

Why Compete for Firms?: Electoral Effects of Corporate Headquarters Relocation*

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Abstract

Why do local and state governments in the U.S. compete to attract and retain corporations in their jurisdictions even by offering generous incentives, which can jeopardize public spending on other needs? This research shows that the answer can lie in the electoral effects of HQ relocation. Using an original dataset of interstate HQ relocation cases covered in the news media from 1995 to 2015, this research finds that interstate business location decisions affect gubernatorial election outcomes. However, empirical analyses provide evidence that voters use different attribution processes when considering HQ relocation-in versus relocation-out cases: HQ relocation-out results in greater support for Republican candidates, whereas HQ relocation-in increases support for the incumbent party. Supplementary analyses suggest that the perceptual effects and symbolic value of HQ relocation, rather than its immediate local economic effects, drive electoral outcomes. The findings have implications for electoral accountability and the political economy of business-government relationships.

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The data and materials required to verify the computational reproducibility of the results, procedures and analyses in this article are available on the American Journal of Political Science Dataverse within the Harvard Dataverse Network, at:<https://doi.org/10.7910/DVN/UQDLUB>

1 Introduction

Competition for corporations is fierce across local and state governments in the U.S. For example, it is no secret that local and state governments frequently provide generous incentives to corporations to locate them in their jurisdictions (Jensen and Malesky, 2018; Slattery and Zidar, 2020; Jensen, Findley, and Nielson, 2020). According to an estimate by Mitchell et al. (2020), over the past three decades, state and local governments in the U.S. have awarded corporations around \$95 billion in tax incentives per year. The so-called race to the bottom competition for corporations is a real risk, jeopardizing public spending in areas such as education, public safety, and health care (Dietsch, 2015).

Corporate headquarters (HQs), in particular, are the frequent beneficiaries of the competition.¹ The recent case of Amazon illustrates this point well. In October 2017, in response to the company's announced plans to build a second HQ, a total of 238 local and state governments and Canada submitted proposals, offering up to \$8.5 billion in incentive packages, far exceeding the \$5 billion value of the HQ that Amazon itself had estimated.² To not only attract new HQs but also retain those already operating within their borders, governments frequently offer discretionary incentives. For instance, when Marriott announced plans to move its HQ out of Maryland in 1999, then-Governor of Maryland, Parris Glendening, convinced the company to stay, offering around \$43 million in incentives with no strings attached. Seventeen years later, history repeated itself: Marriott again announced plans to move its HQ out of Maryland, and Governor Larry Hogan responded with \$62 million in grants and tax benefits to retain the company.³.

Recent studies suggest that not the direct economic effects of corporate HQ operation but ‘electoral pandering’ can explain why politicians offer discretionary incentives to firms (e.g., Jensen

¹A corporate HQ is defined as a location that serves as the hub of a firm’s operations in a wide range of areas, including strategic planning, management, administration, financial, and legal activities.

²See Lucinda Shen, “This Unexpected City Says It Has Everything Amazon Wants for a New Headquarters,” *Fortune*, October 16, 2017.

³See Jonathan O’Connell, “The trap that causes states to give millions to corporations like Marriott,” *Washington Post*, October 21, 2016

et al., 2014; Jensen and Malesky, 2018). Jensen et al. (2014), for example, show that voters are more likely to support a governor who offers incentives for a firm to invest in a new manufacturing plant than one who does not provide such incentives. Yet, studies on whether and how firms' location decisions, beyond politicians' offering financial incentives, influence electoral outcomes are rare. Voters do not always follow the details of the incentive packages offered to firms. Gathering such information on government policies requires time and cognitive effort. Thus, it is essential to determine whether the more observable HQ relocation events affect elections. If so, the anticipation of such electoral effects alone could motivate policymakers to engage in the race-to-the-bottom competition for firms.

How then do voters evaluate business location decisions and incorporate these evaluations into their voting decisions? Existing studies suggest different predictions. First, an extensive literature on economic voting predicts that voters hold the incumbent party accountable for the location decisions of corporations, which can serve as a signal of elected officials' economic performance. On the other hand, the research on 'issue ownership' voting suggests that partisan cues with regard to policy orientation can affect voters' assessments of HQ relocations. Given that low corporate tax rates and more business-friendly policies tend to attract business move-ins and deter move-outs (Dyreng and Lindsey, 2009; Heider and Ljungqvist, 2015), Republicans, who support these policies, may be better positioned to 'own' issues related to business location decisions. Thus, one could predict an increase in support for the Republican Party when businesses move out, irrespective of which party is the incumbent. The literature on loss aversion, negativity bias, and prevention motivation (e.g., Kahneman and Tversky, 1979; Lau, 1985) also suggests that the adverse effects of business move-outs increase voters' incentives to support the Republican Party, whose business policy orientation offers a comparative advantage, lowering the chances of further losses from the similar event.

To test these different predictions, I focus on interstate corporate HQ relocation and its electoral effects on gubernatorial elections. While HQ relocation can have effects on elections for local

politicians or legislators, an empirical focus on the interstate HQ relocation and gubernatorial elections helps to untangle complex responsibility across policymakers at various levels of government since state-level HQ relocation decisions are predominantly affected by the state-level business environment, including the corporate tax rate over which governors have significant authority.⁴

It is important to note, however, that studying the electoral impact of HQ relocation presents an empirical challenge, mainly due to the lack of existing data on HQ relocation cases in the U.S. I addressed these challenges by tracking mentions of cross-state HQ relocations in over 140,400 reports from around 500 national and local news media outlets. Using automated programming to extract information from these reports, I constructed an original dataset of cross-state HQ relocation cases in each county in the U.S. for the period 1995–2015, identifying 1,498 unique interstate HQ relocation cases. While existing studies about corporate HQs have focused mainly on publicly traded firms due to the methodological difficulty of tracking the HQ locations of private companies, my data capture both public and private companies.⁵ Moreover, the county-level dataset allows for comparison of counties affected by HQ relocation and those that are not, while holding constant time-varying state-level policies and other non-observed forms of heterogeneity that could lead to biased results.

The empirical analysis provides evidence that there are nonpartisan rewards to the incumbent party when HQs move in, while electoral support for the Republican Party increases when HQs move out: counties affected by HQ inflow account for a greater share of votes in favor of the incumbent party in gubernatorial elections than counties that are not affected. On the other hand, HQ outflow decreases only the Democratic Party’s vote share, resulting in a greater vote share for the Republican Party. Further analysis shows that Republican governors benefit from HQ outflow especially under a divided government when they can plausibly blame the Democratic state legislature. Additional analyses using individual-level survey data also provide supportive

⁴Jensen and Malesky (2018) provide a detailed explanation of how focusing on state-level variation and governors has a comparative advantage over other levels of analysis, such as the country.

⁵In fact, public companies account for only 28% of the interstate HQ relocation cases identified in this dataset.

evidence for the asymmetric electoral effects between HQ inflow and HQ outflow. I also find evidence that the signaling effects and intangible values attached to HQ relocation, rather than its immediate effects on local economic conditions may drive these electoral effects.

The main findings of this study contribute to the literature on the political economy of business–government relations by providing fresh insight on an important but understudied channel through which business actors influence politics—their location decisions. Existing studies on business–government relations have long expounded the pressing importance of firms’ and organized interests’ campaign contributions and lobbying (e.g., Powell and Grimmer, 2016; Quinn and Shapiro, 1991) and the electoral motivations of implementing pro-business policies to induce capital investment (e.g., Lindblom, 1977). This study shows that the location decisions of corporations also influence electoral outcomes and, thus, constrain the policy choices of elected officials.

This study also contributes to the literature on electoral accountability. The results show that immediate economic changes are not the sole channel through which local economic conditions affect elections. Business location decisions can shape voting decisions by signaling current and future economic circumstances and tapping into voters’ intangible values. The results also emphasize the role of partisan cues, especially when voters attribute negative economic events such as HQ outflow to elected officials. Hence, the findings demonstrate that the possibility of an asymmetry in voters’ evaluations of such an event, which has seldom been accounted for in the literature on electoral politics,⁶ mainly because it requires a reference point, which cannot necessarily be determined in an objective manner (Levy, 2003). However, by focusing on HQ inflow and HQ outflow cases, where the direction of the welfare change is relatively clear, this study shows that voters’ evaluations of positive and negative economic events can be asymmetrical.

⁶A few notable studies on asymmetric effects between positive and negative ‘economic changes’ include Bloom and Price (1975) and Singer (2011)

2 Theoretical Perspectives and Empirical Prediction

2.1 Corporate HQ Relocation and Policy Drivers

“Listen, you don’t want to be the governor who lost Marriott to Virginia.”

— Former President of the Maryland Senate Thomas V. Mike Miller Jr. (1987-2020)

The operation of a corporate HQ is expected to have positive economic impacts on a locality, though the costs of the financial incentives provided for HQs frequently exceed these benefits. While the immediate benefits, such as the creation of jobs and increased income, are often of modest size, corporate HQs tend to attract a highly qualified pool of labor and hire highly skilled labor. This in turn can lead to more consumption in the local economy (Strauss-Kahn and Vives, 2009; Laamanen, Simula, and Torstila, 2012). HQ operations may also generate an agglomeration effect, whereby other businesses are drawn to the area to do business with or support the activities of the HQ (Voget, 2011).

Beyond the impact on the local economy, HQ operations also bring intangible benefits to the local community. The location of an HQ has a significant symbolic value such that communities take pride in their identity as the “hometown” of a company. Additionally, corporate philanthropy frequently becomes a feature of local civil affairs (Klier and Testa, 2002). According to an estimate by Card, Hallock, and Moretti (2010), corporate HQs make charitable contributions of around \$3–10 million per year to local non-profit organizations.

In contrast, HQ relocation away from a region clearly represents a negative event. HQ relocation is a zero-sum game where every relocation is a gain for one region and a loss for another. “Benefits” therefore turn into “costs” when a firm relocates its operations out of a region. In addition, when an HQ leaves, fear may spread that the move signals an unhealthy business environment that may result in other facilities or companies moving out of the region as well. For example, when Boeing announced plans to move out of Seattle in 2001, the expected employment loss amounted to only 500 jobs. However, the potential domino effect of other facilities and companies leaving

Seattle provoked significant fear of future economic losses. A loss of local pride is another potentially important cost of HQ outflow. Again, in the Boeing case, residents in Seattle were upset about losing their identity as “Jet city.”

The motivations behind HQ relocation have received considerable attention in the literature on financial economics and economic geography (e.g., Baaij et al., 2015; Voget, 2011). These studies suggest that a variety of factors including company age, new market conditions for new innovative products, and proximity to airport hubs drive HQ relocation at the margins. However, researchers have consistently found that unfriendly business policies, such as unionization and high corporate tax rates, are the main drivers of HQ relocation decisions (e.g., Dyreng and Lindsey, 2009; Chow et al., 2021). In particular, corporate taxes play a key role by directly affecting a wide range of business activities and registering as a significant cost for companies (Giroud and Rauh, 2017). The location of an HQ determines a company’s tax regime and the rates it ultimately has to pay. High taxes can lead companies to leave a state, whereas low taxes or tax incentives attract companies. For example, Laamanen, Simula, and Torstila (2012) estimate that a one percentage point increase in average corporate tax rates increases the likelihood of HQ outflow by 6.8%.

In the U.S., corporate tax burdens vary considerably by state. Not only are state taxes a critical part of U.S. firms’ overall tax burdens, but the average marginal tax rates that firms pay also vary significantly across states (Heider and Ljungqvist, 2015). This incentivizes companies to relocate or threaten to relocate their HQs in order to lower their state taxes (Dyreng, Lindsey, and Thornock, 2013).

Noticeably, among various actors that can affect the state-level economic policies, governors are known to be most influential and visible (King and Cohen, 2005). For example, while state legislatures can affect the implementation of state-level policies, governors are known to be more active than state legislatures in defining state tax agendas (Bingham, Hawkins, and Hebert, 1978) and leading state budget negotiations (Kousser and Phillips, 2012), where corporate tax policies and business incentives are discussed. More importantly, governors have played key roles in spurring

business development and relocation. It is governors that possess great authority over pursuing various policies to improve the business climates and to spur business development and relocation, including cash grants, tax and financial incentives as well as business assistance efforts (e.g., maintenance of infrastructure), especially through state economic development agencies (e.g., California Governor's Office of Business and Economic Development) under direct controls of governors (Taylor, 2012). In this regard, this article focuses mainly on the role of governors and HQ relocations' electoral consequences in gubernatorial elections.

2.2 Voters' Evaluations of Business Location Decisions

How do voters evaluate HQ relocation and, in turn, incorporate these evaluations into their voting decisions? Theories of economic voting, issue ownership and loss aversion suggest different answers to this question. First, economic voting theory suggests that voters would reward the incumbent party for HQ inflow and punish it for HQ outflow. Business location decisions can function as signals about the government's economic performance. Since voters cannot directly observe the incumbent's efforts or the implementation of all his or her policies, the highly visible nature of business location decisions allows them to serve as informational channels through which voters judge whether the government's economic policies are good or bad. In the case of HQ relocation, the clear benefits of the presence of HQs on localities render HQ inflow a positive event.⁷ HQ inflow signals that the incumbent is having a positive effect on the local economy, and future economic conditions are expected to be favorable. Receiving such positive signals, citizens are more likely to vote for the incumbent party. Conversely, negative signals from HQ outflow incentivize voters to punish the incumbent party at the polls.

Notably, business location decisions need not be large or have immediate economic effects to have electoral implications. Voters may respond not just to changes in economic conditions that have already occurred, but also to economic outcomes that are likely to come (Erikson, MacKuen,

⁷To check how citizens perceive HQ relocation, I conducted a survey on Amazon's Mechanical Turk (MTurk). I find that respondents tended to think HQ outflow had negative economic implications while HQ inflow was expected to produce positive economic outcomes (Appendix Figure A17)

and Stimson, 2002). The location decisions of corporations may not affect the local economy for some time, if at all. Nevertheless, such events influence voters' perceptions of the direction of change in the local economic environment as well as future changes in its economic welfare. By extrapolating from events that unfold under the current government, voters form expectations about their economic future and translate them into voting decisions. This logic leads to the following hypothesis:

Hypothesis 1. (*Economic Voting*) *Voters are more likely to reward the incumbent party in gubernatorial elections when HQs move in and to punish them when HQs move out.*

Issue ownership theory, however, suggests a contrasting prediction: that HQ outflow leads to electoral gains for the Republican Party regardless of incumbency. Issue ownership theory stipulates that parties have advantages with regard to certain "owned" issues based on voters' opinions of parties' relative competence at resolving particular problems of concern to voters (Petrocik, 1996; Wright, 2012). Over time, the Democratic and Republican parties have become increasingly polarized on various issues, and this policy divergence is well recognized by the electorate (Carsey and Layman, 2006; Egan, 2013). Business policy is no exception. The Democratic Party and the Republican Party are perceived as having opposing positions on business policies and corporate tax rates. The Republican Party, often labeled the pro-business party, is perceived as supporting policies favorable to businesses such as decreasing corporate tax rates, whereas the Democratic Party is perceived as being favorable to labor and supporting policies such as increased corporate tax rates (Campbell, Green, and Layman, 2011; Grossmann and Hopkins, 2015, 2016; Quinn and Shapiro, 1991).

In the context of HQ relocation, the Republican party's pro-business policy orientation has comparative advantages, since high corporate tax rates and unfriendly business policies constitute the main pull factors. In fact, HQ outflow has sometimes served as a catalyzing event provoking public resentment and wariness toward the Democratic Party's policy orientation with regard to business. For example, Kimberly-Clark's relocation of its HQ from Wisconsin to Texas in 1985

sounded a public alarm centered on claims of an unfriendly business climate in Wisconsin. The Kimberly-Clark case eventually turned out to be a major contributing factor in the Republican Party's win in the 1986 gubernatorial election (Dresang and Sidorick, 2002).⁸

Relatedly, given the two parties' different policy orientations toward business, negative events such as HQ outflow provide the parties an opportunity to engage in a blame-shifting strategy (Weaver, 1986). The well-established connection between the Democratic Party and less business-friendly policies means that the Republican Party is better positioned to shift the blame for HQ outflow to the Democratic Party than vice versa. The Republican Party can blame the Democratic Party by emphasizing the latter's creation of an unfavorable business climate as the reason for the outflow. This practice can be seen in the 2015 State of the State address given by former New Jersey governor Chris Christie immediately after Mercedes Benz USA announced its decision to relocate its HQ from New Jersey to Georgia:

“Mercedes, in New Jersey since the early 1970s, is leaving for a very simple reason—it costs less to do business in Georgia than it does in New Jersey. Don’t take my word for it—the leaders of Mercedes said it themselves. Economic incentive laws help—but lower taxes are better . . . Yet I cannot make this a reality alone. It is you, and only you, the (Democratic) State Legislature, who can lower taxes further and make New Jersey more prosperous for our middle class families and their children.”

Lessons from behavioral economics and psychology research on loss aversion also provide a rationale for the expectation that voters are more likely to support the Republican Party when HQ outflow is observed. Scholars have long documented that people weigh losses more heavily than gains (e.g., Kahneman and Tversky, 1979; Lau, 1985). High sensitivity to loss implies that, once a negative event is observed, individuals tend to place more emphasis on avoiding future losses than

⁸The MTurk survey results also show that citizens tend to consider corporate tax rates and tax incentives as the more influential drivers of both HQ inflow and outflow than other economic factors, such as labor costs or social spending (Appendix Figure A18) and believed, on average, that the Republican Party is better at attracting HQ inflow and deterring HQ outflow (Appendix Figure A19).

simply punishing the incumbent. In order to mitigate the chances of a negative event recurring, individuals seek further information about why it occurred. Existing studies on negativity bias also shows that voters are more attentive to information about negative events than positive events (e.g., Lau, 1985; Arceneaux, 2012). Hence, intense media attention on negative events (Soroka, 2006) can play an important role in characterizing and disseminating policy information about negative events. Overall, the importance and accessibility of economic issues and related policies increase when negative economic events occur (Singer, 2011). This suggests that, in the wake of negative local economic events, voters are more likely to be informed about their policy drivers, giving a larger room for partisan heuristics on policy positions to affect voting decisions.

In addition, the literature on cognitive psychology suggests that ‘prevention motivation’ tends to dominate individuals’ decision making when a loss has occurred (Higgins, 1997). In the domain of loss, individuals prefer whichever option is the best available means for eliminating loss (Crowe and Higgins, 1997; Scholer et al., 2010). In the context of HQ relocation, the clear negative implications of HQ outflow place an average voter in the domain of loss, and the voter, motivated to avoid similar losses in the near future, is more likely to prefer Republican candidates. On the other hand, in the domain of gains, voters tend to be risk-averse, and therefore vote for the incumbent party, which is already providing some benefits (Quattrone and Tversky, 1988). Voters are more informed about incumbents and their policies than about challengers, making voters’ uncertainty about future conditions higher with regard to challengers. Based on these theoretical accounts, I derive the following hypotheses:

Hypothesis 2. (Partisan Blame Attribution) *Voters are more likely to reward the Republican Party in gubernatorial elections when HQs move out.*

Hypothesis 3. (Incumbent Party Credit) *Voters are more likely to reward the incumbent party in gubernatorial elections when HQs move in.*

Given that the Republican Party is an electoral beneficiary of HQ outflow, does the party have

an incentive to provoke firms to relocate out of state? The answer is no: Although the Republican Party benefits electorally from HQ outflow, any policy designed to facilitate it would result in net electoral losses. Business policies that push an HQ out of state hurt Republicans' core supporters, i.e., local business owners. Almost every strategy likely to push firms out of state, such as an increase in the corporate tax rate, runs contrary to the interests of the Republican Party's core constituencies. Also, related to this phenomenon, policies that increase the chance of outflow are in opposition to the party's general policy orientation. A deviation of this nature would therefore erode the party's identity. Still, the Republican party can indirectly affect HQ outflow by not making efforts to retain an HQ when a firm threatens to move out, given that such negotiations are seldom publicized and incentive packages themselves can result in political backlash.

3 Research Design

3.1 Data and Specifications

I constructed an original dataset of interstate HQ relocation cases in the U.S. over the period 1995–2015 by extracting information from over 140,400 reports covering corporate HQ relocation in around 500 national and local news outlets. The principal empirical challenge of investigating the electoral impact of HQ relocation is the limited data available on their occurrence. Existing studies of HQ relocation are based on Standard & Poor's Compustat North America database or firms' regulatory filings with the Securities and Exchange Commission (SEC), which cover only publicly traded companies (e.g., Dyring, Lindsey, and Thornock, 2013; Heider and Ljungqvist, 2015).

To overcome this obstacle, I used local and national U.S. news archives from 1995 to 2015 to identify HQ relocation cases, which included both public and private companies. An underlying assumption of this strategy is that HQ relocation cases considered important to the local economy are covered in the news media. Although the relocation of a firm is often a significant enough event in a local economy to draw media attention (Freeman, 2009), not all HQ relocations have a strong

enough impact on the local economy to affect voters' economic welfare. I utilize appearance in news coverage as a cutoff to screen out trivial cases that would have a limited effect on the local economy.

To code information on HQ relocation incidents from media reports, I employed automated programming to extract information on HQ relocations from around 144,000 media stories. Using various algorithms, I collected information such as the name of a firm, the original location of the HQ and its destination, and time-related information (i.e., the published date and the actual timing of the relocation) and manually cross-check the extracted data with the original news reports. As a result, I identified 1,498 unique cross-state HQ relocation cases (1.1 case in the average state-year).⁹ In Section A1 in the Appendix, I provide a detailed description of the procedure, the search terms, and the algorithms used.

To check the validity of the data, I investigated the cases involving public companies using official reports available from the SEC's Electronic Data Gathering, Analysis and Retrieval (EDGAR) system. Using company names, I identified a total of 320 events relating to public companies in the dataset. For each case, I matched the geographical information and the timing of the relocation to the official records. The result shows that 96.5% of the cases (309 out of 320) were accurately coded, strongly suggesting the validity of the measure. The validated cases are listed in Tables A2 - A3.¹⁰

Figure 1 displays a map of HQ inflow and outflow. Both HQ inflow and outflow cases are reported in many counties across all the regions, although with varying degrees of frequency. Also, temporal trends of relocation in each state, shown in Figure A4, illustrate that every state covered in the dataset experienced a HQ relocation of sufficient importance to be covered in the news media

⁹Of the various types of HQs, central HQs, the managerial centers of a corporate legal entity, are the principal focus of this study. However, I also tested a broader definition of HQs encompassing regional and divisional HQs and found the similar results.

¹⁰I also present the non-matched cases in Table A1. An inspection of the 11 unmatched cases shows that the majority involved either regional HQ relocation (e.g., Investools) or the relocation of the U.S. HQ of a foreign company (e.g., Oxygene Inc.).

and that corporate HQ relocation cases do not appear to follow specific time trends, echoing the findings of Chow et al. (2016).



Figure 1: Flow Map of Interstate HQ Relocation, 1995-2015. The lines represent the interstate HQ flow.

The data also suggests that firms tend to move their HQs to states with a lower corporate tax burden. Appendix Figure A3 shows that the majority of cases (58%) involve a relocation to a state with a lower corporate tax rate, whereas 36% of cases involve a relocation to a state with a higher corporate tax rate, and 3% to a state with a corporate tax rate equal to that of the original location. Although this result is inconclusive given that corporate statutory tax rates are not equal to *de-facto* tax burdens which include other important instruments such as tax incentives, apportionment, and throwback rules (Dyreng and Markle, 2015; Serrato and Zidar, 2016), the descriptive statistics are consistent with the results reported in the literature on HQ relocation: the corporate tax burden motivates HQ relocation.

Based on the HQ relocation event data, I constructed a time-series county-level dataset for HQ inflow and HQ outflow cases. Labor and businesses in the broader economic region within which voters commute are likely to be affected by changes to HQ operations. Thus, in coding HQ inflow and outflow cases, I considered the county from which the HQ moved, the county

to which it moved, and nearby counties affected by the events. To bracket counties in the same economic region, I used commuting zones (CZ), originally proposed by Tolbert and Killian (1987) who delineated the labor-shed based on commuter-flow data between counties. The CZ data were extracted from Autor and Dorn (2013).¹¹ As an alternative specification, I grouped the counties into the designated market areas (DMAs) created by Nielsen Media Research, which encompass cities and counties in the same media market. The effects of HQ relocations that are covered in the news could take place at the DMA level, as the media tend to meet consumer demand by conveying information likely to interest them (Gentzkow and Shapiro, 2010). The estimation using the DMA-level specification (Appendix Figure A5) produced similar results.

The main specification also focuses on incidents in which a news article clearly reports the timing of the relocation, as media reports can describe a potential scenario or a rumor, rather than an official decision. As a robustness check, I relaxed this specification and found that the results are stable even when cases are included for which the actual move year was not specified. Hence, I use a binary specification for HQ relocation indicators. The distribution of the HQ relocation variables is presented in Appendix Figure A1. During most of the county year (89%), the sample did not experience an HQ relocation, and the distribution is neither continuous nor normal, suggesting that using a continuous measurement of HQ outflow/inflow cases is problematic. I therefore coded the HQ inflow (outflow) variable as 1 when county i experienced interstate HQ inflow (outflow) in CZ j to which county i belongs. I also checked the results using the total count of relocation cases and found that the main findings hold (Table A7).

3.2 Estimation Strategy

The main estimation strategy relies on a difference-in-differences design. It examines changes in gubernatorial vote outcomes in CZs with an inflow (outflow) compared to changes in CZs without

¹¹I mainly rely on the CZ for 1990; however, classifications based on the other base years yield very similar results

an inflow (outflow) within the same state. The primary regression equation is specified as follows:

$$\begin{aligned} \text{Dem. Gov. Vote Share}_{i,t} = & \alpha + \beta_1 \text{HQ Inflow}_{i,t} + \beta_2 \text{HQ Outflow}_{i,t} \\ & + \beta_3 \text{HQ Inflow}_{i,t} * \text{Rep.Gov}_{i,t} + \beta_4 \text{HQ Outflow}_{i,t} * \text{Rep.Gov}_{i,t} \\ & + \mu_i + \zeta_{k,t} + \epsilon_{i,t}, \end{aligned}$$

where i refers to the county, t indexes the election year. For the outcome variable, I use the Democratic candidate's share of the two-party vote in the gubernatorial elections (Dem. Gov. Vote Share $_{i,t}$) to account for the county-level trend in support for each party and the possibility that local economic effects are asymmetrical between the parties (de Benedictis-Kessner and Warshaw, 2020; Hall, Yoder, and Karandikar, 2021). The data on county-level election outcomes in gubernatorial races for the 1995–2015 period are from Congressional Quarterly's Voting and Elections Collection. HQ Inflow $_{i,t}$ and HQ Outflow $_{i,t}$ are binary indicators for cases in which an HQ has moved into or out of a county, respectively, in the same CZ (j), during the previous two-year window.¹² To examine the economic voting hypothesis, I interacted the HQ relocation indicators with the dichotomous variable of Republican governorship (Rep.Gov $_{i,t}$). β_1 and β_2 then capture the effects of HQ inflow and outflow, respectively, on the Democratic governors. I also estimated the models without the interaction terms to check whether the effects accrue to a particular party irrespective of which party is the incumbent.

The regression models include county fixed effects (μ_i) and state-year fixed effects $\zeta_{k,t}$ to control for invariant confounders in each county and each state-year. In particular, given that governors presumably have different strategic incentives to attract or retain HQs, it is important to control for the time-varying state-level policies that a governor implements at particular times. The inclusion of state-year fixed effects allows for an estimation of the effect of variation in HQ relocation within a state-year by comparing the outcomes in counties affected by HQ relocation to those in

¹²I rely on the two-year window, given that voters tend to react to late economic events (i.e.,the last two years (Wlezien, 2015). As a robustness check, I also estimate the models using the HQ indicators based on election year

counties not affected by HQ relocation, holding the state-level covariates constant. Noticeably, the effects of HQ relocation can be underestimated in this set-up. Signaling and symbolic effects of HQ relocation may spread throughout the state, allowing its voters to attribute credit or blame to the governor while its implications are stronger for the localities where HQ moves in or out, as suggested by the local economic voting literature (e.g., Ansolabehere, Meredith, and Snowberg, 2014; Reeves and Gimpel, 2012).

For some models, I substituted CZ fixed effects for county fixed effects. I also estimated the same models with CZ (j) as the unit of analysis, instead of county (i) and found that the results remain substantively unchanged (Appendix Figure A10). In addition, all models were weighted using the population size of each county. This down-weights small counties, which often have volatile economic statistics, and decreases the precision of the county vote share due to the low number of votes. This weighting strategy also ensures that the results are representative of the average voter and captures the political reality whereby politicians care more about counties with large populations than those with small populations. I also checked that the models without weights produced similar results (Appendix Figure A11). Hence, in order to avoid potential post-treatment bias, the main estimations do not include time-varying covariates such as local economic indicators. Still, controlling for those factors does not alter the main findings (Appendix table A7). Throughout the estimations, clustered standard errors at the CZ-level are calculated.

A difference-in-differences approach relies on the parallel trend assumption to produce unbiased estimates. If the parallel trend assumption does not hold, the estimated electoral effects of HQ relocation could be driven by factors other than HQ relocations, such as policies that governors may strategically implement, given the anticipated impacts of HQ relocations. To probe the identification assumption of parallel trends, I conduct two falsification tests. First, I estimate the effects of HQ inflow and HQ outflow in the next election cycle ($t + 1$) on the Democratic Party's vote share in the gubernatorial election in the current election (t) using a pre-treatment dataset. Second, I estimate the main models including the lags ($t - 1$) and leads ($t + 1$) of the HQ relocation variables.

As Table A4 shows, I found a null effect of the leads (as well as the lags) in all models, suggesting weak evidence for the violation of the pre-treatment parallel trend assumption.

4 Findings

4.1 Electoral Impact of HQ Relocation

Table 1 shows the estimation results from OLS regressions of the Democratic Party's vote share in gubernatorial elections and HQ inflow and HQ outflow and their interaction terms with the binary indicator of Republican Party governorship. Models 1 and 2 are based on the estimations with CZ fixed effects, whereas in Models 3 and 4, county fixed effects are used. For each set of models, I examined the impact of HQ inflow and outflow (Models 1 and 3). I then added the interaction terms to each of the other models (Models 2 and 4).

First, the results from the interaction models suggest that voters reward the incumbent governor when they experience HQ relocation into their region: HQ Inflow is positive and statistically significant, and the interaction term between HQ Inflow and Rep.Gov is negative and significant at the 0.01 level across all specifications. The results indicate that an incumbent party candidate from either party receives electoral rewards from HQ inflow when the current governor is a Democrat. HQ inflow under a Democratic governor is predicted to yield a gain of roughly 1.2 percentage points in the two-party vote for the Democratic Party in gubernatorial elections, while a Republican governor is expected to gain around 0.8 percentage points when HQ inflow occurs.¹³

On the other hand, the results suggest that the electoral effects of HQ outflow are partisan. Regardless of the incumbent party, HQ outflow leads to loss of vote share for Democratic candidates and a gain in vote share for Republican candidates. The coefficient for HQ Outflow is negative and statistically significant. Unlike HQ inflow, the estimations including the interaction term do not show that the effects of HQ outflow depend on the incumbent party. In opposition to the prediction

¹³The size of the effects under a Republican governorship is estimated in the models that use the interaction term with a binary indicator of a Democratic governor.

	<i>Dependent Variable=Dem.Gov.Vote Share</i>			
	(1)	(2)	(3)	(4)
HQ Inflow	0.010 (0.417)	1.284* (0.537)	-0.018 (0.412)	1.213* (0.535)
HQ Inflow X Rep.Gov.		-2.112*** (0.603)		-2.019** (0.617)
HQ Outflow	-1.374** (0.447)	-1.320* (0.554)	-1.435** (0.462)	-1.312* (0.549)
HQ Outflow X Rep.Gov.		0.077 (0.645)		-0.047 (0.667)
State-Year FE	Yes	Yes	Yes	Yes
CZ FE	Yes	Yes	No	No
County FE	No	No	Yes	Yes
Observations	15,905	15,905	15,905	15,905

Note: *p<0.05; **p<0.01; ***p<0.001

Standard errors clustered by CZ.

Table 1: Estimation Results (DV = Democratic Party Vote Share): Electoral Effects of HQ Relocation, 1995-2015. The unit of analysis is county-election year. HQ Inflow_{i,t} and HQ Outflow_{i,t} are binary indicators for cases in which an HQ has moved into or out of a county, respectively, in the same CZ (*j*), during the previous two-year window.

of the economic voting argument, HQ outflow favors Republican Party candidates over Democratic Party candidates, even when the outflow occurs under a Republican governor. According to the estimation results, HQ outflow incidence leads to around a 1.3 percentage point decrease in the vote share of Democratic Party candidates.¹⁴

To better describe the effects of HQ inflow and outflow in relation to the incumbent governor's party, I present a graphical comparison of the estimated coefficients in Model 4 in Table 1. Figure 2 clearly demonstrates that HQ inflow and HQ outflow each have a significant effect on gubernatorial elections, but not in the same way. HQ inflow has a positive effect on the vote share of

¹⁴I also embedded a randomized survey experiment in the Mturk survey to check if voters' evaluations vary depending on the incumbent governor's party only when an HQ outflow occurs. I find that, when the HQ outflow condition was assigned, support for a Democratic governor's re-election bid is significantly lower than that for a Republican governor. In the case of HQ inflow, however, party label effects appeared muted. Further discussion on public opinion toward HQ relocation and the experiment design are presented in Appendix Section A11.

the Democratic Party candidate when a Democratic governor is in office, but a negative effect on the Democratic Party candidate when a Republican governor is in office. However, HQ outflow is found to have a negative effect only on Democratic Party candidates regardless of which party is in power when HQ outflow happens.

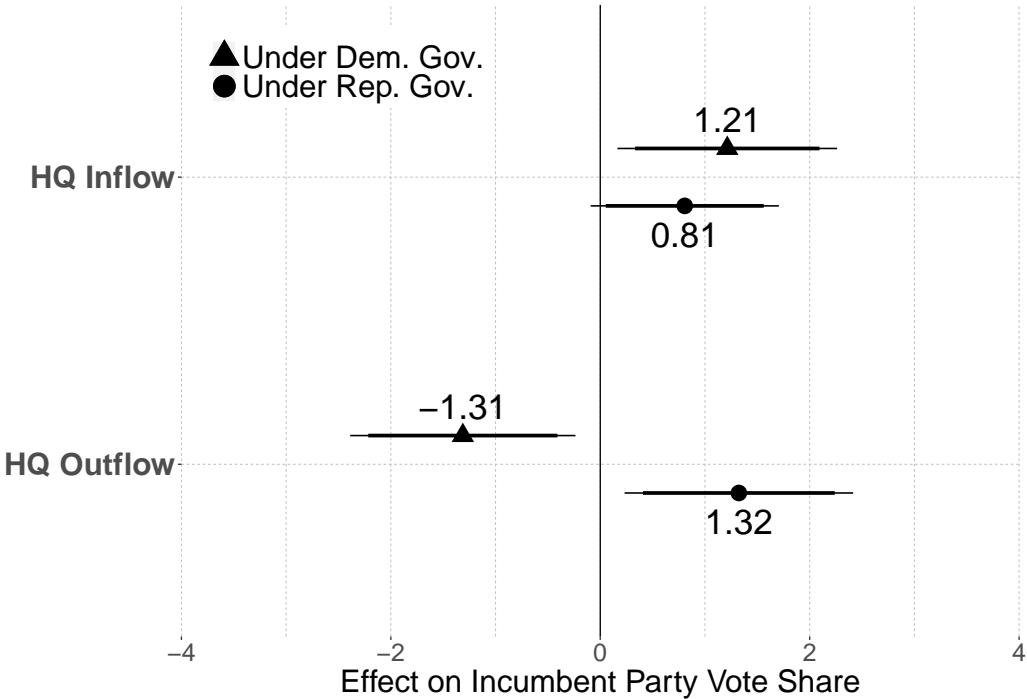


Figure 2: Coefficient Plots with 90% (thicker lines) and 95% (thinner lines) Confidence Levels for Estimation Results about the Effects of HQ Relocation on Gubernatorial Elections (1995–2015) Based on the Models with County and State-year FE. For easier interpretation, I present the estimated effects on incumbent Democratic (blue) and Republican (red) governors, respectively.

The effects of HQ relocation are significant enough to affect the party of the governorship in some states in some years, given that in 15 of the 252 gubernatorial elections between 1995 and 2015, the margin of victory (in terms of the share of the two-party vote) was 1.5% or less. Further, I simulate the results of all elections in my sample, and predict how many election results would have changed as a result of HQ relocation. If there had been no HQ relocation, according to the simulation, the outcomes of three gubernatorial elections in the period 1995–2015 might have changed—New Jersey (1997), Washington (2004), and Minnesota (2006).

Still, it is possible that reverse causation drives these findings: firms can strategically threaten to move out when Democrat governors are in power, given the anticipated adverse electoral effects of HQ outflow on the Democratic Party. While plausible, I find no distinct pattern based on the governor's party, and the frequencies of HQ relocation are balanced across the different treatment conditions (right panel in the Appendix Figure A3).

4.2 Robustness Checks

To check the robustness of the findings, I estimate a battery of additional tests such as estimations with spatially-clustered standard errors, with county-specific time trends, controlling for local economic indicators, excluding the counties that have never experienced HQ relocations, and using a different coding of the HQ relocation variables. I also check dynamic models and diagnose outliers. In addition, I investigate whether the DID estimators of HQ relocation effects face a serious concern of treatment effect heterogeneity (i.e., the presence of negative weights). The discussion of each robustness check and the results, which show that the main findings substantively hold, are presented in Appendix Section A7.

Hence, I test whether the U.S. president's party affects voters' evaluations of an HQ relocation. The results, reported in Appendix Tables A8 and A9, show suggestive evidence for the misattribution of responsibility for interstate HQ relocation: voters tend to punish the Democratic Party in gubernatorial elections when HQ Inflow under the Republican presidency and that vote share for Democratic Party's presidential candidates likely decreases when HQ outflow happens. Details about model specifications and a theoretical discussion of the effects of the presidential party are presented in Appendix Section A8.

4.3 Effects of Partisan Control

Further, I examine whether partisan control of the policy-making process—that is, whether there is a unified or divided government—changes the electoral effects of HQ relocation events. Given that clarity of responsibility plays a critical role in voters' attribution processes, the electoral con-

sequences of HQ relocation could be mitigated when a divided government is in power. However, when firms move out of a given locale, electoral punishments may be greater under a divided government since the Republican Party enjoys an advantage in pursuing a blame-shifting strategy. To test these possibilities, I reproduce the main analysis adding interaction terms between HQ relocation variables and binary indicators of divided and unified governments.

Figure 3 reports the results. I find that the positive effects of HQ inflow and the negative effects of HQ outflow on the Democratic Party in gubernatorial elections are relatively clear under Democratic control, echoing the findings of existing studies that divided government blurs responsibility for policy outcomes (Anderson, 2000; Nadeau, Niemi, and Yoshinaka, 2002).

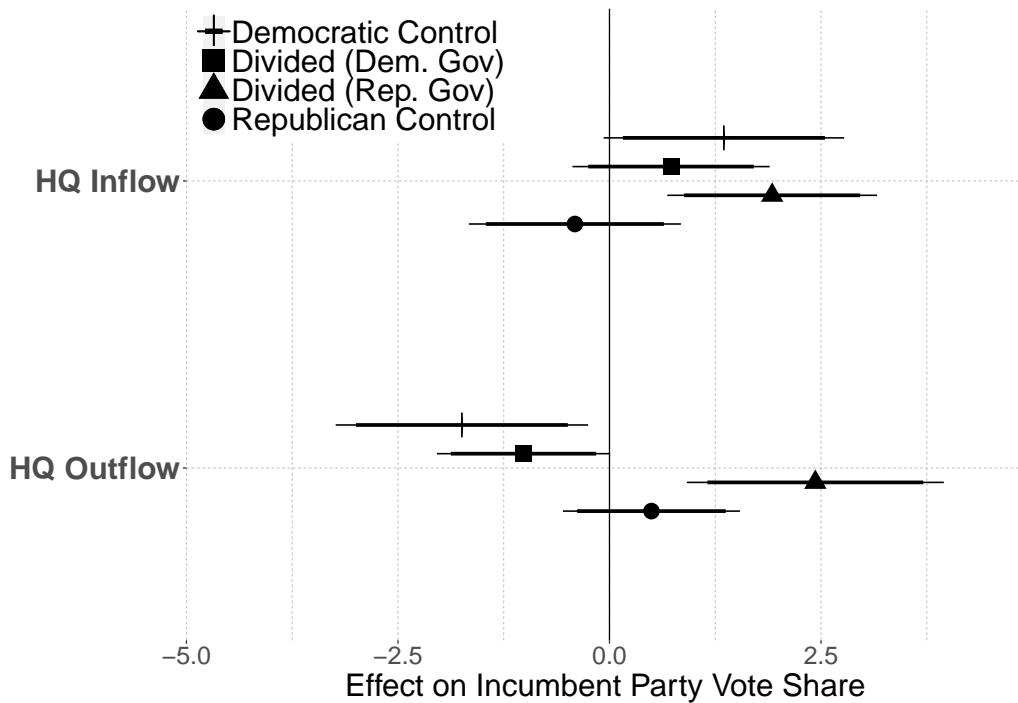


Figure 3: Coefficient Plots with 90% and 95% Confidence Levels for Estimation Results about the Effects of Divided Governments (1995-2015) Based on the Models with County and State-year FE. Unit of observation is county-election year. For easier interpretation, I present the estimated effects on incumbent Democratic (blue) and Republican (red) governors, respectively.

The same findings, however, do not hold for the Republican Party: the estimated effects of HQ relocation on Republican candidates in gubernatorial elections are statistically indistinguishable

from 0 under Republican control. The weak effects of HQ inflow under Republican Party control suggest that voters may already expect such positive business-related economic events to take place due to the party's perceived pro-business policy stance, so HQ inflow does not produce additional electoral benefits. Still, when HQs move in, voters may reward a Republican governor who is better positioned to claim credit when Democrats control the legislature. Interestingly, I find evidence that there are stronger positive effects of HQ outflow on the Republican Party's vote share under a Republican governor and a Democratic state legislature, suggesting that a blame-shifting strategy may be the main mechanism through which HQ outflow is translated into electoral benefits for the Republican Party in gubernatorial elections.

5 Individual-level Evidence for Electoral Effects of HQ Relocation

In this section, I explore whether and how voters update their beliefs about a governor's performance in the wake of interstate HQ relocation—the main mechanism I suggest underlies its electoral effects—and perceive the expected effects and policy drivers of HQ relocation using individual-level survey data and an online survey about public opinion toward HQ relocation.

First, I examine whether HQ relocation influences individuals' approval of the governor using data from the Cooperative Congressional Election Study (CCES) 2010–2014 Panel Study. Though approval of job performance does not necessarily lead to voting decisions, micro-level analyses using approval ratings in the survey data allow more direct assessments of citizens' responsibility attributions (Rudolph, 2003). Using the CCES panel survey data, I estimate OLS regression models where the dependent variable is a gubernatorial approval at the respondent level (measured on a 4 point scale),¹⁵ and the main independent variables are the CZ-level HQ relocation indicators. For some models, I control for a standard set of demographic and political controls such as age, party ID, education level, employment status, marital status, and family income. Some models also

¹⁵In the CCES, respondents were asked to indicate whether they “approve of the way the Governor is doing their job” on a 1–5 scale with 1 (4) indicating strong approval (disapproval) and 5 indicating ‘not sure.’ Including the 5 (‘not sure’) responses does not change the main findings.

include the CZ-level fixed effects or respondent fixed effects to control for any unobserved time-invariant CZ-level attributes (e.g., local economic conditions) or individual-level characteristics. State-year fixed effects are also added through the models to account for state-level time-varying covariates. In the estimations, survey weights are applied to adjust the observations for their differing sampling probabilities. Also, since the question simply elicits an opinion about the incumbent governor's performance, I estimate separate models for the cases under the Democratic Party governorship and the Republican Party governorship.¹⁶ Standard errors are clustered at the CZ level throughout the models.

	<i>Dependent Variable=Approval of the Governor's Performance</i>									
	Under Dem. Gov					Under Rep. Gov				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HQ Inflow	0.084 (0.043)	0.080 (0.065)	0.089* (0.038)	0.077 (0.044)	0.076 (0.066)	0.002 (0.038)	0.043 (0.056)	0.001 (0.034)	-0.001 (0.045)	0.040 (0.058)
HQ Outflow	-0.093** (0.032)	-0.106* (0.052)	-0.088* (0.040)	-0.081* (0.034)	-0.111* (0.051)	0.084* (0.035)	0.098* (0.049)	0.045 (0.032)	0.084* (0.040)	0.113* (0.057)
Controls	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
County FE	Yes	No	No	Yes	No	Yes	No	No	Yes	No
Indv. FE	No	Yes	No	No	Yes	No	Yes	No	No	Yes
Observations	12,639	12,639	12,550	12,550	12,550	14,112	14,112	13,989	13,989	13,989

Note: *p<0.05; **p<0.01; ***p<0.001

Standard errors clustered by CZ.

State-year FE and sampling weights are included throughout the models.

Table 2: Estimation Results Using the CCES Panel Data. 2010-2014 (DV = Gubernatorial Approval Ratings): Effects of HQ Relocation on Gubernatorial Performance Approval under the Democratic Party Governorship (Models (1)-(5)) and the Republican Party Governorship (Models (6)-(10)). The unit of analysis is respondent. $HQ\ Inflow_{i,t}$ and $HQ\ Outflow_{i,t}$ are binary indicators for cases in which an HQ has moved into or out of a CZ, during the previous two-year window.

Table 2 presents the estimation results for the regression model for gubernatorial approval under the Democratic governors (Models (1)-(5)) and the Republican governors (Models (6)-(10)), respectively. The results largely conform to the main findings from the analyses using electoral outcomes. For HQ inflow, the estimations produce consistently positive coefficients for HQ inflow

¹⁶The models using interaction variables between the HQ relocation variables and an indicator of governor's partisanship give substantively the same findings.

in all models regardless of the governor's party, albeit not always statistically significant at the conventional level. On the other hand, the results show that the effects of HQ outflow on gubernatorial approval depend on the governor's party. While the point estimates for HQ outflow are negative and statistically significant across all models for the Democratic governor's performance, the coefficients for HQ outflow, however, turn positive in the estimations for the Republican governor's performance and statistically significant in all models except for the model (8), which do not include fixed effects. This suggests that voters are more likely to disapprove (approve) of the performance of the Democratic (Republican) governor when HQ moved out of their states. The findings suggest that individuals update their beliefs about a governor's job performance when HQ relocates to different states, and do so differently depending on the governor's party. I also find that the results remain stable when estimating the models using the cumulative CCES data covering from 2006 to 2015 (Figure A14).

Hence, I conducted an additional analysis using approvals of the state legislature's job performance in the CCES panel survey as a dependent variable. In the estimation, state-year and respondent fixed effects, along with the demographic and political controls, are included as Model (10) in Table 2. The results, presented in Figure A15, show that the HQ outflow has negative effects only for Democratic state legislatures under Republican governors, suggesting that Republican governors may successfully shift blame to the Democratic state legislature in the wake of HQ outflow.

6 Checking Effects via Immediate Changes in Local Economic Indicators

I also examine whether HQ relocation affects electoral outcomes mainly through its immediate economic effects on the local economy by relying on two empirical approaches.¹⁷ First, I estimate the average controlled direct effect (ACDE), which represents the direct treatment effects of HQ relocation when the mediator (i.e., changes in the local economic conditions) is fixed at some

¹⁷Details about the methods and discussions are presented in Appendix Section A10.

value, following an algorithm suggested by Acharya, Blackwell, and Sen (2016). The results, presented in Figure A16, suggest that instant changes in local economic conditions are not a main driver of the electoral effects of HQ relocation. Second, I explore the impacts of HQ relocation on the local economy by estimating both OLS and lagged dependent variable regressions for different economic indicators on HQ inflow and HQ outflow in different lag structures ($t - 1$, $t - 2$ and $t - 3$). The results, reported in Table A10 and A11, point to the idea that the local economic effects of HQ relocation are not necessarily immediate. Overall, the findings suggest that immediate changes in the local economy due to HQ relocation alone cannot explain the main findings.

7 Concluding Remarks

The analysis reveals that the negative signals of HQ outflow facilitate voters' motivation to avoid further losses and lead them to support the Republican Party in gubernatorial elections. On the other hand, the evidence suggests that positive signals of HQ inflow help voters make risk-averse choices—a vote for the incumbent party, which is already providing voters benefits. The individual-level analysis lend micro-foundational support. The findings demonstrate that the location decisions of corporations shape electoral outcomes, but electoral responses are dependent on beliefs about partisan policy orientation as well as the policy information behind an event when the event has negative implications. Furthermore, the analysis suggests that central mechanism by which economic events influence voting decisions may be the signaling effects of HQ relocation, rather than its immediate economic effects.

The findings of electoral effects of business location decision imply bad news for welfare and accountability: acknowledging that HQ relocation serves as an informative signal of economic performance, political motivations can direct politicians to spend a disproportionate amount on incentive packages, thus reducing funding for other important issues. Such political motivations can ultimately encourage a race to the bottom, putting voters' welfare in further jeopardy. In particular, the Democratic Party has an excessive incentive to retain HQ, such that overspending

on financial inducements to retain an HQ may be likely. At the same time, the electoral benefits from HQ outflow can motivate Republican governors to not actively engage in negotiations when a firm plans to relocate to other states, which is not also aligned with voter's interests.

One of the key policy instruments to solve this problem would be to promote transparency in incentive packages. If voters are informed about the amounts of financial packages, and thus are able to judge whether the economic benefits exceed their costs, the opportunity for political pandering could be reduced.

The results of this paper also suggest several directions for future research. One caveat of the main findings of this study is that they capture only the effects of 'observable' HQ relocation cases covered in news media. Although a focus on such HQ relocation cases helps estimate the effects of HQ relocation that voters are likely informed about and screen out trivial cases, future researchers would be well served to shed more light on the political implications of HQ relocation using more detailed data on all the HQ relocation-related cases that have not only happened but also been revoked. Another useful avenue for future research would be to examine the heterogeneous effects of HQs across firms or industries. The local economic implication of business operations vary across firms and industry. Investigating such differences could help determine which attributes of firms or industries most affect the electoral implications of business location decisions.

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