative relation between a candidate's reliance on large contributions and votes[10].

Instead, Dharmapala and Palda (2002) find a negative relationship between the concentration of contributions and vote shares for open-seat candidates and challengers in the US

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[8]They find that the total amount a candidate receives is a weak predictor of that candidate's effectiveness, and that small-sized (large) contributions from organizations positively (negatively) signal effectiveness. They conclude that the evidence contradicts the informational argument in favor of private funding when contributions are large or when they come from individuals and parties. Experimental results by Houser and Stratmann (2008) support the prediction that voters respond to advertising differently between special interest and publicly-financed campaigns.

[9]Aside from those cited, see also Palda and Palda (1998) who suggest French voters punish candidates who raise money from narrow sources.

[10]His motivation is to examine one argument in support of contribution limits: that they equalize the influence of individual donors and thereby cause candidates' aggregate financial resources to more accurately reflect public support. To capture this idea, he proposes a model in which candidates' reliance on large contributions (controlling for the total amount of contributions they receive) is negatively related to voter-preferred characteristics which cannot be credibly revealed through campaign advertisements. He thus suggests his result casts doubt on the relevance of the "equalization" argument.

House from 1980 to 1992, with no robust relation for the incumbents[11]. As a potential explanation, they suggest, in line with the argument put forward in this paper, that interest groups seek favors for themselves, and thus are in conflict with each other and with the voters. Therefore, if campaign contributions are instrumental in securing these favors, candidates with more dispersed contribution sources are less susceptible to being captured by any one group and are preferred by voters[12]. However, they admit that causality may run the other way: candidates with a higher likelihood of winning may attract a wider pattern of contributions.

This paper differs from Dharmapala and Palda (2002) in various ways. By exploiting the differential impact of concentrated patterns of contributions across different media markets, I attempt to rule out the reverse causality story. In fact, using this approach I find higher concentration is *positively* correlated on average with incumbent vote shares in out-of-state markets where information is poorer. An offsetting negative correlation only arises in in-state media markets. Also, I find no significant effects on challengers from my main interaction of interest–namely, the effect of increased concentration in contributions together with increased media exposure. Instead, my results are robust only for the incumbents, which is reasonable in light of the well-established fact that incumbents receive more media coverage than their opponents (see, e.g. Kahn (1993)).

The rest of the paper proceeds as follows. In Section 2, I spell out the basic research design and describe the main data used in the paper (a Data Appendix presents a more complete description of the variables and sources of the analysis). Section 3 presents the main results for the impact of concentration of campaign contribution on incumbent vote shares across different media markets. In this section, I also present a number of robustness checks, including the placebo test designed to verify the identification hypothesis that the results are not driven by geographic characteristics or distance from the media center of the state. The section also shows that, unlike concentration, total share of money from interest groups does not affect incumbent senators differentially across media markets. The section concludes

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[11]Their motivation is to dispute the Supreme Court's view in Buckley v. Valeo that campaign spending is a form of speech, but campaign contributions are not. An empirical link between the sources of a candidate's contributions and that candidate's share of the vote, they argue, would suggest contributions are a form of speech as well.

[12]An alternative account for why voters may respond positively to the degree of dispersion of a candidate's contributions is also discussed. Interest groups are "benign", in the sense that their interests are identical to those of each other, and of the voters. However, the groups have private information concerning the best way to achieve the common aims and their contributions are a way of buying access to legislators. Hence, a candidate with more dispersed contribution sources may end up being better informed.

by showing that concentration indices are positively correlated with the relative frequency of news stories about candidates' campaign money. Next, Section 4 shows that the main results are not driven by partisan trends, and finds little evidence of information spillovers across members of the same party, whether in the same or neighboring states. Section 5 demonstrates that the results of the paper are not sensitive to the exact classification of counties into those dominated by in-state or out-of-state media markets. I conclude in Section 6.

2   Empirical Strategy

2.1   Design and specification

Like Ansolabehere et al. (2006), I examine the impact of mass media on voters' response to politicians' campaign-finance profiles by exploiting the structure of media markets. Since television is the primary source of political news for voters (Ansolabehere et al., 1993), I focus on TV markets. More concretely, I compare results in Senate elections for counties with media markets centered in their own state (henceforth, I will often refer to these simply as "in-state" counties), with those whose media markets are centered in a city of a neighboring state ("out-of-state" counties).

In out-of-state counties, news focuses on the neighboring state politics and elections. As a result, voters receive much less television coverage of their state's politics than voters covered by in-state media markets. Ansolabehere et al. (2006) present evidence indicating that being in-state versus out-of-state is more clearly a function of actual television coverage than other measures of media market structure that have been used in the literature, such as fragmentation or number of television stations. They searched the on-line archives of 90 stations affiliated with 51 media markets for stories that mention the governors of states. News programs aired 10 times as many stories about the in-state governor than they did of governors from neighboring states covered by the media market. Moreover, the number of stories of the out-of-state governors was typically extremely small, and on the order of noise. They further report data from the National Election Studies of 1974 and 1978, which contain information to determine the type of market respondents reside in, confirming that these differences on coverage have consequences on voter knowledge. About 70% of respondents of in-state counties report that they saw a Senate candidate on television during the campaign, compared to only 50% of respondents in out-of-state counties, and this is

statistically significant at the 0.01 level.

These observations suggest comparing the response of voters to the campaign profiles of candidates depending on whether they are located in in-state or in out-of-state media markets. The following regression model provides the simplest comparison of this sort:

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\begin{aligned}
V_{ct}^I \;=\;& \gamma_{s\times PI} + \theta_{t\times PI} + \beta_{in}in_c + \beta_{h^I}h_{st}^I + \beta_{h^O}h_{st}^O \\
& + \beta_{in\times h^I}\left(in_c \times \mathbf{h}_{st}^I\right) + \beta_{in\times h^O}\left(in_c \times \mathbf{h}_{st}^O\right) + \beta_X' X_{cst} + \varepsilon_{sct}.
\end{aligned}
\tag{1}
$$

In (1), c indexes counties, s states, and t time. The superscript I is for incumbent and O for his opponent. The dependent variable, V_{ct}^I, is the share of the two-party vote received by the incumbent candidate running for the Senate in county c at time t; in_c is a dummy variable equal to one if the county is in-state and zero if it is out-of-state; h_{st}^I is the Herfindahl concentration index of special-interest campaign contributions to the incumbent (h_{st}^O is the corresponding measure for the opponent); and X_{cst} is a vector of additional controls. Demeaned variables are shown in bold. I demean Herfindahl indices before interacting them, so that the coefficient on the main effect for in_c shows the impact measured at the mean values of h_{st}^I and h_{st}^O. The impact of h_{st}^I on the incumbent vote share is β_{h^I} for out-of-state counties and $\beta_{h^I} + \beta_{in\times h^I}$ for in-state counties (and similarly for h_{st}^O). Throughout the paper, I cluster standard errors at the county level.

This specification includes a full set of year and state "times incumbent party" fixed effects ($\theta_{t\times PI}$ and $\gamma_{s\times PI}$ respectively). Year fixed effects interacted with the incumbent's party are important to capture national political or economic tides, such as presidential coattails, systematic presidential punishment at the midterm, or any other general trends in political tides or economic variables (e.g. unemployment, inflation) that could affect election results in all counties. Including a full set of state-incumbent party fixed effects $\gamma_{s\times PI}$ is important for several reasons. First, the state fixed effects focus the comparison between in-state and out-of-state counties within the same state. Thus, since in all counties within a state the same two candidates are running for Senate at each time period, I can hold the candidates running, the closeness of the election, and other features of the race constant. This comparison is very useful, as it is typically hard to control for issues like candidate quality. Finally, to capture the average partisanship of each state s, $\gamma_{s\times PI}$ also includes a dummy variable for the party of the incumbent and its interaction with state fixed effects.

The main coefficients of interest are $\beta_{in\times h^I}$ and $\beta_{in\times h^O}$. I expect $\beta_{in\times h^I}$ to be negative, implying that when the incumbent's campaign money comes from relatively few economic

11

sectors (a high h_{st}^I), voters residing in in-state counties are more likely to find out and punish the incumbent relative to voters in out-of-state counties. With a similar logic, I expect $\beta_{in \times h^O}$ to be positive.

However, there are some threats to the correct identification of $\beta_{in \times h^I}$ and $\beta_{in \times h^O}$ in (1). One potential issue is that the counties in out-of-state dominated media markets are not an adequate "control group" for in-state counties. As will be shown below, out-of-state counties are indeed different along a number of dimensions (e.g., they are smaller, less urban, poorer, and exhibit different age and racial composition) compared to in-state counties. These differences are concerning if these characteristics influence voters' preferences in ways that lead them to vote more for or against candidates with concentrated campaign contributions. If this is the case, the effect attributed to media exposure may actually be driven by these other differences between counties. I implement the simplest solution to this problem by controlling for these county characteristics in the regression. However, there may persist additional unobserved factors that are not controlled for and may be generating the results[13].

To address this problem I adopt three additional approaches. First, I estimate (1) with the inclusion of county (times party of the incumbent) fixed effects. In particular, I run the following regression:

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\begin{aligned}
V_{ct}^I \;=\; & \gamma_{c \times PI} + \theta_{t \times PI} + \beta_{h^I} h_{st}^I + \beta_{h^O} h_{st}^O \\
& + \beta_{in \times h^I} \left(in_c \times h_{st}^I \right) + \beta_{in \times h^O} \left(in_c \times h_{st}^O \right) + \beta_X' X_{cst} + \varepsilon_{sct}.
\end{aligned}
\tag{2}
$$

In (2), $\gamma_{c \times PI}$ denotes a full set of county-times-party fixed effects. Again, the motivation to interact the partisanship of the incumbent with the county fixed effects comes from having, more than "pro-incumbent" counties, "heavily democratic" counties and "heavily republican" counties. In other words, the incumbent party times county fixed effects capture the underlying partisanship (normal vote) in each county.

While estimation of (2) comes at the cost of not estimating the direct effect of in-state status on the incumbent vote share, any time-invariant characteristic of the counties that could potentially be generating a spurious relationship is controlled for. Indeed, such specifi-

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[13]In the context of their examination of the incumbency advantage, in order to assuage these concerns Ansolabehere et al. (2006) match the counties with out-of-state media markets with counties with in-state media on several dimensions and estimate the size of the incumbency advantage using only the matched counties. This solution may be preferable in that it relaxes some of the assumptions of the basic regression alternative with added controls, yet the concern that there are unaccounted factors which are not controlled for remains.

cation relies solely on variation in the Herfindahl indices across time within the same county to estimate the coefficient of interest. This estimate asks whether in-state counties tend to punish *increases* in the Herfindahl index of the candidate more than out-of-state counties.

Equation (2) is therefore a much more demanding specification. However, one may still be concerned that the two sets of counties have distinct trends. If so, the response of an increase in the Herfindahl index in-state relative to out-of-state may reflect such a differential trend rather than the effect of media. Thus, as a second potential solution I look for a set of in-state counties that are more comparable to out-of-state counties. To do this, I focus on in-state counties that are geographically contiguous to out-of-state counties. After demonstrating that these counties are indeed more alike out-of-state counties along a number of dimensions, I estimate (2) using solely these observations.

A third relevant robustness check comes from a placebo test designed to verify whether the movement from in-state toward out-of-state captures a general geographic trend in response to concentrated contributions that is unrelated with media exposure. In particular, I define the contiguous, in-state counties to be the (placebo) out-of-state counties, and compare them to adjacent in-state counties. Since these sets of counties are both in-state, there should be no correlation between increases in concentration and moving across these categories of counties (i.e., the estimated $\beta_{in \times h^I}$ and $\beta_{in \times h^O}$ should be close to zero).

These robustness checks serve to rule out several potential sources of bias. Note that the variation to estimate the main coefficients of interest comes from changes across time in the Herfindahl index of the incumbent and his opponent. Thus, while it is still possible that omitted variables bias the results, these would have to come from time-varying changes (e.g., a change in candidate quality through time as opposed to a relatively fixed quality trait of the candidate) that are correlated with changes in the campaign concentration indices. Also, some of the additional robustness checks on the main results to be presented below, such as controlling for a differential impact of total campaign funds across categories of counties, may help alleviate this kind of concern.

2.2   Data

The sources and definitions of all variables are presented in the Data Appendix. Here, I discuss details concerning the information on media exposure and on campaign contributions, the two most important aspects of the analysis.

I focus my analysis in the period 1980-2002. The choice of this period is based partly

on data availability and partly on convenience. Campaign finance data from the Federal Elections Commission (FEC), while available somewhat earlier, is most comparable and believed to be of best quality since around 1980. The year 2002 is a natural time to stop, since after 2002 changes in Federal regulation are believed to have impacted the way campaign funds are raised.

Media exposure

Following Ansolabehere et al. (2006), I use the Areas of Dominance Influence (ADI's), constructed by Arbitron, to define media markets. ADI's define each television market exclusive of the others, based on the geographic distribution of television viewers. Importantly, every county is allocated exclusively to one ADI, and each market's ADI is the set of counties in which the home market stations receive a preponderance of viewing[14]. A simple example with the Denver-CO and Lincoln-NE ADI's is depicted in Figure 1. As seen in the figure, a few counties in Wyoming and Nebraska are in the Denver-CO ADI, but since most counties of the Denver-CO ADI lie in Colorado, this is a Colorado-centered media market. Hence, such counties in Wyoming and Nebraska likely receive information about Colorado politics, instead of their own states. For example, a Nebraska county of this type will have less political information about Nebraska state politics than the counties in the Area of Dominance Influence of the Lincoln-NE market shown in the figure, a media market largely comprised of Nebraska counties and thus centered in Nebraska.

I also follow the authors in defining the dominant state of a media market to be the state that has at least $x\%$ ($x \geq 50$) of the population of that media market. Likewise, a county is in a media market that is out-of-state dominated if the state the county is in has less than $(100 - x)\%$ of the population of the media market. Taking population into account in this way is of course crucial as these are presumably the viewers that advertisers, politicians, and broadcasters are attempting to reach. When $x = 50$, every county can be classified as being in- or out-of-state, but such choice may imply the inclusion of counties in media markets not clearly dominated by any state. A large x, on the other hand, may exclude too many counties. As in Ansolabehere et al. (2006) I use two-thirds ($x = 66$) as as the benchmark threshold, and verify the robustness of my results to other values of x.

A second important issue is that the boundaries of television markets change over time, as new media markets are created, and old ones cease to exist by splintering or slow absorption

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[14]These market definitions are from Broadcast and Cable (1980, 1990, 2000) and were kindly provided by James Snyder.

into other media markets. Moreover, as noted above, I only have definitions of media markets once per decade. Hence, in the basic analysis, I include counties that were dominated by the same state throughout the period[15].

A final sample filter considered by Ansolabehere et al. (2006) concerns "overwhelmed" states. In these states, only a small percentage of the population lives in a media market that is dominated in state. Politicians and news broadcasts probably do not neglect a large percentage of voters in this case. For this reason, I drop all counties in states where less than two-thirds of the population live in in-state dominated media markets.

Campaign contributions

Campaign contributions by special interest groups have been regulated at least since corporate contributions to parties and candidates were banned by Congress in 1911. This prohibition was later extended to labor unions and trade associations. These rules were weakly enforced and by the early 1970s many unions and organizations had formed Political Action Committees (PACs) to collect contributions for candidates without violating the law. In 1974, the Federal Election Campaign Act (FECA) sanctioned this practice, mandating the disclosure of contributions to the FEC.

Ansolabehere et al. (2003) summarize the main features of this campaign finance regulation. The FECA recognizes two main types of campaign organizations: candidate campaign committees and party committees; and two main sources of funds: individuals and interest groups[16].

Under the Act, organizations wishing to contribute to federal candidates and parties must create PACs (the FECA refers to them as "separate and segregated funds"[17]). Moreover, organizations may not give money directly to the PAC for the purpose of contributing to a federal campaign. The organization, however, as the sponsor of the PAC (i.e., its "connected organization"), may absorb all the costs of establishing and operating the committee and soliciting contributions to it from individuals.

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[15] I verified the robustness to the inclusion of all counties and found similar results.

[16] Other sources of funds and campaigning are also allowed but are relatively unimportant in practice. Parties and candidates may also give to each other, and individuals and groups can raise their own money and run their own advocacy or independent campaigns on behalf of or against individual candidates.

[17] The press and public refer to all nonparty, noncandidate committees as PACs or political action committees. However, the Act and Commission Regulations distinguish between two types of PACs: separate segregated funds described above and nonconnected political committees (or nonconnected PACs). A nonconnected political committee must pay for its own administrative expenses, using the contributions it raises. If an organization spends funds to establish or support a nonconnected PAC, these expenditures are considered contributions to the PAC and are subject to the dollar limits and other requirements of the Act.

Also, individuals, PACs, and party committees are subject to contribution limits. The constraints on PAC contributions are typically not binding. Ansolabehere et al. (2003) note that only 4 percent of all PAC contributions to House and Senate candidates are at or near the $10,000 limit[18], and the average PAC contribution is much smaller ($1,700 in their sample). The Act also limited candidate and group campaign expenditures, but in 1976 the Supreme Court struck down spending limits as a violation of free speech in Buckley v. Valeo[19].

As Ansolabehere et al. (2003) note, two loopholes in the FECA constraints have received criticism. The first, created by the Buckley v. Valeo court decision, is that individuals, groups, and corporations are permitted to spend unlimited amounts of "independent expenditures" on behalf of or against a candidate, as long as they are not coordinated with the candidate or party campaigns. The second, created by a series of FEC rulings in 1978 and 1979, created a distinction between "hard money" and "soft money," making spending limits applicable to the former. "Soft money," raised through national party organizations for non-federal accounts, may be spent on non-federal election activities. Individuals and groups may give unlimited amounts to non-federal party funds for the purpose of party building activities. Such funds, conceived to strengthen party organizations in the individual states, have in practice been used by the national party organizations to raise money. Although unlimited in amount, independent expenditures and soft party donations must still be publicly disclosed[20]. A third loophole allows legislators to set up "leadership PACs" which allow donors to give up to $10,000 to a candidate, but such funds cannot be used on that candidate's campaigns.

The data on PAC contributions from the FEC provides itemized contributions containing each contribution or independent expenditure made by a PAC, party committee, candidate committee, or other federal committee to a candidate during each two-year election cycle. Types of expenditures range from independent expenditures for and against candidates, coordinated expenditures, financial contributions to candidates, and in-kind contributions. For each interest-group PAC, I aggregate all financial contributions (24K), and in-kind contribution made to candidates (24Z). The most important component are 24K's. In my analysis, I

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[18]This refers to the pre-2002 limit, relevant to my analysis. On Nov 2002, the Bipartisan Campaign Reform Act increased the contribution limits. See http://www.opensecrets.org/overview/limits.php for an overview of the changes.

[19]An exception is presidential spending limits, which survived because they are voluntary: any candidate who wishes to receive federal funding must abide by the limits.

[20]In 2002, amendments to the FECA by the Bipartisan Campaign Reform Act placed restrictions on soft money but raised the limits on hard money party contributions.

exclude independent expenditures for candidates (24E), because a candidate can more easily distance himself from such contributions (as noted, by law these contributions should not be coordinated with the candidate).

Classifying contributions

The FEC provides a very rough five-fold categorization of PAC contribution data by industry: corporation, labor organization, membership organization, trade association, cooperative, and corporation without capital stock. These are categories of the sponsoring (or connected) organization for the committee, provided on the statement of organization[21]. Since these categories are too broad, I rely on the Center for Responsive Politics (CRP) classification system to identify the interest group of each PAC.

The CRP coding system is hierarchical, with five super-categories (Business, Labor, Ideological/Single-Issue, Other and Unknown) divided into 13 "sectors," about 100 "industries," and about 400 categories. The CRP has been classifying PACs since 1990, whereas I study campaign contributions and election results since 1980. To classify PAC contribution money before 1990, I proceed in two steps. First, I check whether the pre-1990 contributing PAC survives after 1990. If so, I assign the sector allocated by CRP to the respective PAC to the earlier period. Next, for the set of unmatched PACs, I follow the guidelines for PAC classification from the CRP[22] to identify the committee's interest group. As shown in greater detail in the Data Appendix, the first step allows me to classify more than 90% of the pre-1990 contributions (and a larger share of the contribution money). With the additional classification, over 95% of the contributions were typically matched.

The CRP classification system is likely to match the public's perception of the interest group behind contributions, not just because it is based on the PAC names and sponsors (the information easily visible to voters) but also because the general objective of the system and the Center is precisely to monitor money in politics and inform citizens about this.

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[21] These categories apply for the two kinds of committees studied in this paper: non-party, non-qualified committees and qualified non-party committees. The first are separate segregated funds and nonconnected committees that have not qualified as multi-candidate committees, and may currently contribute up to $1,000 per candidate per election. Qualified non-party committess instead qualify as multi-candidate committees (to this end, they must be registered for 6 months, have received contributions from more than 50 people, and made contributions to at least 5 federal candidates) and may currently contribute up to $5,000 per candidate per election.

[22] http://www.opensecrets.org/action/ftm/index.php

2.3 Descriptive Statistics

Table 1 presents descriptive statistics for the main variables of the analysis. The incumbent share of the two-party vote is 58% on average (uncontested elections and open seats are not included). The maximum for this variable is 92%. In a few cases incumbents receive a very low vote share (the minimum in the sample is 12.6%), but in most of the cases, the incumbent receives a majority of the vote (the median, not shown in the table, is 57.8%, and in just about one-fourth of the county-years the incumbent receives less than half the votes).

There are a total of 180 Senate races in the base sample, in which almost exactly half (89) of the incumbents are Democrats. At the PAC level, the average Herfindahl index of campaign contributions is about 0.02 (with standard deviation of 0.089) for the incumbents in these races, and much larger (0.15, standard deviation 0.24) for challengers. A similar pattern is observed at the industry level, where the contrast is between an average of 0.06 for incumbents (with a standard deviation of 0.11) and 0.23 for challengers (with a standard deviation of 0.23). Incumbents raise much more money (on average around $5 million, in 2, 000 constant prices) than their challengers (around $3 million on average). Of this money, a relatively small percentage comes from special interests. Over the period, PAC money added on average $1 million for incumbents and about $300, 000 for challengers per election cycle. There is substantial variation both for incumbents and challengers in the money raised and the extent of its concentration.

The base sample includes 1, 759 US counties, 86% of which are in-state. When restricting attention to out-of-state and in-state and contiguous counties, the sample is reduced to 542 counties, with roughly one-half classified as in-state (56%).

3 Main results

3.1 Main results for the full sample of counties

I begin by estimating (1) for the sample of US Senate candidates in the period 1980-2002. The results are shown in Table 2. As noted before, all standard errors in the paper are fully robust against heteroskedasticity and serial correlation at the county level. Also, all regressions include a full set of year (times party of the incumbent) fixed effects, which are not presented in the tables to save space.

In columns 1-5, the Herfindahl indices are constructed at the PAC level. This is a useful reference point. These indices rely solely on the extent to which contributions come mostly

in the form of large contributions from relatively few PACs, and thus do not depend on the exact choice for classifying PACs by industry[23].

Column 1 estimates (1) without any additional controls. The coefficient (0.171) on h_{st}^I is positive and significant. This result indicates that in out-of-state counties, an increase in the incumbent's Herfindahl index is correlated with a higher vote share for the incumbent. The estimated coefficient implies that an incumbent with a one-standard deviation higher Herfindahl index than the average in the sample (a rise in the index in 0.09, see Table 1) will have an advantage of 1.5 additional percentage points over his opponent in these counties. The coefficient for h_{st}^O, though also positive and significant, is much smaller (0.078) and is not robust to the inclusion of controls in the remaining columns. More important are the results for the interaction coefficients, $\beta_{in \times h^I}$ and $\beta_{in \times h^O}$. Column 1 estimates $\beta_{in \times h^I} = -0.171$, indicating that the positive correlation between the Herfindahl for the incumbent and the incumbent vote share vanishes for in-state counties. The degree of concentration of the opponent does not seem to affect the incumbent vote share differentially across media markets, as the point estimate for $\beta_{in \times h^O}$, though positive, is small and statistically insignificant. As mentioned before, that results are present only for the incumbents is reasonable given the well-established fact that incumbents receive more media coverage than their opponents.

Columns 2-5 examine the robustness of the previous results to the inclusion of several additional controls. Concerns include whether the patterns of concentration of campaign contributions merely mirror the pattern of concentration of economic activity in each state at time t, and whether a change in such degree of concentration may affect the incumbent vote share for reasons unrelated to the candidate's potential link to interest groups. For such a story to drive the results the effect would need to differ across the two types of counties, which is not obvious. Still, to guard against this possibility, in column 2 I include a measure of the degree of concentration of economic activity in state s at time t (the Herfindahl index of Gross State Product at the sectoral level) as well as its interaction with the in-state dummy. These variables are significant, but the main coefficient of interest $\left(\beta_{in \times h^I}\right)$ is still negative and statistically significant and, moreover, the point estimate is remarkably stable (-0.168).

A more serious concern may be that the results are driven by other characteristics of a candidate's campaign contribution patterns. For instance, candidates with different Herfind-

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[23]A second reason why this benchmark is useful is the fact that, prior to 1990, the sector of a few PACs in the dataset could not be established. As noted in the Data Appendix, this is not a major problem as the success in classifying PAC contributions was quite high. Still, the PAC-level Herfindahl verifies that results are not driven from differential success in classifying PACs for different candidates or years.

ahl indices could also be candidates who receive and spend different sums of money in their campaigns. Moreover, since candidates are subject to contribution limits, there may be a mechanical negative relationship between the amount of money raised and the Herfindahl index, as raising more money may necessarily imply raising money from a larger number of PACs (see, however, Ansolabehere et al. (2003) who show that individual donors grow in importance relative to PAC money as demand for campaign cash increases). Thus, in Column 3 I include the total campaign receipts by the incumbent and his opponent, as well as the total campaign receipts from interest-group PACs, as additional controls. The estimated value of $\beta_{in \times h^I}$ decreases slightly in absolute value (-0.150), remaining significant at more than 99% confidence level. Also, once other campaign contributions patterns are taken into account, $\beta_{in \times h^O}$ is estimated to be significantly positive. This lines up with my hypothesis, though the estimated coefficient is still quite small, 0.033.

Column 4 controls for a number of time-varying county characteristics. These include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, and percent with 12 or more years of education (among people with 25 or more years of age). This column also includes state income growth as a control, since voters tend to punish incumbent senators when growth is poor (Levitt and Snyder, 1997). Again, the estimated coefficient for $\beta_{in \times h^I}$ is remarkably stable $(-0.150$ with a standard error of $0.02)$, assuaging concerns that results are driven by other differences between the two types of counties.

While column 4 includes county characteristics, interacting each of these controls by the party of the incumbent allows us to account for potentially different effects of demographic and social characteristics on either party. Also, it may be important to interact the campaign finance controls with the in-state dummy to make sure that the significant interaction of the Herfindahl is not capturing a potentially differential effect of such variables.

This last exercise is especially useful to rule out a number of plausible alternative mechanisms driving the results. For instance, candidates with concentrated patterns of campaign contributions could have different abilities to raise campaign funds (overall, or from connected PACs). Since campaign funds are used for advertising, this could affect candidates' support in-state relative to out-of-state. On the one hand, more advertising funds could imply more exposure in in-state TV markets, and hence a greater difference in candidate support across the two types of counties. Or, alternatively, more funds could allow candidates to reach to out-of-state voters, reducing such difference.

Whatever the correlation, failure to account for it may bias the results. For similar reasons, changes in candidate "quality" (be it objective performance characteristics of the candidate or other traits such as "charisma") may affect the candidate's electoral performance across different counties. While such a variable is hard to measure, total campaign receipts may be thought of as a crude proxy.

For these reasons, column 5 adds, as additional controls, the interaction of each county control with a dummy for the party of the incumbent as well as the interaction of each of the campaign finance variables with the in-state dummy. While the point estimate for $\beta_{in \times h^I}$ decreases in magnitude (from -0.154 to -0.129), it is still highly significant (the standard error is 0.021).

In columns 6-10, I run similar specifications as in columns 1-5, but with the Herfindahl index calculated at the industry level. While columns 1-5 have the advantage of not depending on any sort of classification, this exercise is also informative. In principle, a candidate may have a highly dispersed pattern of contributions across PACs within a single industry, but in this case it would be desirable to interpret his pattern of contributions as suggestive of a close link with the respective industry. As it turns out, results in columns 6-10 are very similar to those in columns 1-5. Most importantly, the coefficient on $\beta_{in \times h^I}$ is still negative, highly significative, and the magnitude of the effect implied by the estimated coefficient is similar.

In sum, the results in Table 2 are largely in line with the hypothesis that voters with better access to information punish a more concentrated pattern of campaign contributions is punished. However, as discussed in Section 2.1, a more convincing strategy to control for potential differences in unobservable characteristics across counties and capture the underlying partisanship (normal vote) in each county, includes a full set of county-party fixed effects as in (2). The results are presented in Table 3, which has the same structure as Table 2. Again, the main interaction coefficient $\beta_{in \times h^I}$ is negative and significant at more than 99% confidence level. The result is robust to the definition of the Herfindahl, and to the inclusion of controls in columns 2-5 and 6-10. The coefficient is again remarkably stable across specifications, though the estimated effect is smaller than with state times incumbent-party fixed effects alone (the point estimate ranges from about -0.05 to -0.10 in Table 2, compared to about -0.14 to -0.17 in Table 3). This estimated value $\beta_{in \times h^I}$ indicates that an increase in concentration leads to lower vote shares in-state relative to out-of-state, though the effect is quantitatively small (about a half of a percentage point for a one-standard increase in the concentration indices). The coefficient on the incumbent's Herfindahl in the most demanding

specifications with full controls is also reduced, both relative to columns without controls and to Table 2.

3.2   Examining neighboring counties

The regressions from Table 3 rely solely on variation in the Herfindahl indices across time within the same county to estimate the coefficient of interest. Those specifications ask whether in-state counties tend to punish increases in the Herfindahl index of the candidate more than out-of-state counties. This is a demanding specification which controls for any time-invariant characteristics of counties, but the response of an increase in the Herfindahl index in-state relative to out-of-state may still reflect differential trends across counties rather than the effect of media.

This subsection investigates the possibility. First, I focus on in-state counties that are geographically contiguous to out-of-state counties. Table 4 demonstrates that these counties are similar to out-of-state counties along a number of dimensions. This table runs regressions of the following form:

$$y_{cst} = \gamma_s + \theta_t + \delta_{in} in_c + \varepsilon_{cst},$$

where γ_s and θ_t are state and year fixed effects, and y_{cst} varies per column and is one of several observable county characteristics, namely: real per capita income (in $2,000$ $US\$$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, and percent with 12 or more years of education (among people with 25 or more years of age).

In Panel A, in_c is simply the in-state dummy defined before (equals 1 if the state the county is in has more than two-thirds of the population of that media market, and zero if it has less than one-third). Thus, δ_{in} measures the average difference in observable characteristics for in-state and out-of-state counties after controlling for fixed state and overall time trends. In-state counties have: about $\$1,700$ higher per capita income than out of state counties (column 1); about twice as many people and about 22 more individuals per square mile (columns 2 and 3); a higher proportion of young (under 18), black, and urban population, and a smaller proportion of people over 65 (columns 4-8); and a higher proportion of people with 12 or more years of schooling (column 9).

In contrast, in Panel B in_c equals 1 if it satisfies the same conditions as in Panel A *and* the in-state county borders an out-of-state county in the same state. These contiguous in-state counties are much more comparable to the set of out-of-state counties. In all cases, the

estimated coefficients that were previously significant fall in absolute terms. Moreover, the two sets of counties are not found to be significantly different in terms of population density, or any of the basic dimensions of population structure (age, gender, race, or urban-rural). However, three estimated coefficients are still significant. While the differences are smaller than in Panel A, in-state and contiguous counties are significantly richer, more populous, and slightly better educated than neighboring in-state counties.

Table 5 focuses on this set of more comparable counties, running specifications as in Table 3. The results are similar to the ones obtained for the full sample of counties. With either Herfindahl measure (at the PAC or industry level) and with or without controls, the estimated absolute value of $\beta_{in \times h^I}$ decreases slightly. Without controls, it is still close to -0.08 with a standard error of about 0.02. The inclusion of the set of controls further decreases the point estimate to around -0.5. The statistical significance also falls, though even in columns 4 and 9, with a full set of county and campaign finance controls, the hypothesis that the interaction term is zero is rejected at conventional significance levels. Only columns 5 and 10, where (i) county controls are interacted with the incumbent's party dummy and (ii) campaign finance controls are interacted with the in-state dummy, have marginally significant coefficients on the interaction term. Note, however, that even in this case, the point estimate is similar in magnitude (-0.04) to the previous estimates. Also, the increase in standard errors is not surprising given the simultaneous inclusion of various campaign finance variables in the regression.

3.3   A placebo test

Table 5 shows that the negative impact of increased campaign concentration in counties with better access to information relative to those with less information holds for a restricted set of more comparable in-state and out-of-state counties. Such evidence suggests that the previous results were not driven by differential trends across counties rather than the effect of media. However, it is possible to further investigate this possibility by running a simple placebo test.

In Table 6, I define the contiguous, in-state counties to be the (placebo) out-of-state counties, comparing them to adjacent in-state counties in the same state. Since these sets of counties are in-state with good access to information, there should be no correlation between increases in concentration and moving across county categories (i.e., the estimated $\beta_{in \times h^I}$ and $\beta_{in \times h^O}$ should be close to zero). However, if the previous results were driven by a general

geographic trend as one moves from in-state towards out-of-state captures, these coefficients could be significant, raising concerns about the validity of the preceding results. Results from Table 6 reassure previous results. Unlike Tables 2, 3 and 5, the interaction coefficient $\beta_{in \times h^I}$ (and $\beta_{in \times h^O}$) is not statistically significant in any of the specifications (the structure of the table is the same as before). Moreover, the point estimate is very small in all columns suggesting this is a precisely measured "non-effect" rather than an uncertain potential effect.

3.4 Share of connected-PACs money

The evidence presented thus far suggests that voters dislike concentrated special interest money. But is it the case that voters dislike special interest money in general, concentrated or otherwise? Table 7 suggests not. This table presents similar regressions to the ones presented before, where the share of connected PAC money is used (in place of Herfindahl indices of concentration), as a "proxy" for capture of politicians by interest groups.

In the table, we see that the share of connected PAC money of the incumbent and the opponent are not robustly correlated with different vote share patterns across media markets. In the case of the incumbent, the estimated interaction term is close to zero and not statistically significant with either the full sample of counties (and including state times party fixed effects as in columns 1 and 2 or county times party fixed effects as in columns 3 and 4), or with the set of contiguous counties only (and county times party fixed effects as in columns 5 and 6).

These results are consistent with idea that voters view PAC money as buying influence. More specifically, it is in line with the view that a high share of PAC-money is not necessarily bad for the incumbent's vote share because, if this money is dispersed in many sectors, his agenda cannot be captured by any one of them. Results in the previous subsections suggest that it is PAC money concentrated in a few sectors what may indicate capture.

3.5 Automated news searches

A valid concern with results presented thus far is whether the suggested mechanism demands an unrealistic degree of knowledge on the part of voters. However, even if individuals do not know the approximate pattern of campaign contributions, a candidate with a more concentrated pattern of contributions is prone to being pinpointed by journalists or his opponent as potentially "captured." The presumption is that such a candidate is likely to figure in ads and news as linked to the economic sectors that heavily contribute to his

campaign.

An additional important issue is whether campaign finance concentration captures some other omitted candidate characteristics which differentially affect their performance across counties (e.g. whether candidates with higher Herfindahls are more "popular" or charismatic). As noted above, other campaign finance controls such as total campaign receipts may be thought of as a crude proxy for this, and I have demonstrated the robustness of the results to the inclusion of such controls. However, in this section, I present an additional simple exercise to help address these two issues.

In particular, I conduct automated news searches for a sample of US newspapers verifying how often are Senate candidates featured in the news. To this end, I search for back issues of a sample of US newspapers available on NewsLibrary.com. Overall, the search is for 139 newspapers across the US. The major limitation of this exercise is that only a few newspapers have online archives going back to the 1980s (in fact, only one, *The Boston Globe* goes back to 1982). Appendix Table 3 shows the number of states in the sample, per year, for which I can find one or more newspapers on which to conduct news searches.

For each candidate, I conduct two searches. In the first one, I look for stories about the candidate during the campaign period (which I define to be the two months leading up to the election). The search is limited to newspapers within the candidates' state, and allow for various possible variations in the usage of the candidates' first name, middle name (or initial), last names, and nicknames. Any news story containing the candidate's name and the words "senate" or "senator" is counted as one hit that adds to the candidate's "total stories." The second search demands stories to meet the prior criteria and, in addition, that the words "PAC" and "money" feature in the story[24]. This subset of stories are the candidate's "PAC stories." The main interest is to examine whether the proportion of PAC stories for each candidate is positively correlated with the candidate's concentration indices[25].

Table 8 reports the results. Column 1 reports the results of a regression for each candidate's Herfindahl index (at the PAC level) on the ratio of PAC stories to total stories, controlling for year fixed effects, an incumbent dummy, and a Democratic dummy. The ratio of PAC stories is positively and very significantly correlated with the concentration index

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[24]I experimented with other keywords to find the number of stories concerning campaign money, including "contributions," "campaign finance," and "interest groups," among others. However, an examination of the resulting stories suggested that the selected alternative both included the major stories about interest group money and (unlike other keywords) did not include as many unrelated stories.

[25]Appendix Table 3 gives summary statistics for the number of total stories, stories about PACs, and the ratio.

(the point estimate, 0.993, has a robust standard error of 0.161). In column 2, instead, the total number of stories is used as the main independent variable of interest (again, year fixed effects and partisan and incumbency dummies are included). Also interesting, this regression shows no significant correlation between the total number of stories and the concentration index. The same conclusion emerges in column 3, where the proportion of PAC stories and the total number of stories are included simultaneously in the regression. A similar picture emerges in columns 4-6, which repeat the specifications in columns 1-3 but use the concentration index at the industry level as the dependent variable. The only difference is that there is now a small (and marginally significant) negative correlation between total stories and the concentration index.

These results are very reassuring about the validity of the approach. In particular, the positive and significant correlation between the share of PAC stories for a candidate and the candidate's Herfindahl concentration index suggests that the concentration indices do proxy for media exposure of campaign contribution profiles. And the weak correlation between the candidates' Herfindahl and his total number of stories suggests the former is not capturing differences in candidate charisma or popularity. Along these lines, columns 7-9 in Table 8 present a final set of regressions like those in columns 1-3, but where the dependent variable is total PAC contributions to the candidate. While this is positively correlated with total stories about a candidate, it is uncorrelated with the share of PAC stories.

In short, these results lend further credibility to the validity of using the concentration indices as a proxy for capture. To provide further support for the main conclusions, I now present additional results that highlight the key role of information and the robustness of the main results.

4 Other results: turnout and information spillovers

4.1 Turnout

Theory and evidence suggest that better information increases turnout[26]. Since the suggested mechanism, whereby concentration of PAC money affects incumbent's vote shares, is information, a useful question to ask is whether turnout is higher in-state than out-of-state.

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[26]For a review of some theoretical arguments, see Feddersen (2004) and in particular Feddersen and Pesendorfer (1996); Fedderson and Pesendorfer (1999). Some of the empirical evidence was discussed in the Introduction (see also Prat and Strömberg's (2010) review).

I explore this question in Table 9. Columns 1 to 3 compare all in-state counties to out-of-state counties. The columns present regressions of the ratio of total votes to population in each county on the baseline dummy variable that equals 1 for in-state counties. Perhaps surprisingly, columns 1 (with state and year fixed effects) and 2 (with state-times-party and year-times-party fixed effects) find no significant effect of being in-state on turnout. However, recall that in-state counties are much more populous, which mechanically reduces the dependent variable by increasing the denominator. After controlling for population on the right hand side (as in column 3), in-state counties do have a turnout around 1.5 percentage points higher than out-of-state counties. This suggests population "grows faster" than turnout and is suggestive of the role of the better information in in-state counties.

Perhaps more convincingly, columns 4 to 6, which replicate the regressions of columns 1 to 3 but for contiguous counties only, show that irrespective of controlling for total population, in-state counties do have larger turnout than their otherwise relatively similar out-of-state neighbors. The coefficient is quite stable and implies a 1.7 to 2 percentage point higher turnout in in-state counties. While we have seen that these sets of contiguous counties are quite similar, differences remain that could explain this differential behavior of turnout and be unrelated with information. For this reason, columns 7 to 9 present a regression of the dependent variable on the placebo out-of-state counties versus their neighbors as before. In this case, I find no significant effects, confirming the hypothesis that the differences in turnout found in columns 3-6 are driven by information and not by other differences from moving towards out-of-state counties.

At first glance, these result may seem to contradict some studies (e.g. Gentzkow (2006)) that find a negative impact of television on turnout, unlike the positive impact of radio or newspapers discussed in the Introduction. The erosion of social capital and the crowding out of other media with better political coverage have been suggested as possible mechanisms for this effect. Notice, however, that the results presented above are not necessarily inconsistent with such finding. The variation between in-state and out-of-state counties is not determined by the availability of TV, but the relevance of its content for voters. On the contrary, given the well-established connection between information and turnout, these results further confirm that moving to out-of-state counties affects information relevant for voters.

But is the main channel for the earlier results concerning incumbent vote share that news about "captured" politicians discourages voters in-state relative to out-of-state? We can investigate this question by running the main specification with turnout, rather than vote share for the incumbent, as the dependent variable. This is done in Table 10. As is

clear from the table, an increased Herfindahl for the incumbent does not seem to reduce turnout differentially in-state relative to out-of-state. This is suggestive that turnout is not the main or sole channel. Moreover, by looking at the non-interacted effect of the incumbent concentration index, we see that "high Herfindahl" years do not seem systematically correlated with turnout, suggesting that effects presented for the vote share of the incumbent do not mechanically follow from differences in turnout when the Herfindahl is high.

4.2   Spillovers

The results presented thus far, by revealing the electoral cost that "captured" politicians face with better-informed voters, open up the discussion about whether the concentration of campaign finance money for Senate candidates has negative spillovers for fellow party members running for other offices. I examine this question in Table 11[27]. In columns 1 and 2, I present results for the main specification but with vote share for the presidential candidate of the same party as the incumbent senator functioning as the dependent variable. The standard concentration measures (and campaign finance controls), however, are for the Senate candidates. If there are significant spillovers, the coefficient on the interaction of the Herfindahl index for the incumbent senator and the in-state dummy should be negative (and that on the interaction of the index for the opponent senator and the dummy, positive). Indeed, this would be an indication that in years where, for example, the Democratic senator has a relatively high Herfindahl, the Democratic presidential candidate does worse in in-state counties relative to out-of-state counties. Column 1 presents the results for the PAC-level Herfindahl index. None of the interaction terms is significantly different from zero. A similar result is obtained in the case of the industry-level Herfindahl in column 2.

A similar exercise can be accomplished with the vote share for the House candidate of the same party as the incumbent as the dependent variable[28]. The results are reported in columns 3 and 4 for the PAC-level and industry-level concentration measures, respectively. Though imprecisely estimated (the standard error is 0.315), the negative coefficient of column 3 (-0.594) suggests the presence of spillover effects. That is, a "tainted" senator affects fellow

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[27]All regressions in this table focus on the set of contiguous counties, include a full set of county times party and year times party fixed effects, as well as the campaign finance controls, county controls, and state Herfindahl controls described above.

[28]In this case, since voting and other data is at the county-level, a decision must be taken regarding the treatment of counties with multiple congressional districts. Results presented in Table 11 simply add the votes for all the Democratic and Republican candidates running for Congress in a county to find the Democratic and Republican vote share per county. I verified that results are similar when restricting to counties with no more than one congressional district.

congressmen. However, upon further examination, this does not seem to be the case. First, column 4 for the industry-level Herfindahl estimates an almost identical coefficient, yet it is not statistically significant. Second, and more importantly, columns 5 and 6 control for the House candidates' campaign contributions concentration measures, and their interaction with the in-state dummy. Indeed, it could be that the significant negative interaction in column 3 is in fact driven by correlation between the House and Senate candidates contribution patterns within the same county and year. After all, Senate and Congress candidates of the same party and state may have similar campaign finance profiles. The results suggest this because the coefficients on the interaction terms with the Senate candidates' Herfindahls are now smaller and statistically indistinguishable from zero.

While indicative of the absence of important spillover effects, results from Table 11 at the same time reassure that the results presented before are not driven by partisan trends. Indeed, a potentially serious objection to the models estimated thus far is that partisanship moves in different directions in different counties across different years. Unfortunately, I cannot control for a full set of county-year fixed effects, since the variation I use to estimate the key interaction terms is at this level. However, the President and House regressions just examined can be considered placebo regressions to rule out this interpretation. If important partisan trends were driving the results, observed effects for the vote share of the incumbent should be mirrored in specifications with the vote share of fellow party members as a dependent variable instead. They do not, and this gives further credibility to the results of Section 3.

Information spillovers, however, may take several other forms than simply the "contagion" of representatives from the same party and state. Specifically, out-of-state counties are exposed relatively more to neighboring states' political information. Thus, there may be partisan spillovers from neighboring states. Imagine an out-of-state county c of state s sitting in a media market dominated by neighboring state s'. There are at least two questions that seem worth asking. First, to examine the hypothesis that voters in these out-of-state counties are on average "misinformed" voters who must rely on a partisan cue, one could ask: do voters in county c punish the candidate of party P in state s when the Herfindahl of the candidate for party P in neighboring state s' rises? Second, a different hypothesis suggests that out-of-state voters are not misinformed, but are better informed on average because they get information about both states, s and s'. Hence, they may rely on comparisons, and, for instance, it is possible to examine if voters in c punish the candidate of party P in state s if the Herfindahl of party P in state s is larger than that in state s'.

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I examine both questions in Table 12. The table focuses on out-of-state counties only[29]. In line with previous results, columns 1 and 2 verify that the dependent variable, the incumbent senator's vote share, does not react to his Herfindahl index or that of his opponent in out-of-state counties. Columns 3 and 4 ask if it responds instead to the concentration indices of the neighboring states' candidates. The coefficients are again not significant, with small point estimates. Finally, columns 5 and 6 check whether it could be the difference between the incumbent's Herfindahl and the Herfindahl of his fellow party member running in a neighboring state (and similarly for the opponent) that affects voting patterns in out-of-state counties. Once again, the point estimates are close to zero and statistically insignificant.

Overall, this section suggests that partisan trends are unlikely to drive the main results of the paper. Additionally, information spillovers across members of the same party, whether in the same or neighboring states, are not first-order.

5   Further robustness checks: definition of media markets

Before concluding, I demonstrate the robustness of the main result to alternate definitions of the media market. Recall that a county is in-state if the state the county is in has more than $x\%$ of the population of that media market, and out-of-state if it has less than $(100 - x)\%$. Results reported thus far are for $x = 66$. In Table 13, I vary x. I focus on the most demanding specification with county fixed effects and a full set of controls. Panel A looks at all in-state and out-of-state counties, whereas Panel B restricts attention to the in-state and contiguous counties compared to out-of-state counties. In odd columns, the Herfindahl index is at the PAC level. In even columns, it is computed at the industry level. Finally, $x = 50$ in columns 1-2, $x = 60$ in columns 3-4, and $x = 70$ in columns 5-6. The table shows that the results do not depend on the exact threshold of population to define media markets. In all cases, $\beta_{in \times h^I}$ is negative, typically significant at more than a 99% confidence level, and the point estimate is very close in all specifications to results presented in Table 5.

An alternative approach to check the robustness of the results to the media market definition is to rely directly on the share of in-state media market population as the key, continuous, measure of availability of information in each county. More concretely, for each

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[29]Again, all regressions in this table include a full set of county times party and year times party fixed effects, as well as the campaign finance controls, county controls, and state Herfindahl controls described above.

county c in state s and media market (Area of Dominance Influence) m, define the "ratio in-state" as the ratio of the population of media market m residing in state s to the total population of market m. This variable can then be used, in place of the in state dummy, in specifications analogous to (1) and (2). The results, presented in Table 14, are in line with the ones presented previously, both for PAC-level concentration indices (Panel A) or at the industry-level (Panel B). Regardless of whether we focus on state fixed effects regressions (columns 1 and 2), county fixed regressions (columns 3 and 4), or county fixed effects regressions among the set of more comparable contiguous counties as defined by the in-state dummy (columns 5 and 6), the message is the same. An increase in the concentration of campaign contributions for the incumbent leads to a fall in his vote share in counties with media markets that have a larger proportion of their population in the county's state.

6   Final Remarks

The evidence presented in this paper supports the idea that mass media, by informing voters, may reduce the influence of special interest groups. Better access to mass media allows voters to react to negative information about their candidates, and in particular the influence of narrow interests in policy as proxied by their campaign finance profiles. For this reason (among others) the presence of a free, independent mass media is a key component of democratic political institutions.

Hence, the paper contributes to the growing evidence on the crucial role of the media in empowering voters and improving accountability. In doing so, it suggests a channel that has received relatively little attention in the empirical literature. As noted in the Introduction, there is by now a fair amount of evidence on the impact of free media on voter turnout, voter knowledge, and representative behavior and policy choices. But special interests are fundamental players in any democracy. The evidence presented here suggests that mass media may help reduce their influence. Candidates who are more likely to be connected with interest groups receive less votes on average in places where they face greater media exposure. This relation provides a direct effect on reduced interest group influence.

Admittedly, the magnitude of the effects found is relatively small, and typically would not decide the election outcome for the average incumbent. Nonetheless, there are various reasons why the estimated effect may underestimate the impact, for voters, of revealed "capture" of politicians by special interests. First, the concentration of campaign contributions to

politicians is inevitably a noisy measure of the degree of capture[30]. Second, notice that if concentrating contribution patterns likely hurt politicians, those politicians who are willing to fund their campaigns with money from a narrow set of interest groups should also possess other resources to counteract the negative signal this entails. In this sense, the estimated effects likely underestimate the impact on an "average" politician of the public disclosure of his links to special interests.

Also related, notice that the reduction in candidate vote share is only one of the channels whereby mass media may reduce special interest group influence in politics. To provide just one example, mass media disclosure of potentially undue interest group influence may, even when not affecting voter behavior, trigger or facilitate the action of other institutions, such as courts, to hold politicians accountable.

More generally, the electoral cost of concentrated campaign contributions documented in this paper, even when small, may lead to a virtuous circle encouraging candidates to distance themselves from narrow interests. In fact, that campaign contributions are able to buy policy influence in the United States is not clear according to an important line of academic research on the issue. Ansolabehere et al. (2003) argue that campaign contributions in the US are not a form of policy-buying. Rather, they are primarily a form of political participation and consumption since individuals, not special interests, are the main source of campaign contributions (and their contributions behave as a normal good, dependent upon income).

At first glance, these findings appear to be at odds with some of the premises guiding the present paper. If campaign contributions are not a form of policy buying, why do voters respond negatively to them? There are several replies to this question. First, while contributions may or may not actually buy policy (hard to establish or refute), voters may certainly believe they do (a more realistic assumption). Only this belief is necessary for the negative reaction. Second, such negative reaction to the presence or appearance or undue influence is in fact consistent with equilibrium situations in which candidates seek and obtain funds from individuals while trying to avoid support from narrow interest groups in ways that may be taken by journalists and voters as a proxy for their commitment to such interests. In other words, it can be part of the virtuous circle mentioned before.

Finally, along these lines the results obtained here are context-specific. While many

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[30]For a more recent period, a more direct measure of interest-group connectedness based on searches for news stories regarding interest group influence could provide a more precise measure and allow a reexamination of the magnitude of the effects. Still, the results presented in this paper are interesting in their own right, as they allow us to study the ways in which campaign contribution patterns directly and indirectly transmit information to voters.

studies have documented the bias in political news in the US, the extent of misinformation and bias in many other countries in the world is a far more serious problem[31]. In such contexts, it is not clear that greater access to mass media will enable voters at large to put a check on potentially undue influence from narrow interest groups. In other words, the power of the media is a double-edged sword. By improving information and electoral response, it may improve accountability. It may also reduce corruption (Brunetti and Weder, 2003), and perhaps aid in democratic consolidation (Andriantsoa et al., 2005), and development (Djankov and McLiesh, 2002). On the other hand, the media is in many ways a special interest group itself or may collude with interest groups (Corneo, 2006). If too powerful, the media could sway policies in its favor at the expense of other groups in society[32].

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[31]In 2009, for instance, the US ranked 20 (of 175) on the Press Freedom Index published yearly by Reporters Without Borders.

[32]The negative consequences of media influence have been studied by many. By making some issues more salient than others, mass media may distract the public from pressing needs (Eisensee and Strömberg, 2007). More generally, media content may be biased, and such bias may persist over time as well as influence electoral behavior (Groseclose and Milyo, 2005; Puglisi, 2006; Baron, 2006; DellaVigna and Kaplan, 2007; Gentzkow and Shapiro, 2004, 2006, 2008, 2010). Even more detrimental, with media capture by the government or other powerful actors, checks and balances may be dismantled rather than strengthened (McMillan and Zoido, 2002; Besley and Prat, 2006; Petrova, 2008; Durante and Knight, 2009), and when used for propaganda can even exacerbate violence (Yanagizawa, 2010). Finally, there is also evidence that mass media may destroy social capital (Olken, 2009).

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A   Data Appendix

A.1   Variable Sources and Definitions

See Appendix Table 1 for the sources and definitions of the variables used in the analysis.

A.2   Campaign finance data industry sector classification

As noted in the main text, to classify the PAC contributions in industry categories, I follow the Center for Responsive Politics' coding system. This is a hierarchical system, with five super-categories (Business, Labor, Ideological/Single-Issue, Other and Unknown) divided into 13 "sectors," about 100 "industries," and about 400 categories as shown in Appendix Table 2.

The CRP has been classifying PACs since 1990, whereas I study campaign contributions and election results since 1980. From 1990 onwards, there are nearly $50,000$ PAC-candidate pairs in the sample (more precisely, there are $49,739$ PAC-candidate pairs, from $3,295$ PACs contributing to any of the Senate candidates in the sample after 1990). The classification of the interest group sector for these PACs is facilitated by the fact that the Federal Elections Commission assigns a unique identification number to each committee, and this identification number is also part of the CRP dataset. Hence, I can classify every PAC's interest group after 1990.

To classify PAC contribution money before 1990, I proceed in two steps. First, I check whether the pre-1990 contributing PAC survives after 1990. If so, I assign the sector allocated by CRP to the respective PAC to the earlier period. Prior to 1990, there are nearly $41,783$ PAC-candidate pairs in the sample, from $3,232$ PACs contributing to any of the Senate candidates before 1990. Of these PAC-candidate pairs, $38,712$ (that is, 93% of the total PAC-candidate pairs, which correspond to $2,625$ contributing PACs) can be classified by this first step alone.

Next, for the set of unmatched PACs, I assigned the sector in the following way. First, when possible I use the name of the sponsor of the unmatched PAC to search for other matched committees sponsored by the same organization, and assign the corresponding industry.

When this procedure does not permit the classification of the PAC, I follow the guidelines for PAC classification from the CRP[33] to identify the committee's interest group. In some

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[33]http://www.opensecrets.org/action/ftm/index.php

cases, the PAC sponsor name does not provide enough clues to classify the interest group sector. Hence, while the classification is very complete, it is below 100%. More specifically, of the 3,071 PAC-candidate pairs that remained to be classified (corresponding to 607 unclassified PACs), 1,930 PAC-candidate pairs are classified after these steps (corresponding to 372 PACs). Hence, overall I am able to classify 40,642 PAC-candidate pairs (from 2,997 PACs) before 1990. This amounts to 97% of the total number of PACs before 1990.

Also importantly, the average contribution for unclassified PACs is smaller than the average. Thus, in terms of contribution money, the share of unclassified contributions is even smaller. For instance, in 1980, the year with least success in the classification, 94% of the contributions are classified, yet this represents 96% of the contribution money. By 1988, 98.4% of the contributions are classified, and this amounts to 99.4% of the contribution money.

Table 1. Summary Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum	Observations
County-level variables					
Incumbent share of the two party vote	0.58	0.12	0.13	0.92	9532
per capita personal income, 2000 US$	20,597	5,042	0	69,910	9532
population	90,655	323,054	84	9,542,574	9532
population density (population per square mile)	146.28	597.41	0.13	16539.57	9532
% under 18	46.72	22.69	13.19	84.4	9532
% over 65	14.33	4.32	1.38	34.7	9532
% female	50.62	1.61	32.75	57.44	9532
% black	6.63	12.46	0	86.81	9532
% urban	38.59	29.72	0	100	9532
% 12 years of more of school (persons 25+)	69.18	10.92	25.9	95.5	9532
ratio of in-state population for county's media market	0.84	0.28	0	1	9532
Candidate-level variables					
Dummy=1 if incumbent is Democratic	0.49	0.5	0	1	180
Herfindahl index PAC contributions -incumbent	0.02	0.09	0	1	180
Herfindahl index PAC contributions -opponent	0.15	0.24	0	1	180
Herfindahl index PAC contributions at industry level -incumbent	0.06	0.11	0.03	1	180
Herfindahl index PAC contributions at industry level -opponent	0.23	0.23	0.03	1	180
Campaign receipts (2000 US $)-incumbent	5,185,977	3,550,866	0	27,301,767	180
Campaign receipts (2000 US $)-opponent	3,076,456	4,133,369	17,047	34,851,988	180
Receipts from special interest PACs (2000 US $)-incumbent	1,036,460	450,742	0	3,063,172	180
Receipts from special interest PACs (2000 US $)-opponent	312,506	387,474	37	1,690,014	180
Share of connected PACs money-incumbent	0.25	0.12	0	0.64	180
Share of connected PACs money-opponent	0.13	0.11	0	0.48	180
County Media Market Classification					
In-state dummy (1 if in-state)	0.86	0.34	0	1	1759
In-state and contiguous dummy (1 if in-state and adjacent to out-of-state)	0.56	0.5	0	1	542

Summary statistics are for the base sample in the analysis: excludes counties that were not dominated by the same state throughout the period and counties in overwhelmed states (an "overwhelmed" state has less than two-thirds of the population living in in-state dominated media markets). For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. For each county in state s and media market m, the ratio of in-state population refers to the proportion of the total media market population residing in state s. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). In the in-state and contiguous dummy, in addition to the latter conditions the in-state county must border an out-of-state county in the same state for the dummy to be equal to 1. See the text and Data Appendix for detailed variable definitions and sources.

Table 2. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Dependent variable: share of the two-party vote received by the incumbent								

Dependent variable: share of the two-party vote received by the incumbent

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				State fixed effects						
	herfindahl at PAC level					herfindahl at interest group (industry) level				
in state dummy	0.00782	0.00537	0.00575	0.00617	-0.024	0.00738	0.00504	0.00552	0.00595	-0.0254
	(0.00365)	(0.00363)	(0.00362)	(0.00363)	(0.0105)	(0.00364)	(0.00364)	(0.00362)	(0.00363)	(0.0106)
herfindahl incumbent	0.171	0.158	0.116	0.125	0.128	0.122	0.108	0.0871	0.0978	0.0982
	(0.0221)	(0.0228)	(0.0214)	(0.0217)	(0.0207)	(0.0272)	(0.0283)	(0.0245)	(0.0249)	(0.0239)
herfindahl opponent	0.0775	0.0728	0.00175	0.00745	0.0267	0.107	0.104	0.0114	0.0181	0.043
	(0.0165)	(0.0167)	(0.0162)	(0.0162)	(0.0148)	(0.0186)	(0.0186)	(0.0184)	(0.0184)	(0.0169)
herfindahl state		-3.414	0.763	0.692	-0.169		-3.533	0.553	0.480	-0.330
		(0.503)	(0.521)	(0.510)	(0.507)		(0.499)	(0.512)	(0.501)	(0.502)
in state dummy x **herfindahl incumbent**	-0.171	-0.168	-0.15	-0.154	-0.129	-0.163	-0.156	-0.135	-0.14	-0.113
	(0.0236)	(0.0242)	(0.0230)	(0.0228)	(0.0208)	(0.0274)	(0.0285)	(0.0252)	(0.0253)	(0.0236)
in state dummy x **herfindahl opponent**	0.0205	0.0242	0.0333	0.0281	0.0108	0.0242	0.0259	0.0359	0.0308	0.0101
	(0.0173)	(0.0174)	(0.0168)	(0.0168)	(0.0154)	(0.0195)	(0.0196)	(0.0192)	(0.0192)	(0.0176)
in state dummy x **herfindahl state**		-1.465	-1.277	-1.395	-1.246		-1.382	-1.15	-1.271	-1.188
		(0.470)	(0.457)	(0.448)	(0.456)		(0.471)	(0.455)	(0.447)	(0.456)
Campaign finance controls			√	√	√			√	√	√
County controls				√	√				√	√
Campaign finance controls x in-state dummy					√					√
County controls x incumbent party					√					√
Observations	9,532	9,532	9,532	9,527	9,527	9,532	9,532	9,532	9,527	9,527
R-squared	0.286	0.294	0.363	0.369	0.490	0.293	0.302	0.364	0.370	0.491

Standard errors, clustered by county, in parenthesis. All regressions include a full set of state and year fixed effects and interactions of the state and year fixed effects with a dummy that equals 1 if the incumbent is a Democrat. Campaign finance controls in columns 3-6 and 8-10 include the total campaign receipts, and total campaign receips from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars). County controls in columns 4-5 and 9-10 include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. "Herfindahl state" corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. Demeaned variables are shown in bold. I demean herfindahl variables before interacting them, so that the coefficient on the main effect for the in-state dummy shows the impact measured at the mean values of the herfindahl indices. See the text and Data Appendix for detailed variable definitions and sources.

Table 3. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent variable: share of the two-party vote received by the incumbent										
County fixed effects										
	herfindahl at PAC level					herfindahl at interest group (industry) level				
herfindahl incumbent	0.113	0.098	0.0532	0.0513	0.0687	0.0661	0.0495	0.0261	0.0269	0.0449
	(0.0214)	(0.0228)	(0.0189)	(0.0191)	(0.0201)	(0.0331)	(0.0339)	(0.0251)	(0.0248)	(0.0257)
herfindahl opponent	0.0859	0.0835	0.00115	0.00324	0.0281	0.128	0.126	0.0206	0.0233	0.0567
	(0.0206)	(0.0206)	(0.0182)	(0.0185)	(0.0175)	(0.0232)	(0.0233)	(0.0212)	(0.0216)	(0.0214)
herfindahl state		-3.864	-0.378	-0.736	-1.956		-3.652	-0.399	-0.765	-2.01
		(1.011)	(1.087)	(1.056)	(1.162)		(1.021)	(1.089)	(1.053)	(1.148)
in state dummy x herfindahl incumbent	-0.0995	-0.0939	-0.0721	-0.065	-0.048	-0.0997	-0.0899	-0.065	-0.0592	-0.0456
	(0.0222)	(0.0235)	(0.0185)	(0.0182)	(0.0184)	(0.0330)	(0.0336)	(0.0246)	(0.0239)	(0.0243)
in state dummy x herfindahl opponent	0.0116	0.0126	0.033	0.0302	0.00772	0.000863	0.00116	0.0246	0.0222	-0.00792
	(0.0212)	(0.0212)	(0.0186)	(0.0188)	(0.0185)	(0.0241)	(0.0241)	(0.0217)	(0.0219)	(0.0227)
in state dummy x herfindahl state		-0.942	-0.0542	-0.0607	0.682		-1.221	-0.138	-0.146	0.602
		(1.024)	(1.061)	(1.027)	(1.154)		(1.033)	(1.063)	(1.026)	(1.142)
Campaign finance controls			√	√	√			√	√	√
County controls				√	√				√	√
Campaign finance controls x in-state dummy					√					√
County controls x incumbent party					√					√
Observations	9,532	9,532	9,532	9,527	9,527	9,532	9,532	9,532	9,527	9,527
R-squared	0.748	0.756	0.824	0.827	0.843	0.755	0.763	0.825	0.828	0.844

Standard errors, clustered by county, in parenthesis. All regressions include a full set of state and year fixed effects and interactions of the county and year fixed effects with the party of the incumbent. Campaign finance controls in columns 3-6 and 8-10 include the total campaign receipts, and total campaign receips from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars). County controls in columns 4-5 and 9-10 include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. "Herfindahl state" corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. See the text and Data Appendix for detailed variable definitions and sources.

Table 4. In-state versus out of state counties, differences in observable characteristics

Dependent variable:	(1) Real per capita income	(2) population	(3) population density	(4) % under 18	(5) % over 65	(6) % female	(7) % black	(8) % urban	(9) % with 12+ years of school (people 25+)
Panel A: in-state versus out of state									
in state dummy	1,704	55,533	98.23	0.162	-1.158	0.0421	1.855	10.6	2.873
	(212.8)	(11,584)	(18.56)	(0.0764)	(0.228)	(0.0886)	(0.703)	(1.810)	(0.423)
Constant	22,877	51,014	76.01	25.65	15.66	50.26	5.201	31.69	69.2
	(219.0)	(8,626)	(15.71)	(0.127)	(0.223)	(0.0884)	(0.656)	(1.713)	(0.387)
Observations	9,528	9,528	9,528	9,528	9,528	9,528	9,528	9,527	9,527
R-squared	0.390	0.106	0.095	0.978	0.263	0.213	0.558	0.151	0.588
Panel B: in-state and contiguous versus out of state									
in state and contiguous dummy	782.8	12,529	12.35	-0.00876	-0.0438	0.118	1.401	3.002	1.233
	(236.7)	(4,773)	(7.880)	(0.119)	(0.300)	(0.112)	(0.886)	(2.214)	(0.535)
Constant	19,686	23,169	49.26	72.46	15.61	50.73	5.506	27.89	69.47
	(212.0)	(9,231)	(7.854)	(0.266)	(0.241)	(0.0933)	(0.606)	(1.717)	(0.371)
Observations	2,623	2,623	2,623	2,623	2,623	2,623	2,623	2,623	2,623
R-squared	0.551	0.108	0.310	0.984	0.337	0.357	0.482	0.154	0.672

Standard errors, clustered by county, in parenthesis. All regressions include a full set of state and year fixed effects. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). In the in state and contiguous dummy, in addition to the latter conditions the in-state county must border an out-of-state county in the same state for the dummy to be equal to 1.

Table 5. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002
In-state contiguous counties vs out-of-state counties only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent variable: share of the two-party vote received by the incumbent										
	herfindahl at PAC level					herfindahl at interest group (industry) level				
herfindahl incumbent	0.0645	0.0702	0.0319	0.0264	0.0404	0.0153	0.0232	-0.00126	-0.00436	0.0128
	(0.0254)	(0.0267)	(0.0254)	(0.0270)	(0.0292)	(0.0346)	(0.0356)	(0.0300)	(0.0305)	(0.0327)
herfindahl opponent	0.0955	0.086	0.0282	0.0307	0.0356	0.13	0.122	0.0484	0.0521	0.0621
	(0.0216)	(0.0212)	(0.0205)	(0.0206)	(0.0183)	(0.0243)	(0.0239)	(0.0235)	(0.0237)	(0.0217)
herfindahl state		-5.511	-2.32	-2.606	-3.151		-5.176	-2.266	-2.587	-3.216
		(1.067)	(1.031)	(1.002)	(1.042)		(1.085)	(1.042)	(1.006)	(1.037)
in state dummy x herfindahl incumbent	-0.0769	-0.0625	-0.0657	-0.0573	-0.0414	-0.0752	-0.0624	-0.0582	-0.0499	-0.0400
	(0.0309)	(0.0310)	(0.0241)	(0.0233)	(0.0246)	(0.0371)	(0.0379)	(0.0284)	(0.0272)	(0.0287)
in state dummy x herfindahl opponent	0.0231	0.0251	0.0344	0.0323	0.0286	0.0125	0.0111	0.0240	0.0228	0.0155
	(0.0285)	(0.0273)	(0.0270)	(0.0265)	(0.0260)	(0.0324)	(0.0311)	(0.0307)	(0.0301)	(0.0310)
in state dummy x herfindahl state		-1.885	-0.812	-0.838	-0.229		-1.867	-0.788	-0.812	-0.159
		(1.196)	(1.084)	(1.052)	(1.067)		(1.199)	(1.079)	(1.047)	(1.053)
Campaign finance controls			√	√	√			√	√	√
County controls				√	√				√	√
Campaign finance controls x in-state dummy					√					√
County controls x incumbent party					√					√
Observations	2,623	2,623	2,623	2,623	2,623	2,623	2,623	2,623	2,623	2,623
R-squared	0.764	0.777	0.825	0.831	0.844	0.771	0.782	0.827	0.833	0.845

Standard errors, clustered by county, in parenthesis. All regressions include a full set of county and year fixed effects and interactions of the county and year fixed effects with the party of the incumbent. Campaign finance controls in columns 3-4 and 7-8 include the total campaign receipts, and total campaign receips from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars). County controls in columns 4 and 8 include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth. Like in Table 2, the in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). However, in addition to the latter conditions the in-state county must border an out-of-state county in the same state for the dummy to be equal to 1. For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. "Herfindahl state" corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. See the text and Data Appendix for detailed data definitions and sources.

Table 6. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002
Placebo out of state vs in-state contiguous counties only

Dependent variable: share of the two-party vote received by the incumbent								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	herfindahl at PAC level				herfindahl at interest group (industry) level			
herfindahl incumbent	-0.0107	0.00474	-0.0344	-0.0369	-0.0671	-0.0494	-0.0673	-0.0667
	(0.0337)	(0.0344)	(0.0297)	(0.0305)	(0.0363)	(0.0372)	(0.0292)	(0.0288)
herfindahl opponent	0.103	0.0999	0.0415	0.0423	0.127	0.124	0.048	0.0499
	(0.0160)	(0.0152)	(0.0171)	(0.0176)	(0.0184)	(0.0176)	(0.0196)	(0.0201)
herfindahl state		-5.913	-1.437	-1.84		-5.667	-1.375	-1.811
		(0.828)	(0.720)	(0.728)		(0.830)	(0.739)	(0.742)
in state dummy x herfindahl incumbent	0.00834	0.00376	0.0147	0.0135	0.0150	0.00866	0.0204	0.0185
	(0.0387)	(0.0391)	(0.0281)	(0.0268)	(0.0405)	(0.0417)	(0.0281)	(0.0262)
in state dummy x herfindahl opponent	0.0153	0.0133	0.00524	0.00524	0.00847	0.00726	0.00514	0.00472
	(0.0238)	(0.0224)	(0.0232)	(0.0231)	(0.0266)	(0.0249)	(0.0258)	(0.0258)
in state dummy x herfindahl state		0.541	-0.191	-0.553		0.642	-0.155	-0.527
		(1.126)	(0.994)	(1.011)		(1.123)	(0.992)	(1.009)
Campaign finance controls			√	√			√	√
County controls				√				√
Observations	2,505	2,505	2,505	2,505	2,505	2,505	2,505	2,505
R-squared	0.734	0.744	0.807	0.811	0.741	0.750	0.808	0.812

Standard errors, clustered by county, in parenthesis. All regressions include a full set of state and year fixed effects, as well as interactions of the state fixed effects with the party of the incumbent. Campaign finance controls in columns 3-4 and 7-8 include the total campaign receipts, and total campaign receips from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars). County controls in columns 4 and 8 include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, and percent with a high 12 or more years of education (among people with 25 or more years of age). The in-state dummy equals 0 for in-state and contiguos counties as defined in Table 4, and 1 for their in-state neighbors. For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a herfindahl of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such herfindahls. "Herfindahl state" corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. See the text and Data Appendix for detailed variable definitions and sources.

Table 7. Media markets and electoral response to share of connected-PACs money, US Senate 1980-2002

Dependent variable: share of the two-party vote received by the incumbent						
	(1)	(2)	(3)	(4)	(5)	(6)
	State fixed effects		County fixed effects		County fixed effects, in-state and contiguous only	
in state dummy	0.00433	0.0121				
	(0.00422)	(0.00307)				
share incumbent	-0.00219	-0.00674	-0.0162	-0.0116	-0.0200	-0.0169
	(0.0186)	(0.0158)	(0.0149)	(0.0153)	(0.0156)	(0.0165)
share opponent	-0.0253	-0.00699	-0.0112	0.00173	-0.00958	0.00386
	(0.00846)	(0.00552)	(0.00634)	(0.00609)	(0.00659)	(0.00677)
in state dummy x share incumbent	-0.00929	0.0101	0.00803	0.00550	-0.00869	-0.00574
	(0.0203)	(0.0165)	(0.0158)	(0.0159)	(0.0185)	(0.0182)
in state dummy x share opponent	0.02	0.0172	0.00389	0.00247	-0.0104	-0.0143
	(0.00928)	(0.00580)	(0.00656)	(0.00631)	(0.00819)	(0.00811)
State herfindahl		√		√		√
Campaign finance controls		√		√		√
County controls		√		√		√
Observations	9,532	9,527	9,532	9,527	2,623	2,623
R-squared	0.561	0.749	0.923	0.931	0.919	0.926

Standard errors, clustered by county, in parenthesis. In columns 1-2, regressions include a full set of state x party and year x party fixed effects. In columns 3-6, regressions include a full set of county x party and year x party fixed effects. In columns 5 and 6 only contiguous counties are included. In even columns, campaign finance controls include total campaign receipts, and total campaign receipts from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars); county controls include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth; state herfindahl corresponds to a herfindahl index computed from the contribution of each of several economic sectors to the Gross State Product and the interaction of this measure with the in-state dummy. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). Share incumbent and share opponent refer to the total share of connected-PACs money in campaign receipts. In columns 1 and 2, these shares are demeaned before interacting them with the in-state dummy. See the text and Data Appendix for detailed data definitions and sources.

Table 8. Concentration indices and news about campaign contributions

	herfindahl (PAC level)			herfindahl (industry level)			total PAC contributions		
Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PAC stories/Total stories	0.993		0.984	0.887		0.869	-205,697		-91,968
	(0.161)		(0.159)	(0.155)		(0.156)	(144,480)		(158,422)
Total number of candidate stories		-0.000154	-9.23e-05		-0.000253	-0.000198		1,245	1,239
		(0.000138)	(0.000119)		(0.000127)	(0.000112)		(419.2)	(423.0)
Observations	175	175	175	175	175	175	175	175	175
R-squared	0.322	0.192	0.324	0.404	0.309	0.411	0.521	0.561	0.561

Robust standard errors in parenthesis. All specifications include a full set of year fixed effects, a dummy variable that equals 1 if the candidate is Democratic and a dummy variable that equals one if the canidate is the incumbent. Total number of stories refer to the number of stories in which keywords identifying the candidate name and the word "senate" or "senator" appears in a story. Total number of PAC stories are those in which, in addition, the story contains the keywords "PAC" and "money". The search window is two months before each election. Appendix Table 3 shows the sample of states included each year (and the number of newspapers on which the automated search was done), as well as basic summary statistics

Table 9. Media markets and turnout, US Senate 1980-2002

	Dependent variable: ratio of total votes in senate race to population								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fixed effects:	state and year	state x party year x party	state x party year x party	state and year	state x party year x party	state x party year x party	state and year	state x party year x party	state x party year x party
in state dummy	0.00473 (0.00415)	0.00461 (0.00417)	0.0155 (0.00361)						
in state and contiguous dummy				0.0168 (0.00534)	0.017 (0.00537)	0.0205 (0.00413)			
placebo in state and contiguous dummy							-0.0123 (0.00503)	-0.0123 (0.00506)	-0.00207 (0.00389)
Population control			√			√			√
Observations	10,331	10,331	10,331	2,782	2,782	2,782	2,675	2,675	2,675
R-squared	0.546	0.564	0.650	0.520	0.534	0.689	0.554	0.570	0.707

Standard errors, clustered by county, in parenthesis. In columns 1-3, the in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). In columns 4-6, to the latter conditions the in-state county must border an out-of-state county in the same state for the dummy to be equal to 1. In columns 7-9 the placebo in-state dummy equals 0 for in-state and contiguos counties as defined in columns 4-6, and 1 for their in-state neighbors. Columns 3, 6 and 9 include total population in the right hand side. The fixed effects included in each regression are noted in the title of each column.

Table 10. Media markets and turnout response to campaign finance concentration,
US Senate 1980-2002

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: ratio of total votes in senate race to population						
	State fixed effects		County fixed effects		County fixed effects, in-state and contiguous only	
in state dummy	0.00433 (0.00422)	0.0121 (0.00307)				
herfindahl incumbent	-0.00219 (0.0186)	-0.00674 (0.0158)	-0.0162 (0.0149)	-0.0116 (0.0153)	-0.0200 (0.0156)	-0.0169 (0.0165)
herfindahl opponent	-0.0253 (0.00846)	-0.00699 (0.00552)	-0.0112 (0.00634)	0.00173 (0.00609)	-0.00958 (0.00659)	0.00386 (0.00677)
in state dummy x herfindahl incumbent	-0.00929 (0.0203)	0.0101 (0.0165)	0.00803 (0.0158)	0.00550 (0.0159)	-0.00869 (0.0185)	-0.00574 (0.0182)
in state dummy x herfindahl opponent	0.02 (0.00928)	0.0172 (0.00580)	0.00389 (0.00656)	0.00247 (0.00631)	-0.0104 (0.00819)	-0.0143 (0.00811)
State herfindahl		√		√		√
Campaign finance controls		√		√		√
County controls		√		√		√
Observations	9,532	9,527	9,532	9,527	2,623	2,623
R-squared	0.561	0.749	0.923	0.931	0.919	0.926

Standard errors, clustered by county, in parenthesis. In columns 1-2, regressions include a full set of state x party and year x party fixed effects. In columns 3-6, regressions include a full set of county x party and year x party fixed effects. In columns 5 and 6 only contiguous counties are included. In even columns, campaign finance controls include total campaign receipts, and total campaign receipts from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars); county controls include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth; state herfindahl corresponds to a herfindahl index computed from the contribution of each of several economic sectors to the Gross State Product and the interaction of this measure with the in-state dummy. The in-state dummy equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. In columns 1 and 2, these indices are demeaned before interacting them with the in-state dummy. See the text and Data Appendix for detailed data definitions and sources.

Table 11. Spillovers: Media markets and response of House and Presidential vote to Senate race campaign finance concentration, 1980-2002

	(1)	(2)	(3)	(4)	(5)	(6)
			Dependent variable:			
	share of two-party vote to presidential candidate of incumbent's party		share of two-party vote to house candidate of incumbent's party			
Herfindahl at level:	PAC	Industry	PAC	Industry	PAC	Industry
herfindahl incumbent	-0.240	-0.457	-3.466	-1.845	-2.538	-0.0227
	(0.195)	(0.249)	(0.774)	(0.995)	(0.738)	(1.394)
herfidnahl opponent	-0.00422	-0.0151	-0.179	-0.141	-0.0621	-0.0289
	(0.0246)	(0.0266)	(0.0640)	(0.0683)	(0.0483)	(0.0550)
in state dummy x herfindahl incumbent	0.190	0.234	-0.594	-0.595	-0.210	-0.110
	(0.149)	(0.169)	(0.316)	(0.445)	(0.198)	(0.316)
in state dummy x herfindahl opponent	0.0102	0.00513	0.128	0.0992	0.0622	0.0349
	(0.0239)	(0.0267)	(0.0801)	(0.0787)	(0.0527)	(0.0559)
Control for house candidate herfindahl					√	√
Observations	1,324	1,324	1,321	1,321	1,169	1,169
R-squared	0.964	0.964	0.849	0.841	0.899	0.902

Standard errors, clustered by county, in parenthesis. All regressions include a full set of county x party and year x party fixed effects. Campaign finance controls, county controls, and state herfindahl controls as described in Table 2 are included in all regressions. The in-state dummy is limited to contiguous counties and equals 1 if the state the county is in has more than two-thirds (66%) of the population of that media market, and zero if it has less than one-third (33%). For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. Note that these measures as well as the campaign finance controls in the right hand side of the regression refer to the senate candidates, whereas the dependent variable is for house candidates and presidential candidates as described in the column titles. See the text and Data Appendix for detailed data definitions and sources.

Table 12. Spillovers: Out-of-state counties response to neighboring state campaign finance profiles in Senate races, 1980-2002

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable is incumbent share of the two-party vote					
	PAC level	Industry level	PAC level	Industry level	PAC level	Industry level
herfindahl incumbent	-0.0224 (0.130)	-0.0687 (0.0982)				
herfindahl opponent	0.0393 (0.0516)	0.0559 (0.0591)				
herfindahl for neighboring state, incumbent's party			-0.00475 (0.0575)	0.0240 (0.0644)		
herfindahl for neighboring state, opponent's party			-0.0125 (0.0395)	-0.0182 (0.0386)		
Difference in herfindahls (incumbent-incumbent's party in neighboring state)					-0.00282 (0.0503)	0.00276 (0.0555)
Difference in herfindahls (opponent-opponent's party in neighboring state)					0.0433 (0.0315)	0.0403 (0.0316)
Observations	551	551	574	574	551	551
R-squared	0.901	0.902	0.902	0.902	0.902	0.902

Standard errors, clustered by county, in parenthesis. All regressions include a full set of county x party and year x partyfixed effects. All regressions include campaign finance controls, county controls, and the state herfindahl as defined in Table 2. Only out-of-state counties are included, that is if the state the county is in has less than one-third (33%) of the population of the media market. For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. See the text and Data Appendix for detailed data definitions and sources.

Table 13. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002
Robustness to media market definition

Dependent variable: share of the two-party vote received by the incumbent

In-state= if the state the county is in has more than x% of the population of that media market; out-of-state: if it has less than (100-x)%.

herfindahl at level	x=50		x=60		x=70	
	(1)	(2)	(3)	(4)	(5)	(6)
	PAC	industry	PAC	industry	PAC	industry
PANEL A: in state versus out of state						
in state dummy x herfindahl incumbent	-0.0653	-0.0619	-0.0688	-0.0652	-0.0827	-0.0786
	(0.0172)	(0.0227)	(0.0175)	(0.0237)	(0.0190)	(0.0262)
in state dummy x herfindahl opponent	-0.00204	-0.00891	0.0148	0.0108	0.0184	0.00127
	(0.0156)	(0.0172)	(0.0168)	(0.0181)	(0.0220)	(0.0243)
State Herfindahl, Campaign finance, and county controls	√	√	√	√	√	√
Observations	12,922	12,922	11,946	11,946	8,379	8,379
R-squared	0.836	0.837	0.833	0.835	0.835	0.836
PANEL B: in state and contiguous versus out of state						
in state dummy x herfindahl incumbent	-0.064	-0.0628	-0.0627	-0.0615	-0.0697	-0.0644
	(0.0241)	(0.0287)	(0.0238)	(0.0285)	(0.0256)	(0.0302)
in state dummy x herfindahl opponent	0.0165	0.0116	0.0356	0.0309	0.0160	-0.000127
	(0.0194)	(0.0210)	(0.0226)	(0.0235)	(0.0313)	(0.0335)
State Herfindahl, Campaign finance, and county controls	√	√	√	√	√	√
Observations	3,999	3,999	3,580	3,580	2,084	2,084
R-squared	0.841	0.843	0.840	0.843	0.840	0.842

Standard errors, clustered by county, in parenthesis. All regressions include a full set of county x party and year x partyfixed effects . Campaign finance controls include the total campaign receipts, and total campaign receips from connected PACs, for the incumbent and his opponent (in 2000 US$ thousands of dollars). County controls include real per capita income (in 2000 US$ dollars), population, population density, percent of the population under 18, percent of the population over 65, percent female, percent black, percent urban, percent with a high 12 or more years of education (among people with 25 or more years of age), and state income growth. The in-state dummy is defined as described in each column title. However, in Panel B in addition to the stated conditions the in-state county must border an out-of-state county in the same state for the dummy to be equal to 1. For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. State herfindahl corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. The direct effects of the herfindahl of the incumbent and the opponent, as well as the direct effect of the state herfindahl and its interaction with the in state dummy, are always included. See the text and Data Appendix for detailed data definitions and sources.

Table 14. Media markets and electoral response to campaign finance concentration, US Senate 1980-2002
Robustness to Media Market Definition

Dependent variable: share of the two-party vote received by the incumbent						
	(1)	(2)	(3)	(4)	(5)	(6)
					County fixed effects, in-state and contiguous only	
	State fixed effects		County fixed effects			
Panel A: herfindahl at PAC level						
ratio in state	0.00625	0.00365	0.183	0.0882	-0.0364	0.0318
	(0.00416)	(0.00411)	(0.0457)	(0.0339)	(0.118)	(0.0901)
herfindahl incumbent	0.0938	0.0535	0.0688	0.0232	0.0314	0.00198
	(0.0136)	(0.0132)	(0.0139)	(0.0129)	(0.0225)	(0.0250)
herfindahl opponent	0.0952	0.0282	0.0985	0.0275	0.106	0.0455
	(0.00880)	(0.00875)	(0.0104)	(0.00995)	(0.0160)	(0.0164)
ratio in state x herfindahl incumbent	-0.202	-0.166	-0.134	-0.0816	-0.103	-0.0798
	(0.0269)	(0.0258)	(0.0245)	(0.0207)	(0.0365)	(0.0277)
ratio in state x herfindahl opponent	-0.00278	0.00986	-0.0117	0.00684	0.0220	0.0347
	(0.0193)	(0.0185)	(0.0209)	(0.0185)	(0.0340)	(0.0319)
Campaign finance, county, and state herfindahl controls		√		√		√
Observations	10,305	10,300	10,305	10,300	2,623	2,623
R-squared	0.279	0.363	0.748	0.829	0.765	0.831
Panel B: herfindahl at interest group (industry) level						
ratio in state	0.00580	0.00339	0.193	0.0952	-0.0224	0.0393
	(0.00415)	(0.00411)	(0.0456)	(0.0345)	(0.122)	(0.0929)
herfindahl incumbent	0.0498	0.0328	0.0195	-0.00129	-0.0147	-0.0243
	(0.0158)	(0.0144)	(0.0199)	(0.0157)	(0.0262)	(0.0256)
herfindahl opponent	0.129	0.0402	0.138	0.0435	0.136	0.0626
	(0.00992)	(0.0100)	(0.0120)	(0.0117)	(0.0179)	(0.0187)
ratio in state x herfindahl incumbent	-0.18	-0.141	-0.113	-0.0619	-0.0986	-0.067
	(0.0284)	(0.0267)	(0.0352)	(0.0268)	(0.0424)	(0.0326)
ratio in state x herfindahl opponent	-0.00234	0.0126	-0.0286	-0.00312	0.00846	0.0237
	(0.0219)	(0.0213)	(0.0247)	(0.0222)	(0.0385)	(0.0362)
Campaign finance, county, and state herfindahl controls		√		√		√
Observations	10,305	10,300	10,305	10,300	2,623	2,623
R-squared	0.287	0.363	0.755	0.830	0.771	0.832

Standard errors, clustered by county, in parenthesis. Regressions in columns 1-2 include a full set of state x party and year x party fixed effects, and in columns 3-6 a full set of county x party and year x party fixed effects. Campaign finance, county controls and state herfindahl controls are as defined in Table 2. In columns 5 and 6, only the set of contiguous in-state and out-of-state counties as defined in Table 3 are included in the regression. For each county in state s and media market m, the variable "ratio in state" refers to the share of the media market population that is in state s. For the herfindahl at the PAC (industry) level, the contribution from each PAC (industry) is expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. The ratio in state and herfindahl indices are demeaned before interacting. State herfindahl corresponds to a similar index computed from the contribution of each of several economic sectors to the Gross State Product. See the text and Data Appendix for detailed data definitions and sources.

Appendix Table 1: Main variables sources and definitions

Variable	Description	Source
Electoral results		
Incumbent share of the two-party vote	Total votes obtained by the incumbent senator divided by total votes for the Republican and Democratic candidate, 1980-2002, calculated at the county level. Open seats and unchallenged races are dropped from the analysis.	Election data and incumbency status is constructed from a variety of sources by Ansolabehere and Snyder (2002). These data run through 2000 and were updated from similar sources and kindly shared by the authors. The main original sources are ICPSR study number 13 (General Election Data for the United States, 1950-1990), and America Votes (1992, 1994, 1996, 1998, and 2000). The House election variables are available from Snyder and Strömberg's (2010) replication dataset.
Share of two-party vote to presidential candidate of incumbent's party	Total votes obtained by the presidential candidate of the same party as the incumbent senator divided by total votes for the Republican and Democratic presidential candidates, 1980-2002, calculated at the county level. For the sample of senate races included in the analysis and for the years in which there is a presidential election.	
Share of two-party vote to house candidate of incumbent's party	Total votes obtained by the Congress (House) candidate of the same party as the incumbent senator divided by total votes for the Republican and Democratic House candidates, 1980-2002, calculated at the county level. For counties with multiple congressional districts the votes for all the Democratic and Republican candidates running for Congress in a county are added to find the Democratic and Republican vote share per county.	
Campaign contributions		
Total campaign receipts (2000 US $)	Total campaign contributions from any source to the given candidate during the two-year electoral cycle preceeding the election, deflated by the consumer price index to express in constant 2000 US dollars. Sources of funds include connected PACs, ideological/single-issue PACs, individuals, party committess and other candidates.	Federal Elections Commission. Committee master files, candidate master files, and itemized contributions files. The itemized committee contributions file containing each PAC contribution is matched to the other files using the ID number of the contributing committee and the ID number of the recipient (see http://www.fec.gov/finance/disclosure/ftpdet.shtml). Total campaign receipts and total from connected PACs are available from the candidate's master files, whereas for the herfindahl indices the itemized contribution files are necessary. For industry classification, the source is Center for Responsive Politics and author's adjustments, as explained in Appendix section 2.
Receipts from connected (special interest) PACs (2000 US $)	Total contributions from connected PACs to the candidate during the two-year electoral cycle preceeding the election, deflated by the consumer price index to express in constant 2000 US dollars. Connected PACs include all non-party committees classified by the FEC as sponsored by a corporation, labor organization, membership organization, trade association, cooperative, or corporation without capital stock. They exclude ideological and single-issue PACs, as well as party committes and contributions from other candidates.	
Herfindahl index of PAC contributions (PAC level)	Financial contributions (24K) and in-kind contributions (24Z) from each PAC are expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares. Contributions are for the two-year electoral cycle preceeding the election.	
Herfindahl index of PAC contributions (industry level)	Financial contributions (24K) and in-kind contributions (24Z) from each PAC are classified into a single industry as explained in the main text. Industry contributions are expressed as a share of the total PAC contributions to the candidate, and the index corresponds to the sum of the squares of such shares and are for the two-year electoral cycle preceeding the election.	

Variable	Description	Source
Media Markets		
In-state dummy	Dummy variable equal to 1 if the county is "in-state" and zero if it is out-of-state. Each county in the sample is assigned to one TV market, or Area of Dominance Influence. A county is "in-state" if the state the county is in has more than x% of the population of the media market, and "out-of-state" if the state the county is in has less than (100-x)% of such population, for x greater than or equal to 50. Unless otherwise stated, the analysis in the paper uses x=66. Only counties that were dominated by the same state are considered in the baseline analysis in the paper.	Data and media market definitions from Ansolabehere, Snowberg and Snyder (2006). Areas of Dominance Influence, constructed by Arbitron, are originally from Broadcast and Cable in 1980, 1990, and 2000.
In-state and contiguous dummy	Identical to the in-state dummy except that, in addition to the latter conditions, the in-state county must border an out-of-state county in the same state for the variable to be equal to 1. That is, the in-state and contiguous dummy is like the in-state dummy but excludes from the analysis all in-state counties that are not contiguous to other out-of-state counties in the same state.	Ansolabehere, Snowberg and Snyder (2006); Broadcast and Cable in 1980, 1990, and 2000.
Placebo in-state and contiguous dummy	Dummy variable equal to zero for the in-state and contiguous counties as defined by the in-state and continuous dummy, and one for neighboring in-state counties in the same state.	Ansolabehere, Snowberg and Snyder (2006); Broadcast and Cable in 1980, 1990, and 2000.
Overwhelmed states	States-years where less than two-thirds of the population lived in in-state dominated media markets, as defined above. Counties in these states are excluded from the analysis.	Ansolabehere, Snowberg and Snyder (2006); Broadcast and Cable in 1980, 1990, and 2000.
Ratio in state	For each county c in state s and media market (Area of Dominance Influence) m, ratio of the population of media market m residing in state s to the total population of market m.	Ansolabehere, Snowberg and Snyder (2006); Broadcast and Cable 1980, 1990, and 2000.
Other variables and controls		
Real per capita personal income	County-level per capita personal income in constant prices (2,000 US$). Nominal figures from Bureau of Economic Analysis deflated with the Consumer Price Index.	Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce
Population and population density	County population, and county population per square mile.	US Census Bureau
% under 18, % over 65, % female, % black, % 12 years or more of school (persons 25+), % urban	Percent of the population in each category at the county level. Except in the case of percent of population with 12 or more years of school which is computed with respect to total county population of 25 or more years of age, percents are with respect to total population.	US Census Bureau
State-level growth	Yearly percentage change in real state per capita personal income. Real state per capita personal income is the nominal value reported by the BEA deflated by Consumer Price Index.	Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce
State herfindahl	Sum of the squares of the contribution shares of each economic sector to the total Gross State Product.	Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce
Total Stories and PAC stories	Total stories=number of news stories in the two months leading to an election appearing containing the candidate's name and the words "senate" or "senator." PAC stories=of the total stories for a candidate in a given election, number which include, in addition, the keywords "PAC" and "money."	Own calculation based on automated news search on NewsLibrary.com. Search limited for newspapers of the state where the candidate runs for office.

Appendix Table 2: Industry categories for special-interest PACs

Sector	Industry	Examples of categories
Agribusiness	Agricultural Services/Products	Farm bureaus, Florists & Nursery Services, Grain traders & terminals, Veterinarians, Animal feed & health products, Agricultural services & related industries, Farm organizations & cooperatives, Agricultural chemicals (fertilizers & pesticides)
	Crop Production & Basic Processing	Cotton, Sugar cane & sugar beets, Other commodities (incl rice, peanuts, honey), Vegetables, fruits and tree nut, Crop production & basic processing, Wheat, corn, soybeans and cash grain
	Dairy	Milk & dairy producers
	Food Processing & Sales	Food and kindred products manufacturing, Food wholesalers, Food stores, Food & Beverage Products and Services, Meat processing & products
	Forestry & Forest Products	Paper & pulp mills and paper manufacturing, Forestry & Forest Products
	Livestock	Horse breeders, Livestock, Feedlots & related livestock services, Sheep and Wool Producers
	Misc Agriculture	Agriculture
	Poultry & Eggs	Poultry & eggs
	Tobacco	Tobacco & Tobacco products
Communications/Electronics	Computers/Internet	Computer manufacture & services, Computer software, Computers, components & accessories, Online computer services, Data processing & computer services
	Electronics Mfg & Services	Electronics manufacturing & services
	Misc Communications/Electronics	Communications & Electronics
	Printing & Publishing	Greeting card publishing, Book, newspaper & periodical publishing, Printing and publishing (printed & online), Commercial printing & typesetting
	TV/Movies/Music	Live theater & other entertainment productions, Recorded Music & music production, TV production & distribution, Cable & satellite TV production & distribution, Movie Theaters, Entertainment Industry/Broadcast & Motion Pictures. Motion Picture
	Telecom Services & Equipment	Cellular systems and equipment, Other Communications Services, Telecommunications, Telephone & communications equipment, Satellite communications
	Telephone Utilities	Telephone utilities, Long-distance telephone & telegraph service
Construction	Building Materials & Equipment	Electrical Supply, Stone, clay, glass & concrete products, Construction equipment, Plumbing & pipe products, Building materials, Lumber and wood products. Other construction-related products
	Construction Services	Architectural services, Surveying, Engineers - type unknown, Engineering, architecture & construction mgmt svcs
	General Contractors	Dredging Contractors, Construction, unclassified, Construction & Public Works, Public works, industrial & commercial construction, Builders associations
	Home Builders	Residential construction, Mobile home construction
	Special Trade Contractors	Landscaping & Excavation Svcs, Plumbing, heating & air conditioning, Special trade contractors, Electrical contractors
Defense	Defense Aerospace	Defense aerospace contractors
	Defense Electronics	Defense electronic contractors
	Misc Defense	Homeland Security contractors, Defense shipbuilders, Defense Research & Development, Ground-based & other weapons systems, Defense-related services
Energy & Natural Resources	Electric Utilities	Independent power generation & cogeneration, Nuclear energy, Rural electric cooperatives, Nuclear plant construction, equipment & svcs, Electric Power utilities. Gas & Electric Utilities
	Environmental Svcs/Equipment	Environmental services, equipment & consulting
	Fisheries & Wildlife	Fisheries & wildlife, Fishing, Hunting & wildlife
	Mining	Mining, Mining services & equipment, Coal mining, Metal mining & processing, Non-metallic mining
	Misc Energy	Water Utilities, Power plant construction & equipment, Energy production & distribution, Alternate energy production & services, Energy, Natural Resources and Environment
	Oil & Gas	Independent oil & gas producers, LPG/Liquid Propane dealers & producers, Natural Gas transmission & distribution, Oilfield service, equipment & exploration. Gasoline service stations. Petroleum refining & marketing
	Waste Management	Waste management
Finance, Insurance & Real Estate	Accountants	Accountants
	Commercial Banks	Commercial banks & bank holding companies, Banks & lending institutions
	Credit Unions	Credit unions
	Finance/Credit Companies	Credit agencies & finance companies
	Insurance	Property & casualty insurance, Life insurance, Insurance companies, brokers & agents, Insurance, Accident & health insurance
	Misc Finance	Finance, Insurance & Real Estate, Tax return services, Investors, Financial services & consulting, Credit reporting services & collection agencies, Other financial services
	Real Estate	Mobile home dealers & parks, Mortgage bankers and brokers, Building operators and managers, Other real estate services, Title insurance & title abstract offices, Real estate agents, Real estate, Real Estate developers & subdividers
	Savings & Loans	Savings banks & Savings and Loans
	Securities & Investment	Payday lenders, Securities, commodities & investment, Commodity brokers/dealers, Security brokers & investment companies, Venture capital, Hedge Funds, Student loan companies, Private Equity & Investment Firms, Stock exchanges

Notes: Category definitions from the Center of Responsive Politics. The level of aggregation used to control concentration indsutries in the paper is that of industries. () Not all categories are presented in every industry to save space
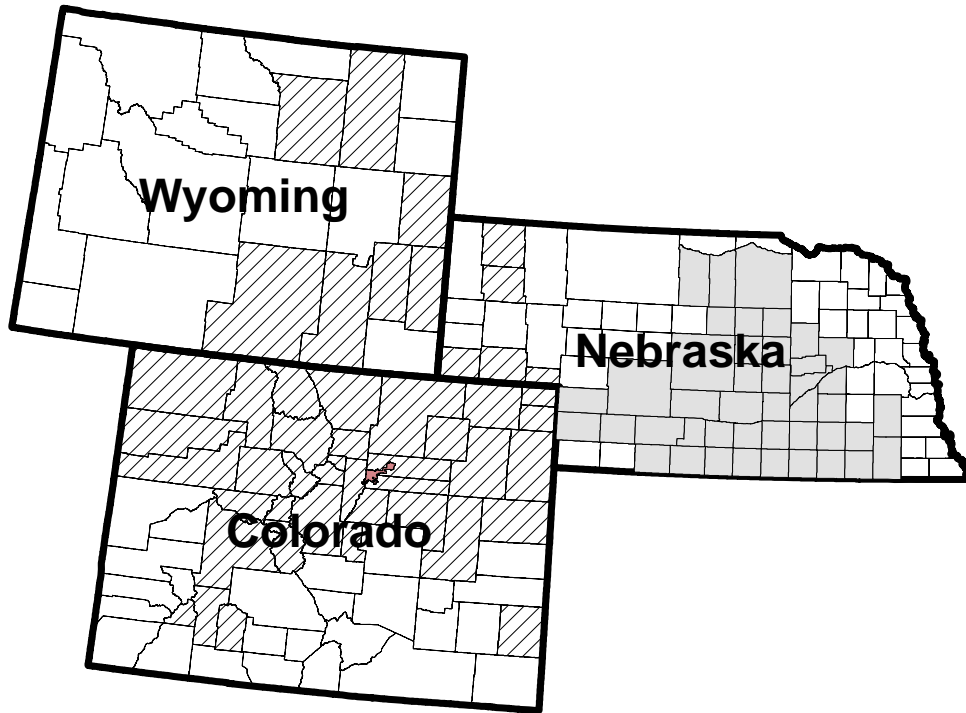
Sector	Industry	Examples of categories
Health	Health Professionals	Psychiatrists & psychologists, Chiropractors, Optometrists & Ophthalmologists, Health professionals, Physicians, Other physician specialists, Dentists, Other non-physician health practitioners, Nurses, Pharmacists
	Health Services/HMOs	Outpatient health services (incl drug & alcohol), Optical services (glasses & contact lenses), Mental Health Services, Health care services, HMOs, Medical laboratories. Home care services, AIDS treatment & testing
	Hospitals/Nursing Homes	Health care institutions, Nursing homes, Hospitals, Drug & alcohol treatment hospitals
	Misc Health	Health, Education & Human Resources
	Pharmaceuticals/Health Products	Medical supplies manufacturing & sales, Pharmaceutical wholesale, Pharmaceutical manufacturing, Biotech products & research, Personal health care products, Nutritional & dietary supplements, Health care products
Labor	Building Trade Unions	Building trades unions
	Industrial Unions	Energy-related unions (non-mining), Communications & hi-tech unions, Mining unions, Manufacturing unions, IBEW (Intl Brotherhood of Electrical Workers), Automotive unions
	Misc Unions	Other unions, Agricultural labor unions, Defense-related unions, Entertainment unions, General commercial unions, Food service & related unions, Retail trade unions, Health worker unions, Commercial service unions, Labor Unions
	Public Sector Unions	Police & firefighters unions & associations, Federal employees unions, Civil service & government unions, State & local govt employee unions, Teachers unions. US Postal Service unions & associations
	Transportation Unions	Railroad unions, Other transportation unions, Merchant marine & longshoremen unions, Transportation unions, Teamsters union, Air transport unions
Lawyers & Lobbyists	Lawyers/Law Firms	Corporate Lawyers & law firms, Attorneys & law firms, Legal Services, Trial Lawyers & law firms
	Lobbyists	Lobbyists & Public Relations, Registered Foreign Agents
Misc Business	Beer, Wine & Liquor	Liquor stores, Wine & distilled spirits manufacturing, Liquor wholesalers, Alcohol, Beer
	Business Associations	General business associations, Chambers of commerce, Small business associations, International trade associations, Pro-business associations, Business tax coalitions
	Business Services	Commercial photography, art & graphic design, Management consultants & services, Political consultants/advisers, Outdoor advertising services, Advertising & public relations services, Security services, Employment agencies, Direct mail advertis
	Casinos/Gambling	Indian Gaming, Casinos, racetracks & gambling
	Chemical & Related Manufacturing	Plastics & Rubber processing & products, Adhesives & Sealants, Paints, Solvents & Coatings, Explosives, Household cleansers & chemicals, Chemicals
	Food & Beverage	Beverages (non-alcoholic), Confectionery processors & manufacturers, Artificial sweeteners and food additives, Fish Processing, Food catering & food services, Restaurants & drinking establishments, Beverage bottling & distribution
	Lodging/Tourism	Lodging & tourism, Travel agents, Hotels & motels, Resorts
	Misc Business	Warehousing, Import/Export services, General commerce, Correctional facilities constr & mgmt/for-profit, Wholesale trade
	Misc Manufacturing & Distributing	Industrial/commercial equipment & materials, Fabricated metal products, Precision instruments, Clothing & accessories, Electroplating, polishing & related services, Household & office products, Photographic equipment & supplies, Toys, Aluminum
	Misc Services	Miscellaneous repair services, Physical fitness centers, Video tape rental, Beauty & barber shops, Equipment rental & leasing, Services, Funeral services, Laundries & dry cleaners. Pest control
	Recreation/Live Entertainment	Amusement parks, Professional sports, arenas & related equip & svcs, Recreation/Entertainment, Amusement/recreation centers
	Retail Sales	Retail trade, Hardware & building materials stores, Department, variety & convenience stores, Catalog & mail order houses, Miscellaneous retail stores, Vending Machine Sales & Services, Direct sales, Consumer electronics & computer stores
	Steel Production	Steel
	Textiles	Textiles & fabrics
Transportation	Air Transport	Air freight, Air transport, Aviation services & airports, Aircraft parts & equipment, Space vehicles & components, Airlines, Aircraft manufacturers, General aviation (private pilots). Express delivery services
	Automotive	Car rental agencies, Auto manufacturers, Auto repair, Truck/Automotive parts & accessories, Automotive, Misc, Auto dealers, new & used, Auto dealers, foreign imports
	Misc Transport	Buses & Taxis, Motor homes & camper trailers, Pleasure boats, Recreational transport, Freight & delivery services, Transportation, Bus services, Bicycles & other non-motorized recreational transp, Motorcycles, snowmobiles & other motorized vehicles
	Railroads	Manufacturers of railroad equipment, Railroads, Railroad services, Railroad transportation
	Sea Transport	Ship building & repair, Sea freight & passenger services, Sea transport, Cruise ships & lines
	Trucking	Trucking companies & services, Trucking, Truck & trailer manufacturers

Notes: Category definitions from the Center of Responsive Politics. The level of aggregation used to control concentration indsuties in the paper is that of industries. () Not all categories are presented in every industry to save space

Appendix Table 3: Automated News Searches

year	States	Number of newspapers	Candidate news stories about candidates (total stories)		Candidate news stories discussing PAC money (PAC stories)		Ratio of PAC stories/total stories	
			mean	std. dev.	mean	std. dev.	mean	std. dev.
1982	MA	1	44.5	34.6	2.50	0.71	0.07	0.04
1984	OK	1	20.0	28.3	0.50	0.71	0.03	.
1986	CA, FL, GA, IL, IN, OH, OK, WA	18	109.9	88.1	3.25	2.98	0.04	0.02
1988	CA, IN, MA, MN, OH, TX, UT	18	77.3	90.6	0.93	1.38	0.01	0.01
1990	IL, IN, LA, MA, MN, NC, OK, OR, TN, TX	24	106.9	104.8	1.60	2.11	0.02	0.02
1992	AL, AZ, CT, FL, GA, IA, IL, IN, NC, OH, OK, OR, WI	36	78.0	87.5	2.92	4.92	0.04	0.04
1994	CA, CT, FL, IN, MA, MS, UT, WA, WI	40	131.5	142.7	1.94	2.80	0.01	0.01
1996	IA, MA, MI, MN, MS, NC, NM, OK, TN, TX	31	105.3	104.9	2.70	3.06	0.08	0.23
1998	AL, AZ, CA, CO, CT, FL, GA, IA, IL, NC, NV, OK, OR, UT, WA, WI	95	98.4	104.2	1.75	2.74	0.02	0.03
2000	CA, CT, IN, MA, ME, MI, MN, MS, OH, TN, TX, UT, WA, WI	74	84.6	88.6	1.43	3.64	0.01	0.02
2002	AL, CO, GA, IA, ID, IL, ME, MI, MN, NE, NM, OK, OR	44	59.7	59.7	0.69	1.12	0.01	0.02
Total		**139**	**91.5**	**97.1**	**1.87**	**3.07**	**0.03**	**0.08**

**Figure 1. The Denver-CO and Lincoln-NE
Areas of Dominance Influence**

Note: Counties in the Denver-CO Area of Dominance Influence (for 1980) are shown hatched, and those in the Lincoln-NE Area of Dominance Influence (for 1980) are shaded.