

UNIVERSITY OF COPENHAGEN



The Revolving Door and Regulatory Enforcement Firm-level Evidence on Tax Rates and IRS Audits

Egerod, Benjamin C.K.

Publication date:
2019

Document version
Other version

Document license:
[Unspecified](#)

Citation for published version (APA):
Egerod, B. C. K. (2019). *The Revolving Door and Regulatory Enforcement: Firm-level Evidence on Tax Rates and IRS Audits.*

The Revolving Door and Regulatory Enforcement

– FIRM-LEVEL EVIDENCE ON TAX RATES AND IRS AUDITS

Benjamin C.K. EGEROD¹
University of Copenhagen

Abstract

I argue that hiring former legislators leads to regulatory forbearance, and firms use this to pursue economic rents. I test the argument with data on firm-level taxes and the IRS's enforcement activities. I compile a database of publicly listed firms, which have hired Members of Congress (MCs) in the period 2004-2015. I show that hiring a former MC decreases the average company's tax rate. The effect is strongest, when firms hire the best connected former MCs, who served in committees responsible for oversight of the IRS. To investigate whether the effect is driven by selective enforcement, I collect data on IRS audits and find that hiring a former MC is associated with a lower probability of being audited. Additional tests do not suggest that the findings are driven by general rule changes or lobbying activities. This indicates that rules are enforced differently against politically connected firms.

This draft: February 26, 2019

¹I would like to thank Hye Young You, Sandy Gordon, David Szakonyi, Susan Yackee, Justin Grimmer, Jens Olav Dahlgaard, Mads Dagnis Jensen, Malte Dahl, Jacob Hariri, Anders Woller and Frederik Hjorth, all of whom have provided extensive and invaluable comments. A previous version of the paper was presented at the panel on *Patronage, Information, and Policy* at the 2018 annual meeting of the MPSA. Remaining errors are my own. I have conducted substantial parts of this research, while being a visiting researcher at the Department of Politics at NYU, the Department of Business and Politics at Copenhagen Business School, and a Bradley Fellow at University of Chicago's Stigler Center at the Booth School of Business.

1 Introduction

It routinely attracts both great attention and condemnation, when elected officials leave office for private sector employment – the so-called revolving door phenomenon (e.g. Adolph 2013; LaPira and Thomas 2017; Palmer and Schneer forthcoming). The conjecture often is that large companies hire former legislators to use their political connections to sway public policy in the direction they desire. While mounting evidence suggests that lobbying firms can profit tremendously from hiring revolving door personnel (Blanes i Vidal et al. 2012; LaPira and Thomas 2017; McCrain forthcoming), the phenomenon extends far beyond public officials leaving office to become contract lobbyists. Publicly held firms, too, pay vast sums to hire former legislators – Palmer and Schneer (2016) estimate that the average senator-turned-board-member makes upwards of \$450,000 yearly from working in these part time positions alone. Despite this, we know preciously little about whether firms actually profit from these huge investments in revolving door staff. In this paper, I investigate whether and how companies can use political connections to their advantage. I argue that federal agencies avoid investigating companies that have recently hired a former Member of Congress (MC). In anticipation of this regulatory forbearance, the firm will comply less with costly regulation. Focusing on the enforcement of tax policy, I show that hiring a former legislator decreases the company’s tax rate, and that the effect is likely to be driven by a lower probability of the firm being audited by the IRS.

To test the argument, I draw on several novel data sources. First, I construct a database of publicly listed companies that have hired former MCs, and show that hiring a former legislator on average decreases corporate tax rates. Placebo tests show that there are no differential pre-treatment trends, and that the effect does not hold for foreign parent companies, suggesting that the results are not biased by selection. The estimate is large relative to normal changes in the tax rate a firm pays – amounting to half of a standard deviation of the variation experienced by a typical company – but persists for a short while. Second, to test whether the mechanism is regulatory forbearance by the IRS, I proceed to map out the interactions between the firms in my sample and the tax authorities. I do this by coding the sections of the 10-K reports, where the boards of directors inform the shareholders about new and ongoing business with the IRS. I show that it is less likely that the IRS will initiate an audit of a company who has recently hired a former MC.

Throughout a battery of additional tests, I show that the drop in tax rates is largest, when firms hire former MCs who were centrally placed in Congress’ cosponsorship network and served on committees responsible for IRS oversight. I find no evidence that the changes in tax rates are driven by other forms of political activities, general changes to the Tax Code, or a wide range of firm-level economic factors.

Overall, the results suggest that the IRS eases off politically connected firms in their

enforcement of the tax code. That is, the same tax legislation applies, but is enforced more leniently against connected firms. They do so as a direct result of the connection itself – not because of other lobbying activities. Under a causal interpretation, my estimates suggest that a company with average revenue, paying the average effective tax rate, can save approximately \$224,000 on their tax bill by hiring an average former legislator – but if they hire a very well-connected one, they can save around \$1.4 million. The firms with the largest incomes in my sample, however, can save several millions of dollars in taxes. To the individual firm, these are meaningful amounts, and legislators are likely to more than make up for their pay check. For the public finances, however, these are relatively modest amounts, which might be one reason, why the behavior goes unchecked.

After presenting this evidence, I suggest two theories of political connections that can account for the patterns observed here. Firms can leverage the MC's privileged information on IRS procedures to behave in ways that make resource constrained tax authorities believe they are compliant, thus avoiding examination. They could also use the MC's political connections to pressure the IRS to give them a wider berth in their enforcement activities. Either mechanism could explain the patterns uncovered here, and future work could explore them further.

Besides the growing literature on the effect of the revolving door on political outcomes, my results contribute to the existing body of knowledge in three ways. First, extant research has documented large effects of employing revolving door lobbyists on the revenue of lobbying firms (Blanes i Vidal et al. 2012; McCrain forthcoming). Similarly, research on the impact of political connections among US corporations has documented large effects on firm performance on the stock market (e.g. Acemoglu et al. 2016; Do et al. 2015; Fisman et al. 2012; Goldman et al. 2009; Luechinger and Moser 2014). However, both potential clients of lobbying firms and investors in publicly listed companies are likely to be attracted to politically connected firms in the *expectation* that their connections will attract economic rents, or that the new, politically connected employee is highly skilled. This does not necessarily imply that connected firms, who experience increased lobbying revenue or abnormal stock market returns, actually are successful in shaping political outcomes. By studying the enforcement of tax law, I complement the existing literature by documenting effects of hiring revolvers on the firm's political and regulatory environment. This suggests that the flow of legislators out of office may have real political effects beyond changing the expectations of lobby clients and investors.

Second, I add to the literature on corporate lobbying and political influence (see De Figueiredo and Richter (2014) for a review), by showing that through hiring as few as one highly connected person, a firm can have an impact on its regulatory environment. Third, in doing so, I add to the research on how special interests can lobby the bureaucracy effectively (e.g. Bennis and Feldmann 2006; Boehmke et al. 2013; Haeder and Yackee 2015; Hall

and Miler 2008; McKay 2011; Yackee 2005; You 2017), and especially the literature on how political activities can shape discretionary enforcement of rules against a firm (Gordon and Hafer 2007, 2005; Yu and Yu 2011). More broadly, therefore, the article is related to the study of regulatory capture by special interest groups (see Bernstein 1955; Carpenter and Moss 2013; Stigler 1971) by showing that firms might be less interested in shaping the content of bureaucratic rules, if it can be made less costly to avoid complying with those rules altogether.

2 Using Political Connections to Lower Tax Rates

In this paper, I argue that hiring former legislators can be thought of as a political investment on par with campaign donations and lobbying expenditures. Conceptualizing revolving door hirings as a corporate political activity has obvious consequences for how we should theorize the phenomenon. I build on research suggesting that firms may engage in politics not with the goal of having an impact on legislative outcomes, but to have rules and regulations enforced more leniently against them (see Gordon and Hafer 2013, 2007, 2005). I argue that hiring former politicians can be an effective means for achieving this goal. To see why, it is helpful to depart from the canonical tax non-compliance model (Allingham and Sandmo 1972), which considers an agency problem, where an enforcer has incomplete information about a firm's true state. The enforcer is resource constrained, and monitoring is costly, so the enforcer has to choose which firms to examine for potential compliance issues.² It will then use observable characteristics of the population of companies in an effort to decide which are worthwhile examining. If firms can predict that they will not be investigated, they will be less likely to comply with costly regulation, e.g. by reporting a lower taxable income. Gordon and Hafer (2007, 2005) consider how corporate political expenditure can be used to obtain regulatory forbearance.

As is the case with corporate campaign donations, having a former legislator on staff may be helpful for a company that wishes to avoid examination by the agency. The mechanisms, however, are likely to be different. Importantly, an employee with a background in politics possesses both privileged information and political connections. These are resources that have been identified as valuable assets for lobbyists in general (Bertrand et al. 2014; Blanes i Vidal et al. 2012; Grossman and Helpman 2001; Hall and Deardorff 2006; LaPira and Thomas 2017; McCrain forthcoming). When a company attempts to avoid examination, these resources may be effective for two reasons. First, revolving door employees can use their knowledge to send a signal, which makes the bureaucracy believe that the company is

²The basic setup is similar to the literature on the revolving door and agency capture (), with the exception that the potential for capture does not arise from the enforcer's career ambitions, but from the revolver's human capital.

in compliance with existing regulations. Second, their connections can be used to send (implicit) threats of political retribution, should the agency target them. Therefore, resource constrained enforcers may avoid examining politically connected firms. In response to this regulatory forbearance, companies are likely to go to the edge of legality – or even beyond – in their interpretation of existing rules.

Investigating whether it is out of fear for retribution, or because the firm has privileged information about how the agency chooses subjects for examination is beyond the scope of this text. Establishing the connection between employing revolvers and regulatory forbearance is in itself a huge endeavor. However, after presenting evidence that hiring former legislators impacts regulatory forbearance, I will further develop both theoretical perspectives. First, however, I turn to a discussion of how regulatory forbearance would work in the context of US tax policy.

2.1 Context: Political Connections and IRS Enforcement

Three factors make tax enforcement an ideal case for studying the effect of political connections on regulatory forbearance. First, it represents a classical enforcement problem, where the taxpaying company reports its estimated taxable income to the IRS, but the agency has limited information about the firm’s true state. Second, unlike most other agencies, the IRS makes decisions regarding all types of companies: Influencing their enforcement activities is relevant to corporate political actors across the board. Investigating the effect of political connections on tax rates, thus, allows us to include a broad variety of corporate actors in the sample. Third, as shown in Richter et al. (2009), firms stand to profit handsomely from lowering their tax rates, while the cost to public finances is relatively modest. This makes it an economically important case in its own right.

Corporate Tax Positions as Uncertain Investments

Corporate taxes are determined based on a tax return, which is a self-determination of taxable income that is filed yearly. Taxes are paid in quarterly estimated payments, and the rate is derived by applying the statutory federal tax rate to the company’s estimate of taxable income.

The IRS is responsible for auditing federal tax returns. This is done by periodically choosing companies for an examination, and evaluating their tax positions. While the criteria used by the IRS to select companies for audit remain secret, the Internal Revenue Manual (IRM) sets out specific procedures for evaluating the tax position of a company. The companies in this sample to a very large extent fall under the IRS’s Large Business and International (LB&I) program.³ Under this program, IRS examiners focus on the potential

³The particularities of the LB&I examination process are outlined in IRS (2016b), but see also the

for a) computation errors b) incorrect exemptions, c) tax avoidance schemes, and finally, d) if mistakes are due to the company's general tax accounting practices, how adjustments to those practices will impact tax payments in future years (IRS 2016b). This focus in IRS' examination procedures anecdotally suggests that making miscalculations or applying incorrect exemptions are important sources of tax disputes. It also illustrates that a company does not have to engage in fraud (by e.g. misreporting its income) to keep its tax bill lower than it otherwise would have been. Indeed, because publicly held corporations are subject to external third-party audits, they are likely to be *unable* to underreport their income very significantly (see Kleven et al. 2011). The company, however, can simply take a series of positions on how it believes exemptions should be applied, which the taxing authorities may not agree with. Taking an aggressive position in this way can yield significant tax savings. They can, of course, be overruled in the event of an audit. Importantly, however, if a company's tax return is not audited within the statute of limitations, which is three years for business returns⁴, the tax position is automatically accepted. This implies that if an IRS examination could be avoided, taking an overly aggressive tax position can yield a permanent tax saving. Anecdotal evidence suggests that avoiding examination until the expiration of the statute of limitations in itself can yield large savings. For example, according to a 10-K report filed by Magellan Health Services, because of expirations of the statute of limitations, the company was able to obtain previously unrecognized⁵ income tax reductions amounting to \$23.2 million in 2013, \$35.7 million in 2012, and \$10.4 million in 2011 (Magellan 2013, p. 48). While it obviously is uncertain whether the IRS would challenge the merits of these unrecognized tax benefits, the expiration of the statute of limitations made it very hard for the agency to do so. Because of this, we can view the adoption of debatable tax positions as a gamble with varying levels of uncertainty: In any case it yields a financial return here and now, but this benefit might be reversed, depending on the underlying probability that the company is selected for an IRS examination (Allingham and Sandmo 1972).

Previous research shows that states and IRS districts that are represented by MCs, who serve on committees responsible for oversight of the IRS, are audited less frequently (Hunter and Nelson 1995; Young et al. 2001). This suggests that the IRS might be susceptible to political pressures. I argue that this should hold at the firm-level as well. Therefore, I expect that hiring former MCs will lower the probability of a firm being selected for an IRS audit. In expectation of this, the firm will intentionally estimate a lower tax rate, than it otherwise would have done.

informational pamphlet IRS (2016a)

⁴Assuming that there are no substantial omissions in the return. If so, the statute of limitations increases to six years.

⁵It is standard accounting practice to distinguish between recognized and unrecognized tax benefits. Whereas the former would be covered by some statute in the Tax Code, an unrecognized benefit would be one that the taxpayer deems *should* be covered. This position would be settled by the IRS upon audit, but if none occurs before the expiration of the statute of limitations, the position is automatically recognized.

3 Methods & Data

The main independent variable is a binary indicator for the year a publicly listed company hires a former MCs in any capacity. I departed from a list of retiring MCs and relied on a variety of sources to identify their post-elective career trajectories. First, Bloomberg CVs keeps track on the careers of a number of influential businesspeople – including most MCs in my sample. This, therefore, presented a very useful helicopter view over most careers. However, it is obviously not random, which people they keep track on, and there might be omissions in their records. To capture additional positions on Boards of Directors, I supplemented using 10-K filings retrieved through the EDGAR database. To capture positions that were omitted by Bloomberg or are not directorships, I conduct extensive internet searches. Most firms send out press releases announcing when they establish, e.g., advisory boards with MCs on them. Additionally, because of the high-profile nature of most revolving door employments, most cases where former MCs are employed in large, publicly listed companies receive coverage. Finally, I use personal LinkedIn pages and data on employment histories from The Center for Responsive Politics (CRP). The latter source is useful for keeping tabs on former MCs that register as lobbyists under the Lobbying Disclosure Act (LDA). Positions as a lobbyists, however, makes up a relatively small fraction of this sample, because lobbying firms are excluded. Since data on employment termination is mostly missing, I only use the first year a former MC was employed in a company.

As I discuss below, for identification purposes, I constrain my sample of firms to include only those companies that hire a former legislator in the period I investigate. The sample covers publicly listed companies that hired a former MC in the period 2004-2015. In total, I track 264 companies and 89 revolvers. I obtained all of corporate financial data, which I describe below, through Datastream.

3.1 Data on IRS Audits and Company Tax Rates

Tax Rates

To measure Effective Tax Rates I follow Gupta and Newberry (1997) and use the current portion of total tax expense divided by total, pre-tax book income as measured by Datastream.⁶ Because most revolving door MCs are hired sometime during the year, I expect that the tax decrease will set in with a lag. Therefore, I put a one year lead on the dependent variable. There are a number of extreme observations on the Tax Rate variable. These are given less weight, because I use the natural logarithm, but to make sure my estimates are not artificially inflated, I discard the top and bottom 2.5 pct. in the distribution of Tax Rate. In Appendix D1, I document that excluding these observations decreases my baseline

⁶See Gupta and Newberry (1997) for an extensive discussion of the measure.

estimate by approximately 40 percent. Using the natural log of a variable that can take on negative values poses some challenges. In the main results, I simply add a constant, but in Appendix D2, I test the robustness of my results by applying two alternative transformations (the inverse hyperbolic sine and the bi-symmetrical log transformation), both of which behave like the log-transform, but allow for negative values. These robustness checks indicate that my baseline approach yields conservative estimates compared to using alternative transformations or the untransformed level of tax rates.

IRS Auditing Activities

To measure IRS enforcement activities, I hand-code a binary indicator capturing whether an audit of the company's accounts was initiated during any given calendar year. To do this, I have coded the sections of all 10-K reports that explain tax matters and interactions with the IRS to the shareholders of the companies. If the IRS disagrees in significant portions of a company's tax position, this could lead to very large additional tax expenses. Because of this, IRS audits entail potentially large liabilities for a company. Therefore, most publicly listed corporations inform their shareholders about ongoing IRS examinations, and whether one is planned to commence in the upcoming financial year. These accounts are normally given in 10-K reports, which is why they provide an enormous amount of unstructured data on the interactions between the company and the taxing authorities. Because 10-K reports can be several hundred pages long, and every company organizes its reports differently – a structure which even changes from year to year – extracting this data is extremely cumbersome. To structure this extensive coding process, I devised a scheme, which allowed me to first locate the sections dealing with the relevant tax matters, and then to ascertain whether an audit was initiated in the given year. The coding scheme is presented in appendix C.

These data can be used to shed light on exactly the mechanism, I propose in this paper. If hiring a former legislator decreases the probability that a firm is audited, they can use this as a window of opportunity to lower their tax rate by taking more aggressive positions in the returns. Additionally – as alluded to previously – avoiding an audit can also directly benefit the firm, because of expirations of the statute of limitations.

It is important to note that I only consider the initiation of an IRS audit – it is beyond the scope of this paper to investigate the actual content of IRS decisions. While it would be technically possible to construct a measure of leniency of IRS enforcement, there are important selection effects, which would contaminate any inferences made from such data. First, the firms included in this sample are all audited under the examination procedures for LB&I program. Here, the IRS examination is in large part a collaborative process (see IRS 2016a), where the firm's own accountants and tax lawyers are relied on continuously throughout the audit (IRS 2016b). Additionally, any company can challenge IRS's position

in a number of ways, including through formal complaints to the IRS Office of Appeals and Tax Court (IRS 2018). More informally, however, any disagreement between the taxpayer and IRS can be settled out of court at any time, if the company makes an offer in compromise that is acceptable to the agency. This makes IRS’s assessment of a tax position an ongoing negotiation, which would introduce multiple unobservable selection effects between the audit initiation and the final resolution of a tax issue. Especially considering the huge amount of additional resources necessary to construct such a measure of leniency, the best way of avoiding these multiple selection issues is to use the decision to initiate an audit. Future research might benefit from developing a leniency measure, which avoids selection effects.

3.2 Data on Additional Implications

I conduct a number of auxiliary analysis aimed at capturing additional implications of the theory. To do this, I collect data from a variety of sources. First, I construct a measure of the former legislator’s degree of connectedness. I follow Fowler (2006) and use the legislator’s centrality in the cosponsorship network of Congress. First construct a directed network of cosponsorship for each Congress in both the Senate and the House for the period 1992-2015, where the directed connection between each pair of MCs increases in strength every time one cosponsors a bill proposed by the other. Cosponsoring a bill can be seen as a social act of support for the original sponsor, a tie which grows in strength for each act of cosponsorship. Since an MC does not actually have to meet or have lasting relationships with their cosponsors, however, these ties send a noisy signal of their connectedness. In an attempt to make the measure less noisy, I (again, following Fowler (2006)) weight each act of cosponsorship by the total number of cosponsors on that bill. Combining these two sources of information (the total number of ties between two MCs, and how many other cosponsors a bill had) should provide me with a reasonable measure of the strength of the connection between each pair of MCs within both chambers. After the networks are constructed, I compute each MCs Congress-specific betweenness score, which measures the extent to which each MC has been able to garner support from cosponsors from different blocs in the network. To ease interpretation, I standardize the betweenness score in each Congress, and average over each MCs tenure. Thus, a positive score indicates that the revolving door MC on average scored above the Congress-specific mean throughout her tenure.

I also use data on lobbying activities made public under the Lobbying Disclosure Act (LDA) and made accessible by the Center for Responsive Politics. I construct three different measures of lobbying activities: a dummy for directly lobbying the IRS, the number of contracts mentioning IRS as a target of lobbying, and the dollar amount spent in those contracts.

Finally, I construct a binary indicator of whether the former MC served in a committee

responsible for IRS oversight. That is, either the Senate Finance Committee or the Ways and Means Committee in the House. I acquired data for this through Stewart III and Woon (2017).

3.3 Additional Firm-level Covariates

To adjust for a company’s size and assets, I include the natural log of the total dollar value of its combined assets and capital as well as its enterprise value. I also adjust for the number of employees. To capture the company’s operating performance, I include logged revenue and gross income, both measured in US dollars. Finally, I include the turnover of the company’s stock, as well as its stock-market value and share price. This is to capture potential effects of increased stock market attention. Because some of the financial variables can be very substantially negative, they are rescaled to have a minimum of 0.5, before being log transformed. Results are, however, robust to not using log scales and to adding a constant to bring variables above zero.

Firms that have hired former MCs in the period are generally very profitable and profits have grown considerably throughout the period of investigation. Thus, while the average profits calculated over the entire period is \$20 million, this figure has evolved from \$20 million in 2007 to almost \$25 million in 2015. Many of the firms also engage in more traditional forms of political activity – the probability of engaging in lobbying in any given year is 36 percent. 60 percent of the firms lobbied all years in the period, while only 12 percent never lobbied or only did so once. Among the firms engaged in lobbying, there was a 3 percent probability of lobbying the IRS directly. Conditional on engaging in lobbying, the average yearly expenditure is \$2.6 million, while contracts mentioning the IRS as a target of lobbying endeavors are on average worth \$2.7 million. The most profitable firms are also more likely to engage in lobbying – the Pearson correlation between firm profits and the probability of engaging in lobbying, lobbying expenditure and the probability of lobbying the IRS is, respectively, .21, .29 and .1. These three correlations are all statistically significant at the 1 percent level. Further descriptive statistics are presented in Table 1.

3.4 Model Specification and Identification

To estimate the effect of hiring revolving door politicians on corporate taxation, I consider variations of the following two-way fixed effects model:

$$\ln ETR_{c,t+1} = \omega \cdot \ln ETR_{c,t-1} + \delta_1 \cdot R_{ct} + \beta_1 \cdot X_{c,t-1} + \gamma_c + \phi_t + \epsilon_{c,t+1},$$

where ETR is the effective tax rate paid by firm c . I include Tax Rate both as my outcome of interest with a one year lead, and as independent variable with a lag. R is the variable

Table 1: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Tax Rates	1,373	4.398	0.305	0.693	4.146	4.592	4.939
IRS Audit	831	0.306	0.461	0.000	0.000	1.000	1.000
Oversight Member	1,373	0.312	0.463	0	0	1	1
Average Betweenness	1,251	0.053	0.799	-1.001	-0.498	0.517	3.072
Capital	1,166	15.936	1.479	0.000	14.728	16.884	20.195
Total Assets	1,167	14.917	3.610	0.000	13.111	17.436	21.541
Enterprise Value	1,081	18.307	0.584	17.529	17.944	18.349	20.587
# Employees	1,085	8.409	3.038	0.000	7.091	10.714	14.604
Revenue from Sales	1,181	15.026	2.040	0.000	13.134	16.670	20.002
Gross Income	936	14.962	1.269	0.000	14.037	15.738	18.618
Stock Turnover	1,087	12.270	2.663	0.000	10.827	14.064	18.243
Stock Market Value	1,087	8.008	2.739	0.713	6.161	10.115	12.643
Stock Price	1,087	70.154	633.372	0.006	12.133	45.036	17,500.000

of interest, capturing the year during which a former MC is hired by the firm. The two fixed effects are denoted by γ , a company fixed effect, and ϕ , a set of year effects. ϵ is the idiosyncratic error term. All results hold without the lagged dependent variable as well as with the controls in contemporaneous form and with leads on them.

The inclusion of twoway fixed effects makes this a difference-in-differences model (Goodman-Bacon 2018). The key identifying assumption is that tax rates would have evolved similarly among treated and untreated firms, if the treated firms had not hired a former legislator. In order to make this assumption plausible, I have restricted the sample of firms to only include companies that have hired a former legislator at some point during my time period. Therefore, the firms that hire a legislator in the current year are compared to firms that have recently hired one or will do so soon. Because it is not random, which companies choose to hire former legislators, this deals with a variety of selection effects by only comparing firms that choose to become connected, and identifying the effect based on timing of employment alone. As I show in appendix B, this sampling strategy has been effective, since the timing of hiring a former MC is approximately balanced across firm-level economic indicators. This suggests that within this sample of firms that all choose to hire a former MC, the company's underlying economic situation matters little for when they hire a legislator. Overall, this makes the parallel trend assumption plausible. However, especially in an observational setting, this is no guarantee for unbiasedness, and two threats to identification persist. First, while I adjust for a number of selection effects by including X , the models remain vulnerable to heterogeneous shocks. Therefore, I adopt a series of highly flexible models, allowing shocks to have heterogeneous effects across firms. Second, hiring revolvers might be related to other influence-seeking strategies. I investigate and find limited evidence that the effect

of gaining a connection is driven by these other strategies.

4 Baseline Results

Figure 1 plots pooled corporate tax rates at $t + 1$ in the years leading up to the hiring of a former MC. The fitted line is estimated using a lowess smoother indicating the expected tax rate across companies within each time period.

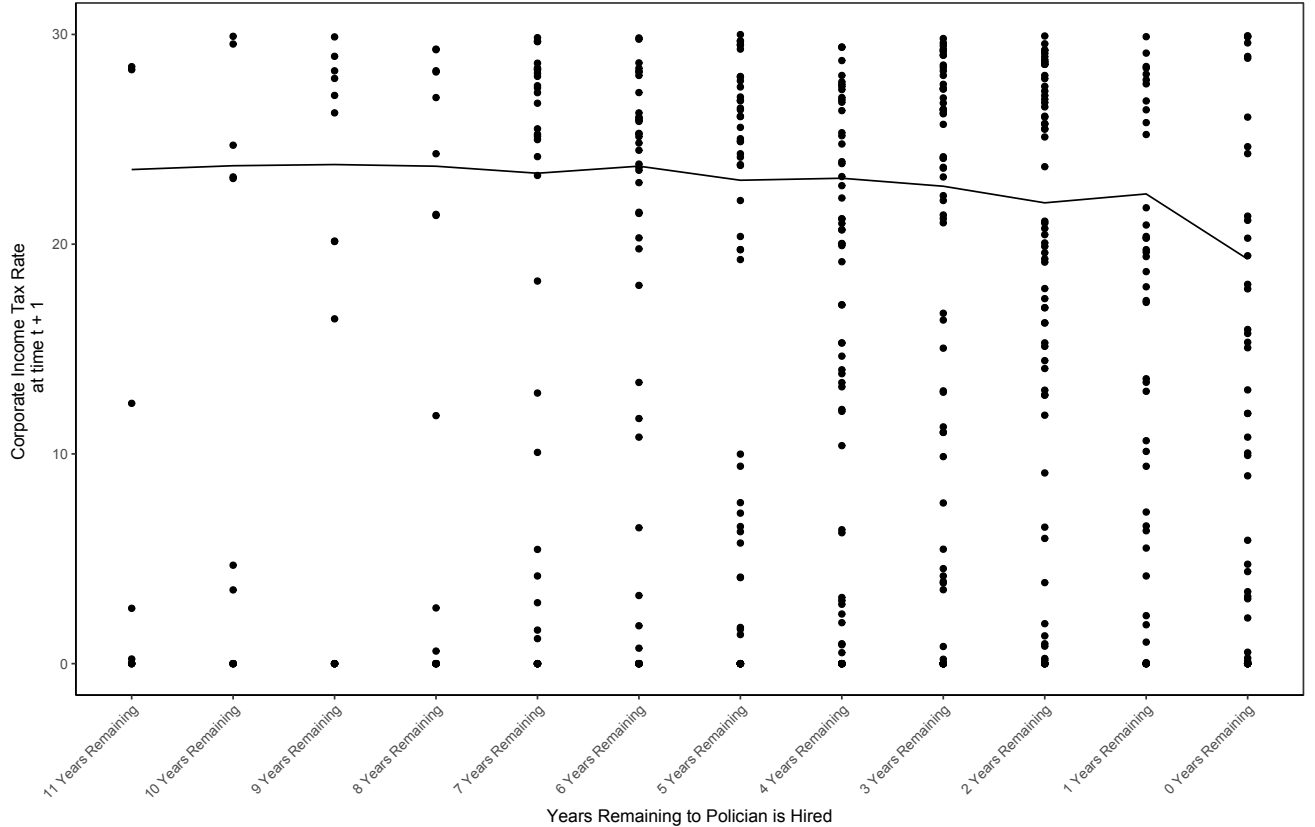


Figure 1: Corporate Tax Rate and Time Until Revolving Door Hire.

Note: Lowess smoother is estimated on pooled observations with 2.5 pct. trimmed means. Y axis is censored for presentational purposes.

As we can see, the tax rate across companies is relatively stable throughout time. Importantly, this stability suggests that pre-treatment trends among connected and unconnected firms are approximately parallel. Additionally, the sudden and sharp decrease in tax rates the year after a former MC is hired is striking. A pooled OLS regression suggests that companies that hire a revolving door politician pay approximately 5 percentage points lower taxes than other firms the year following the hire.

In Table 2, I present a range of twoway fixed effects specifications. The first specification is the simple association between hiring a former MC and corporate tax rate the year after adjusted for twoway fixed effects and pre-treatment tax rates. The coefficient suggests that

hiring a revolving door lobbyist decreases tax rates by 7 percent. This is approximately equivalent to 20 percent of a standard deviation. Translated into levels of tax rates, this corresponds to approximately 1.6 percentage points. Thus, the estimate is economically meaningful and statistically significant at the five percent level.

Very wealthy companies are more likely to be able to afford hiring former politicians, and because tax rates vary according to assets, this is likely to bias my initial estimate. Therefore, the second specification includes controls for the number of employees, enterprise value as well as total assets and capital controlled by the company. The coefficient on Revolving Door increases slightly and remains statistically significant at the five percent level. The firms that perform best on the market will be able to hire former politicians and pay more in taxes. Thus, the following model includes controls for operating performance as measured by net revenue and gross income. This increases the coefficient on Revolving Door. The estimate suggests that hiring a former legislator could decrease the average firm's tax rate by 13 percent – corresponding to about 40% of a standard deviation. I can reject the null at the 1 percent level, indicating that this result is unlikely to be driven by noise. Finally, companies that hire former politicians are likely to receive a lot more attention on the stock market from traders, who expect that the new hire will usher in a more profitable period for the company's investors. If such a surge in attention translates into more investment, this may impact the tax rate. To control for this, I include three measures of stock market attention: traded volume, share prices and market value. The results maintain.

If heterogeneous shocks are related to hiring revolvers, this can cause differential post-treatment trends and bias the results. Thus, they represent important threats to identification. In Columns five and six, I reestimate the simplest and full models but match on pre-treatment tax rates and the firm's primary industry of operation and year using coarsened exact matching (Iacus et al. 2012). While the latter ensures that observations are matched within the same year, the former allow non-parametrically for heterogeneous shocks depending on prior tax rates and industry. This is a powerful check, because it in a flexible manner allows firms to be on differential trends depending on prior tax rates and their main industry. In appendix D, I test the robustness of the results extensively by a) investigating the influence of extreme observations, b) applying different transformations of the dependent variable – and not transforming at all – and c) by showing that the estimates are robust to challenges to identification when estimating differences-in-differences with variations in timing (see Goodman-Bacon 2018).

Placebo Tests

I estimate a number placebo models, which are presented in the Panel C. The parallel trend assumption is by definition untestable, but a violation is likely to produce differential trends

Table 2: The Revolving Door and Corporate Tax Rates

	<i>Dependent variable:</i>					
	ln Effective Tax Rate $_{t+1}$					
	Bivariate	Assets	Performance	Attention	CEM	CEM + Controls
	(1)	(2)	(3)	(4)	(5)	(6)
Revolving Door$_t$	-0.076** (0.030)	-0.092*** (0.034)	-0.143*** (0.038)	-0.134*** (0.038)	-0.066* (0.034)	-0.257*** (0.075)
ln Tax Rate $_{t-1}$	-0.282*** (0.076)	-0.314*** (0.070)	-0.249*** (0.078)	-0.264*** (0.079)		
ln Total Capital $_{t-1}$		-0.021 (0.049)	0.126 (0.080)	0.104 (0.082)		0.236 (0.147)
ln Total Assets $_{t-1}$		-0.021 (0.015)	-0.066 (0.041)	-0.083* (0.045)		-0.146 (0.099)
ln Enterprise Value $_{t-1}$		-0.163 (0.112)	0.006 (0.147)	-0.044 (0.173)		0.101 (0.467)
ln Employees $_{t-1}$		0.006 (0.028)	0.053* (0.030)	0.052* (0.030)		0.086 (0.066)
ln Net Revenue $_{t-1}$			-0.182** (0.086)	-0.150* (0.087)		0.064 (0.257)
ln Gross Income $_{t-1}$			-0.076 (0.099)	-0.074 (0.099)		-0.456 (0.315)
ln Turnover Volume $_{t-1}$				0.019 (0.014)		0.017 (0.025)
ln Market Value $_{t-1}$				0.026 (0.022)		0.085 (0.067)
Share Price $_{t-1}$				0.0002 (0.001)		0.0003 (0.002)
<i>Panel B: Sample Statistics</i>						
DV mean	4.402	4.402	4.402	4.402	4.407	4.402
DV std. dev.	0.306	0.309	0.309	0.309	0.292	0.292
Observations	999	874	685	682	723	316
<i>Panel C: Placebo Models</i>						
Pre-Trend	0.011 (0.021)	0.011 (0.026)	0.007 (0.032)	0.004 (0.032)	-0.005 (0.004)	-0.01 (0.006)
Non-US Firms	0.11 (0.121)	0.048 (0.124)	0.123 (0.165)	0.123 (0.164)	0.054 (0.06)	
# Non-US Firm-years	112	84	55	55	18	
Company FEs?	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs?	Yes	Yes	Yes	Yes	Yes	Yes
CEM?	No	No	No	No	Yes	Yes

Note: The dependent variable in the primary models is the natural log of the firm's tax rate with a one year lead. CEM models match on pre-treatment tax rates, the firm's industry and year. Placebo models use, respectively, pre-treatment tax rates as the dependent variable and a sample of firms that do not pay taxes in the US, but hire former MCs. Only results for Revolving Door variable presented for the placebos. Beck-Katz panel corrected standard errors in parentheses. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively

in tax rates, before the politician is hired. In the first set of placebo models, I test whether the decision to hire revolving door personnel is correlated with the prior trend in Tax Rate by using the lagged tax rate as the dependent variable in specifications that are otherwise similar to the main models. In all specifications, the coefficient on hiring a former legislator in these models is diminutive and statistically insignificant. It is striking, how consistently the coefficient on the placebo falls very close to the null. Overall, this provides reassurance that the results are not driven by pre-treatment trends.

If there is some general selection effect, where unobservable conditions simultaneously push firms toward hiring former legislators and drive down their tax rates, this would bias my results. In the second set of placebos, I leverage the fact that there is small number of foreign companies that hire MC in my sample. While their American branches are US taxpayers, their parent companies are not, and I use the latter as a sample of placebo firms. Since these foreign parent companies are not US taxpayers, and are not subject to IRS examination, gaining political connections should not decrease tax rates in this sample. Across all specifications, I find a positive but statistically insignificant association in the placebo sample. Since these firms come from a wide range of international jurisdictions, I will not speculate as to why this positive association comes about. While there are relatively few observations, the stability of the results reassures me that my results are not driven by selection effects.

To further gauge how economically meaningful the effect is, Figure 2 presents the amount of tax dollars a firm can save by hiring a former MC. Estimates are predictions from the fourth specification in Figure 2. For the average firm, the tax saving is meaningful, but not extravagant – approximately \$224,000. The amount that is saved quickly increases, however, and while there is very considerable uncertainty associated with the estimate for the very largest firms, the evidence suggests that their savings amount to several million dollars. It should be noted that the income distribution among the firms in my sample is highly left-skewed, indicating that most firms have above-average incomes.

While this indicates that hiring a former legislator can be very lucrative in the short run for a firm, the cost to the public finances is quite modest – especially, because the effect is short-lived and firms do not hire politicians all the time.

In Figure 3, I investigate how persistent the decrease in Tax Rate is. The first specification is the same as presented in the final column of Table 2. The following specifications shows the effect of hiring a revolving door MC on Tax Rate two, three and four years after the employment begins respectively.

The point estimate increases slightly two years after the MC is hired. Probably because an entire cross section is excluded, however, the effect is no longer statistically significant at conventional levels. When the time horizon increases to three and four years after the MC is hired, the effect quickly drops to being indistinguishable from zero in both substantive and

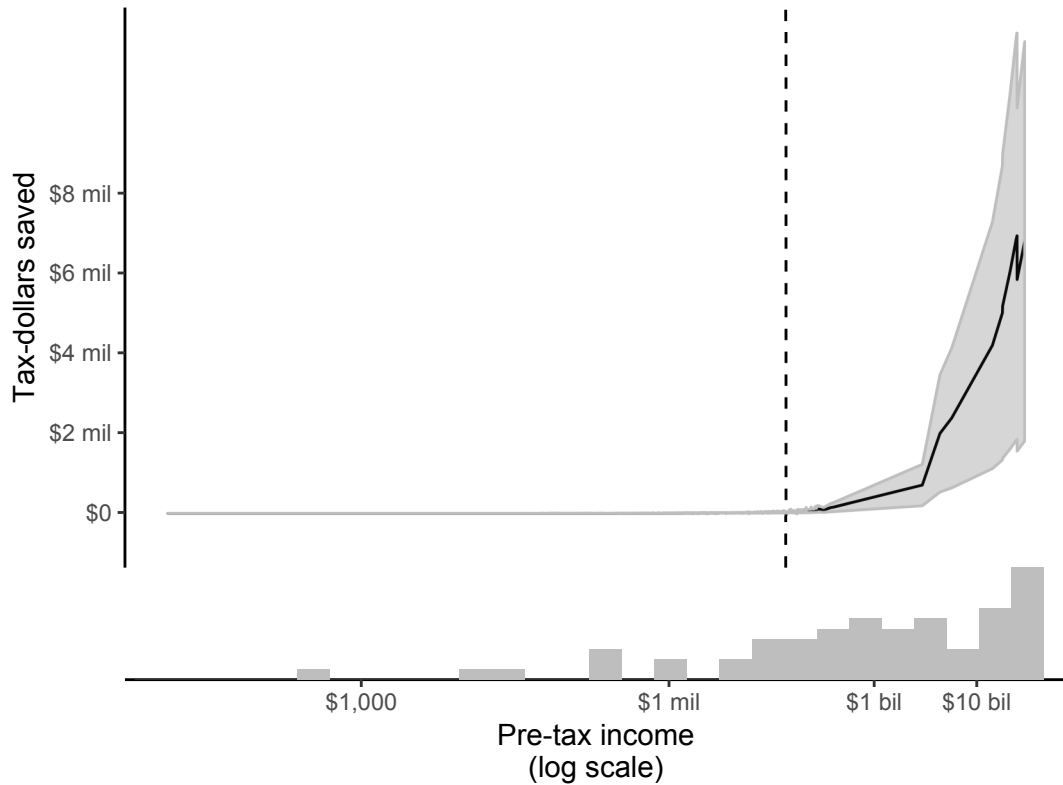


Figure 2: How much money can be saved?

Note: Tax-dollars saved predicted from the model presented in fourth specification in Table 2, with controls held at their means. Dashed vertical line a the mean level of pre-tax income. Shaded gray areas are 95 pct. Beck-Katz robust confidence intervals.

statistical terms. This indicates that the decrease in Tax Rate experienced by companies that hire former politicians is sizable, but short-lived – probably two years. The fact that the effect persists for a couple of years is a first indication that it does not come about because of a general change in rules.

5 The Mechanism: Political Connections and Regulatory Forbearance

There are two main turning points in the argument, I present. First, the decrease in corporate tax rates should come about, because the IRS avoids investigating politically connected firms – not because of more general changes in rules, which could apply to a number of firms. Second, hiring a former legislator is but one non-market strategy a firm could follow to gain decreased taxes. The decrease in corporate tax rates should be driven by the connectedness of the former legislator – not other changes in corporate political strategy that accompany the hiring of a revolver.

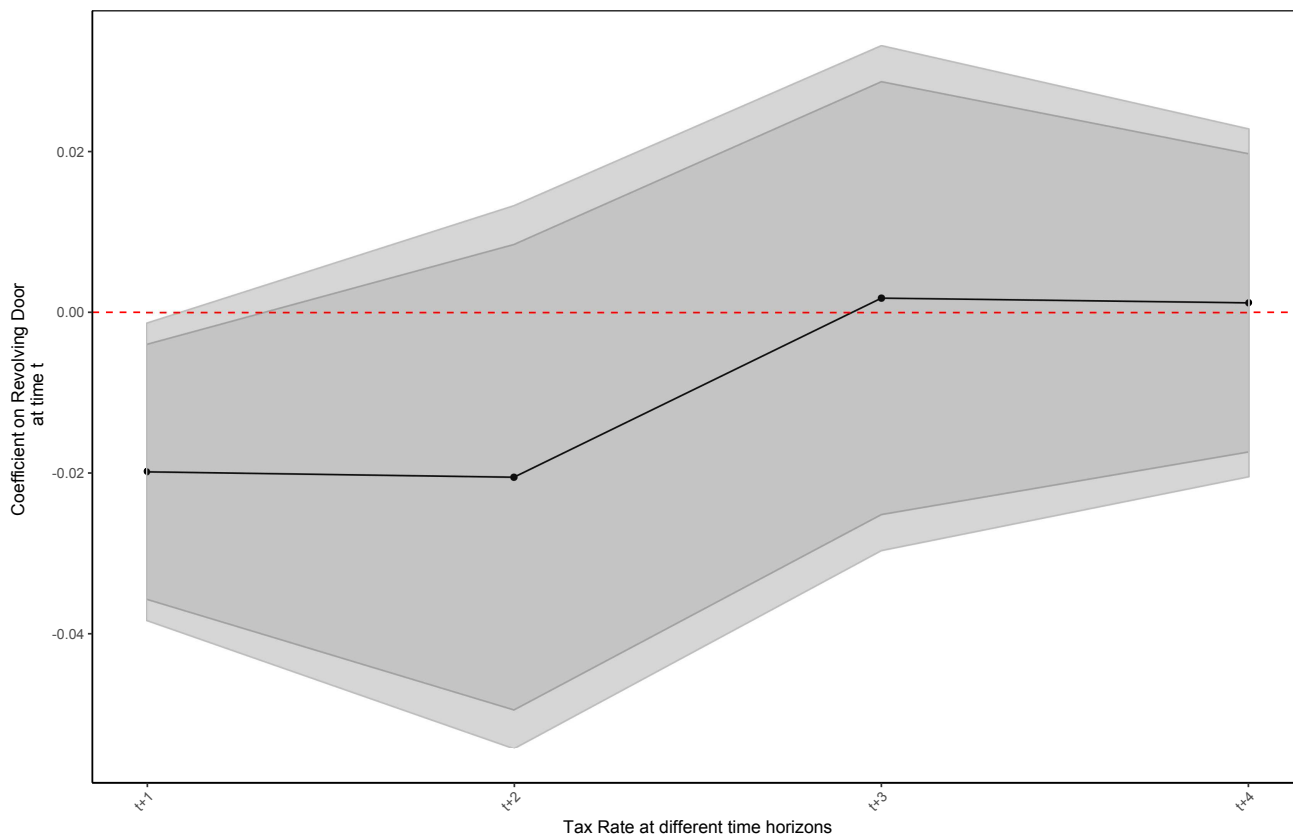


Figure 3: Effect of Political Connections on Tax Rate for different time horizons. *Baseline model ($t+1$) is identical to column 4 of Table 2. Dependent variable is Tax Rate (logged). Each specification increases the time horizon by one year. Dark and light gray shaded areas represent 90 and 95 pct. confidence intervals, respectively, calculated using panel corrected standard errors.*

5.1 Political Connections and IRS Auditing Activity

I investigate whether the IRS avoids examining connected firms by using data collected on IRS audits of the individual companies in my sample. Figure 4 shows the the association between hiring former MCs and the probability of being audited. It also includes placebo models, where the dependent variable is lagged by one year.

We can clearly see that politically connected firms are less likely to be audited. The year after a company hires a former MC, the IRS is between 14 and 15 percentage points (depending on whether or not controls are added) less likely to initiate an audit of their finances. Additionally, it is important to note that coefficients in the placebo models are all very small and indistinguishable from zero, statistically speaking. This suggests that the IRS enforces the Tax Code differently against politically connected firms.

5.1.1 Political Connections and Rule Changes

Previous research by Richter et al. (2009) suggests that companies can bring down their tax rates by lobbying for changes in the Tax Code, which grants them lucrative depreciation

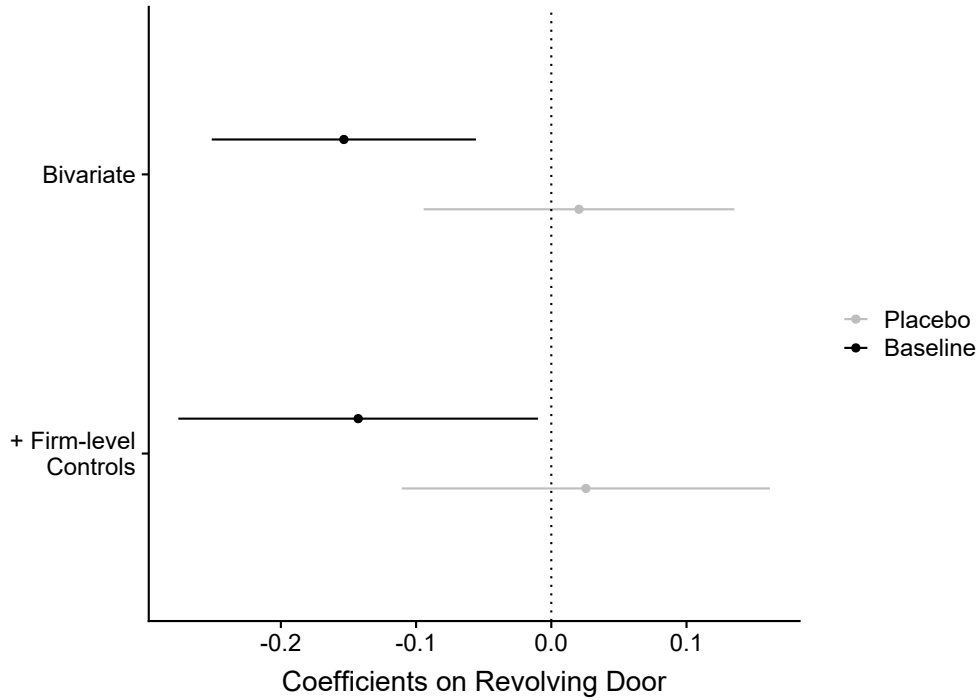


Figure 4: Political Connections and IRS Audits.

Note: The figure shows the relationship between hiring a former MC and the firm's likelihood of being audited (with a one-year lead). Two-way fixed effects are included in all models. The placebo results model the one-year lag of the dependent variable. Lines are 95 percent confidence intervals based on Arellano-White standard errors with clustering at the firm-level.

schedules that are tailored specifically to their asset portfolios. If hiring revolvers decreases tax rates, because they are able to bring about changes in the Tax Code, it would contradict the proposition that the results are driven by selective enforcement.

I investigate this proposition in two ways. First, if the drop in tax rates is driven by general rule changes, we would expect similar firms to experience it as well – it should not be concentrated with the company that gains the connection alone. I examine this by constructing a spatial weights matrix, where firms within the same sector are defined as neighbors. I use this weights matrix to spatially lag the independent variable. If the coefficient on this spatial lag of the Revolving Door variable is negative as well, it would indicate that gaining a connection not only decreases the firm's own tax rate, but also that of other companies in the sector. The coefficient is positive and statistically significant, indicating that – if anything – gaining a connection increases the tax rates of other firms in the same sector. It is relatively small, however, only amounting to less than half the size in absolute terms of the baseline estimate.

Second, I follow Richter et al. (2009) and interact the indicator for hiring a revolving door MC with a number of firm-level characteristics capturing common types of assets, which depreciations schedules could be aimed at. I use capital intensity (the ratio of fixed to total assets), size (total assets) and returns on assets (the ratio of pre-tax income to total

assets). The only statistically significant moderator used by Richter et al. (2009), which I do not investigate, is R&D intensity, since I could not acquire data on it. I also add the number of employees as a moderator. If politically connected firms are able to get decision makers to implement changes to the tax code that would benefit firms with their portfolio of assets, I would expect negative and statistically significant interaction terms (this is the line of argument in Richter et al. 2009). Figure 5 shows the coefficients on the interaction terms. As we can see, none of the interaction terms are statistically significant. In addition, they are very small compared to the baseline effect presented in Table 2.

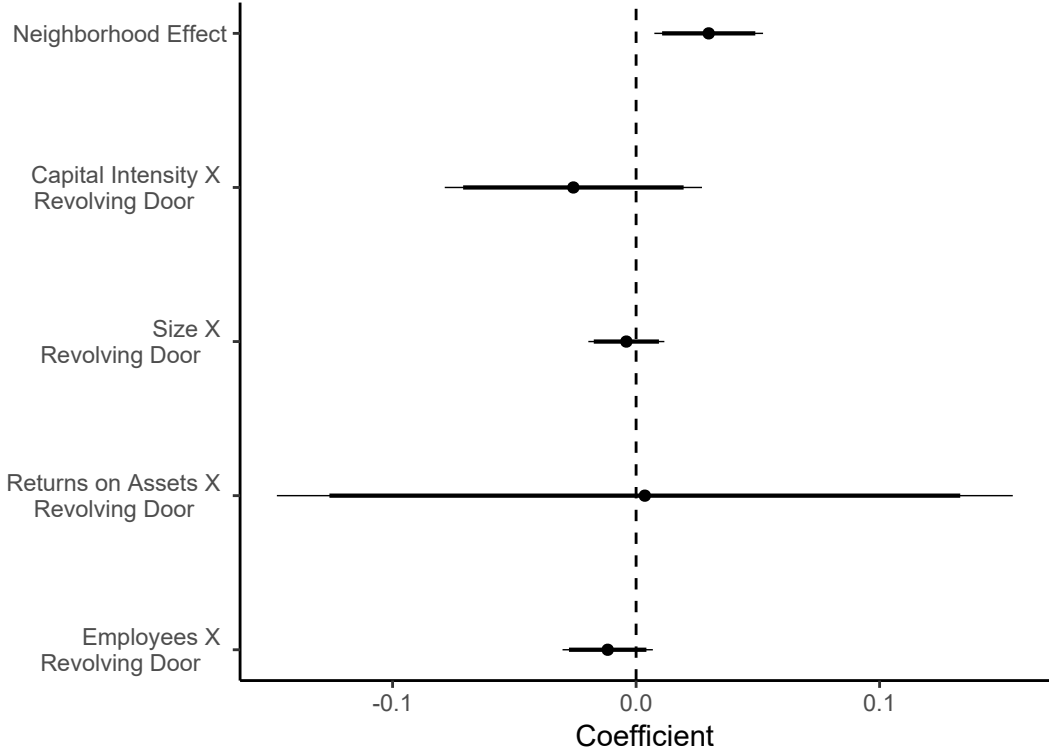


Figure 5: Portfolio of assets does not drive the effect.

Note: The dependent variable is Tax Rate_{t+1} (logged). All moderating firm characteristics are logged. Coefficients show the estimated interaction between a firm characteristic and the revolving door dummy. Each interaction is estimated in a separate model. Lines are 95 pct. (thin) and 90 pct. (thick) confidence intervals, computed using panel corrected standard errors. Lagged dependent variable included.

Changes in the Tax Code are extremely difficult to observe, and even harder to attribute to a company’s political activities. The strength of these two approaches is that they allow us to assess, whether the patterns in tax rates differ in a manner consistent with broad rule changes.

5.2 Is Connectedness Just One of Many Non-Market Strategies?

Hiring a former MC may be one of many viable non-market strategies – most notably, directly lobbying the IRS or other decision-makers could be used alongside employing a revolving door legislator. Importantly, if direct lobbying in itself is an effective means for a firm to lower its tax rate (as is previous work suggests (Richter et al. 2009)), it would be very difficult to assess, whether the effect is driven by political connections or some other form of corporate political activity. On the other hand, if the effect is driven by certain, well-connected legislators and hiring a revolving door MC is not associated with direct lobbying, this would suggest that the effect really is driven by political connections.

5.2.1 The Legislator’s ‘Connectedness’ Drives the Association

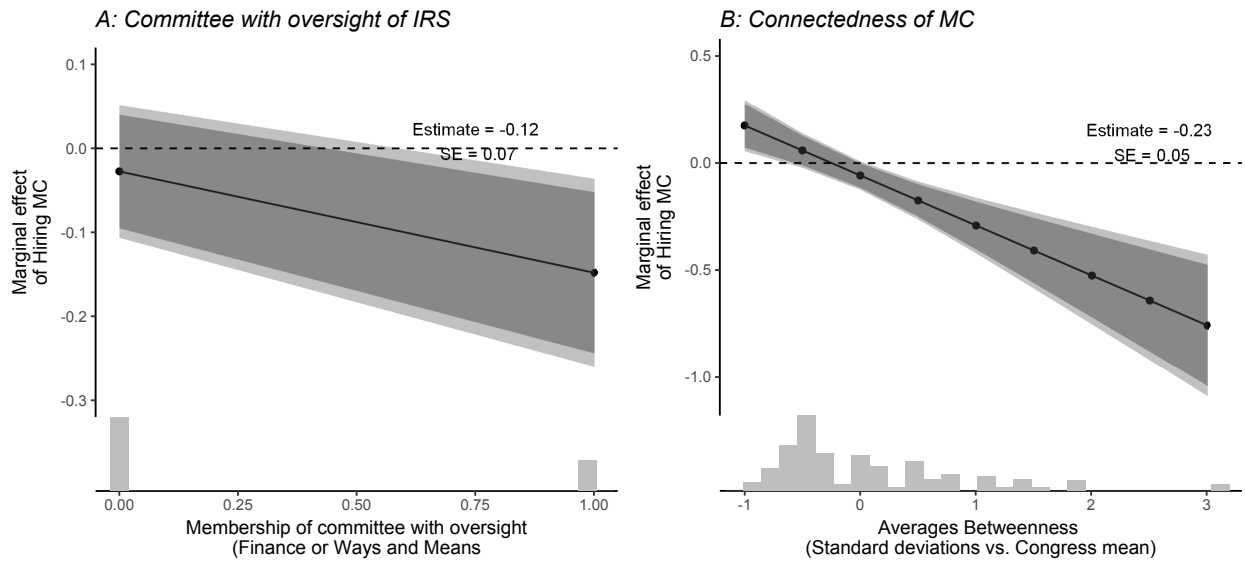
First, I investigate, whether legislators who either served in committees with oversight over IRS, or who have extensive political connections more generally, drive the decrease in corporate tax rate. The results are presented in Figure 6, where Panels A and B show the results from two sets of twoway interactions, while Panels C and D show a threeway interaction. Estimated interaction coefficients are printed in the top right corner of each plot.

In Panel A, I interact my dummy for the year in which a revolving door MC was hired with an indicator for whether or not she served on committees responsible for oversight with the IRS. I estimate that the decrease in tax rate is 12 percent larger, when firms hire a former member of these committees. This interaction effect is noisy, however, and only significant – statistically speaking – at the 10 percent level. While the size of this estimate is robust to different transformations of the dependent variable, the statistical significance is not.

Second, an MC, who was able to bridge gaps between important coalitions in Congress during their tenure, should be more effective in lowering corporate tax rates.

To get at this, I use my proxy of the individual MC’s political connectedness, which I measure using their average betweenness score in the cosponsorship network in Congress. In Panel B, I show the results from an interaction between this measure and the revolving door indicator. This shows that the MC’s average betweenness score strongly moderates her effect on the corporate tax rate. For each standard deviation she generally was above the Congress mean, her hiring decreases the tax rate by one additional percent. Looking at the marginal effect for MCs with average betweenness scores, the impact is very small and statistically insignificant. However, it increases markedly and becomes significant in statistical terms at the five percent level, as betweenness increases in increments of one half standard deviation. It should be noted that there is one very outlying observations. In other models, which I do not present here, I have excluded it, which does not change the

A and B: Twoway interactions



C and D: Threeway interaction

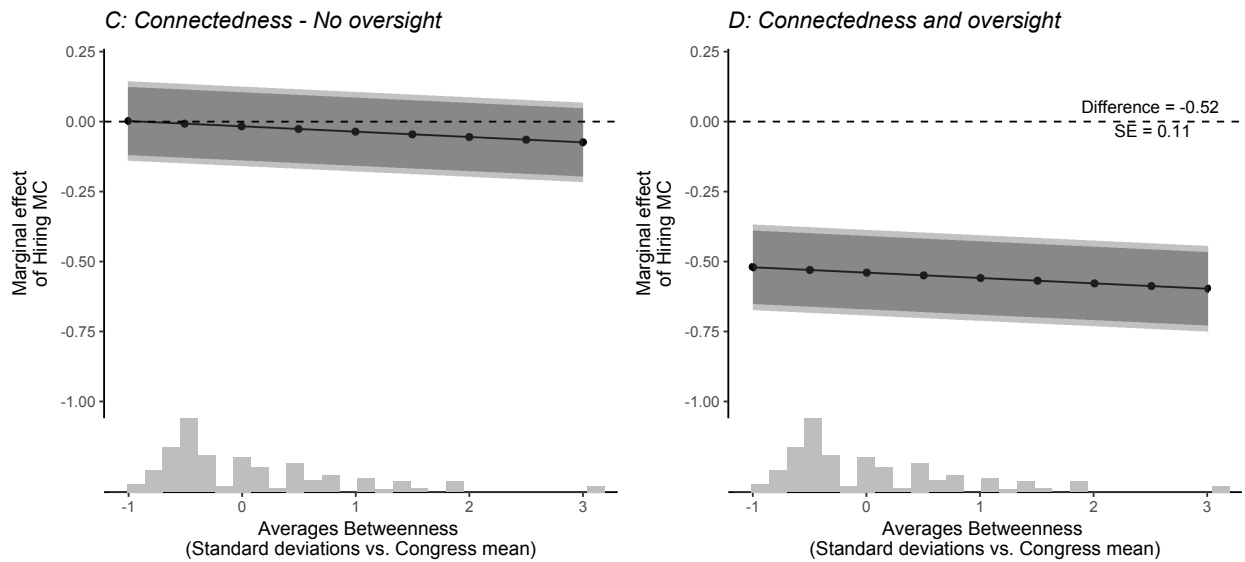


Figure 6: Heterogeneous effects for well-connected legislators.

Note: Dependent variable is Tax Rate. Panels A and B show the marginal effect for MCs that did or did not serve on a committee with oversight of the IRS (Panel A), and across different levels of average betweenness centrality of the MC (Panel B). Panels C and D show marginal effect across different levels of betweenness centrality for MCs that did not serve on a committee with oversight (Panel C) and those who did (Panel D). The latter estimated using a threeway interaction including all constitutive terms. All models include fixed effects for firm and year as well as lagged values of tax rate. Confidence intervals are 90 pct. (dark) and 95 pct. (light shaded areas) computed using Beck-Katz panel corrected standard errors.

results substantively, in that it increases the effect very slightly.

Finally, the MCs, who are best poised to make life hard for the IRS, are the ones, who are both well connected and served on committees with oversight. Thus, the largest decrease in tax rates should come, when hiring MCs, who possess both these characteristics. In Panels

C and D, I present the results from a threeway interaction between hiring a revolving door MC, her average betweenness score and whether she served on a committee with oversight of the IRS. The interaction is highly significant, statistically speaking, and shows that the moderating effect of hiring a well-connected MC increases by 2 percent if that MC also served on a committee with oversight. Conversely, the additional effect of hiring an MC, who served on such a committee, increases by 2 percent each time her betweenness improves by one standard deviation. Looking at the marginal effects, increasing betweenness adds close to no additional effect, when the MC did not also serve in an oversight committee, but adds very substantially, when she did.

5.2.2 Connected Firms Do Not Lobby More

If firms use their political connections as an integral part of a lobbying campaign, this could be a key part of the mechanism linking the revolving door to decreases in tax rates. In this situation, however, it would be unclear whether we could attribute the decrease in taxes to the lobbying campaign or the revolving door MC. If the increase in lobbying activity were driven by firms that hired the best connected legislators, this would especially complicate the inferences that could be made.

In Figure 7, I investigate this by interacting the revolving door indicator with a dummy for whether the former MC served on a committee with oversight of the IRS. I use three different measures of the propensity to lobby the IRS directly as outcome variables. In panel A, I investigate how hiring a former MC is related to the probability of lobbying the IRS. In Panels B and C, I investigate the intensive margin – that is how political connections are related to the (logged) number of contracts, where the IRS was lobbied, and the (logged) amount spent in those contracts.

We can see that across all three specifications, hiring a former member of one of the oversight committees is associated with a small decrease in a firm’s propensity to lobby the IRS and the extent of its lobbyism. None of the associations are statistically significant, however. Hiring a revolver, who did not serve on the oversight committee, is associated with a slight increase in activity, which is why dropping the interaction would pull the overall estimate towards zero. All of these results hold for lobbying activities in general (not just targeting the IRS) and for the network-based measure of connectedness.

This suggests hiring (well-connected) former legislators is not a complement to traditional lobbying activities. Because gaining connections and choosing to lobby directly are orthogonal, this indicates that the estimated decrease in corporate tax rates is due to the political connection gained by the firm – not lobbying as an alternative non-market strategies.

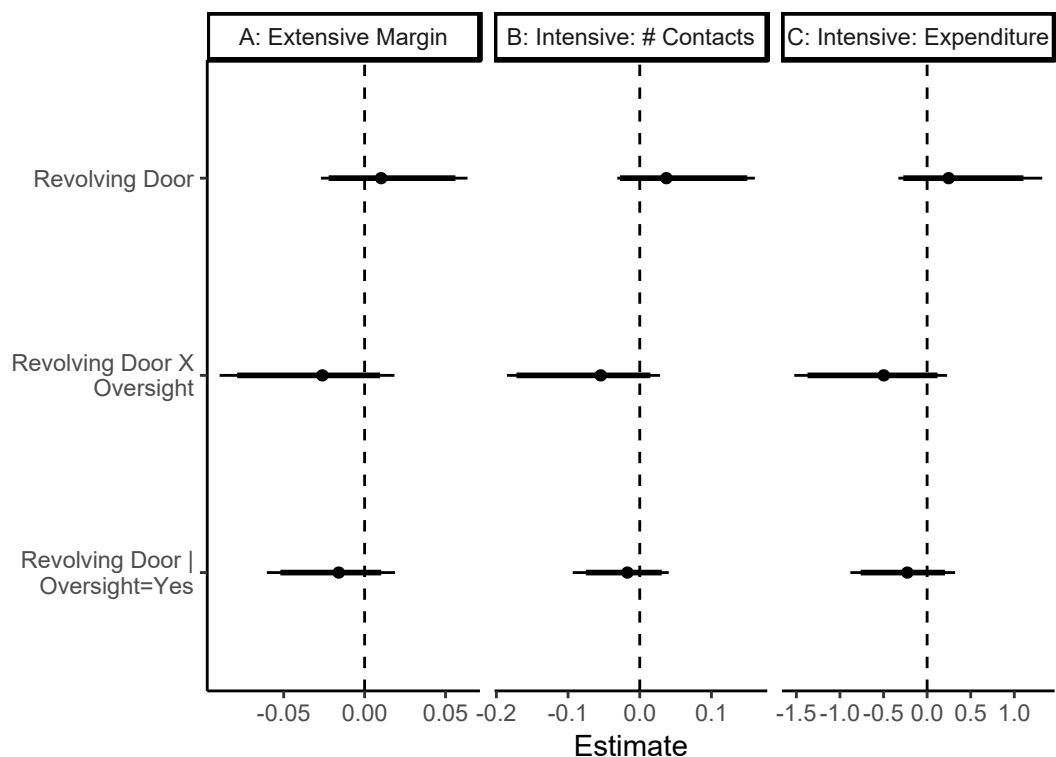


Figure 7: Hiring a former MC and directly lobbying the IRS.

Note: The dependent variable in Panels A, B and C is, respectively, the probability of lobbying the IRS directly, the (logged) number of lobbying contracts with the IRS as target, and the (logged) expenditure of contracts with the IRS as a target. Confidence intervals are 90 pct. (thick) and 95 pct. (thin) lines from the relevant percentiles of a distribution of 500 non-parametric bootstraps with resampling at the firm-level. All controls as well as firm and time fixed effects are included.

6 Discussion: Why Do Political Connections Matter?

The results I have presented suggest that the Tax Code is enforced selectively when it comes to politically connected companies, and that they profit from this knowledge by estimating their tax rates to be lower than they otherwise would have.

While these results are important, building a complete theory of the connection between the revolving door and regulatory enforcement requires that we can distinguish between plausible mechanisms. As alluded to previously, specialized knowledge and political connections are likely to be important mechanisms.

Considering first the information mechanism, former MCs have experience both with oversight and legislation, which provides them with knowledge that is extremely valuable to post-elective employers. Among other factors, this entails expert knowledge of how federal agencies conduct investigations – and, importantly, which companies they choose to investigate. Firms seeking regulatory forbearance can exploit these insights into the operating procedures of federal agencies to behave in a manner that increases the agency’s confidence that they are in compliance with existing regulations. In the case of tax enforcement by the IRS, companies could gain knowledge on what is viewed as danger signs that could trigger an audit, and use this to avoid an examination. In this way, utilizing the knowledge of expert revolving door staff can help companies fly under the radar of federal enforcement. Anecdotal evidence does suggest that this information channel may be salient. In an interview, one former senator told me that ‘If these guys have been writing the Tax Code for the last twenty years, there’s a lot of companies that want the value of that knowledge’⁷. In this regard, it is important to note that the sample of firms investigated here limits the types of knowledge possessed by a former legislator, which the company does not already have. Since the firms included here are very large, they are all likely to have numerous tax lawyers and accountants on staff – indeed, under the LB&I Program they would have to, because they actively participate in the auditing process. This suggests that the information a former MC can bring to the table would have to include something that cannot be public knowledge, e.g. confidential guidelines for conducting audits or planned changes in practices.

Second, a prominent strategy among interest groups seeking to change bureaucratic decisions is to enlist sympathetic legislators to pressure the bureaucracy on their behalf (Hall and Miler 2008). Since legislators can use congressional oversight to make life hard for agencies the average MC can play a large role in shaping bureaucratic decisions (Ritchie and You 2017). While it is easy to see how interest groups can find legislators, who are sympathetic to their cause, when they sound fire alarms over agency decisions that adversely affect their constituents, gaining regulatory forbearance for a handful of companies is very

⁷Interview with former senator, March 19, 2018.

unlikely to be an electorally popular cause. In that sense, lobbying to gain regulatory forbearance is similar to sounding the fire alarm, when there is no fire. In that situation, hiring a revolving door legislator can serve as a way in. Because of their connections in Congress, former legislators are unlikely to be turned away, when they reach out to their former colleagues. In this way, they might be able to draw upon their contacts to put pressure on the bureaucracy. Anecdotally, it is not unheard of for Congress to pressure the IRS through hostile hearings or even by slashing the agency’s budget on behalf of their allies. For instance, journalistic accounts suggest that a prime motivation for Congress to slash the IRS budget in 2013/14 was punishment for targeting conservative non-profits for examination (Kiel and Eisinger 2018).

7 Conclusion

The principle of legal egalitarianism – that all entities should be equal before the law – is one of the foundations of liberal democracy. In this paper, I have presented evidence that enforcers of tax policy prefer to give politically connected firms a wider berth than other actors. Consequently, it seems that the Tax Code applies differently to firms, depending on their political resources.

The baseline results were from twoway fixed effects models, which documented a decrease in the tax rates the average listed company pays following the employment of a former Member of Congress. The estimated decrease was economically meaningful – but persisted only two years – and robust to specification choice. Furthermore, companies exhibited no differences in trends prior to the hiring of the MC. All of this indicates that, on average, hiring a former MC lowers the income taxes paid by a firm.

Overall, the weight of the evidence indicated that the association was driven by the IRS enforcing the same rules differently against connected firms, and that it was the political connection itself, which swayed IRS decision-making. To substantiate these mechanisms, my inquiry followed two tracks. First, and perhaps most importantly, I investigated whether the decrease in tax rates could be attributed to regulatory forbearance or general rule changes. To do this, I uncovered evidence that hiring a former MC decreases the probability of being audited. I did not find that other companies in the connected firm’s sector experienced a decrease in tax rates, neither did I uncover any heterogeneities across different asset portfolios. If the connected company brought about general rule changes tailored to their specific asset portfolios, we would expect to find both.

Second, I investigated whether the effect could be attributed to gaining a political connection, or to other non-market strategies that might be pursued simultaneously. I found that the association was driven by the most highly connected former legislators – especially if they also served on a committee with oversight of the IRS. I did not find strong evidence

that firms use direct lobbying and political connections as complements – indeed, if anything, when a firm hires a well-connected legislator, it *decreases* its lobbying activity. Since the association between connections and tax rates is driven by individual characteristics of the revolver and not other non-market strategies that are pursued simultaneously, this suggests that it is, indeed, gaining a connection in itself, which impacts tax rates.

I sketched two reasons why political connections might lead to regulatory forbearance – revolving door politicians could either be used to pressure the IRS directly, or the firm could use their knowledge to behave in a manner, which makes the IRS confident that they are compliant. Adjudicating between the theories is beyond the scope of this paper. Instead it would be an interesting venue for future research.

References

- Acemoglu, Daron, Simon Johnson, Amir Kermani, James Kwak, and Todd Mitton (2016). “The value of connections in turbulent times: Evidence from the United States”. In: *Journal of Financial Economics* 121.2, pp. 368–391.
- Adolph, Christopher (2013). *Bankers, bureaucrats, and central bank politics: The myth of neutrality*. Cambridge University Press.
- Allingham, Michael G and Agnar Sandmo (1972). “Income tax evasion: a theoretical analysis”. In: *Journal of Public Economics* 1.3-4, pp. 323–338.
- Bennedsen, Morten and Sven Feldmann (2006). “Lobbying bureaucrats”. In: *The Scandinavian Journal of Economics* 108.4, pp. 643–668.
- Bernstein, Marver H (1955). *Regulating business by independent commission*. Princeton University Press.
- Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi (2014). “Is it whom you know or what you know? An empirical assessment of the lobbying process”. In: *American Economic Review* 104.12, pp. 3885–3920.
- Blanes i Vidal, Jordi, Mirko Draca, and Christian Fons-Rosen (2012). “Revolving door lobbyists”. In: *American Economic Review* 102.7, pp. 3731–3748.
- Boehmke, Frederick, Sean Gailmard, and John Patty (2013). “Business as usual: interest group access and representation across policy-making venues”. In: *Journal of Public Policy* 33.1, pp. 3–33.
- Carpenter, Daniel and David Moss (2013). *Preventing regulatory capture: Special interest influence and how to limit it*. Cambridge University Press.
- De Figueiredo, John and Brian Richter (2014). “Advancing the empirical research on lobbying”. In: *Annual Review of Political Science* 17, pp. 163–185.

- Do, Quoc-Anh, Yen Teik Lee, and Bang Dang Nguyen (2015). “Political connections and firm value: Evidence from the regression discontinuity design of close gubernatorial elections”. In:
- Fisman, David, Raymond Fisman, Julia Galef, Rakesh Khurana, and Yongxiang Wang (2012). “Estimating the value of connections to Vice-President Cheney”. In: *The BE Journal of Economic Analysis & Policy* 12.3.
- Fowler, James (2006). “Connecting the Congress: A study of cosponsorship networks”. In: *Political Analysis* 14.4, pp. 456–487.
- Goldman, Eitan, Jörg Rocholl, and Jongil So (2009). “Do politically connected boards affect firm value?” In: *Review of Financial Studies* 22.6, pp. 2331–2360.
- Goodman-Bacon, Andrew (2018). *Difference-in-differences with variation in treatment timing*. Tech. rep. National Bureau of Economic Research.
- Gordon, Sanford and Catherine Hafer (2013). “Conditional forbearance as an alternative to capture: Evidence from coal mine safety regulation”. In: *Preventing regulatory capture: Special interest influence and how to limit it*. Cambridge University Press.
- (2007). “Corporate influence and the regulatory mandate”. In: *Journal of Politics* 69.2, pp. 300–319.
- (2005). “Flexing muscle: Corporate political expenditures as signals to the bureaucracy”. In: *American Political Science Review* 99.02, pp. 245–261.
- Grossman, Gene and Elhanan Helpman (2001). *Special interest politics*. MIT press.
- Gupta, Sanjay and Kaye Newberry (1997). “Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data”. In: *Journal of Accounting and Public Policy* 16.1, pp. 1–34.
- Haeder, Simon and Susan Yackee (2015). “Influence and the administrative process: Lobbying the US President’s Office of Management and Budget”. In: *American Political Science Review* 109.3, pp. 507–522.
- Hall, Richard and Alan Deardorff (2006). “Lobbying as legislative subsidy”. In: *American Political Science Review* 100.1, pp. 69–84.
- Hall, Richard and Kristina Miler (2008). “What happens after the alarm? Interest group subsidies to legislative overseers”. In: *The Journal of Politics* 70.4, pp. 990–1005.
- Hunter, William and Michael Nelson (1995). “Tax enforcement: A public choice perspective”. In: *Public Choice* 82.1-2, pp. 53–67.
- Iacus, Stefano, Gary King, and Giuseppe Porro (2012). “Causal inference without balance checking: Coarsened exact matching”. In: *Political analysis* 20.1, pp. 1–24.
- IRS (2016a). “Large Business and International (LB&I) Examination Process”. In: *IRS Information Pamphlet*.
- (2016b). “Large Business and International (LB&I) Examination Program Procedures for Excise Employees”. In: *Internal Revenue Manual, Part 4, Chapter 24*.

- IRS (2018). “The Right to Appeal an IRS Decision in an Independent Forum”. In: *Taxpayer Advocate Service*, accessed Jan. 28, 2019. URL: <https://bit.ly/2Cp04B0>.
- Kiel, Paul and Jesse Eisinger (2018). “How the IRS Was Guttled”. In: *ProPublica*. URL: <https://bit.ly/2FTX6cN>.
- Kleven, Henrik Jacobsen, Martin B Knudsen, Claus Thustrup Kreiner, Søren Pedersen, and Emmanuel Saez (2011). “Unwilling or unable to cheat? Evidence from a tax audit experiment in Denmark”. In: *Econometrica* 79.3, pp. 651–692.
- LaPira, Timothy and Herschel Thomas (2017). *Revolving door lobbying: Public service, private influence, and the unequal representation of interests*. University Press of Kansas.
- Luechinger, Simon and Christoph Moser (2014). “The value of the revolving door: Political appointees and the stock market”. In: *Journal of Public Economics* 119, pp. 93–107.
- Magellan, inc (2013). “FORM 10-K for the fiscal year ended December 31, 2012”. In: *The SEC EDGAR Database*. URL: <https://bit.ly/2FYwbfR>.
- McCrain, Joshua (forthcoming). “Revolving Door Lobbyists and the Value of Congressional Staff Connections”. In: *Journal of Politics*.
- McKay, Amy (2011). “The decision to lobby bureaucrats”. In: *Public choice* 147.1-2, pp. 123–138.
- Palmer, Maxwell and Benjamin Schneer (2016). “Capitol gains: the returns to elected office from corporate board directorships”. In: *Journal of Politics* 78.1, pp. 181–196.
- (forthcoming). “Post-Political Careers: How Politicians Capitalize on Public Office”. In: *Journal of Politics*.
- Richter, Brian, Krislert Samphantharak, and Jeffrey Timmons (2009). “Lobbying and taxes”. In: *American Journal of Political Science* 53.4, pp. 893–909.
- Ritchie, Melinda and Hye Young You (2017). “Legislators as Lobbyists”. In: *Working Paper*.
- Stewart III, Charles and Jonathan Woon (2017). “Congressional Committee Assignments, 103rd to 114th Congresses, 1993–2017: the House and the Senate, November 17, 2017 version”. In: *Accessed on 3 Dec. 2017: http://bit.ly/2slvg43*.
- Stigler, George (1971). “The theory of economic regulation”. In: *The Bell Journal of Economics and Management Science*, pp. 3–21.
- Yackee, Susan (2005). “Sweet-talking the fourth branch: The influence of interest group comments on federal agency rulemaking”. In: *Journal of Public Administration Research and Theory* 16.1, pp. 103–124.
- You, Hye Young (2017). “Ex post lobbying”. In: *The Journal of Politics* 79.4, pp. 1162–1176.
- Young, Marilyn, Michael Reksulak, and William Shughart (2001). “The political economy of the IRS”. In: *Economics & Politics* 13.2, pp. 201–220.
- Yu, Frank and Xiaoyun Yu (2011). “Corporate lobbying and fraud detection”. In: *Journal of Financial and Quantitative Analysis* 46.6, pp. 1865–1891.

Online appendix for: The Revolving Door and Regulatory Enforcement

Contents

A Firms and Job Types in the Sample	A-1
B Balance in Covariates	A-3
C Extracting Information on IRS Audits from 10-Ks	A-5
D Robustness Checks	A-8
D.1 Robustness to Outlying Observations	A-8
D.2 Robustness to Choice of Transformation	A-11
D.3 Robustness of the Fixed Effects Estimator to Weighting	A-14

A Firms and Job Types in the Sample

Below, I describe the sample of firms and job types that are included in my sample. Because the base sample restricts attention to firms with non-extreme values on the tax rate variable, I do so in the following description as well.

Figure A.1 shows the distribution of hirings across sectors in my sample.

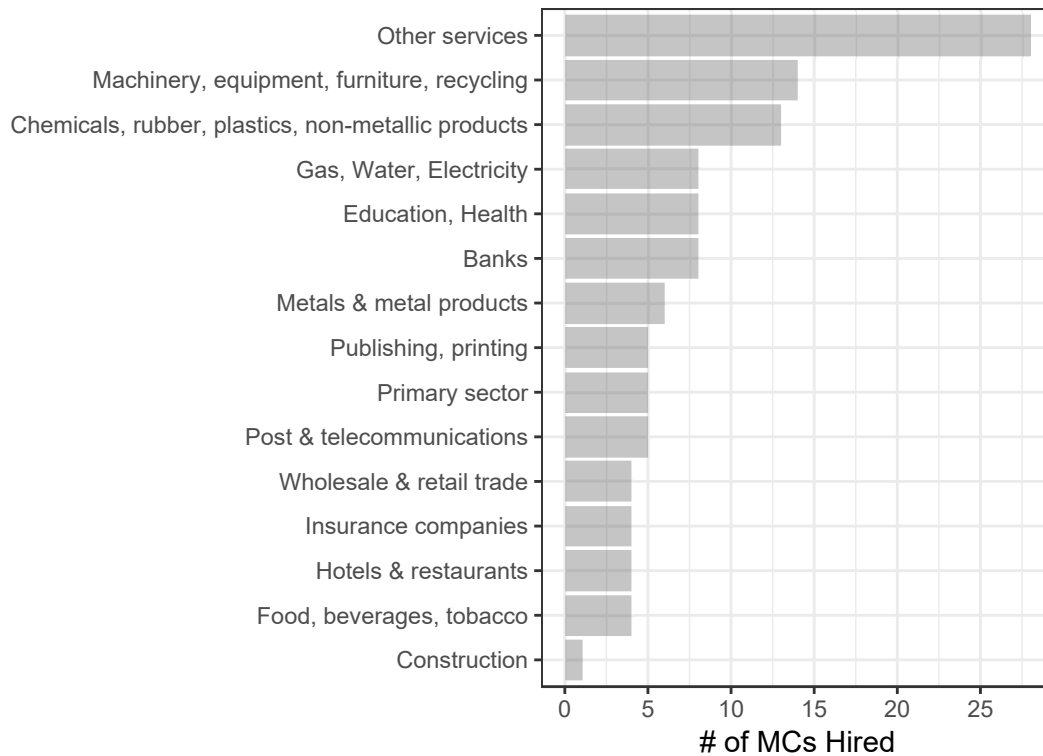


Figure A.1: Which Industries Hire Former Legislators?

Note: ‘Other Services’ is a standard category in the NAICS. In this sample it includes, e.g., firms within private equity, real estate, asset management, acquisitions and certain technology firms, e.g. Alphabet, Inc.

Figure A.2 shows the net revenue of the firms in the sample over time. The strongly increasing trend in the profitability of the firms in my sample is not immediately clear from this visual, because of some strong outliers. But – as it was briefly stated in the main text – net revenues have increased from approximately \$20 million in 2007 to \$25 million in 2015.

Figure A.3 shows the distribution of job types held by former legislators. Only five job types are represented, and corporate directorships are very overrepresented. The number of legislators-turned-directors, however, corresponds well with the estimates by Palmer and Schneer (2016). Note also that each type of position is counted once for each MC, but that each can hold several positions. For instance, if the average MC holds upwards of two directorships, she is only counted once in the ‘Board of Directors’ category, but

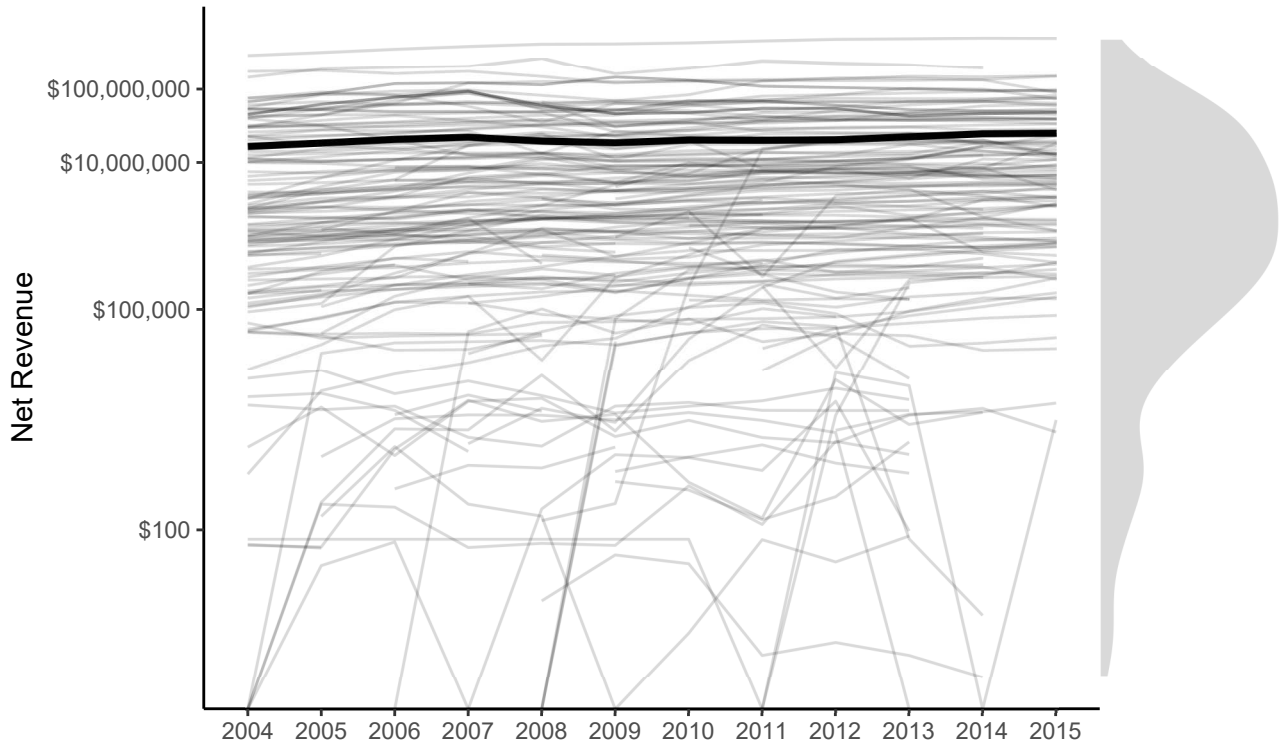


Figure A.2: Net Revenue over Time.

Note: Shaded lines represent individual firms, fully colored line shows the yearly mean. The marginal density shows the distribution of firm-average net revenue throughout the entire period.

likely also holds at least one other position, e.g as a political advisor.

It is also of note that positions as in-house lobbyists includes the lowest number of former MCs. However, this is in part, because of the way I define the job types, as positions in the category ‘Political Advisor’ are the second most numerous. The latter position includes, for instance, advising management on political affairs and directing the company’s lobbying endeavors – neither of which necessarily requires directly lobbying. This contrasts with former MCs, who are now members of advisory boards, which do not need to be political in nature.

Figure A.4 shows the distribution of directorships among former legislators in the period I study. It is evident that most only hold one position on a Board of Directors. Some hold multiple, and a few hold many – the highest being six positions. On average, former MCs hold more than two board positions, which is a bit less than what Palmer and Schneer (2016) estimate, and reflects the fact that members of the House of Representatives are included here.

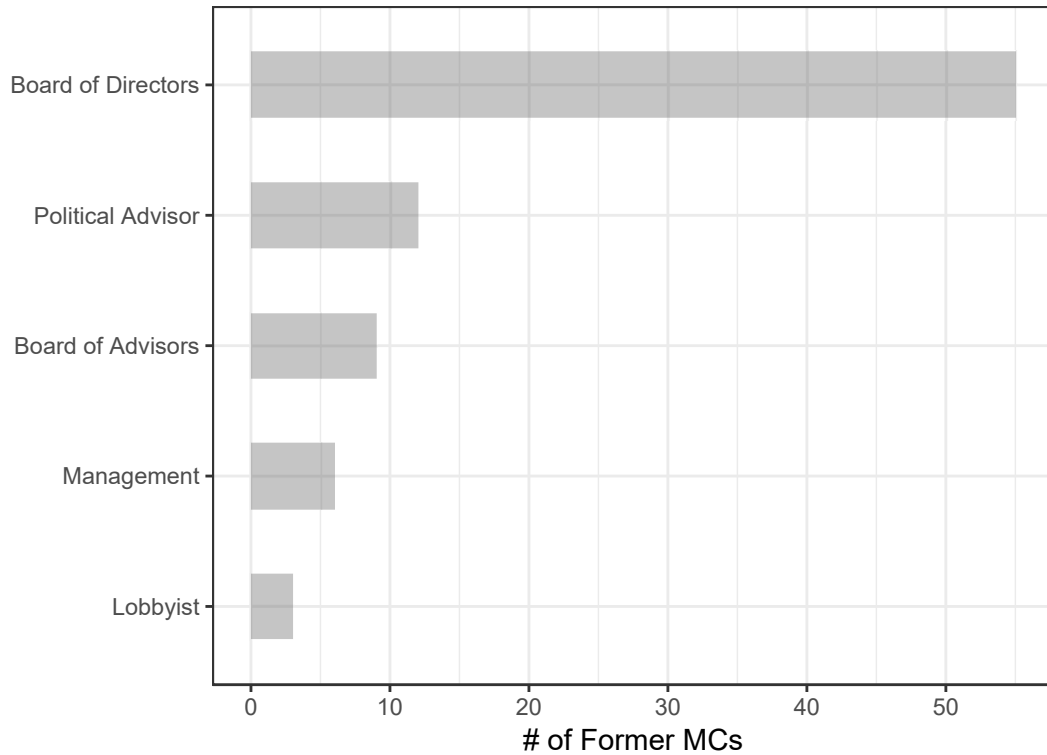


Figure A.3: Which Job Types Do Former Legislators Hold?

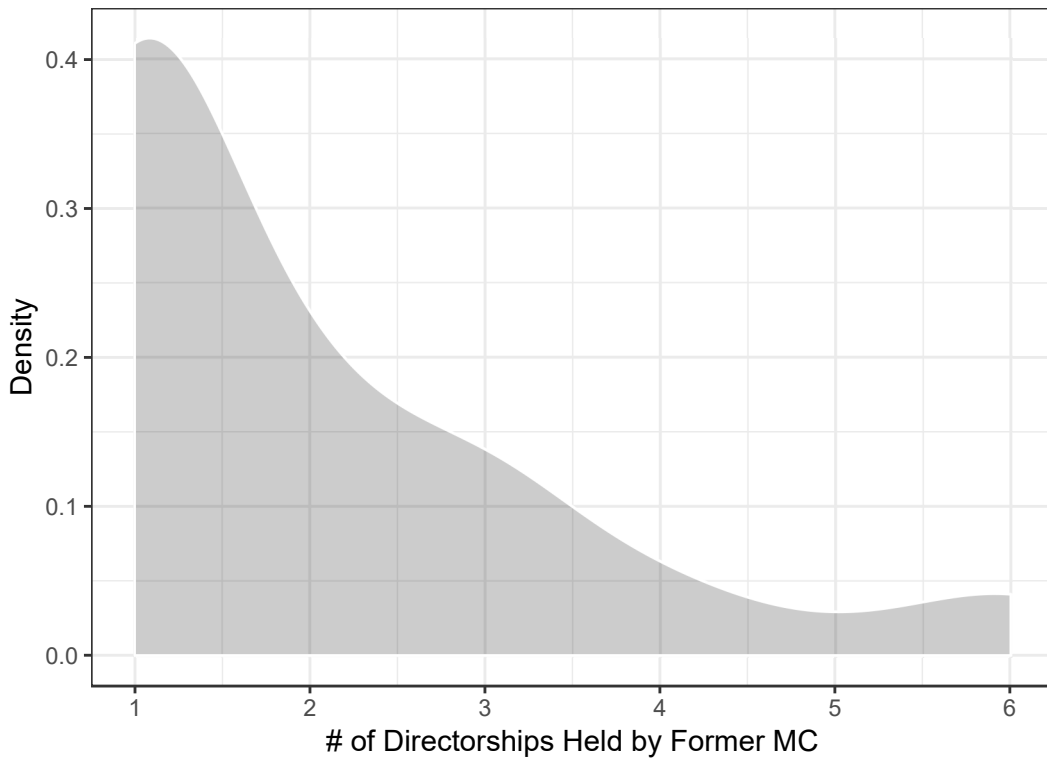


Figure A.4: How Many Directorships Do former Legislators Hold?

B Balance in Covariates

In Table B.1 I investigate whether the timing of hiring a former MC is related to the firm's prior economic situation. Across the board, the coefficients are relatively small and

insignificant, statistically speaking. The largest estimate is for Enterprise Value, which suggests that – under a causal interpretation – a one percent change would increase the probability of hiring a former MCs by .17 percentage points. A small effect, indeed. The very low R^2 values also indicate this. A Wald test for collective significance yields a P-value of approximately .8, and I cannot reject the null at any reasonable level of confidence.

This indicates that in this sample, companies do not generally choose to hire former legislators in specific economic situations.

Table B.1

	<i>Dependent variable:</i>
	Revolving Door _{<i>t</i>}
ln Tax Rate _{<i>t</i>-1}	0.026 (0.128)
ln Total Capital _{<i>t</i>-1}	0.033 (0.076)
ln Total Assets _{<i>t</i>-1}	0.015 (0.040)
ln Enterprise Value _{<i>t</i>-1}	-0.167 (0.162)
ln Employees _{<i>t</i>-1}	0.004 (0.030)
ln Net Revenue _{<i>t</i>-1}	-0.026 (0.060)
ln Gross Income _{<i>t</i>-1}	0.008 (0.015)
ln Turnover Volume _{<i>t</i>-1}	-0.004 (0.015)
ln Market Value _{<i>t</i>-1}	0.022 (0.024)
Share Price _{<i>t</i>-1}	0.0005 (0.001)
Wald Stat	6.009
Wald P value	0.815
Firm FEs?	Yes
Time FEs?	Yes
Observations	818
R ²	0.005
Adjusted R ²	-0.199

Note: The dependent variable in the primary models is the natural log of the firm's tax rate with a one year lead. Robust standard errors with firm-level clustering in parentheses. Wald statistic is heteroskedasticity robust.

C Extracting Information on IRS Audits from 10-Ks

The coding process contains two discrete phases. First, the section(s) regarding ongoing matters with tax authorities are located. Second, the information in those sections is coded with the purpose of classifying the years during which IRS audits are initiated.

Locating section(s) with information on audits:

The information is mostly be scattered over many different sections, each detailing bits and pieces of information about tax matters. To do this systematically, without having to read the entire report, each 10-K is searched to locate the section(s) informing shareholders about ongoing matters with tax authorities using the following keywords: “tax au”, “tax re”, “tax po”, “tax ju”, “taxing”, “internal rev”, “irs ”, “irs)”, “i.r.”, “examin”, “investig”, “review” The keywords are in many cases reduced to their stem to get general results. Often they include more than one word (e.g. in the case of taxes), to avoid too many results. If none of the keywords yield any results, the following broader search terms are used: “tax”, “audit”. The organization of 10-K are highly variable between firms, but relatively stable within firms. This means that, while the individual firm does change its standards from time to time, when a relevant section is located, it is highly likely to be there the following year as well.

Classifying information on IRS audits within these sections:

When the sections on tax matters are located, the following coding rules are used to classify whether or not an audit was initiated during any given year:

Audit Initiated:

When a relevant section is located, it is normally relatively straightforward to determine whether an audit was initiated or not.

1. Directly states that an audit was initiated (sometimes stated in another year).
2. States that the company is under audit by the IRS, and this has not been stated before, even though audits have been mentioned (e.g. by listing the years where statute of limitations have not expired).
3. If a company has been contacted by the IRS regarding an audit initiation, and it is expected to begin the following year, the following year is coded as the year of initiation if no information to the contrary arises in next year’s 10-K.
4. If a company has been contacted by the IRS regarding an audit initiation, and no further information is included, the current year is coded as the year of initiation.

5. Lists the years currently being audited, and this list includes new years compared to the previous year.
6. If the report states that an audit is closed two years after the reporting year, the middle year is coded as the year of initiation. E.g. if the 10-K for 2008 states that the audit of the 2006 returns has been settled, it can only have been initiated during 2007.

No Audit Initiated:

Many companies state when there are no ongoing audits. When they do not, however, proving the absence of an audit initiation is somewhat more error prone. To minimize errors, I use the following rules:

1. States that there are no ongoing audits.
2. When only old audit initiations, which were recorded in previous years, are mentioned
3. In other years it was mentioned in a specific section when an audit commenced, and that section remains unchanged with the exception that no audit initiation is mentioned.
4. When statute of limitations for federal audit (which is three years) expires three years in a row, no audit can have been initiated in the earliest year with an expiration. This is because only the three years that expired were open to examination in the first year with an expiration. Since all those years expired without being audited, no investigation could have commenced in the first year. Consequently, the first year with an expiration is classified as “no audit initiated”. When this happens consecutively (i.e. expirations occur > 3 years in a row), the “no audit” classification is extended one year for every consecutive year with an additional statute of limitations expiration.

End of audit:

Information on endings of audits is more sparse than initiations. When there is information, however, it is typically quite clear:

1. It is stated that an audit is finalized.
2. A list of years currently under audit is presented, and one or more years are no longer present on the list compared to the previous year’s 10-K.

Missing Data on Audits:

There is generally a lot of missing information before 2007, which coincides with a change in tax accounting standards.

- 1. No 10-K in EDGAR.
- 2. None of the abovementioned information (but see above on coding “No audits” for a qualification of this rule).
- 3. When the company is a part of the Compliance Assurance Program (CAP), where tax returns are audited automatically, in real-time.
- 4. If it is mentioned that the tax returns for a given year is no longer under audit, but there is no way to discern when the audit was initiated, the date of initiation is coded as missing.

Figure C.5 shows the distribution of times firms are audited by the IRS. It shows that while most firms are not audited at all during this period, some firms are examined almost every year. On average, there is an unconditional probability of around 30% of being audited throughout the period.

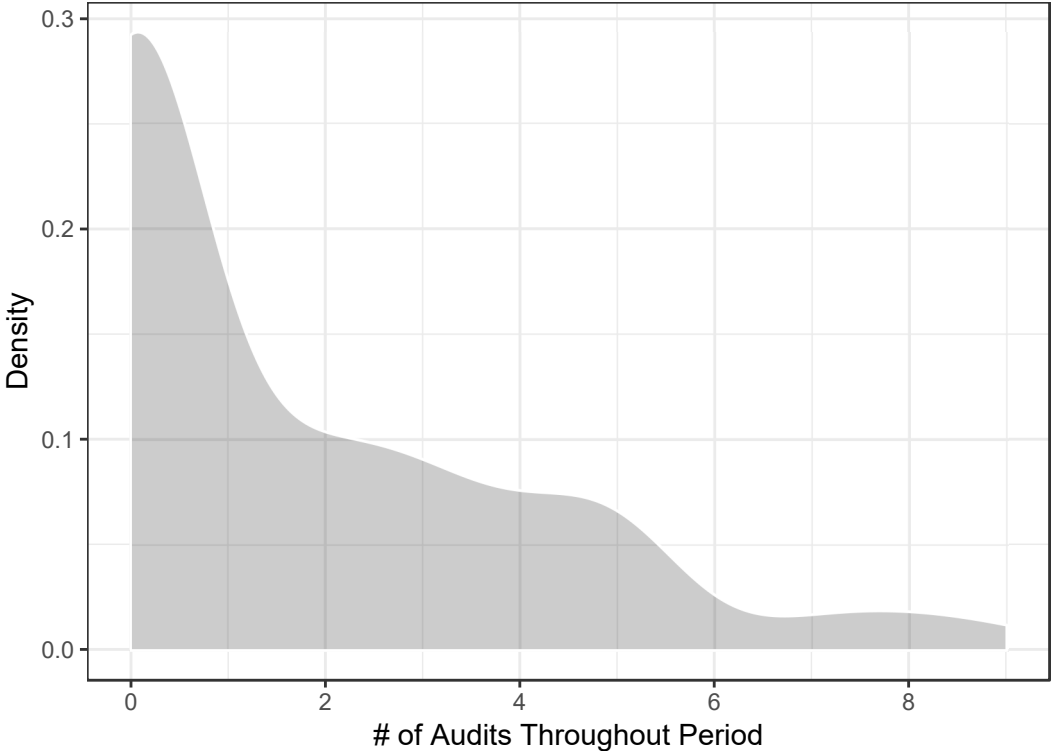


Figure C.5: How Often are Firms Audited by the IRS?

D Robustness Checks

D.1 Robustness to Outlying Observations

In the results presented in the main text, I exclude the top and bottom 2.5% in the distribution of tax rates. This is because there are a number of very extreme observations, paying (sometimes negative) tax rates of several hundred percent. These observations are likely to represent either measurement errors on the part of Datastream or simply highly unrepresentative observations, which should carry weight in estimating average effects which can destabilize the estimates.

As we can see from the first row of Figure D.6, the bivariate results are much larger in the full sample. Including extreme observations inflate the estimate by approximately 40% and the confidence intervals by almost the same factor. While adjusting for covariates brings the estimates almost to the same level, estimates from the full sample remain slightly larger and measured with considerably more uncertainty. The standard error is approximately 30% larger in the full sample. This shows that while I would obtain the same substantive conclusions using the full sample, using it would provide larger and more unstable estimates.

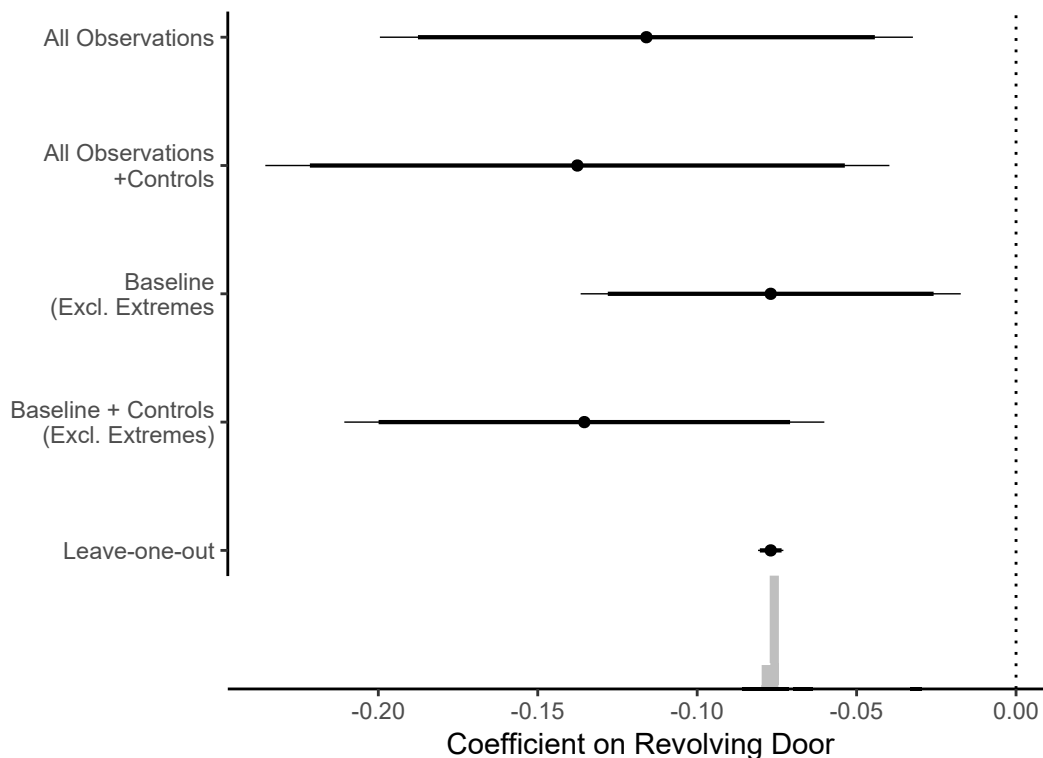


Figure D.6: Robustness of the Results to Extreme Observations

Note: Confidence intervals are based on panel-corrected and jackknifed standard errors in the first four and the fifth models, respectively. Firm and year fixed effects included in all models. All baseline covariates are used in models with adjustment.

To make sure that the results in the smaller sample are not driven by potentially remaining extreme observations, the final row in the Figure shows the result from a jackknife test. I iterate over all observations, leaving one and reestimating the baseline specification in each iteration. This yields an estimate that is very close to the baseline, and a standard error that is much lower. This is because the distribution of effects is very concentrated around the mean. The entire jackknifed distribution is shown along the vertical axis and in Figure D.7.

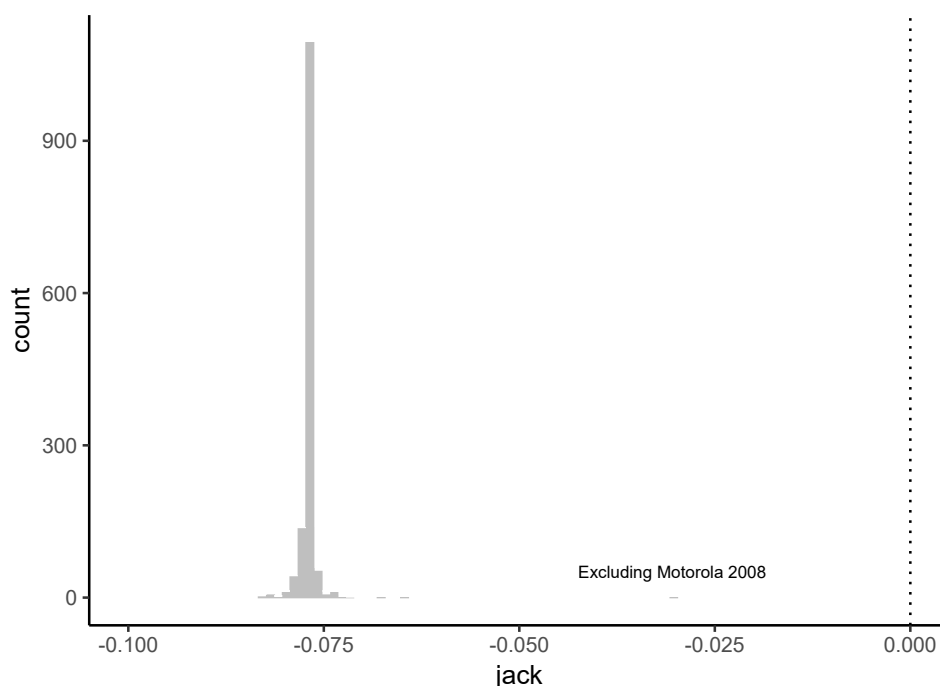


Figure D.7: Distribution of Leave-One-Out Estimates

Note: Histogram of jackknifed distribution of estimates. 100 bins used.

Robustness of Interactions to Excluding Extreme Observations

Table D.2 presents estimates of interactions between Revolving Door and my two different measures of ‘connectedness’ using the full sample instead of the reduced one. The two estimated interactions between Oversight Committee and Revolving Door are both more than twice the size of the baseline estimates. Without including controls, the threeway interaction and the interaction with betweenness is smaller than the baseline. Adjusting for covariates brings these two estimates on par with the baseline. Despite these differences in coefficient sizes compared to the baseline results, all the estimates have similar signs, are sizable and remain statistically significant. The exception to this is the model in column one, where the p-value is more than three times smaller than the one presented in the main models.

Table D.2: Robustness of Interactions to Inclusion of All Data

	<i>Dependent variable:</i>					
	ln Tax Rate _{t+1}					
	Oversight I	Oversight II	Betweenness I	Betweenness II	Threeway I	Threeway II
	(1)	(2)	(3)	(4)	(5)	(6)
Revolving Door	-0.030 (0.051)	-0.061 (0.059)	-0.107*** (0.042)	-0.119** (0.050)	-0.017 (0.051)	-0.058 (0.061)
Oversight Committee	0.144 (0.152)	0.168 (0.208)			0.454 (0.430)	1.057 (1.052)
Revolving Door X Oversight Committee	-0.248*** (0.090)	-0.199* (0.103)			-0.262*** (0.088)	-0.093 (0.102)
Betweenness			-0.013 (0.105)	0.093 (0.142)	0.122 (0.195)	0.377 (0.324)
Revolving Door X Betweenness			-0.123** (0.061)	-0.232*** (0.070)	-0.058 (0.077)	-0.020 (0.083)
Betweenness X Oversight Committee					-0.227 (0.401)	-0.782 (1.001)
Revolving Door X Oversight Committee X Betweenness					-0.170 (0.126)	-0.480*** (0.152)
Controls?	No	Yes	No	Yes	No	Yes
Lagged DV?	Yes	Yes	Yes	Yes	Yes	Yes
Company FEs?	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,192	799	1,098	727	1,098	727

*Note: The models replicate the interactions with connectedness variables from the main text, but without excluding extreme values of tax rate. Models are shown with and without controls. Beck-Katz panel corrected standard errors in parentheses. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively*

D.2 Robustness to Choice of Transformation

Table D.3 shows the estimated coefficient on a revolving door hire for three different choices of transformations of tax rate. Columns one and two use an untransformed version with and without controls, respectively. As we can see, even in this mean-trimmed sample, the estimates using tax rate in levels are very large, amounting to approximately three and six percentage points, respectively. This is close to three times the size of the estimate using the natural log. This indicates that some form of transform is warranted to minimize the influence of extreme observations.

The models in columns three through six have as the dependent variables different transformations that behave like the logarithm but allow for negative values. In column three and four, I use the bi-symmetrical logarithm **REF**, and in columns five and six, I transform tax rates using the inverse hyperbolic sine **REF**. Through all these stress tests, the results maintain. This indicates that my main findings are not driven by my choice of transformation. Additionally, the alternative transformations all yield substantially larger estimates, indicating that the baseline of adding a constant and log-transforming provides conservative estimates.

In Table D.4, I reproduce results in the interactions between hiring a former legislator and the person's connectedness using the three alternative transformations of the dependent variable. The results on the interaction between Revolving Door and Betweenness as well as the three-way interaction, which additionally includes an indicator of whether the revolver served on an oversight committee, are all highly robust across the different specifications. When it comes to the two-way interaction between Revolving Door and Oversight the coefficient remains of a similar (or larger) size compared to the baseline results, but is estimated with more noise, and not statistically significant.

Table D.3: Robustness to Different Transformations

	<i>Dependent variable:</i>					
	Tax Rate _{t+1}		Bi-symlog(Tax Rate _{t+1})		IHS(Tax Rate _{t+1})	
	Levels I	Levels II	Bi-sym Log I	Bi-sym Log II	IHS I	IHS II
	(1)	(2)	(3)	(4)	(5)	(6)
Revolving Door _t	-3.214** (1.553)	-6.228*** (1.930)	-0.123** (0.061)	-0.222*** (0.078)	-0.310* (0.183)	-0.537** (0.235)
ln Total Capital _{t-1}		5.673 (4.511)		0.132 (0.182)		0.132 (0.557)
ln Total Assets _{t-1}		-5.415** (2.531)		-0.189* (0.103)		-0.468 (0.319)
ln Enterprise Value _{t-1}		-5.135 (10.188)		-0.136 (0.414)		-0.202 (1.277)
ln Employees _{t-1}		3.596** (1.798)		0.113 (0.073)		0.203 (0.224)
ln Net Revenue _{t-1}		-6.210 (4.513)		-0.155 (0.182)		-0.176 (0.560)
ln Gross Income _{t-1}		-3.841 (4.432)		-0.090 (0.177)		-0.176 (0.541)
ln Turnover Volume _{t-1}		1.412 (0.883)		0.041 (0.036)		0.095 (0.111)
ln Market Value _{t-1}		1.315 (1.323)		0.064 (0.054)		0.189 (0.169)
Share Price _{t-1}		0.017 (0.047)		0.0004 (0.002)		0.001 (0.006)
Company FEs?	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	999	682	999	682	999	682

*Note: The table shows the robustness of the main results to the choice of transformation of the dependent variable. Lagged dependent variable included in all models, but not shown for presentational purposes. Beck-Katz panel corrected standard errors in parentheses. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively*

Table D.4: Robustness of Interactions to Different Transformations

	<i>Dependent variable:</i>									
		Tax Rate _{t+1}			Bi-symlog(Tax Rate _{t+1})			IHS(Tax Rate _{t+1})		
	Levels I	Levels II	Levels III	Bi-sym Log I	Bi-sym Log II	Bi-sym Log III	IHS I	IHS II	IHS III	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Revolving Door	-1.989 (1.962)	-2.592* (1.562)	-1.484 (1.976)	-0.084 (0.078)	-0.092 (0.061)	-0.056 (0.077)	-0.223 (0.231)	-0.200 (0.181)	-0.125 (0.228)	
Oversight	2.233 (6.802)		28.050 (20.595)	0.075 (0.270)		0.611 (0.848)	0.258 (0.833)		0.306 (2.589)	
Betweenness		-5.585 (5.016)	4.027 (9.011)		-0.330* (0.201)	-0.161 (0.370)		-1.528** (0.613)	-1.699 (1.140)	
Betweenness X Oversight			-18.598 (19.309)			-0.257 (0.790)			0.783 (2.395)	
Revolving Door X Oversight	-3.298 (3.168)		-3.494 (3.161)	-0.104 (0.126)		-0.105 (0.124)	-0.239 (0.377)		-0.198 (0.367)	
Revolving Door X Betweenness		-7.614*** (2.406)	-1.622 (3.349)		-0.299*** (0.094)	-0.074 (0.130)		-0.821*** (0.279)	-0.152 (0.380)	
Revolving Door X Betweenness X Oversight			-13.403*** (4.796)			-0.487*** (0.187)			-1.405** (0.555)	
Company FEs?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year FEs?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	999	916	916	999	916	916	999	916	916	

*Note: The table shows the robustness of the main results to the choice of transformation of the dependent variable. Lagged dependent variable included in all models, but not shown for presentational purposes. Beck-Katz panel corrected standard errors in parentheses. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively*

D.3 Robustness of the Fixed Effects Estimator to Weighting

Recent research by Goodman-Bacon (2018) has shown that estimating difference-in-differences with variation in when units receive their treatment can be biased if there are large heterogeneities in effects across units or time. This happens, because the estimator identifies an average treatment effect (ATT) weighted by treatment variance and group size. I follow three different strategies to avoid weighting the estimate by group variance. I use the simple bivariate model in all three situations.

First, I leverage the fact that every two-year period can be thought of as a classical, two-period difference-in-differences situation. I estimate a difference-in-differences estimate for every two-year period, average them all and bootstrap the entire procedure. This gives an estimate of the average ATT throughout the entire period, but without applying the variance weighting, which biases the pooled estimation. This yields a somewhat smaller estimated difference-in-difference, but it remains large and statistically significant.

As a second strategy of dealing with the weighting problem, I use every hiring of a former legislator as an event in itself. I extract one firm at the time and estimate a coefficient using only that firm's observations. This dispenses with the cross-sectional weights. I take the average of the estimate and bootstrap the procedure. Once again the coefficient is similar to the baseline estimate.

Finally, I use the fact that the difference-in-difference with variation in treatment timing estimates a weighted average of all possible pairwise comparisons of groups of firms that hire during each period (Goodman-Bacon 2018). I estimate the difference-in-differences of all pairwise comparisons of periods, average the estimates and bootstrap the procedure. This is an alternative way of avoiding problems with heterogeneous effects induced by weighting across time. The coefficient is robust to this.

The final two procedures are extremely demanding and rely on very few observations in each estimation. This makes the estimates noisy. However, the fact that the estimates changes very little throughout these different ways of dealing with the weighting problem reassures me that the results are not driven by that.

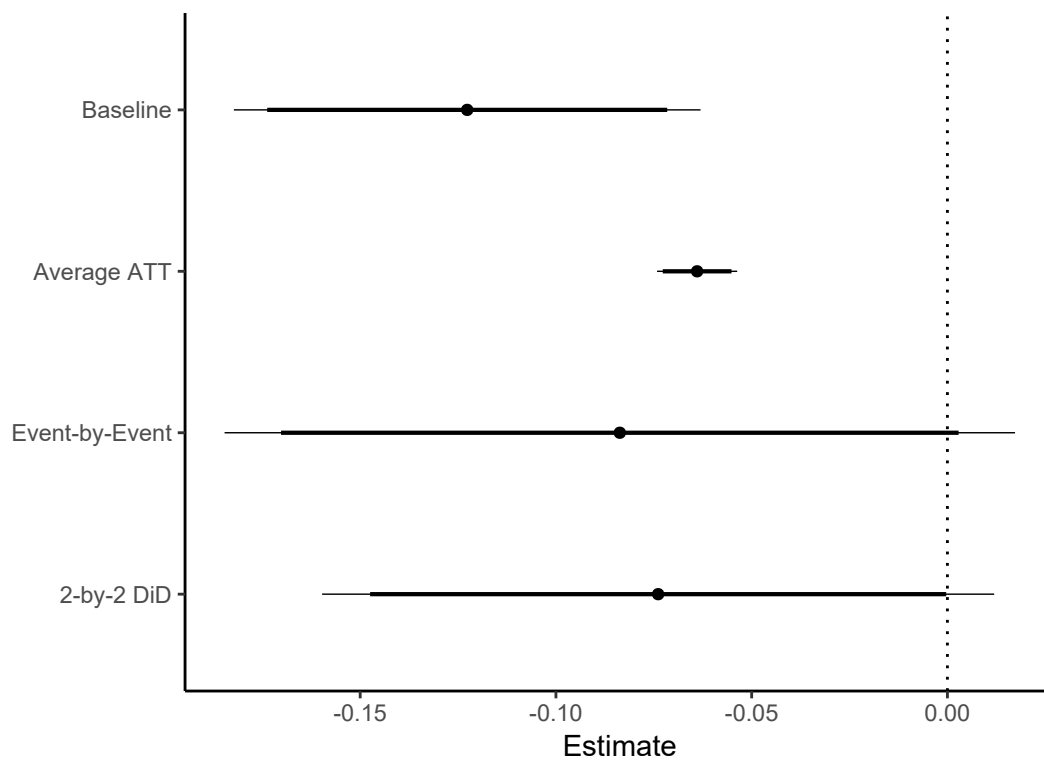


Figure D.8: Robustness of Two-Way Fixed Effects. *Note: Confidence intervals for the baseline results are from Beck-Katz panel-corrected standard errors. The remaining three specifications are bootstrapped non-parametrically 500 times.*