

# SOMETHING BIASED THIS WAY COMES: THE EFFECT OF MEDIA ON HOUSE ELECTIONS IN THE US

HAARIS MATEEN<sup>‡</sup> AND DARIO A. ROMERO<sup>\*</sup>

ABSTRACT. We study how a biased TV station operator affects local elections in the US. We document an ideological shift to more conservatism for the winner in House of Representatives elections, which strengthens over time. This is driven by a higher probability of Republicans winning but also a shift to more conservatism for *both* Republican and Democratic candidates, even though Democratic candidates in the primaries become more liberal on average. We show that Republican candidates receive increased donations in SBG-acquired areas.

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<sup>‡</sup>Department of Finance at the C.T. Bauer College of Business, University of Houston. Houston, Texas 77204. E-mail: [hmateen@bauer.uh.edu](mailto:hmateen@bauer.uh.edu).

<sup>\*</sup>Social Science Division, New York University - Abu Dhabi. Bldg A5-142 P.O. Box 129188, Abu Dhabi, UAE. E-mail: [drf312@nyu.edu](mailto:drf312@nyu.edu).

## 1. INTRODUCTION

Sinclair Broadcast Group (SBG) is the second largest television station operator in the US, with a documented bias of pushing conservative national politics oriented content through its stations (Martin and McCrain, 2019). The literature has found negative effects of its presence on crime coverage and police response, as well as reduced Democratic presidential administration approval ratings (Mastorocco and Ornaghi, 2020; Levendusky, 2022). SBG presence also leads to changes in election outcomes in a conservative direction, suggesting voters turn more conservative (Miho, 2023).

However, in the context of local TV news, such as that provided by SBG, there are two important questions of interest that are unaddressed in the literature. First, it is not clear if an increase in conservative preferences due to SBG increases Republican candidate vote shares alone, or if it also changes the ideological conservatism of the candidates who win the elections, as well the conservatism of the underlying pool of candidates who contest the primaries. This is important because the election of *more conservative* Republicans (or Democrats) may have important consequences for decisions taken by the legislature. Second, voters express their political preferences through voting but also through political donations. Understanding the donations response would shed further light on the underlying mechanism determining patterns in election results documented thus far in the literature.

In this paper, we use the staggered expansion of SBG to answer these questions, focusing on House of Representatives elections in the US. We use an identification strategy that is novel thus far to papers written in the media slant setting – using the failed acquisition by SBG of a major station operator as the comparison group to mitigate selection bias. We document three important findings. First, Republican candidates in House elections have a higher probability of winning after SBG entry. Second, we find that there is a highly significant ideological shift of winners in the local elections towards being more conservative. This is robust to measuring ideology either by congressional voting (DW Nominate) or the source of campaign financing (Bonica score). Third, we find an increase in general funding for the Republican candidate in House elections after SBG entry. Concretely, a Republican

candidate sees an increase in total funding by 0.35 standard deviations if their whole district was treated, corresponding to about 2 million constant 2010 USD.

When investigating the underlying mechanism at play, we find evidence that the ideology of candidates who win their primaries shifts to becoming more conservative after SBG entry. This result applies to both Republican *and* Democratic candidates, with the effect on Democratic candidates being more long-lived. Therefore, the shift in ideology of winners is driven by a combination of an increased likelihood of Republican party victories *and* a shift in ideology of the two-party nominees contesting the House elections. This is despite a shift to more liberal ideological positioning in the pool of Democratic candidates who contest the primaries, suggesting that the Democratic candidates who win their primaries are more conservative despite a more liberal pool of contenders on average. Evidence also suggests that more liberal candidates in the pool of primary contenders received more donations, suggesting that there was an attempt from the party base to support more liberal election candidates, which did not succeed.

Our approach involves comparing electoral outcomes before and after the acquisition of a TV station by SBG with those in areas where SBG did not operate. However, several challenges arise when implementing this strategy. First, imperfect overlap exists between electoral districts (representing electoral outcomes) and counties (the unit for SBG operations), potentially confounding the analysis. Moreover, electoral districts were inconsistent in our sixteen-year period of interest (2004-2020), and their territorial arrangement changed over time. To address this, we adopt a unit of analysis at the intersection of county and congressional district levels and translate this arrangement to the base 2010 electoral district distribution, enabling a comparison of cells where SBG operates entirely with those where it does not. Second, we employ an estimator that captures cohort-specific average treatment effects, correcting for heterogeneity in treatment effects across adoption cohorts. Finally, significant heterogeneity exists in areas where SBG did not operate, potentially affecting comparability. To address this, we restrict our comparison groups to locations where SBG was interested in expanding but could not. Specifically, SBG attempted to acquire

Chicago-based Tribune Media Corporation, but the acquisition was blocked due to antitrust concerns.

Our findings relate to a well-established literature on the “Fox-News effect”, which finds an increase in Republican vote shares and changing voter preferences in a conservative direction due to the presence of Fox News (DellaVigna and Kaplan, 2007; Schroeder and Stone, 2015; Martin and Yurukoglu, 2017). Clinton and Enamorado (2014) and Arceneaux et al. (2016) find an influence of Fox News on strategies of roll-call voting in Congress. More recently, Ash et al. (2024) provide important evidence on the effect of increased viewership on voting preferences in terms of increased conservatism, and on voting behavior in favor of Republican candidates at various levels of government, such as local elections, due to Fox News presence. We contribute by examining the effects of slant from local TV stations.

There is extensive research on the causes and effects of media slant.<sup>1</sup> Media slant studies have largely focused on national politics in various countries. Apart from papers on the US mentioned before, they include countries such as Italy (Durante and Knight, 2012; Durante, Pinotti, and Tesei, 2019), Russia (Enikolopov, Petrova, and Zhuravskaya, 2011), Poland (Grosfeld et al., 2023), and Germany (Adena et al., 2015). Fewer studies examine local races and policies, where regional factors could alter media slant’s impact (Ash and Galletta, 2023). Our paper provides evidence that media slant significantly impacts local election outcomes, influencing vote shares, ideological positioning, and candidate donations.

The rest of the paper is organized as follows. Section 2 provides a background on the rise of Sinclair acquisitions in the period 2012-2018. Section 3 provides an overview of the data. Section 4 explains our empirical strategy. Section 5 provide results on House elections. Section 6 provides results on ideological movement of winners, general election nominees, and primary candidates. Section 7 provides insight into the possible mechanisms driving our results. Section 8 concludes.

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<sup>1</sup>For general media effects, see DellaVigna and La Ferrara (2015); for social capital and political participation, see Campante, Durante, and Tesei (2022); for persuasion effects on voters and donors, see DellaVigna and Gentzkow (2010); for political effects of social media and the internet, see Zhuravskaya, Petrova, and Enikolopov (2020). For demand-side effects, see Mullainathan and Shleifer (2005) and Gentzkow and Shapiro (2010).

## 2. BACKGROUND

**2.1. American television market.** Nielsen's National Television Household Universe Estimates counts 125 million television households in the US. In particular, the number of persons aged two and older in this set is estimated to be 315.3 million. Therefore, the television industry clearly reaches the vast majority of U.S. citizens and ostensibly has an important role in terms of media exposure. American television can be seen through broadcast, cable, satellite, or the internet. Within this set, local broadcast television has a larger audience than either Cable or Network TV.<sup>2</sup> The US is divided into 210 Designated Media Areas (DMA) that cover several counties and often cut across state lines.<sup>3</sup> These areas identify the geographic reach of stations and the characteristics of potential viewers in these areas.

**2.2. Sinclair Broadcast Group (SBG).** SBG is the second-largest television station operator in the US by number of stations, owning 193 stations countrywide through direct and indirect ownership. The firm has been noted to offer a conservative slant in its programming. SBG has grown on the back of organic expansion as well as multiple acquisitions over the last two decades. In particular, after 2012 the company started a rapid expansion policy enabling access to 57 new DMAs. The company had operations in 5 states (AL, ME, MN, MS, and NH) before 2012 and expanded to 41 states after 2018 (all continental states except AZ, CO, CT, DE, LA, ND, NJ). The number of counties it operated in increased from 726 to 1606. The number of potential viewers increased from 53 million to 109 million potential viewers. This, of course, translated to an increase in number of potential local elections in which its conservative slant might have an effect. The company increased its presence from 134 electoral districts to 236. We take advantage of the staggered expansion of SBG operations to assess the effects that exposure to its conservative slant had on electoral outcomes.

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<sup>2</sup>According to Pew Research, <https://www.pewresearch.org/short-reads/2018/01/05/fewer-americans-rely-on-tv-news-what-type-they-watch-varies-by-who-they-are/>. It may be noted that the number of Americans consuming TV news is declining, but about 63% of US adults still consume at least some news this way, as per Pew Research, <https://www.pewresearch.org/journalism/fact-sheet/news-platform-fact-sheet/>.

<sup>3</sup>This is a standard accepted by the Federal Communications Commission (FCC) <http://www.broadcastingcable.com/news/washington/fcc-nielsen-dmas-still-best-definition-tv-markets/157246> and created by Nielsen Research.

TABLE 1. Distribution expansion Sinclair Broadcast Group (SBG)

	Control		Cohorts				Before
	Other (1)	Tribune (2)	2012 (3)	2014 (4)	2016 (5)	2018 (6)	2012 (7)
Counties	1083	391	187	560	79	84	726
DMA	96	20	10	35	4	8	33
States	43	23	18	30	5	7	26
Districts	199	190	46	112	10	14	134
Population (M)	75.16	95.86	13.24	37.21	2.15	2.94	53.63

**Notes:** Own calculations based on SBG records and DMA definitions. This table classifies different geographic units based on the presence of SBG. Columns 1 and 2 show the number of locations where SBG does not operate, distinguishing between places where Tribune operated before 2019 (Column 2) and places where neither SBG nor Tribune operated (Column 1). Columns 3 to 7 present locations where SBG operated for at least one year during our sample period. Specifically, Column 7 includes locations where Tribune operated before 2012, while Columns 3 to 6 classify locations where SBG expanded between 2012 and 2018. These classifications are based on cohorts, defined by the first electoral year following SBG’s entry into the DMA. Since the classification is based on DMAs, which are formed by the aggregation of counties across different states, the first two rows show the distribution by counties and DMAs. Columns 3 to 6 indicate the locations that entered the treatment group in each cohort. The third and fourth rows present the distribution by state and 2010 electoral districts. Unlike the previous classifications, these are not mutually exclusive by DMA, meaning that the table reports states and districts where a DMA falls into each category, regardless of the prior status of the state or district.

In the year 2017, SBG announced its intention to acquire Chicago-based Tribune Media Corporation, which owned 43 media stations, for approximately \$3.9 billion. However, the acquisition was not completed due to antitrust concerns. Had the acquisition gone through, it would have represented an increase of more than 95.86 million new potential viewers (Table 1) and an entry into 138 new electoral districts.<sup>4</sup> We argue that the areas covered by Tribune serve as plausibly valid counterfactuals for areas that SBG was interested in but was not successful in entering. We use these areas as the control group in our analysis and compare their electoral outcomes with those areas in which SBG started operations.

<sup>4</sup>There are fewer new electoral districts than in Table 1 because districts overlap with county boundaries and some of these counties already have SBG presence.

### 3. DATA

3.1. **Electoral data.** We gather data from David Leip’s Atlas through ten congressional elections from 2002 to 2020. We are interested in the effect of SBG on local elections, so our focus will be centered on House of Representatives elections.

This data has several useful features. First, it allows us to identify election-district characteristics – if the election was uncontested, the number of candidates and the parties that competed in each year.<sup>5</sup> Second, this data also allows us to measure each candidate’s performance, that is, the number of votes and the share of total votes that each candidate obtained. Third, with this data we observe the total number of votes for each candidate at the district, county, and the intersection of these two geographical aggregations. Finally, this data gives us the full name of the running candidate. This allows us to identify ideological characteristics of the candidate from other sources.

3.2. **Ideology scores.** To measure the ideology of elected congressional representatives, we utilize the DW nominate score proposed by [Poole and Rosenthal \(1985\)](#) and [Poole and Rosenthal \(2007\)](#). This measure uses votes in roll calls in Congress to discern politicians’ ideal points and ideologies. The score organizes legislator choices into two dimensions, positioning ideologically similar legislators closer to each other, and farther from dissimilar legislators. The first component represents the liberal-conservative spectrum on economic matters, while the second dimension captures attitudes on salient issues of the day. This score ranges between -1 and 1, with -1 interpreted as liberal, 1 as conservative, and 0 as moderate.

Although this measure is widely employed in the literature, it has the drawback that it can only be calculated once the politician is elected and their voting behavior is observed. To address this limitation, we also utilize Bonica ideology scores, which estimate ideology based on donor funding rather than on choices made post-election. We leverage the Database on Ideology, Money in Politics, and Elections developed by [Bonica \(2013\)](#) and updated by

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<sup>5</sup>We focus on regular elections. We do not include any special election to replace a congressperson who leaves their seat before completing the regular period; or runoff elections.

Bonica (2018). This dataset gauges the political ideology of campaign contributors and candidates based on reports of contributions and donations registered with the Federal Electoral Commissions (FEC).

Bonica (2013) employs a spatial model of donors and candidates to estimate ideal points for each actor. The underlying assumption of these models is that contributors select their donations to various candidates based on their ideological proximity to the candidates to maximize their net benefits. The rationale behind these models is that candidates with a similar pool of donors possess closely aligned unidimensional score values. In contrast, candidates with markedly different donor pools have more distant score values. By analyzing candidates' financial data, we can determine the ideology of both winning and losing candidates. We utilize two Bonica measures: a time-variant score that employs information from each election to ascertain candidates' ideology and a time-invariant score that uses information from the ideologies of all candidates' donors during all elections. The latter approach can overcome the lack of donation information for some candidates in the early stages of their career.

**3.3. Other data.** For broadcast station data, we scrape broadcast station data from SBG and Tribune company filings, and their websites. The data gives us the station name, its DMA, and the date SBG entered each DMA. We match DMAs with respective counties using publicly available data.

We complement this data with a large dataset on demographic characteristics from the 2000 and 2010 census at the census tract level. We construct both district and county characteristics for total population share, share of female population, share of black population, share of Hispanic population, share of Asian population, share of American native population, share of population between 25 and 34 year old, between 35 and 44 years old, between 45 and 54 years old, between 55 and 64 years old and over, share of rural population, share of high school graduates, share of college graduates, share of labor aged population employed in agriculture and manufacturing, share of employment, crime rates, average household income, share of population below poverty line, share of population on Medicare, share of uninsured



population, number of housing units, share of veterans, share of population with social security, infant mortality deaths, and water use per capita. We use these data to control for observable characteristics and to account for the potential difference between places in which SBG operates and those in which it does not.

#### 4. EMPIRICAL STRATEGY

We investigate the effect of the entry of a conservatively-biased news outlet on electoral outcomes. The general strategy will be to compare the change in the electoral outcome before and after SBG acquired a TV station and compare it with the corresponding outcome in places where SBG did not operate. However, several challenges arise when applying this general strategy to our case. First, there is no perfect overlap between electoral districts and counties. Electoral districts can be confounded with counties where both SBG operates and counties where SBG does not operate. Furthermore, even though theoretically electoral districts only change every ten years (the redistricting being based on information from the census) this is not always true. Due to judicial orders, there are several changes in district mapping within the ten years between the census in some states. To overcome this challenge, we follow the same strategy that [Autor et al. \(2020\)](#) implemented: making the unit of interest the intersection of county and district, what we call the county-by-congressional-district cell. At this level, we can identify the effects of SBG comparing cells where it operates with cells where it does not operate. Importantly, we track changes in district boundaries every year and transform the cells after each district is redrawn to its 2010 district distribution counterpart (112th Congress), weighting the new cell splits according to the 2010 share of the voting-age population in each cell. The relevant population information is aggregated from census block level data from the 2010 Census. Thus, we create a crosswalk for each election that transforms current county-district cells into the cell distribution for the 2010 elections, maintaining consistency and comparability (see Appendix Section C for more details).

Second, there could be selection on unobservables in the places where SBG chooses to enter. To rule out the possibility of a non-observable shock that could contaminate our

results, we limit our comparison. For each cohort, the comparison groups are those places where SBG did not operate but had the intention to enter, i.e., where there is a Tribune-owned station. This strategy ensures we are comparing to each treated cohort places where SBG was interested in expanding.

Finally, SBG gradually increased its presence in different areas; that is, it was a staggered entry. A recent body of literature has shown that standard methods designed to identify causal effects based on the difference-in-difference model are not well suited in these cases, especially in the presence of heterogenous treatment effects (Abraham and Sun, 2018; Callaway and Sant’Anna, 2021; de Chaisemartin and d’Haultfoeuille, 2021; Roth et al., 2022; Dube et al., 2023; Goodman-Bacon, 2021).

Formally, we estimate the following equation where subindex  $t$  denotes the electoral year, subindex  $j$  denotes cell (interaction of district  $d$  and county  $c$ ), that belongs to the DMA  $m$  and the state  $s$  for each of the four cohorts  $g \in (2012, 2014, 2016, 2018)$

$$(4.1) \quad y_{jt} = \delta_j + \delta_{st} + \sum_g \left( \underbrace{\sum_{l=-4}^{-2} \beta_l^g \times \text{SBG}_j \times \mathbb{1}(t - T_m^* = l)}_{\text{Lags}} + \underbrace{\sum_{l=4}^0 \beta_l^g \times \text{SBG}_j \times \mathbb{1}(t - T_m^* = l)}_{\text{Leads}} \right) + \sum_{k \in \mathbf{X}_c} \gamma'(k \times \alpha_t) + \epsilon_{jmt}$$

Where  $y_{jt}$  is the electoral outcome in each cell and  $\text{SBG}_j$  is a dummy indicator if an SBG owned station was broadcasting in the cell between 2002-2020.  $\mathbb{1}(t - T_m^* = l)$  are event-year dummies that indicate if the observation is  $l$  elections after the entry of SBG in a new market. Coefficients  $\beta_l^g$  are the difference in outcome between treated and control groups relative to the difference of the outcome in the omitted base period, the election before the event (lag -1). This captures the dynamics of the outcome in the electoral years following the entry of SBG. Observations that are more than four elections before entry are included in the lag dummy -4. Therefore, this estimated coefficient provides information on the structural or “permanent” differences between places where SBG entered and those where it did not.

We include cell fixed effects  $\delta_j$ , which control for unobserved unit-specific factors that are constant over time and may influence the outcomes, such as geographical characteristics. We also include state-time (election year) fixed effects  $\delta_{st}$ , which control for unobserved time-specific forces that may affect the outcomes differently in each state. These indicators account for shocks that impact electoral outcomes in various states, such as the occurrence of a senatorial election or the involvement of a specific candidate in federal or state elections. Since our control units are those with Tribune operations, the inclusion of these fixed effects allows for comparisons within the same state between areas with and without SBG operations. However, Tribune did not operate in every state. We modify the state definition to use a comparison group of similar counties in neighboring states. We define these states as the closest ones with Tribune operations. For example, we used counties in Alabama as the comparison group for treated counties in Georgia. Results are robust to only confining to states with Tribune presence. Appendix Table B.1 shows the assignment of states to neighboring states.

Since the cell's characteristics could vary depending on the cohort, we combine county observable characteristics  $\mathbf{X}_c$  measured before 2010 with time-fixed effects, where the subscript  $c$  indicates the county. Within these variables, we include information about demographic characteristics from the census collected before 2010, as well as electoral data such as preference for the Democratic party measured by the votes the party received in the 2008 election at the county level, attendance at Tea Party rallies in 2009, contributions to Tea Party PACs in 2009; and 2010 ideology scores in the district, including the two components of the DW score, the time-variant and invariant Bonica scores, and the ideology of Democratic and Republican candidates. Appendix Table B.2 shows all the characteristics we use and the differences between each treated cohort and the comparison group. It indicates that there are indeed some differences that we must control for in our estimations. We follow [Borusyak, Jaravel, and Spiess \(2024\)](#) by residualizing the outcomes based on these observable characteristics, using only the untreated comparison group observations. This strategy allows us to control for differential trends in the cohorts that could contaminate our results.  $\epsilon_{jmt}$

represents the error term, which we cluster at the DMA level. This enables us to control for correlations between different cells within the same DMA (level of treatment assignment). Since the outcomes are at the district level, we weight each cell by its share of the total voting-age district population.

Finally we estimate the main coefficients  $\beta_l$  as follows:

$$(4.2) \quad \beta_l = \sum_g \omega_g \beta_l^g$$

where the weights  $\omega_g$  are the relative frequency of DMA's in each cohort of the total treated population. This coefficient captures the total change in the outcome between  $l$  elections after SBG started operation and one election before, compared to those places where SBG did not operate. The identifying assumption is that the outcome would have behaved similarly in these two places in the absence of the entry of SBG.

## 5. EFFECTS ON HOUSE ELECTIONS

We first establish results with respect to voting outcomes. Our focus and contribution here will be on local House elections using the empirical strategy described in the previous section. Figure 1 illustrates the impact on turnout and voting shares for Republicans, Democrats, and the probability of winning for Republicans. Panel A indicates that following the entry of SBG, there is an adverse change in the trend of total votes cast in House elections, which becomes statistically significant at conventional levels after the third election. Panels B and C demonstrate that a gradual reduction in votes for both Republican and Democratic candidates explains this overall reduction in turnout in the electoral district.<sup>6</sup> The estimates indicate that an entirely treated electoral district observes a reduction of around 60,000 votes after the third election. Of these, 40,000 came from a reduction in votes for the Democratic Party, and 20,000 came from a reduction in votes for the Republican Party. This suggests that SBG entry hurt the performance of both parties, with a more significant impact on the performance of the Democratic Party. Using an alternative method to estimate

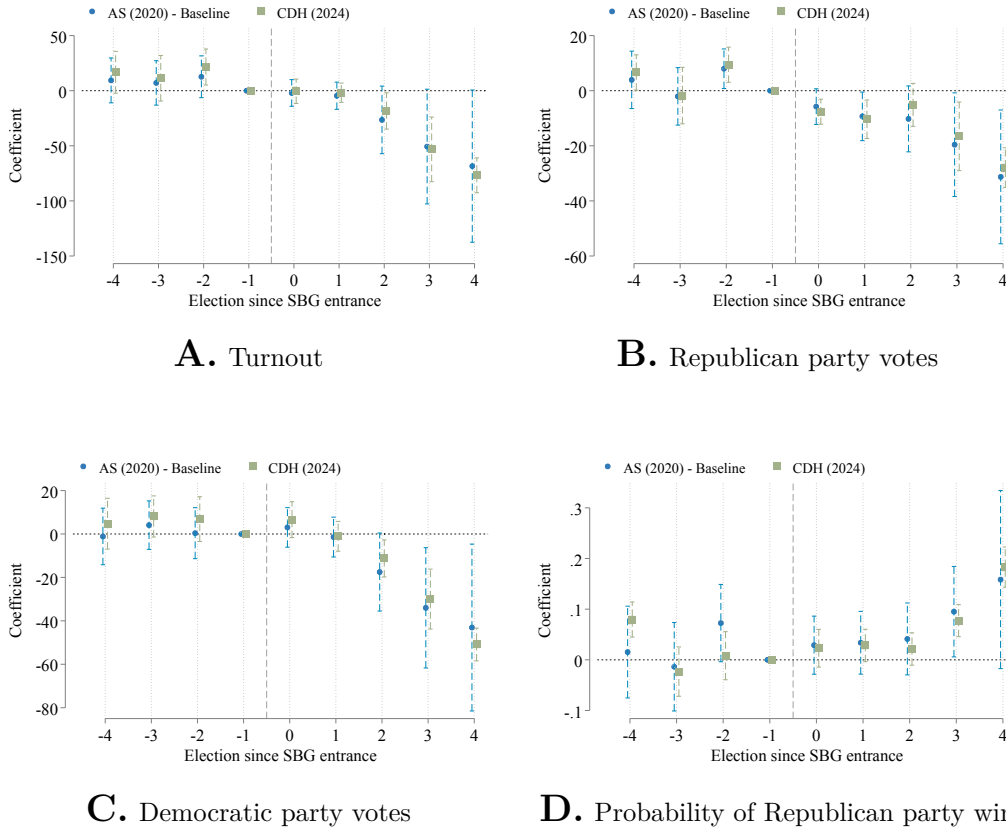
<sup>6</sup>Additionally, we find a small, non-lasting increase in votes for third parties in the first election after SBG entry, not reported here.

the treatment effects (de Chaisemartin and d’Haultfoeuille, 2021), we find similar results, and our interpretation remains unchanged: SBG induced a gradual reduction in electoral participation for both political parties, but it hurt the Democratic Party more.

We evaluate how this vote reduction translated into the probability of the Republican candidate winning in Panel D. As expected, since the Republican Party was the less affected, we observe a positive and significant impact after three or more elections following the year of SBG entry. Specifically, we find a 10 and 15 percentage point increase in the probability of the Republican Party winning the House seat in districts where SBG entered two and three years after entry, respectively. These effects are statistically significant at the 95% level and robust to an alternative estimation procedure. They are also robust to both linear and nonlinear deviations (Rambachan and Roth, 2023) from the parallel trend assumption (Figure A.2).

Taken together, the evidence suggests that SBG had a modest effect on electoral outcomes in House elections. We observe a reduction in votes for both parties, with a more pronounced decrease among Democrats, which translated into an increased likelihood of Republican candidates winning the election.

FIGURE 1. Effect SBG on House elections



**Notes:** This figure presents the dynamic ATT using our baseline estimation Equation 4 and an alternative model for the treatment of the entry of SBG. We present the model suggested by [de Chaisemartin and d’Haultfoeuille \(2021\)](#) (CDH). Sample covers House elections between 2004 and 2020. Variables are at the cell county-electoral district level. 95% confidence intervals with standard errors clustered at DMA.

## 6. EFFECTS ON WINNERS’ IDEOLOGY

Table 2 presents results of estimating the effect of SBG entry on House seat winners’ ideology, measured through the DW score, using our baseline specification. In column 1, we observe the effect on the winners’ ideology score. SBG entry positively affected the ideology score of the winner from the second election onward, increasing it to approximately 0.04 in the second election after entry, around 0.07 in the third election, and then 0.14 in the fourth election. This effect is significant, considering that before SBG entered these areas, the score stood at 0.17. This suggests that SBG induced a shift towards a more conservative position in electoral preferences in these areas, almost doubling initial levels.

Columns 2 to 4 evaluate the probability that the election winner belongs to different ideological categories: liberal Democrat, Moderate, and conservative Republican. Liberal Democrats and conservative Republicans are defined as politicians whose Nominate scores would respectively put them into the bottom quintile or top quintile of scores of candidates in the general elections for the 109th (2005-2007) Congress, with Moderates being the remaining candidates. Column 2 indicates a negative effect on the probability that the seat winner is a liberal Democrat. For example, two elections after SBG entry, there was a reduction of 7 percentage points in the likelihood that winners belong to this ideological category. This effect is significant, given that before SBG commenced operations in these areas, the share of ideological winners classified as liberal Democrats was approximately 14%. In contrast, Column 4 indicates changes in outcomes at the other end of the ideological spectrum. SBG positively affected the probability that the seat winner is a conservative Republican. For instance, the probability increased by 8 percentage points after two elections. Considering that before SBG expansion, this probability was 42%, this effect is more moderate. These results suggest that the increase in conservatism is both due to a reduction in liberal Democrats and a decrease in moderate elected politicians.<sup>7</sup>

Our result also holds when using only states where both SBG and Tribune operated. In this sample, we can isolate the estimated effects from a particular state shock that might confound our results. Appendix Table B.5 shows the results of this exercise. Although the sample is smaller and our confidence intervals are wider, we find that in two and three elections after the entry of SBG, there was a shift in the seat winner's ideology towards the conservative end of the spectrum by about 0.4 standard deviations.<sup>8 9</sup>

<sup>7</sup>Appendix Table B.4 shows results using the method proposed by de Chaisemartin and d'Haultfoeuille (2021) with no differential change in point estimates.

<sup>8</sup>We also examine how different cohorts influence our main results. In Appendix Table B.6, we assess how sequentially adding cohorts impacts our primary estimation (Column 1, Table 2). It shows that the first two cohorts (2012, 2014) played the most significant role in shaping our estimation of the ideological recomposition of representatives due to SBG's entry.

<sup>9</sup>Although we don't observe strong evidence of the presence of pretrends, as coefficients before the treatment are mostly small and insignificant, we show that our results are robust to violations of this assumption, in Figure A.6.

TABLE 2. Effect of SBG on ideology: DW-Nominate score of winner House election

	Ideology Score (1)	Prob. that winner was		
		Democrat Liberal (2)	Moderate (3)	Republican Conservative (4)
Before treatment	0.17 (0.42)	0.14 (0.34)	0.45 (0.50)	0.42 (0.49)
Before SBG entrance				
Share SBG X Election before 4 or more	-0.03 (0.03)	-0.09*** (0.03)	0.12** (0.05)	-0.03 (0.04)
Share SBG X Election before 3	-0.01 (0.03)	-0.04 (0.03)	0.04 (0.05)	-0.00 (0.04)
Share SBG X Election before 2	0.05** (0.03)	-0.04 (0.02)	-0.02 (0.04)	0.06* (0.03)
After SBG entrance				
Share SBG X Election 0	0.02 (0.02)	-0.01 (0.02)	-0.04 (0.03)	0.04* (0.02)
Share SBG X Election 1	0.03* (0.02)	-0.02 (0.02)	-0.05 (0.03)	0.08*** (0.03)
Share SBG X Election 2	0.04 (0.02)	-0.06** (0.03)	-0.01 (0.04)	0.08** (0.03)
Share SBG X Election 3	0.08** (0.03)	-0.03 (0.04)	-0.08* (0.05)	0.11*** (0.04)
Share SBG X Election 4	0.14* (0.08)	-0.05 (0.10)	-0.12 (0.09)	0.17* (0.10)
Observations	14773	14773	14773	14773
DMA	76	76	76	76
Districts	192.43	192.43	192.43	192.43
State-Year FE	✓	✓	✓	✓
Cell District County FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓

**Notes:** Liberal Democrats and conservative Republicans are defined as politicians whose Nominate scores would respectively put them into the bottom quintile or top quintile of scores of candidates in the general elections for the 109th (2005-2007) Congress, with Moderates being the remaining candidates. This table presents the results from weighted average of the main specification for each cohort. The weight in the aggregation is determined by the size of the unique number of DMA of each cohort. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

In general, we conclude that the increase in likelihood of a conservative Republican winner results from a combined reduction in the probability of a liberal Democrat and a moderate candidate winning. These effects align with this population's exposure to a conservatively-biased TV station and suggest a possible change in the electorate's preferences and behavior



in these areas.<sup>10</sup> In conclusion, we can assert that SBG influenced elections by shifting the winners' ideology towards the conservative end of the spectrum.

## 7. MECHANISMS

We investigate the mechanism underlying the shift to the right among winners of the House of Representatives in areas where SBG entered. To do this, we go deeper into our analysis of ideology shifts. We examine the effects on ideology changes among candidates in both the Republican and Democratic parties after SBG operations. This includes candidates in House elections and those competing within the district to become party nominees from primaries. We rely on Bonica scores for this part of our analysis since DW scores are only available for winners of congressional elections.

Table 3 examines the effects of SBG on candidates' ideology based on their party affiliation. We assess the impact on candidates' ideology scores using both time-variant and invariant Bonica scores. First, we observe minimal effects on the ideology of all Democratic party candidates running for the party nomination (columns 3 and 4). There is a slightly negative effect on the ideology score (moving to the liberal side), limited to three elections after SBG entry. This suggests that the average candidate from the Democratic party contesting elections eventually becomes weakly more liberal. However, the candidate who gets elected to contest the House elections in November does not drive this movement (columns 1 and 2). In fact, we observe an ideological shift in the Democratic general election nominee towards the conservative side. This movement is robust to violations in the parallel trend assumption (Figure A.8). For instance, our estimate suggests that in the second election after the entry of SBG, the Democratic candidate's score moved 0.09 points, one-third of the standard deviation before 2012. This suggests that voting in primaries elect more conservative Democratic candidates.

On the Republican side, we observe a positive robust shift towards conservatism among November candidates in the short term. One and two elections after SBG's entry, there is

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<sup>10</sup>Our results are not driven by the specific ideology measure. In Appendix Table B.7, we find similar results using Bonica scores.

a movement of around one-quarter of a standard deviation towards conservatism compared to the period before 2012. We find a long-term effect on the pool of candidates in primaries (columns 7 and 8). Three and four elections after SBG's entry, there is an increase of around one-third and one-half of a standard deviation compared to the period before 2012.

TABLE 3. Effect of SBG on ideology: Score of House candidates

	Democrats				Republicans			
	November election		All candidates		November election		All candidates	
	Invariant	Variant	Invariant	Variant	Invariant	Variant	Invariant	Variant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Before treatment	-0.84 (0.31)	-0.83 (0.33)	-0.79 (0.39)	-0.79 (0.42)	1.14 (0.24)	1.14 (0.25)	1.15 (0.22)	1.15 (0.24)
Before SBG entrance								
Share SBG X Election before 4 or more	0.08** (0.03)	0.09** (0.04)	0.01 (0.05)	0.05 (0.05)	-0.07* (0.04)	-0.04 (0.04)	-0.06 (0.04)	-0.03 (0.04)
Share SBG X Election before 3	0.09*** (0.03)	0.09*** (0.03)	0.03 (0.04)	0.05 (0.04)	0.06 (0.05)	0.04 (0.04)	0.01 (0.06)	0.03 (0.06)
Share SBG X Election before 2	0.01 (0.03)	-0.02 (0.03)	-0.03 (0.04)	-0.04 (0.04)	0.03 (0.03)	0.06** (0.03)	-0.02 (0.03)	0.01 (0.03)
After SBG entrance								
Share SBG X Election 0	0.01 (0.02)	0.02 (0.02)	0.04 (0.03)	0.07 (0.05)	0.04 (0.03)	0.04 (0.03)	0.03 (0.03)	0.04 (0.03)
Share SBG X Election 1	0.07** (0.03)	0.08** (0.03)	0.03 (0.03)	0.05 (0.03)	0.06** (0.03)	0.05* (0.03)	0.00 (0.04)	-0.02 (0.04)
Share SBG X Election 2	0.09*** (0.03)	0.08** (0.03)	-0.04 (0.04)	-0.03 (0.04)	0.08** (0.03)	0.06 (0.04)	0.09** (0.05)	0.05 (0.05)
Share SBG X Election 3	0.06* (0.03)	0.03 (0.02)	-0.10** (0.04)	-0.08* (0.04)	0.04 (0.04)	0.05 (0.04)	0.07* (0.04)	0.09** (0.04)
Share SBG X Election 4	0.15*** (0.05)	0.11** (0.04)	0.00 (0.05)	0.11** (0.05)	0.01 (0.07)	0.03 (0.06)	0.13*** (0.05)	0.13** (0.05)
Observations	13182	13057	13833	13775	13118	12937	13800	13703
DMA	76	76	76	76	76	76	76	76
Districts	178.81	177.38	186.06	185.29	162.62	159.56	173.51	172.05
Stete Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cell Distict County FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓

**Notes:** District controls same as table 2. In the odd columns, we measured the outcome using the time-invariant ideology score, while in the even columns, we measured the outcome using the time-variant score. Columns 1, 2, 5, and 6 present the outcomes as the score for the general election candidate in November running for the House of Representatives. Columns 3, 4, 7, and 8 present the outcomes as the average score among all candidates running in each party during the electoral year in the primaries to become a candidate for the House of Representatives. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. . \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

These results suggest that the introduction of a conservatively-biased network led to an increase in election of conservative candidates within the Republican Party. In the long run, it also increased the conservatism of the entire pool of Republican candidates. For

the Democratic Party, the effect was a permanent increase in the conservatism of Democratic nominees for the November elections. These findings indicate that the shift towards conservatism in the elected House of Representatives is not merely a mechanical effect of electing more Republican candidates. Instead, it reflects a broader ideological shift within both parties' nominees. Moreover, this helps explain the gradual reduction in votes for the Democratic nominee, as voters might be responding to the rightward shift of the candidate.

Finally, we examine the effect of contributions each candidate receives from various donors. One possible explanation for the impact of SBG activity may be the impact on the candidates' ability to secure donations from different donors in their constituencies. Table 4 presents results of the effects on the standardized natural logarithm of total donations from all groups and individual contributions according to the candidate's political party.

Columns 1 and 2 indicate that there have been no significant changes in the sources of financing for Democratic candidates for the November election since SBG entered the market. In contrast, the entry of SBG impacted the resources of Republican candidates. Columns 5 and 6 demonstrate a persistent increase in funding from all sources and individual sources. For instance, after two elections, there was a rise of 0.84 standard deviations in all sources of funds for Republican candidates' campaigns and a 0.78 standard deviation increase in funds from individual donations. This shows a substantial increase in the total funds raised by Republican candidates, indicating that SBG altered the total amount of money entering the campaign. These results are robust to deviations in the parallel trend assumption (Figure A.9). Furthermore, Appendix Table B.8 illustrates a similar pattern for the average funds raised from PACs, rather than party donations. This suggests that the increased ability of the Republican nominee to attract donors may partially explain their increased probability of winning the election.

TABLE 4. Effect of SBG on donations to candidates

	Democrats				Republicans			
	November election		All candidates		November election		All candidates	
	All	Individual	All	Individual	All	Individual	All	Individual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Before treatment	-0.00 (1.12)	-0.13 (0.91)	-0.09 (0.95)	-0.17 (0.76)	0.39 (1.07)	0.32 (1.03)	0.36 (1.14)	0.25 (1.04)
Before SBG entrance								
Share SBG X Election before 4 or more	0.11 (0.11)	0.10 (0.11)	0.30** (0.14)	0.25* (0.13)	0.05 (0.13)	-0.02 (0.10)	-0.07 (0.12)	-0.12 (0.10)
Share SBG X Election before 3	-0.00 (0.12)	0.10 (0.12)	0.07 (0.12)	0.03 (0.11)	0.23 (0.16)	0.21** (0.09)	0.03 (0.15)	0.02 (0.12)
Share SBG X Election before 2	0.05 (0.10)	0.06 (0.09)	0.07 (0.10)	0.05 (0.09)	0.24 (0.14)	0.30*** (0.10)	0.13 (0.13)	0.12 (0.11)
After SBG entrance								
Share SBG X Election 0	-0.06 (0.11)	0.00 (0.11)	0.09 (0.14)	0.12 (0.13)	0.13 (0.15)	0.24* (0.14)	-0.09 (0.12)	-0.09 (0.11)
Share SBG X Election 1	0.16 (0.12)	0.16 (0.11)	0.28** (0.14)	0.28** (0.14)	0.35** (0.13)	0.34** (0.14)	0.02 (0.15)	-0.02 (0.12)
Share SBG X Election 2	0.29 (0.21)	0.31 (0.23)	0.59*** (0.20)	0.51*** (0.17)	0.84*** (0.18)	0.79*** (0.16)	0.43* (0.23)	0.25 (0.17)
Share SBG X Election 3	0.05 (0.27)	0.37 (0.30)	0.43* (0.24)	0.43* (0.23)	0.65** (0.30)	0.76*** (0.23)	0.79 (0.53)	0.75* (0.44)
Share SBG X Election 4	0.89* (0.47)	0.91* (0.46)	0.48 (0.43)	0.51 (0.38)	1.50** (0.59)	1.36** (0.52)	0.23 (0.82)	0.23 (0.54)
Observations	14773	14773	14773	14773	14773	14773	14773	14773
DMA	76	76	76	76	76	76	76	76
Districts	192.43	192.43	192.43	192.43	192.43	192.43	192.43	192.43
State Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cell Distict County FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓

**Notes:** District controls same as table 2. In the odd columns, the outcome is the standardized value of the total number of contributions, while in the even columns, we show the standardized value of individual contributions. Columns 1, 2, 5, and 6 present the outcomes as the score for the General election candidate in November running for the House of Representatives. Columns 3, 4, 7, and 8 present the outcomes as the average score among all candidates running in each party during the electoral year in the primaries to become a candidate for the House of Representatives.

In the case of donations to all candidates running in elections from both parties, we observe a very different pattern. Columns 7 and 8 show no significant change in the total money raised by Republican candidates. In contrast, there was a substantial increase in the amount raised by Democratic candidates throughout the entire electoral cycle (columns 3 and 4). For instance, our results suggest an increase of around 0.59 standard deviations in the total contributions for Democratic candidates after two elections from the entry of SBG. Appendix Table B.9 also shows that this increase is not due to PAC donations, contrary to the previous results. This implies that SBG entry helped to mobilize the Democratic funding

base in support of candidates with more contributions. However, the increase in donations was largely absent for the November general elections.

There is also the possibility that the changes observed in the previous results are due to compositional effects in the donor pool. That is, the entry of SBG might have altered the distribution of donor ideology within the electoral districts. However, Appendix Table B.10 demonstrates that this is not the case. When examining the effects on the mean of the donor ideology distribution, we observe no significant changes. The same holds when analyzing changes in the top and bottom cuts of the distribution. Taken together, these findings indicate that the effects observed after SBG's entry on candidate ideology and donation behavior are driven by changes in donor strategies rather than changes in the composition of donors deciding to donate during the electoral cycle. The ideology of donors who choose to donate remains the same, what changed is their decision on whom and when to support their preferred candidates.

Altogether, the evidence shows that changes in the behavior of voters and candidates drive the electoral effects of SBG entry. Rather than simply increasing their supply of conservative candidates, we observe that the Democratic funding base responded by increasing donations to primary candidates who were liberal on average. However, this increase in funding did not translate into changes in primary results, with more conservative candidates being nominated. This may explain the large drop-off of votes for Democrats in the November House elections. On the other hand, despite an increase in the overall conservative-leaning of the districts, particularly in later stages, the Republican nominee did not become more conservative than those in control areas. This may have translated into reduced support for the candidate and lower votes in treated areas, although to a lesser magnitude than in the Democratic Party. The net effect was that the Republican party benefited.

## 8. CONCLUSION

This paper utilizes the staggered expansion of a television operator with a conservative bias, Sinclair Broadcast Group (SBG), to investigate its impact on the electoral process.

Given shifts in voter ideology towards conservatism and a growing preference for more conservative politicians, exposure to this biased media has significant implications for electoral dynamics in areas where the company expanded its operations after 2012. Following the introduction of conservative slant, these areas were more inclined to witness conservative candidates, consequently increasing the likelihood of this ideology being represented in Congress.

This study represents an attempt to explore the influence of a conservative news source on various outcomes in the elections process, such as voting, vote shares, ideologies, and donations to candidates. Furthermore, the paper highlights that this influence can manifest in both electoral results and the characteristics of candidates who choose to participate in the electoral race. This suggests that research examining the effects of media on political life must consider multiple dimensions.

Moreover, it suggests that media owners with political interests may weigh various outcomes differently according to their specific goals. While our findings primarily pertain to the nuances of the American political system, they offer valuable insights into the effects of media bias on the functioning of democracy. This underscores the disruptive impact of media on American politics and emphasizes the importance of understanding the characteristics of the political system that drive this effect. Given the unique features of this system, further analysis should investigate whether changes in candidates' ideological movements result from the primaries process and the mechanisms for selecting candidates within parties. A deeper understanding of the factors driving these changes is crucial for policy-debates on this issue.

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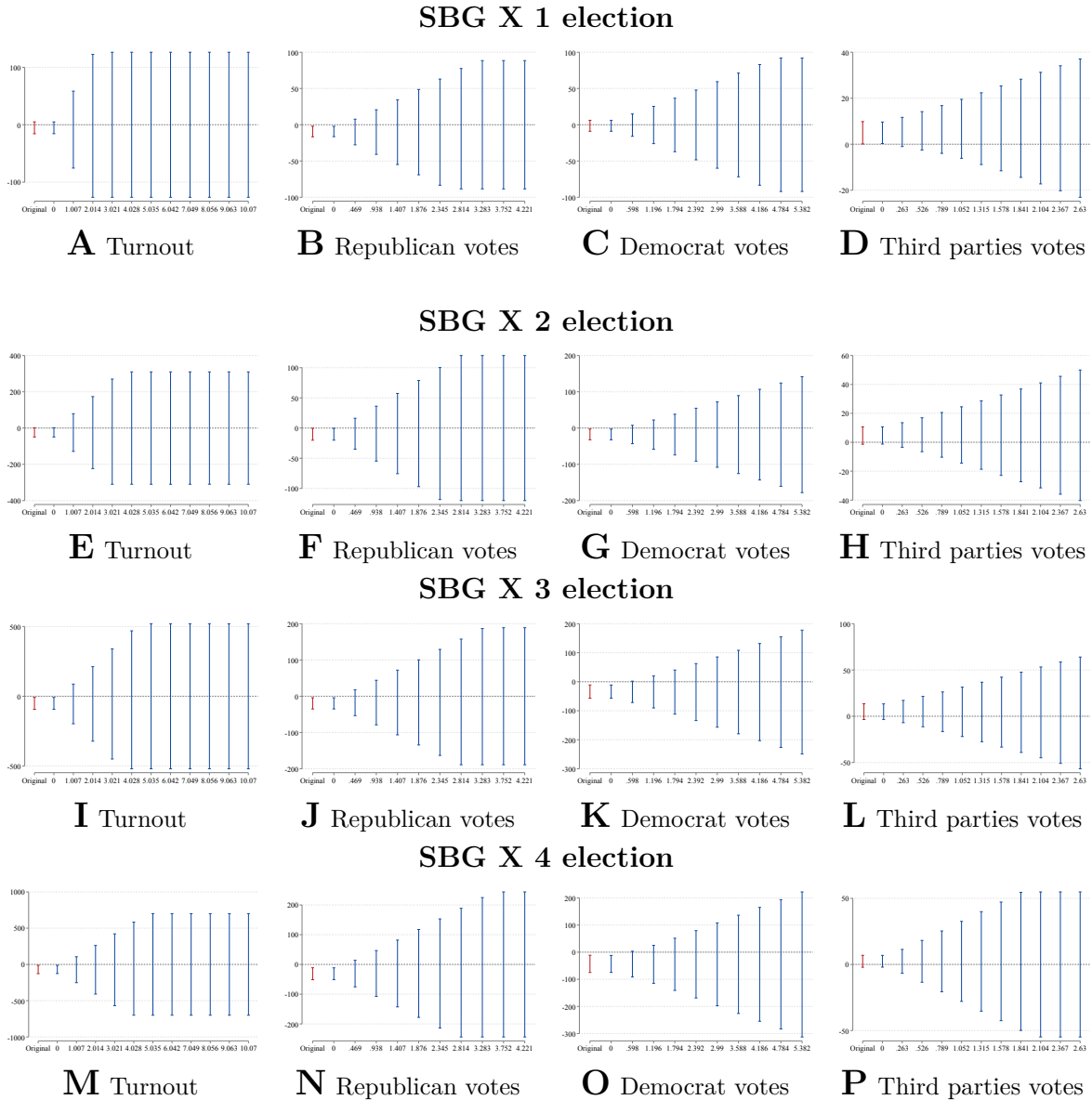


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ONLINE APPENDIX

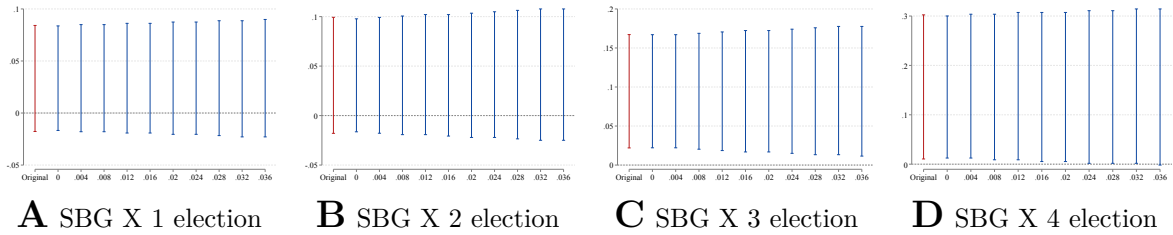
APPENDIX A. FIGURES

FIGURE A.1. Effect of SBG on congressional elections total votes - Violations of the parallel trends assumption



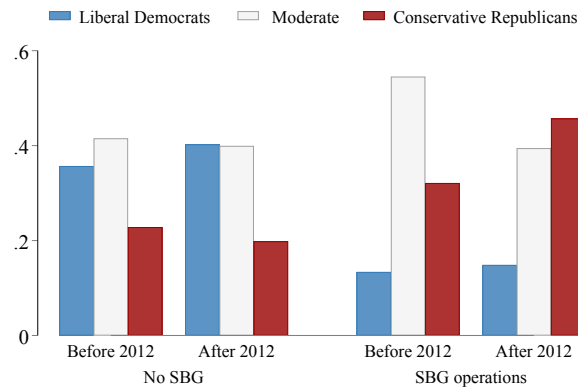
**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Figure 1. The figure displays the coefficient for elections following the Sinclair entry, with the first row representing the first election, the second row representing the second election, the third row representing the third election and the the forth row representing the forth election. The parameter M measures the magnitude of the change in trend between consecutive periods. M=0 indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).

FIGURE A.2. Effect of SBG on probability Republican win in the district - Violations of the parallel trends assumption



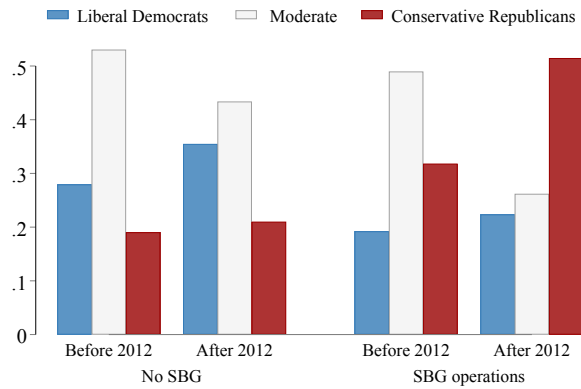
**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Figure 1. The figure displays the coefficient for elections following the Sinclair entry. The parameter M measures the magnitude of the change in trend between consecutive periods.  $M=0$  indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).

FIGURE A.3. Winners' ideology by SBG operations: DW-Nominate score



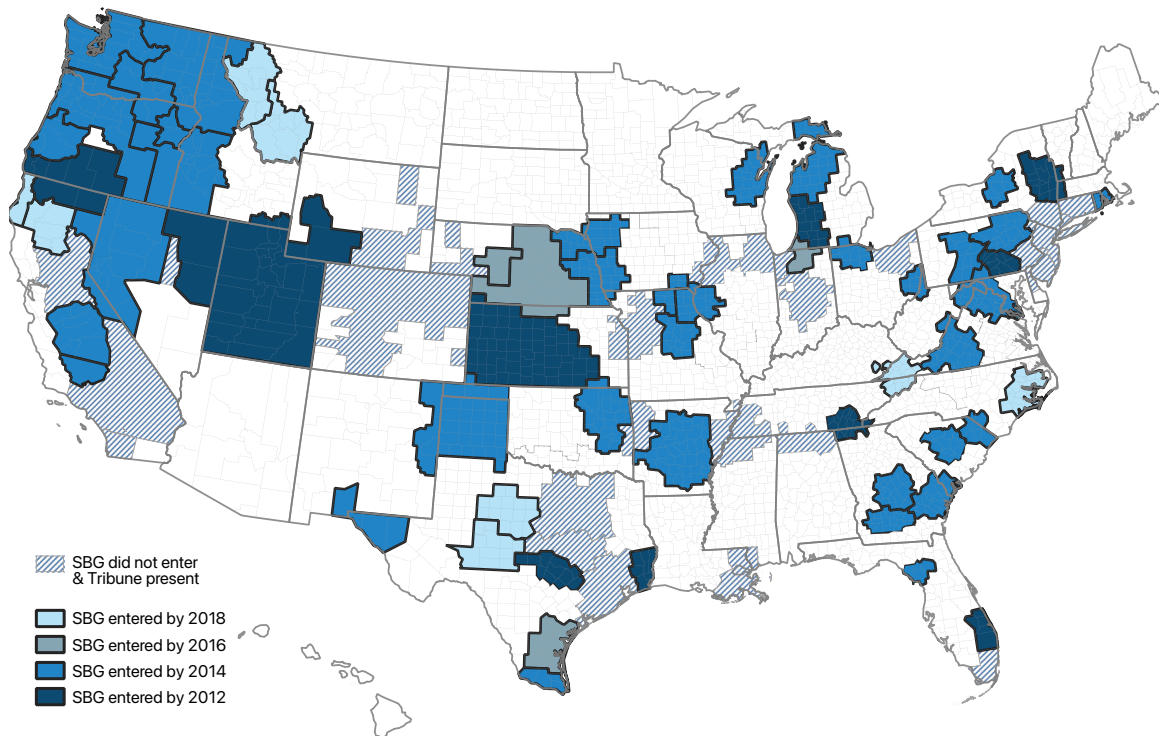
**Notes:** This graph shows the share of ideological categories of seat winners between 2012 and 2020 according SBG operations. Liberal Democrats and Conservative Republicans are defined as politicians whose Nominate scores would respectively put them into the bottom quintile or top quintile of the congress members scores in the 109th (2005-2007) congress. Appendix Table B.3 shows the average DW ideology score for treated and control areas in our sample for each year.

FIGURE A.4. Winners' ideology by SBG operations: Bonica score



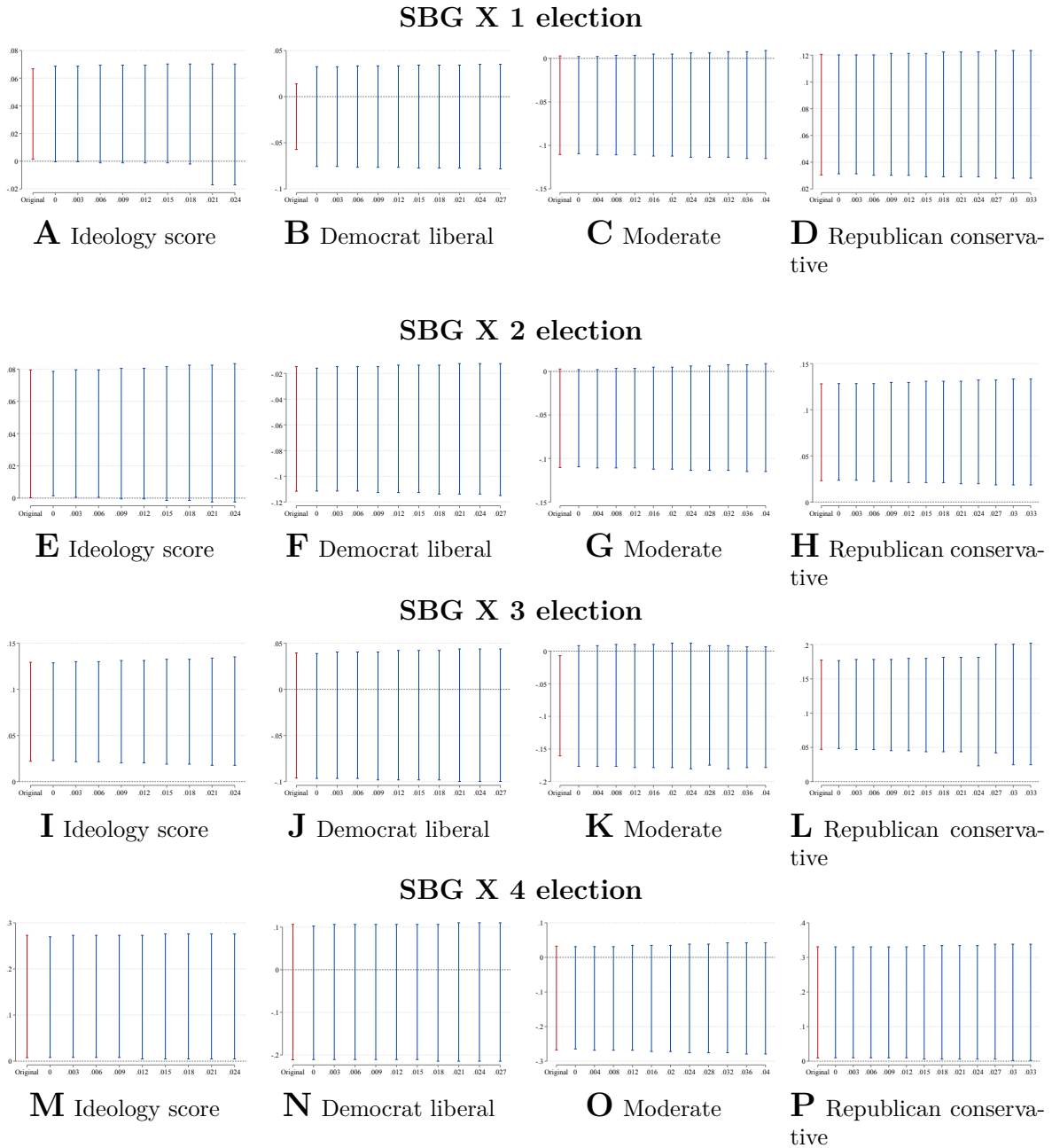
**Notes:** This graph shows the share of ideological categories of seat winners between 2012 and 2020 according to SBG operations. Liberal Democrats and Conservative Republicans are defined as politicians whose scores would respectively put them into the bottom quintile or top quintile of the congress members scores in the 109th (2005-2007) congress as in figure A.3 but using Bonica scores.

FIGURE A.5. Regional distribution SBG operations



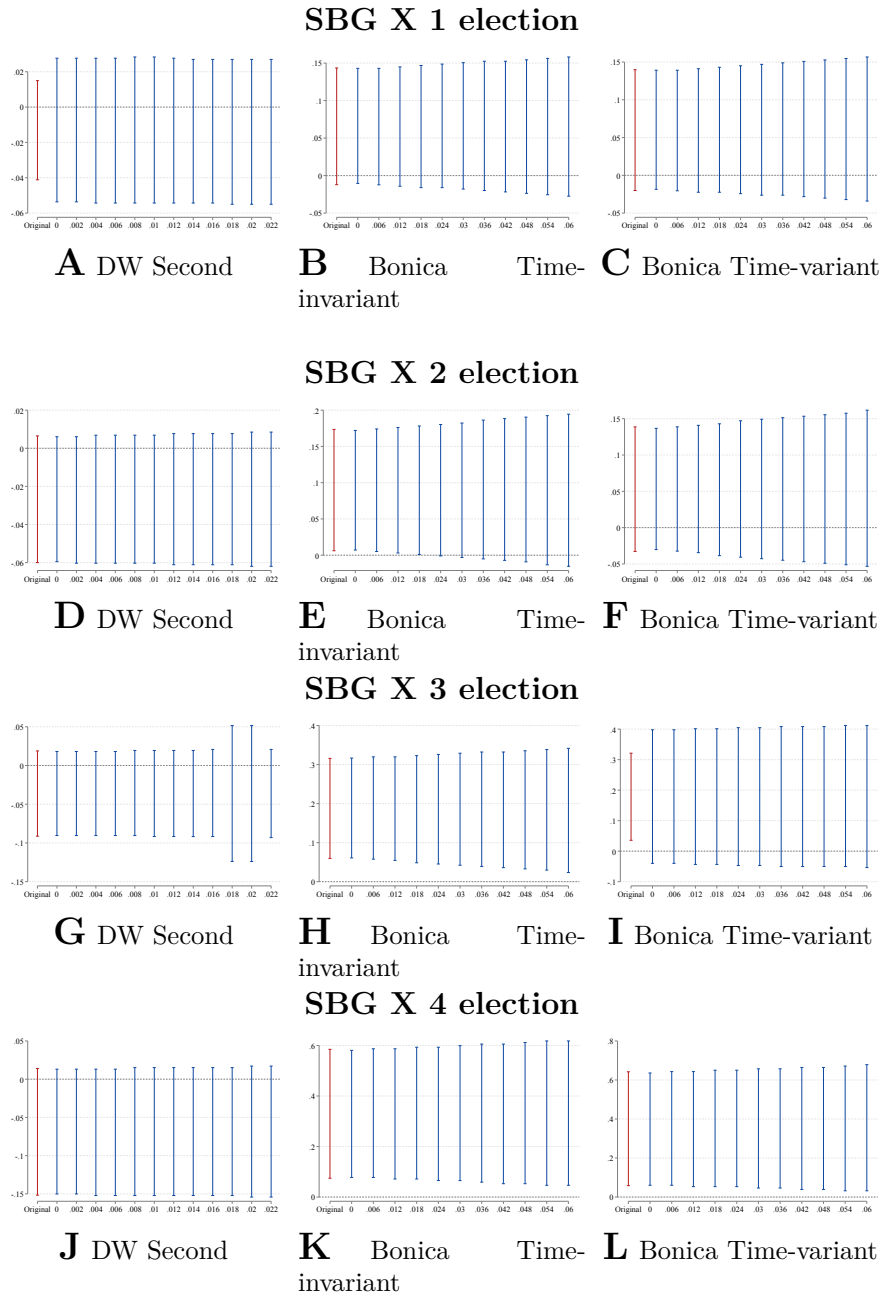
**Notes:** This map presents the spatial distribution of counties where SBG operates and their market entry dates. It also shows counties without SBG operations that have a Tribune presence. White areas represent media markets where SBG operated before 2004 or where it did not.

FIGURE A.6. Effect SBG on ideology - DW-Nominate score of winner House election - Violations of the parallel trends assumption



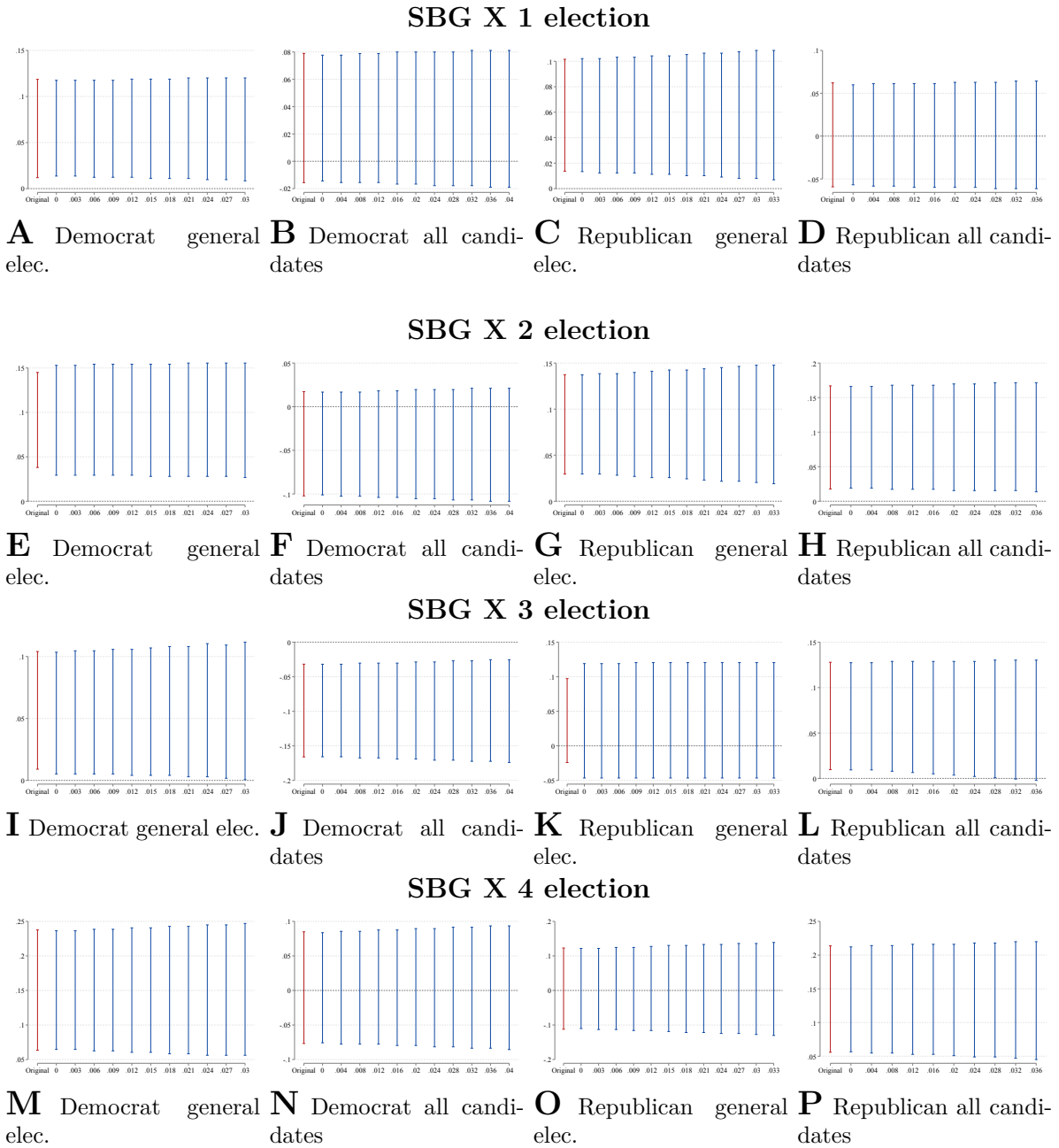
**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Table 2. The figure displays the coefficient for elections following the Sinclair entry, with the first row representing the first election, the second row representing the second election, the third row representing the third election and the the fourth row representing the forth election. The parameter M measures the magnitude of the change in trend between consecutive periods. M=0 indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).

FIGURE A.7. Effect of SBG on ideology - Different ideologies measures - Violations of the parallel trends assumption



**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Table B.7. The figure displays the coefficient for elections following the Sinclair entry, with the first row representing the first election, the second row representing the second election, the third row representing the third election and the the fourth row representing the fourth election. The parameter M measures the magnitude of the change in trend between consecutive periods. M=0 indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).

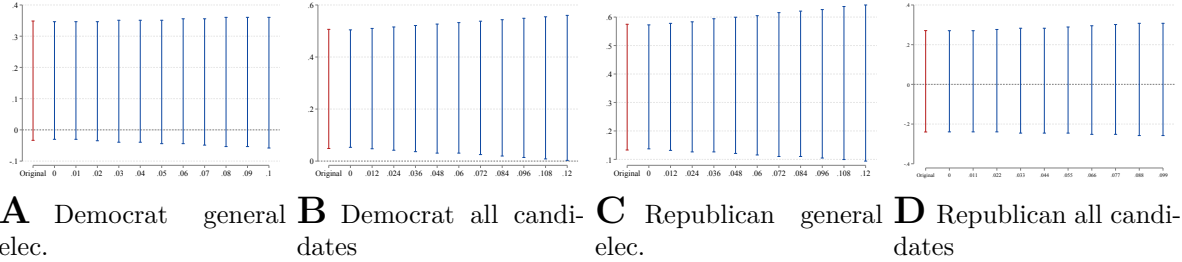
FIGURE A.8. Effect of SBG on ideology - Bonica score invariant score - Violations of the parallel trends assumption



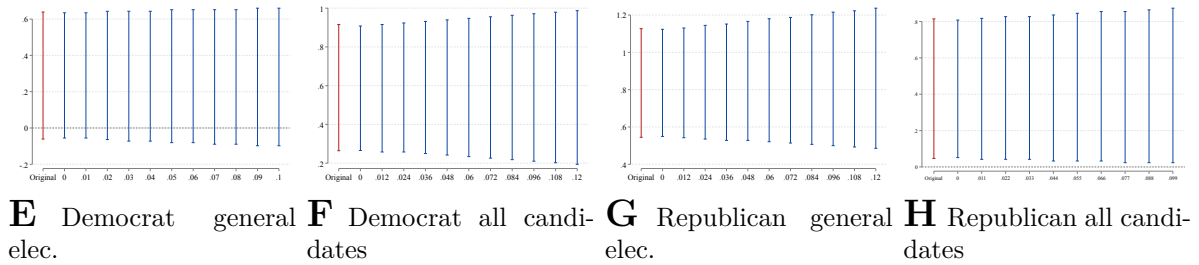
**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Table 3. The figure displays the coefficient for elections following the Sinclair entry, with the first row representing the first election, the second row representing the second election, the third row representing the third election and the the fourth row representing the fourth election. The parameter M measures the magnitude of the change in trend between consecutive periods. M=0 indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).

FIGURE A.9. Effect of SBG on donations to candidates - Total contributions  
- Violations of the parallel trends assumption

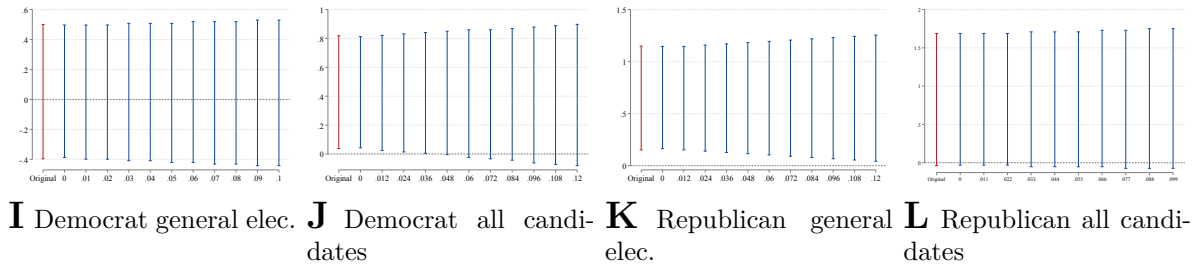
**SBG X 1 election**



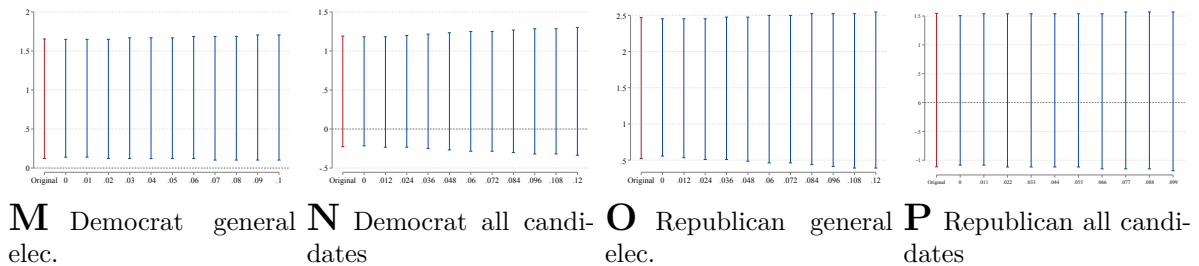
**SBG X 2 election**



**SBG X 3 election**



**SBG X 4 election**



**Notes:** This figure presents the 90% confidence interval for both linear and non-linear violations of the parallel trends assumption, following [Rambachan and Roth \(2023\)](#) for estimations in Table 4. The figure displays the coefficient for elections following the Sinclair entry, with the first row representing the first election, the second row representing the second election, the third row representing the third election and the the fourth row representing the fourth election. The parameter M measures the magnitude of the change in trend between consecutive periods. M=0 indicates a linear violation of the assumption of parallel trends. The maximum value of M corresponds to the trend that has an 80% probability of being detected, given the precision of the pre-period estimates ([Roth, 2022](#)).



## APPENDIX B. TABLES

TABLE B.1. State assignment comparison states without Tribune

Original State (1)	Assigned (2)
MD	PA
GA	AL
KY	TN
WI	IL
ID	WY
MT	WY
MI	IN
NC	TN
SC	TN
VA	TN
WV	TN
NM	CO
UT	CO
OR	CA
WA	CA
RI	CT
SD	NE
VT	NY
MA	NY
DC	PA

**Notes:** This table shows the assignment of states without Tribune operations to neighboring states with operations. Column 1 lists the original states, and column 2 shows their assignment. See Figure A.5 for details on SBG and Tribune station distribution on the US map.

TABLE B.2. Descriptive statistics by cohort SBG entry

Variable	Control	Cohort 2012		Cohort 2014		Cohort 2016		Cohort 2018	
	Stat (1)	Stat (2)	Diff (3)	Stat (4)	Diff (5)	Stat (6)	Diff (7)	Stat (8)	Diff (9)
<i>Panel A: Socio economic and geographical characteristics</i>									
Log (Population)	2.463 (0.182)	2.315 (0.171)	-0.075**	2.337 (0.138)	-0.120***	2.189 (0.173)	-0.054	2.281 (0.136)	-0.188***
Share female population	0.505 (0.016)	0.499 (0.015)	-0.002*	0.501 (0.021)	-0.006***	0.500 (0.014)	-0.003	0.495 (0.033)	-0.008***
Share black population	0.760 (0.169)	0.892 (0.082)	0.098***	0.811 (0.166)	0.077***	0.935 (0.063)	0.051*	0.826 (0.145)	0.120***
Share hispanic population	0.157 (0.141)	0.099 (0.101)	-0.065**	0.096 (0.152)	-0.030	0.138 (0.241)	0.144	0.134 (0.150)	0.001
Share american indian population	0.007 (0.013)	0.010 (0.035)	0.004	0.019 (0.058)	0.008**	0.004 (0.002)	-0.007	0.012 (0.025)	0.007*
Share asian population	0.038 (0.048)	0.010 (0.011)	-0.019***	0.015 (0.026)	-0.022***	0.005 (0.006)	-0.009*	0.007 (0.008)	-0.027***
Share population age 25-34 yo	0.125 (0.023)	0.116 (0.022)	-0.008*	0.116 (0.022)	-0.009***	0.102 (0.018)	-0.008**	0.115 (0.022)	-0.014***
Share population age 35-44 yo	0.131 (0.015)	0.118 (0.016)	-0.010***	0.122 (0.016)	-0.008***	0.109 (0.013)	-0.008*	0.119 (0.016)	-0.013***
Share population age 45-54 yo	0.150 (0.015)	0.145 (0.017)	-0.007	0.148 (0.015)	-0.001	0.151 (0.014)	-0.002	0.149 (0.014)	0.002
Share population age 55-64 yo	0.123 (0.020)	0.128 (0.023)	0.003	0.132 (0.023)	0.008**	0.137 (0.018)	0.004	0.141 (0.022)	0.017***
Share population age over 65 yo	0.138 (0.035)	0.162 (0.050)	0.019**	0.156 (0.040)	0.018***	0.189 (0.045)	0.015	0.170 (0.036)	0.040***
Share rural population	0.319 (0.325)	0.557 (0.337)	0.155***	0.534 (0.318)	0.183***	0.705 (0.327)	0.081*	0.621 (0.318)	0.203***
Share population above 25 year with some college	0.156 (0.061)	0.129 (0.043)	-0.032***	0.120 (0.050)	-0.027***	0.117 (0.035)	-0.029***	0.112 (0.041)	-0.020***
Share of agriculture employment	0.032 (0.053)	0.075 (0.074)	0.016*	0.052 (0.050)	0.019**	0.139 (0.109)	0.010	0.090 (0.074)	0.061***
Share of manufacturing employment	0.111 (0.063)	0.104 (0.074)	0.009	0.120 (0.065)	-0.007	0.107 (0.099)	0.016	0.085 (0.058)	-0.037***
Share of labor force	0.501 (0.057)	0.511 (0.061)	-0.014	0.486 (0.062)	-0.002	0.533 (0.051)	0.015	0.470 (0.075)	0.005
Share of employment	0.905 (0.024)	0.919 (0.031)	0.000	0.903 (0.033)	-0.000	0.942 (0.031)	0.001	0.908 (0.029)	0.006
Crimes per 10000 inhabitants	34.111 (31.365)	24.624 (17.320)	-10.397***	26.838 (24.393)	-10.474***	13.974 (18.132)	-1.513	30.404 (20.927)	-13.713*
Log(Average household income)	10.841 (0.276)	10.719 (0.183)	-0.089**	10.661 (0.260)	-0.132***	10.598 (0.171)	-0.114	10.527 (0.163)	-0.199***
Log(Federal expenditure +1)	13.616 (3.026)	12.391 (1.706)	-0.391	12.645 (1.525)	-1.094***	11.249 (1.472)	-0.497	12.138 (1.340)	-1.931***
Share of population with medicare	0.124 (0.036)	0.148 (0.049)	0.016**	0.142 (0.041)	0.017***	0.179 (0.047)	0.013	0.153 (0.033)	0.038***
Share of population with no health insurance	0.125 (0.040)	0.116 (0.029)	-0.011*	0.117 (0.037)	-0.002	0.112 (0.034)	0.001	0.135 (0.040)	-0.000
Housing unites per 1000 inhabitants	443.737 (117.575)	482.556 (139.479)	16.261	476.732 (120.573)	44.229**	504.760 (84.108)	14.841	506.337 (99.579)	78.350***
Share of population receiving social security benefits	0.179 (0.049)	0.206 (0.055)	0.027**	0.211 (0.057)	0.027***	0.224 (0.049)	0.009	0.235 (0.050)	0.053***
Share of veteran population	0.073 (0.023)	0.083 (0.021)	0.010	0.090 (0.024)	0.015***	0.087 (0.020)	-0.000	0.091 (0.024)	0.014***
Infant under 1 year mortality rate	6.427 (4.904)	7.124 (9.866)	-0.210	7.159 (6.762)	0.154	13.622 (44.690)	8.261**	8.639 (11.876)	1.322
Water use per capita	4.012 (15.155)	6.843 (12.664)	0.357	4.559 (13.108)	1.496	16.464 (23.967)	3.065	5.884 (17.912)	2.263

*Continue... .*

*Panel B: Political characteristics*

Preference Democrats	0.492 (0.158)	0.336 (0.136)	-0.111***	0.438 (0.135)	-0.041*	0.334 (0.138)	0.047	0.362 (0.128)	-0.069**
Preference Democrats in House 2000	0.422 (0.180)	0.282 (0.152)	-0.097***	0.368 (0.189)	-0.066**	0.253 (0.162)	0.091	0.297 (0.164)	-0.053**
No Democrat candidate 2000	0.018 (0.133)	0.033 (0.180)	0.025	0.091 (0.289)	0.106*	0.000 (0.000)	-0.029	0.054 (0.227)	0.041
Tea party portestors per million	1.245 (4.900)	3.149 (31.026)	0.419	1.706 (20.092)	0.161	0.467 (1.718)	-0.813	1.363 (3.759)	-0.648
Tea party contributions per 1000	3.959 (11.467)	4.174 (15.701)	-0.053	3.609 (15.736)	0.442	11.175 (82.250)	12.919	8.431 (30.198)	4.075
Longitude pop weighted centroid	-91.735 (13.586)	-95.792 (13.155)	-1.896**	-93.607 (15.498)	-0.954	-96.981 (4.482)	0.344	-95.437 (15.440)	-1.163
Latitude pop weighted centroid	37.549 (4.238)	38.105 (4.310)	0.819	39.256 (4.865)	2.379***	38.934 (4.958)	-1.008	36.717 (4.929)	1.636*
DW Idiology score 2010	-0.005 (0.159)	0.024 (0.053)	0.022	0.010 (0.057)	0.010	0.013 (0.029)	-0.017	0.016 (0.022)	-0.014
DW Idiology score: Second 2010	0.017 (0.285)	-0.097 (0.356)	0.008	0.126 (0.342)	0.060	0.127 (0.218)	-0.037	0.088 (0.306)	0.119
Bonica Idiology score: time invariant 2010	0.543 (0.842)	0.834 (0.766)	-0.017	0.706 (0.722)	0.116	0.945 (0.635)	-0.347*	0.911 (0.650)	0.046
Bonica Idiology score: no missing 2010	1.000 (0.000)	1.000 (0.000)	0.000	0.995 (0.069)	-0.010	1.000 (0.000)	0.000	0.957 (0.204)	-0.045
Democrat candidate ideology score 2010	-0.189 (0.216)	-0.078 (0.081)	0.078**	-0.071 (0.094)	0.127***	-0.025 (0.035)	0.063	-0.042 (0.032)	0.151**
Republican candidate ideology score 2010	0.229 (0.281)	0.098 (0.096)	-0.105***	0.099 (0.109)	-0.141***	0.056 (0.060)	-0.038	0.055 (0.036)	-0.213***
House republican winner 2010	0.110 (0.157)	0.064 (0.079)	-0.032	0.052 (0.063)	-0.062***	0.029 (0.044)	-0.038	0.038 (0.029)	-0.093***

**Notes:** This table presents county characteristics according to SBG operation in the county. Columns 1, 2, 4, 6 and 8 show the mean and standard deviation (in parentheses). Columns 3, 5, 7 and 9 present the difference in comparison with the control groups where there is no SBG operation once controlling for state fixed effects. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

TABLE B.3. Ideology in district by year

	Share Treated (1)	Ideology Control (2)	Ideology Treated (3)
2004	0.000	-0.033	0.086
2006	0.000	-0.070	0.053
2008	0.000	-0.078	0.033
2010	0.000	-0.018	0.165
2012	0.085	-0.069	0.177
2014	0.332	-0.065	0.190
2016	0.346	-0.075	0.201
2018	0.365	-0.183	0.168
2020	0.365	-0.154	0.191
Before 2012	0.000	-0.050	0.084
After 2012	0.299	-0.109	0.186

**Notes:** Column one shows the share of treated districts each year. Columns 2 and 3 show the average DW ideology score in treated and control districts.

TABLE B.4. Effect of SBG on ideology: DW-Nominate score of winner House election using model suggested by de Chaisemartin and d'Haultfoeuille (2021)

	Ideology Score (1)	Prob. that winner was		
		Democrat Liberal (2)	Moderate (3)	Republican Conservative (4)
Before treatment	0.17 (0.42)	0.14 (0.34)	0.45 (0.50)	0.42 (0.49)
Before SBG entrance				
Share SBG X Election before 4 or more	-0.01 (0.02)	-0.05*** (0.01)	0.05* (0.03)	-0.00 (0.03)
Share SBG X Election before 3	-0.02 (0.02)	-0.01 (0.02)	0.00 (0.04)	0.01 (0.03)
Share SBG X Election before 2	0.05*** (0.01)	-0.02 (0.01)	-0.05** (0.02)	0.07*** (0.02)
After SBG entrance				
Share SBG X Election 0				
Share SBG X Election 1	0.04*** (0.01)	-0.02 (0.01)	-0.06*** (0.02)	0.07*** (0.01)
Share SBG X Election 2	0.02** (0.01)	-0.04** (0.02)	-0.03 (0.03)	0.07*** (0.01)
Share SBG X Election 3	0.07*** (0.01)	-0.01 (0.03)	-0.10** (0.04)	0.11*** (0.02)
Share SBG X Election 4	0.15*** (0.02)	-0.05 (0.04)	-0.12*** (0.04)	0.17*** (0.02)
State-Year FE	✓	✓	✓	✓
Cell Distict County FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓

**Notes:** District controls same as Table 2. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

TABLE B.5. Effect of SBG on ideology: DW-Nominate score of winner House election sample states with both Tribune and SBG operations

	Ideology Score (1)	Prob. that winner was		
		Democrat Liberal (2)	Moderate (3)	Republican Conservative (4)
Before treatment	0.26 (0.37)	0.09 (0.28)	0.40 (0.49)	0.52 (0.50)
Before SBG entrance				
Share SBG X Election before 4 or more	-0.04 (0.05)	-0.08** (0.03)	0.17*** (0.06)	-0.08* (0.05)
Share SBG X Election before 3	-0.00 (0.05)	-0.03 (0.03)	0.03 (0.05)	0.00 (0.05)
Share SBG X Election before 2	0.05 (0.04)	0.01 (0.03)	-0.07 (0.05)	0.07 (0.05)
After SBG entrance				
Share SBG X Election 0	0.02 (0.04)	0.00 (0.03)	-0.04 (0.03)	0.04 (0.04)
Share SBG X Election 1	0.03 (0.04)	-0.02 (0.03)	-0.03 (0.04)	0.05 (0.04)
Share SBG X Election 2	0.09** (0.03)	-0.07* (0.04)	0.00 (0.05)	0.07 (0.05)
Share SBG X Election 3	0.14** (0.06)	-0.04 (0.06)	-0.10 (0.07)	0.14* (0.08)
Share SBG X Election 4	0.16 (0.12)	-0.02 (0.12)	-0.19** (0.09)	0.21* (0.12)
Observations	10380	10380	10380	10380
DMA	53	53	53	53
Districts	145.74	145.74	145.74	145.74
State-Year FE	✓	✓	✓	✓
Cell District County FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓

**Notes:** District controls same as table 2. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

TABLE B.6. Effect of SBG on ideology: DW-Nominate score of winner House election by cohorts

	Ideology with cohorts until			
	2012	2014	2016	2018
	(1)	(2)	(3)	(4)
Before treatment	0.29 (0.40)	0.15 (0.42)	0.16 (0.42)	0.17 (0.42)
Before SBG entrance				
Share SBG X Election before 4 or more	0.08** (0.03)	-0.03 (0.03)	-0.05 (0.03)	-0.03 (0.03)
Share SBG X Election before 3	0.08 (0.05)	-0.00 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Share SBG X Election before 2	0.11 (0.06)	0.06** (0.03)	0.05* (0.03)	0.05** (0.03)
After SBG entrance				
Share SBG X Election 0	0.07 (0.05)	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)
Share SBG X Election 1	0.09 (0.05)	0.03 (0.02)	0.03 (0.02)	0.03* (0.02)
Share SBG X Election 2	0.09* (0.05)	0.04* (0.03)	0.04 (0.02)	0.04 (0.02)
Share SBG X Election 3	0.19** (0.08)	0.08** (0.03)	0.08** (0.03)	0.08** (0.03)
Share SBG X Election 4	0.15* (0.08)	0.14* (0.08)	0.14* (0.08)	0.14* (0.08)
Observations	8412	13447	14188	14773
DMA	30	65	69	76
Districts	138.27	185.81	189.20	192.43
State-Year FE	✓	✓	✓	✓
Cell Distict County FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓
2012 Cohort	✓	✓	✓	✓
2014 Cohort		✓	✓	✓
2016 Cohort			✓	✓
2018 Cohort				✓

**Notes:** District controls same as Table 2. The sample in this table includes cohorts in an additive manner. The sample in Column 1 consists only of the 2012 cohort. Column 2 includes the 2012 and 2014 cohorts. Column 3 includes the 2012, 2014, and 2016 cohorts. Column 4 includes the whole sample and includes all cohorts. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

TABLE B.7. Effect of SBG on ideology: Different ideology measures

	DW Baseline (1)	DW Second (2)	Bonica Time-invariant (3)	Bonica Time-variant (4)
Before treatment	0.17 (0.42)	0.00 (0.30)	0.46 (0.89)	0.47 (0.86)
Before SBG entrance				
Share SBG X Election before 4 or more	-0.03 (0.03)	-0.01 (0.03)	-0.12* (0.07)	-0.11 (0.07)
Share SBG X Election before 3	-0.01 (0.03)	0.01 (0.02)	0.01 (0.08)	0.03 (0.08)
Share SBG X Election before 2	0.05** (0.03)	-0.03 (0.02)	0.12* (0.06)	0.12* (0.07)
After SBG entrance				
Share SBG X Election 0	0.03 (0.02)	-0.01 (0.01)	0.06 (0.04)	0.05 (0.04)
Share SBG X Election 1	0.03* (0.02)	-0.01 (0.02)	0.07 (0.05)	0.06 (0.05)
Share SBG X Election 2	0.04 (0.02)	-0.03 (0.02)	0.09* (0.05)	0.05 (0.05)
Share SBG X Election 3	0.08** (0.03)	-0.04 (0.03)	0.19** (0.08)	0.18** (0.09)
Share SBG X Election 4	0.14* (0.08)	-0.07 (0.05)	0.33** (0.16)	0.35* (0.18)
Observations	14773	14773	14378	14286
DMA	76	76	76	76
Districts	192.43	192.43	187.43	186.29
State-Year FE	✓	✓	✓	✓
Cell District County FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓

**Notes:** District controls same as table 2. Observations are weighted by a cell's share of total district population. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.



TABLE B.8. Effect of SBG on candidates' contributions: November elections

	Democrats				Republicans			
	Total (1)	Individual (2)	PAC (3)	Party (4)	Total (5)	Individual (6)	PAC (7)	Party (8)
Before treatment	-0.00 (1.12)	-0.13 (0.91)	0.02 (1.42)	0.68 (1.65)	0.39 (1.07)	0.32 (1.03)	0.56 (1.48)	0.22 (1.33)
Before SBG entrance								
Share SBG X Election before 4 or more	0.11 (0.12)	0.10 (0.12)	0.20* (0.10)	-0.11 (0.18)	0.05 (0.13)	-0.02 (0.10)	0.02 (0.14)	0.36 (0.22)
Share SBG X Election before 3	-0.00 (0.12)	0.10 (0.12)	0.23* (0.13)	0.04 (0.19)	0.23 (0.16)	0.21** (0.09)	0.19 (0.12)	0.52** (0.23)
Share SBG X Election before 2	0.05 (0.10)	0.06 (0.09)	0.19 (0.12)	0.10 (0.19)	0.24 (0.14)	0.30*** (0.10)	0.24** (0.10)	0.56*** (0.16)
After SBG entrance								
Share SBG X Election 0	-0.06 (0.11)	0.00 (0.11)	0.15 (0.09)	-0.22 (0.14)	0.13 (0.15)	0.24* (0.14)	0.16 (0.11)	0.12 (0.20)
Share SBG X Election 1	0.16 (0.12)	0.16 (0.11)	0.13 (0.09)	-0.22 (0.18)	0.35** (0.13)	0.34** (0.14)	0.37*** (0.13)	0.26 (0.27)
Share SBG X Election 2	0.29 (0.22)	0.31 (0.24)	0.18 (0.13)	-0.21 (0.18)	0.84*** (0.18)	0.79*** (0.16)	0.69*** (0.22)	0.58 (0.89)
Share SBG X Election 3	0.05 (0.28)	0.37 (0.31)	0.28 (0.21)	-0.08 (0.24)	0.65** (0.31)	0.76*** (0.24)	0.67*** (0.16)	0.35 (0.37)
Share SBG X Election 4	0.89* (0.46)	0.91* (0.46)	0.64** (0.26)	0.11 (0.33)	1.50** (0.58)	1.36*** (0.51)	0.77*** (0.22)	-0.03 (0.28)
Observations	14773	14773	14773	14773	14773	14773	14773	14773
DMA	76	76	76	76	76	76	76	76
Districts	1731.91	1731.91	1731.91	1731.91	1731.91	1731.91	1731.91	1731.91
State Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cell District County FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓

**Notes:** District controls same as table 2. In columns 1 and 5, the outcome is the standardized value of the total contributions. In columns 2 and 6, the outcome is the standardized value of individual contributions. In columns 3 and 7, the outcome is the standardized value of contributions from PACs. In columns 4 and 8, the outcome is the standardized value of party contributions. All results are for the General election candidates in November running for the House of Representatives. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

TABLE B.9. Effect of SBG on candidates' contributions: All candidates

	Democrats				Republicans			
	Total (1)	Individual (2)	PAC (3)	Party (4)	Total (5)	Individual (6)	PAC (7)	Party (8)
Before treatment	-0.09 (0.95)	-0.17 (0.76)	-0.04 (1.32)	0.68 (1.65)	0.36 (1.14)	0.25 (1.04)	0.37 (1.24)	0.17 (1.35)
Before SBG entrance								
Share SBG X Election before 4 or more	0.30** (0.14)	0.25* (0.13)	0.35** (0.14)	-0.34* (0.20)	-0.07 (0.13)	-0.12 (0.11)	0.04 (0.14)	0.35 (0.25)
Share SBG X Election before 3	0.07 (0.12)	0.03 (0.11)	0.29** (0.13)	-0.16 (0.17)	0.03 (0.15)	0.02 (0.12)	0.10 (0.13)	0.56* (0.30)
Share SBG X Election before 2	0.07 (0.10)	0.05 (0.09)	0.13 (0.11)	0.03 (0.21)	0.13 (0.13)	0.12 (0.11)	0.25** (0.11)	0.61** (0.24)
After SBG entrance								
Share SBG X Election 0	0.09 (0.14)	0.12 (0.13)	0.17 (0.14)	-0.29* (0.17)	-0.09 (0.12)	-0.09 (0.11)	0.05 (0.12)	0.03 (0.18)
Share SBG X Election 1	0.28** (0.14)	0.28** (0.14)	0.18 (0.17)	-0.38** (0.16)	0.02 (0.16)	-0.02 (0.12)	0.17 (0.18)	0.23 (0.22)
Share SBG X Election 2	0.59*** (0.20)	0.51*** (0.17)	0.49** (0.20)	-0.39* (0.21)	0.43* (0.24)	0.25 (0.18)	0.51** (0.24)	0.61** (0.28)
Share SBG X Election 3	0.43* (0.24)	0.43* (0.23)	0.28 (0.19)	-0.13 (0.25)	0.79 (0.54)	0.75* (0.45)	0.65*** (0.20)	0.72*** (0.25)
Share SBG X Election 4	0.48 (0.43)	0.51 (0.37)	0.58** (0.28)	-0.25 (0.31)	0.23 (0.81)	0.23 (0.52)	0.26 (0.27)	-0.03 (0.21)
Observations	14773	14773	14773	14773	14773	14773	14773	14773
DMA	76	76	76	76	76	76	76	76
Districts	192.43	192.43	192.43	192.43	192.43	192.43	192.43	192.43
Stete Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cell Distict County FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓

**Notes:** District controls same as table 2. In columns 1 and 5, the outcome is the standardized value of the total contributions. In columns 2 and 6, the outcome is the standardized value of individual contributions. In columns 3 and 7, the outcome is the standardized value of contributions from PACs. In columns 4 and 8, the outcome is the standardized value of party contributions. All results are for the average score among all candidates running in each party during the electoral year for the House of Representatives. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

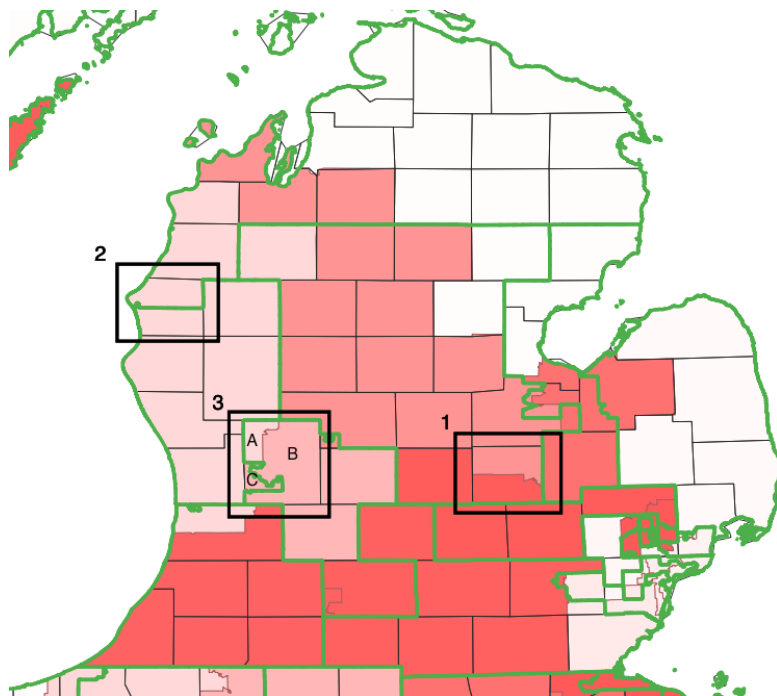
TABLE B.10. Effect of SBG on donors ideology

	Individual			Total		
	Mean (1)	Per. 20th (2)	Per. 0th (3)	Mean (4)	Per. 20th (5)	Per. 80th (6)
Before treatment	0.38 (0.38)	-0.49 (0.56)	1.15 (0.27)	0.42 (0.36)	-0.36 (0.55)	1.06 (0.36)
Before SBG entrance						
Share SBG X Election before 4 or more	-0.06 (0.04)	-0.14 (0.09)	0.01 (0.04)	-0.06* (0.03)	-0.09 (0.06)	-0.00 (0.04)
Share SBG X Election before 3	-0.04 (0.03)	-0.09 (0.06)	-0.05 (0.04)	-0.04 (0.03)	-0.06 (0.05)	0.01 (0.05)
Share SBG X Election before 2	-0.01 (0.03)	-0.04 (0.06)	0.00 (0.02)	-0.03 (0.03)	-0.13** (0.06)	0.04 (0.02)
After SBG entrance						
Share SBG X Election 0	-0.00 (0.02)	-0.09 (0.05)	0.00 (0.02)	-0.00 (0.02)	-0.05 (0.05)	0.04 (0.03)
Share SBG X Election 1	0.01 (0.03)	-0.05 (0.05)	-0.01 (0.02)	0.02 (0.03)	0.04 (0.05)	0.04* (0.02)
Share SBG X Election 2	0.01 (0.04)	-0.05 (0.06)	-0.01 (0.08)	-0.01 (0.05)	0.06 (0.06)	-0.01 (0.08)
Share SBG X Election 3	0.02 (0.04)	-0.06 (0.08)	-0.03 (0.07)	0.04 (0.04)	0.05 (0.07)	0.03 (0.07)
Share SBG X Election 4	-0.00 (0.05)	-0.10 (0.11)	0.01 (0.11)	0.01 (0.06)	-0.12 (0.10)	-0.02 (0.10)
Observations	14755	14755	14755	14755	14755	14755
DMA	76	76	76	76	76	76
Districts	192.36	192.36	192.36	192.36	192.36	192.36
State-Year FE	✓	✓	✓	✓	✓	✓
Cell District County FE	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

**Notes:** District controls same as table 2. We measured ideology using the time-invariant ideology scores of donors residing within electoral districts. Columns 1, 2, and 3 present the results based on the distribution of individual donors, while Columns 4, 5, and 6 include the distribution of all donors, encompassing both individual and organizational donors. In Columns 1 and 4, the outcomes represent the mean ideology score of donors within the electoral district. In Columns 2 and 5, the outcomes correspond to the bottom quintile of the ideology score of donors in the district. Finally, in Columns 3 and 6, the outcomes reflect the top quintile of the ideology score of donors within the electoral district. Standard errors in parentheses are clustered at the Media Market. \* is significant at the 10% level, \*\* is significant at the 5% level, \*\*\* is significant at the 1% level.

## APPENDIX C. ADJUSTING FOR REDISTRICTING

FIGURE C.10. House electoral districts Michigan before 2012 and after 2012



**Notes:** This figure shows the distribution of House electoral districts in Michigan. Black contours represent county boundaries. The red color scale indicates the House electoral districts before the 2012 election, and the green contours represent the House electoral districts after the 2012 election.

With respect to the redrawing of electoral districts to ensure compatibility, we follow [Autor et al. \(2020\)](#) and translate new districts into previous draws using the distribution of the voting-age population in 2010 (before SBG expansion). We explain the logic in detail using the following example from the case of Michigan in figure C.10.

In square number one, there is the case of a county split into two different electoral districts before 2012 (112th Congress and before) and united into a single district after 2012 (113th Congress and after). In this case, the data will include two observations for all the years in our sample. The weight of each observation will be equivalent to the share of the voting population in each portion of the corresponding electoral district before 2012. For outcomes before 2012, we assigned each observation the outcomes of their respective districts. After 2012, the result will be the same for both observations, reflecting the outcome of the electoral district they belong to.

In square number two, there is the case of a county united in a single district before 2012 and split into two districts after 2012. In this case, the data will include one observation

before 2012 and two after 2012. The weight of each observation after 2012 will be equal to the same weight as the single unit before 2012. It will represent the distribution of the voting-age population 2012 between these two divisions. We assigned each of these units the respective outcome in their electoral district.

In square number three, there is the case of a county split into two districts before 2012 and again into two different districts after the redrawing. In this case, our data will contain two observations with the same county information from before 2012 and three observations after. Since the first part (A) didn't get split (i.e., all the parts belong to the same district), the weight will be the same in both periods. Conversely, in the second part, which authorities divided into two different districts (areas B and C), their weights after 2012 will sum to the same weight as the unit's weight before the redraw, according to the distribution of the voting-age population between these two areas. The outcome in part A will be the same as in part B after 2012, while the outcome in part C will be different, corresponding to the outcome in each of their districts.