The Revolving Door and Taxes

– Political Connections Decrease Corporate Tax Rates

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Abstract

For fear of retribution, agencies may enforce rules more leniently against firms with political connections. I test the argument as it pertains to the enforcement of tax policy by the Internal Revenue Service (IRS). I compile a novel database of publicly listed firms, that have hired Members of the US Congress (MCs) in any capacity in the period 2004-2015. I present evidence that hiring a former MC decreases the average company's tax rate by a large margin relative the the changes, the average firm normally experiences. The reduction is short-lived, but yields meaningful tax-savings for the individual firm, while only modestly impacting public finances. I show that the effect is driven by the MCs, who have the strongest political connections, and served in committees with oversight of the IRS. I present suggestive evidence that firms that hire highly connected MCs substitute away from traditional forms of lobbying, and are invited to hearings more often. This is likely to pressure the IRS in their decision-making. These results indicate that firms can use the revolving door to pursue significant economic rents.

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Introduction

It routinely attracts both great attention and condemnation, when elected officials leave office for private sector employment – the so-called revolving door phenomenon. The implicit or explicit conjecture often is that big companies hire former legislators to use their political connections to sway public policy in the direction, they desire. Despite the exceptional growth in the scholarly literature, which we have witnessed in recent years (for a few examples, see Adolph (2013), Coen and Vannoni (2016), Egerod (2017), LaPira and Thomas (2017), Lazarus, McKay, and Herbel (2016), McCrain (forthcoming), Palmer and Schneer (2016), Shepherd and You (2017), and Vidal, Draca, and Fons-Rosen (2012)), however, we know preciously little about that side of the revolving door phenomenon. If the conjecture is right, and moneyed special interests can use the revolving door to shape public policy in their image, it can have stark consequences for political representation.

An important reason to expect hiring revolving door personnel to increase the influence of firms is that they provide leverage against the bureaucracy. Special interests are highly engaged in lobbying the bureaucracy (You 2017), and often enlist sympathetic legislators to pressure agencies on their behalf (Hall and Miler 2008). Especially, when the firm's goal is to extract private goods, however, the electoral benefit for legislators to pressure the bureaucracy on their behalf is limited. In that situation, hiring a revolving door politician is likely to make it easier to enlist currently serving legislators to pressure the bureaucracy. Relatedly, hiring a revolving door legislator will be a way for the firm to flex their political muscle (Gordon and Hafer 2007, 2005) at that agency, making it more likely that it will shy away from conflict with the firm – especially if the former legislator herself has a history with the agency in question.

In this paper, I focus specifically on the effects of hiring revolving door legislators on corporate tax rates. While it obviously can only provide a small piece of the larger puzzle of the political effects of the revolving door phenomenon, the setting is particularly well-suited to test the argument for a number of reasons. First, unlike other agencies, the Internal Revenue Service (IRS) make decisions regarding tax rates of all companies, and lobbying them 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. Second, as shown in Richter, Samphantharak, and Timmons (2009), firms stand to gain almost extravagantly from lowering their own tax rates, while the cost to public finances is relatively modest. This makes it an economically important case in its own right. Third, successfully lobbying for a selectively decreased tax rate yields a highly private benefit, which makes it unlikely that problems with firms free-riding on the lobbying endeavors of each other should arise. This stands in contrast to other political outcomes, e.g. lobbying on a particular text of a bill or its implementation,

where lobbying success would benefit everyone affected by the bill. Fourth, Figure 1 shows Richardson, Clinton, and Lewis (2018) estimates of workforce skill-level among the fifty lowest skilled agencies. The IRS is placed at the 25th percentile – well below average – and should be considered a relatively low-skilled agency. While this could affect the scope of the inferences that can be drawn, it also makes the IRS an ideal target for firms seeking to profit from their political connections.

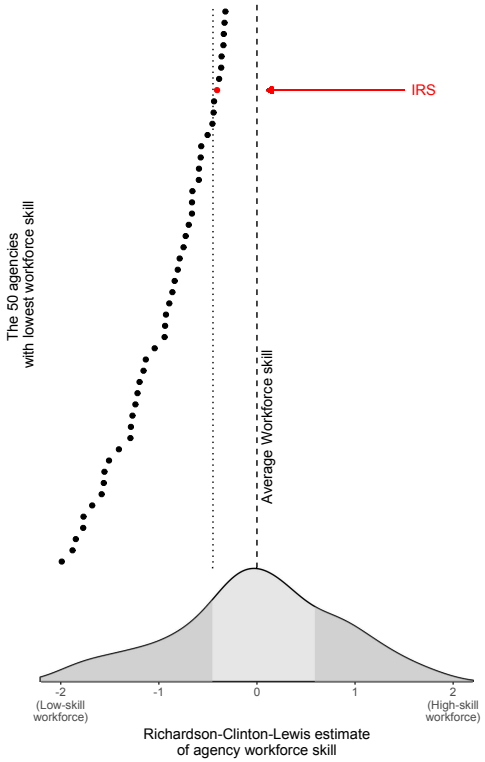

Figure 1: The IRS' ranking among 50 agencies with the lowest workforce skill.

Note: The y-axis shows the 50 agencies with the lowest workforce skill out of a total of 159 agencies. The x-axis, and the corresponding marginal distribution of skill, show the full sample of agencies. Dark shaded areas of the marginal distribution are below and above 1st and 3rd quantiles. Dotted line at the 1st quantile, dashed at 0 (the global mean). The IRS is relatively low-skilled, located at the 25th percentile of the overall distribution. Source: Richardson, Clinton, and Lewis (2018)

To test the argument, I draw on a novel data set comprised of publicly listed companies that have hired former Members of Congress (MCs) in the period 2004-2015 – a total of 264 firms hiring 89 revolving door MCs. Using fixed regressions, my results show that hiring a former legislator on average decreases corporate tax rates. 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 a typical company experienced in the period, I study – but persists for a short while.

To substantiate that the results are driven by political connectedness, I construct a network of bill cosponsorship for each Congress from the 102nd to the 114th and find

that the drop in tax rates is driven exclusively by companies that hire well-connected MCs, who used to serve on committees with oversight of the IRS. Next, I provide some exploratory results on, which non-market strategies politically connected firms follow to obtain these tax benefits. I uncover evidence that when firms hire former MCs, who used to serve on committees overseeing IRS's activities, they decrease the part of their lobbying activity aimed at the tax authorities, but are invited to testify at the oversight committees more often. I find similar – but much more noisy – patterns among firms hiring legislators, who are more generally well-connected. This suggests that firms hire former MCs as a substitute for traditional lobbying activity, and are able to pressure IRS through other political means. I also investigate, whether the results could be driven by more general changes in the tax code or its implementation, that benefit the firm, instead of altered enforcement activities. I find no evidence for this channel, however. Overall, the results suggest that the IRS eases off politically connected firms in their enforcement of the tax code – either of their own accord, or because the connected company's allies in Congress pressure the agency.

Under a causal interpretation, my estimates suggest that a company with average revenue, paying the mandatory level of income tax, can save approximately $80,000 on their tax bill by hiring an average former legislator – but if they hire a very well-connected one, they can save around $200,000. The firms with the largest incomes in my sample, however, can save 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.

Besides the growing literature on the effect of the revolving door and political outcomes, my results contribute to the existing research in three ways. First, 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 lobbyist, a firm can have an impact on its regulatory environment.

Second, in doing so, I add to the research on how special interests can lobby the bureaucracy effectively (Bennedsen and Feldmann 2006; Godwin, Ainsworth, and Godwin 2012; Hall and Miler 2008; McKay 2011; You 2017), and especially the literature on how political connections can shape discretionary enforcement of rules against a firm (Blau, Brough, and Thomas 2013; Fulmer and Knill 2012; Gordon and Hafer 2007, 2005; Yu and Yu 2011).

Third, existing studies have documented large effects of employing revolving door lobbyists on the revenue of lobbying firms (LaPira and Thomas 2017; McCrain forthcoming; Vidal, Draca, and Fons-Rosen 2012). Similarly, research on the impact of political connec-

tions among US corporations has documented large effects on firm value (e.g. Acemoglu et al. (2016), Do, Lee, and Nguyen (2015), Fisman et al. (2012), Goldman, Rocholl, and So (2009), and 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. This does not necessarily imply that connected firms, who experience increased lobbying revenue or abnormal stock market returns, actually are successful in using political means to extract rents. Our results indicate that hiring revolving door lobbyists, indeed, can be effective as a strategy for a rent-seeking firm. Thus, I complement the existing literature by documenting substantively similar effects in a setting, where actual rent extraction cannot be conflated with the expectations among lobbying clients or investors.

Lobbying the bureaucracy through political connections

Lobbying the bureaucracy to have rules changed (Godwin, Ainsworth, and Godwin 2012) or to alter the implementation of a bill (You 2017) can be extremely lucrative for the politically active firm. However, changing how regulatory agencies apply their discretionary enforcement activities to one firm in particular yields a fully private good for that firm (Gordon and Hafer 2007, 2005). This could, for instance, be done by lobbying the IRS to pay lower tax rates – which is this paper's focus.

For a corporation that seeks to change discretionary bureaucratic decisions through political activities, hiring a former Member of Congress (MC) may help their endeavor in two ways. First, a prominent strategy among interest groups seeking to change bureaucratic rules or decisions is to enlist sympathetic legislators to pressure the bureaucracy on their behalf (Hall and Miler 2008). Since legislators can use congressional oversight measures to make life hard for agencies the average MC can play a large role in shaping bureaucratic decisions (Ritchie and You 2017). However, lobbying Congress to pressure particular agencies can be difficult, if there are no sympathetic MCs to enlist (Hall and Deardorff 2006; Hall and Miler 2008). 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, are wrong, or simply in conflict with an MCs worldview, firms often undertake political endeavors with the goal of seeking out rents for themselves (Olson 1982; Stigler 1971). Decreasing the tax rate of one particular company is an example of a very private benefit – one that is less likely to encourage sympathy among legislators. In that sense, seeking out rents by lobbying to change bureaucratic decisions (e.g. through decreased tax rates) 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, who currently serve. In this way, they might be able to draw upon these contacts to put pressure on the bureaucracy.

Second, hiring a former MC could serve as a signal of the firm's political muscle and willingness to dispute the agency's decisions (Gordon and Hafer 2007, 2005). In this case, it would be especially effective if the firm employed a former MC, with whom the agency has a history. Odds are that a former legislator, who has made herself known to the agency throughout her career by repeatedly contacting it, disputing its decisions and zealously fighting to protect the interests of her constituents, will work that way as a lobbyist as well. The agency knows that the former MC – through her contacts in Congress – could force them to justify every decision that adversely affects her employer, or in the extreme case have an impact on the agency's budget. This makes the agency likely to shy away from conflict with the employer of the revolving door MC by accommodating the firm's preferences in advance, without any contact being initiated.

In the case of corporate taxation, the politically connected firm could use either of these mechanisms to pressure the IRS to bend the rules in their favor. A connected company could use this to file tax returns at the edge of legality – or even fraudulent ones. If the tax authorities believe that a fight with the connected company will be too costly compared to the extent of the violation – either because they anticipate a reaction from the revolving door MC, or because they are pressured by her former colleagues – they are likely to let the violation slip. This is consistent with the broader literature, where it has been found that connections can decrease the probability that fraudulent firms are caught (Yu and Yu 2011) and lower the severity of the punishment, when they actually are caught (Fulmer and Knill 2012). We suggest that the reason for this is that the agency in question fears the potential backlash from legal action against a politically connected firm.

Against this background, we would expect that hiring a former MC lowers corporate tax rates. Furthermore, we would expect the best connected (defined in a later section) former legislators to bring about the largest decrease – either because they are able to scare away the IRS, or because they get their former colleagues to pressure the agency directly.

Methods & Data

The main independent variable is a binary indicator for the year a company hires a former Member of Congress in any capacity. To code this measure, I relied on a variety of sources. Center for Responsive Politics maintains a database of former politicians and which jobs they are hired in – most often however, they do not keep track on positions on corporate boards. To obtain this data, I use Relationship Science (RS), which is a private company, that keeps track on the careers of high level American executives, including former MCs. Whenever there were missing years in a former MCs career, I supplemented RS by using 10-K filings and Bloomberg CVs. Finally, to verify each employment record, I searched online for press releases announcing when MCs were hired by a specific firm. Combined, this should give reliable data on full time positions (such as in-house lobbyist), but also part-time positions such as board memberships – both as Directors and Advisors. Because data on employment termination is mostly missing, I only use the first year a former MC was employed in a company.

The sample covers all publicly listed companies that hired former Members of Congress in the period 2004-2015. In total, I track 264 companies and 89 revolving door MCs throughout the period. We obtained corporate financial data through Datastream – the Thompson Reuters database on publicly listed firms.

My main dependent variable, Tax Rate, is the fraction $\frac{IncomeTaxes}{Pre-taxIncome}$.[2] Because most revolving door MCs are hired sometime during the year, where tax rates are set, I expect that the tax decrease to set in with a lag. Therefore, I put a one year lead on the dependent variable, so it captures Tax Rate the year after a given company has hired a former politician.

Furthermore, I use the natural log of Tax Rate. This allows the effect to differ depending on how much a given company pay in taxes. In addition, there are a number of extreme observations on the Tax Rate variable. These are given less weight, when the natural log is used, 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 a later section, I document that excluding these observations decreases my point estimates by approximately 50 percent across all main specifications.

To control 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. We also control for the number of employees. To capture the company's operating performance, I include

[2]Datastream proposes to measure Tax Rate in this way. Richter, Samphantharak, and Timmons (2009) suggests using effective tax rates instead, which can be measured by the fraction *Income Taxes - Deferred Taxes / Pre-tax Income - Equity in Earnings + Special Items + Interest Expenses*. Seeing as data on the additional variables is missing for a very large subset of my sample, I use the simpler measure.

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 range between 1 and 2, before being log transformed. Results are, however, robust to not using log scales and to adding a constant to bring variables above zero. The data for all of these variables is gathered from Datastream. In a later section, I use data on lobbying activities made public under the Lobbying Disclosure Act (LDA) and made accessible by the Center for Responsive Politics.

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 $33 million, this figure has evolved from $29 million in 2007 to almost $43 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. I provide descriptive statistics on all variables in the appendix.

The empirical specification

To estimate the effect of hiring revolving door politicians on corporate taxation, I consider the following autoregressive distributed lags (ADL) specification within a two-way fixed effects (difference-in-difference) framework:

$$lnTR_{c,t+1} = \omega \cdot lnTR_{ct} + \delta_1 \cdot R_{ct} + \delta_2 \cdot R_{c,t-1} + \beta_1 \cdot X_{c,t-1} + \beta_2 \cdot X_{ct} + \gamma_c + \phi_t + \epsilon_{c,t+1},$$

where TR is the tax rate paid by firm c. We include Tax Rate both as my outcome of interest with a one year lead, and as independent variable without a lead. This controls for potential mean reversion in the evolution of tax rate. We run the risk of instilling the Nickell (1981) bias with this specification, but the large number of time periods in the

sample should mitigate this concern. Additionally, all results hold without including the lagged dependent variable. R is an indicator capturing the first year a politician works for the company, and δ_1 is the main coefficient of interest. The inclusion of fixed effects and the lag of R allows us to interpret the main coefficient as the change since the prior year relative to average changes. Therefore, if the coefficient on the lag is of insignificant size, while the main coefficient is large, it indicates that a change in tax rate happens abruptly after the legislator is hired by the firm, and that the change since the prior year is large relative to the average changes across time. It should be noted that by adding lags of the independent variables, I risk instilling post-treatment bias (Blackwell and Glynn 2013). All results hold without lags, however.

X is a vector of controls, which are included with and without lags. The two fixed effects are denoted by γ, a company fixed effect, and ϕ, a set of year effects. We have run models including fixed effects for the legislator as well, which does not change the statistical or economic significance of the results. We leave them out in the main models, because very few companies have had the same politician employed. Thus, the revolver fixed effect would be estimated using only a handful of individuals. ϵ is the idiosyncratic error term. Uncertainty estimates in the main models are obtained using Beck and Katz (1995) panel corrected standard errors.

Results

Figure 2 plots pooled corporate tax rates at $t + 1$ in the years leading up to the hiring of a former MC. This allows us to take a look at the patterns in the raw data, before log transforming and modeling Tax Rate. The fitted line is estimated using a lowess smoother indicating the expected tax rate across companies within each time period.

As we can see, the tax rate across companies is relatively stable throughout time with a slightly decreasing trend. What is striking is the sudden and sharp decrease in tax rates the year after a former MC is hired. 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. This provides an initial look at the pattern in the data.

In Figure 3, I present a range of twoway fixed effects ADL specifications. All results hold if the lagged variables are excluded. The first specification is the simple association between hiring a former MC and corporate tax rate the year after with twoway fixed effects and lagged dependent and independent variables. The coefficient suggests that hiring a revolving door lobbyist decreases tax rate by 7 pct. The top axis shows that this amounts to approximately 20 pct. of a standard deviation. Thus, the estimate is

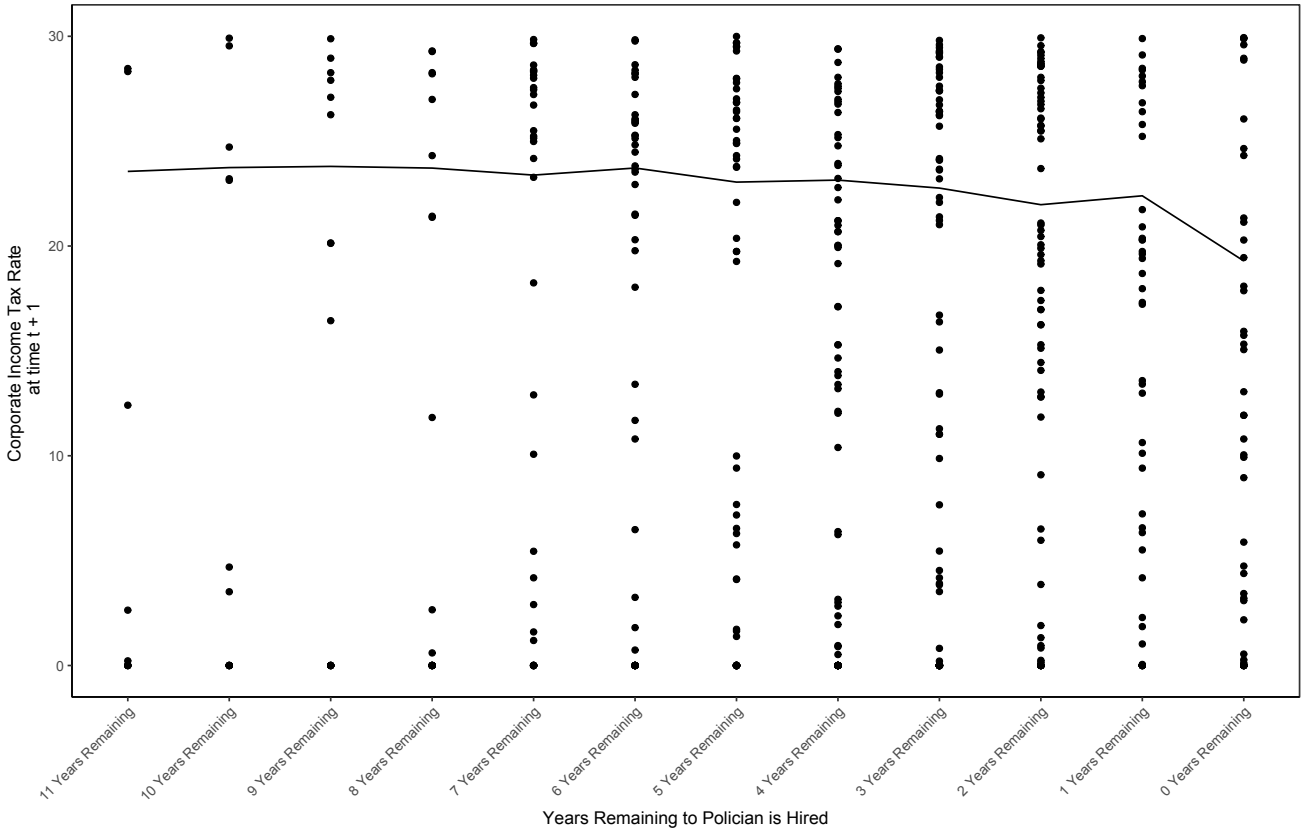

Figure 2: Corporate Tax Rate and Time Until Revolving Door Hire.

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

economically meaningful, but also noisy and marginally significant at the five pct. level. There is good reason to believe, however, that the association could be suppressed by other firm-level characteristics.

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 pct. 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 more than doubles the coefficient on Revolving Door. The estimate suggests that hiring a former legislator could decrease the average firm's tax rate by 12 pct. – corresponding to almost half of the typical within-company change during this period. We can reject the null at the 1 pct. 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. Besides stressing the correlation, this further discards a number of observations, but the coefficient on Revolving Door is virtually unchanged and remains statistically significant.

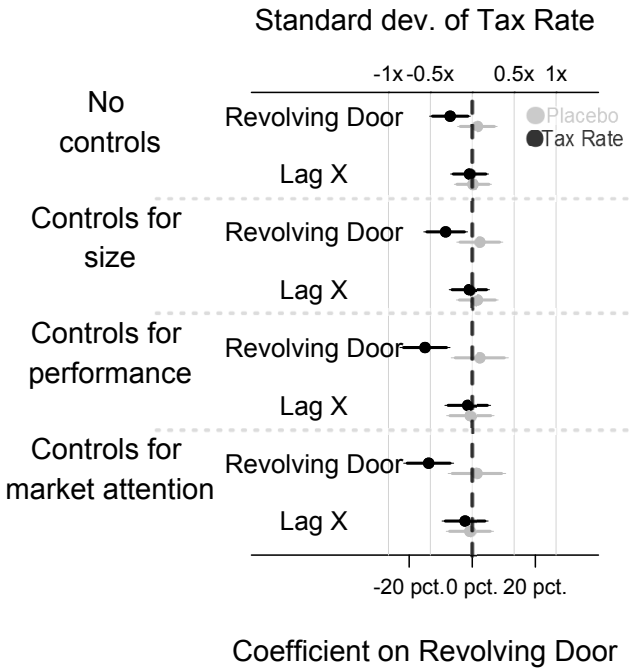

Figure 3: The revolving door and corporate tax rates.

Note: The dependent variable in the primary models is the natural log of the firm's tax rate with a one year lead. Dependent variable in the placebo models, is the one-year lag of corporate tax rate. Top and bottom 2.5 pct. in the distribution of Tax Rate excluded. The specification is a two-way fixed effects autoregressive model with distributed lags on the covariates. The shown coefficients are on the dummy for hiring a former MC and its lag. The controls described in row labels are added incrementally. Light gray dashed lines separate specifications. Bottom axis shows unstandardized OLS coefficients. To gauge effect sizes, top axis shows the standard deviation of the within transformed logged tax rate. Confidence intervals are 95 pct. (thin lines) and 90 pct. (thick lines), computed using Beck-Katz panel corrected standard errors.

The key identifying assumption behind my twoway fixed effects (difference-in-difference) design is that tax rate would have evolved similarly among treated and untreated firms, if the treated firms had not hired a former legislator. This parallel paths assumption is by definition untestable, but a violation is likely to produce differences in tax rates, before the politician is hired, and I can test whether the decision to hire revolving door

personnel is correlated with the prior trend in Tax Rate. If, for instance, the companies, who employ former MCs, were already riding a downward trend in their tax payments, it would indicate a selection effect that would yield biased estimates. I provide two tests of this. First, I show the coefficient on the lagged version of the revolving door variable. If there is an effect of the lag after conditioning the main revolving door variable, it would show that the change in tax rate does not happen abruptly, after the revolver is hired, but was a long time coming. It should be noted, that this estimate is likely to be tainted by post-treatment bias. The fact that it is very small in size, however, does provide an indication that there is not pre-treatment trend. Because of the risk of post-treatment bias in this result, I also estimate a number placebo models with lagged tax rate as the dependent variable in specifications that are otherwise similar to the main models. In Figure 3 the results are presented in gray. In all specifications, the coefficient on hiring a former legislator in these models is diminutive – less than 1/10 of the coefficient in the main models. It is striking, how consistently the coefficient on both the placebo and the lag of the revolving door indicator fall very close to the null. Overall, this provides reassurance that the results are not driven by pre-treatment trends.

To further gauge how economically meaningful the effect is, Figure 4 presents the amount of tax dollars a firm can save by hiring a former MC. Estimates are predictions from the fourth specification in Figure 4. For the average firm, the tax saving is meaningful, but not extravagant – approximately $80,000. The amount that is saved quickly increases, however, and while there is very considerable uncertainty associated 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 (as we will see in the following section) and firms do not hire politicians all the time.

In Figure 5, I investigate how persistent the decrease in Tax Rate is. The first specification is the same as presented in the final row of Figure 3. 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 a 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

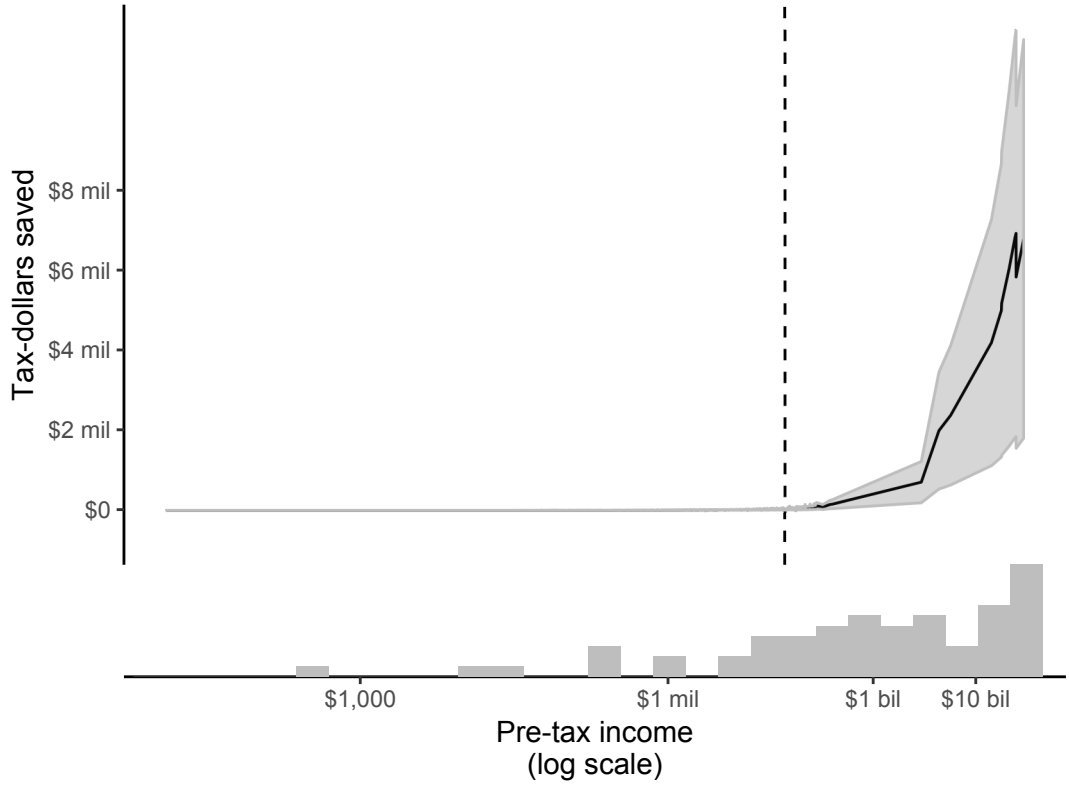

Figure 4: How much money can be saved?

Note: Tax-dollars saved predicted from the model presented in fourth specification in Figure 3, 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.

both substantive and statistical terms. This indicates that the decrease in Tax Rate experienced by companies that hire former politicians is sizable, but relatively short-lived – probably two years.

Robustness to outlying observations

As remarked upon previously, there are a number of extreme values on the dependent variable. In the main specifications, their influence on the parameters of interest was limited by excluding the observations paying the 2.5 percent highest and lowest tax rate. This generally has the effect of decreasing the main coefficient by 50 pct compared to models including all observations. However, there are a number of different ways to deal with this problem. In Figure 6, I show that the results are robust to various ways of dealing with outliers. I also present the results from placebo models similar to the ones shown in Figure 3.

In the first model, I show the results from including all observations. As mentioned previously, this approximately doubles the coefficient. Next, I exclude the eight observations with Cook's Distance values above $4 * \bar{D}$ – the standard, if arbitrary, threshold. The

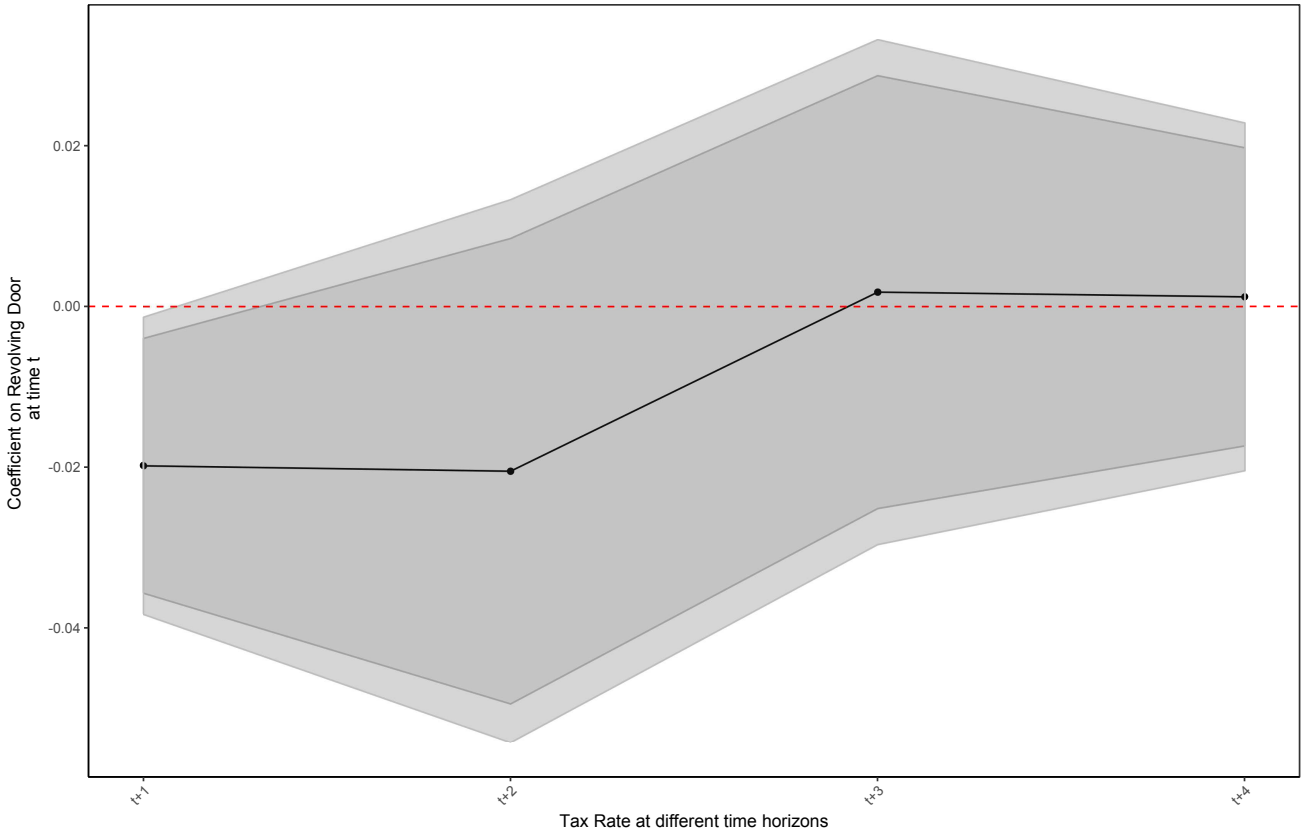

Figure 5: Effect of Political Connections on Tax Rate for different time horizons. *Baseline model (t+1) is identical to row 4 of Figure 3. Dependent variable is Tax Rate (logged). Each specification increases the time horizon by one year. Dark and light gray shaded areas represent 90 and 95 pct. confidence intervals, respectively, calculated using panel corrected standard errors.*

changes to my estimate, compared to including all observations, are negligible. In the third column, I use DFBETA to exclude influential observations. Since no observations exceed standard thresholds, I exclude the eight observations with the highest values, since this was the number of extreme values identified by the Cook's D metric. Both the point estimate and the standard error increases slightly, compared to when I include all observations, but the coefficient remains significant both in practical and statistical terms. Finally, I trim away the companies that pay the five percent highest and lowest tax rates, respectively. Compared to the model including all observations, this decreases the coefficient somewhat. Seeing as the estimate gets substantially less noisy as well, the coefficient remains highly significant in statistical terms. It is approximately the same size as the baseline estimate shown in Figure 3, where I only trim away the top and bottom 2.5 pct. Looking across specifications, the coefficient of interest in the placebo model is always very close to zero and statistically insignificant at conventional levels.

Overall, this provides reassurance that the results are not driven by influential observations.

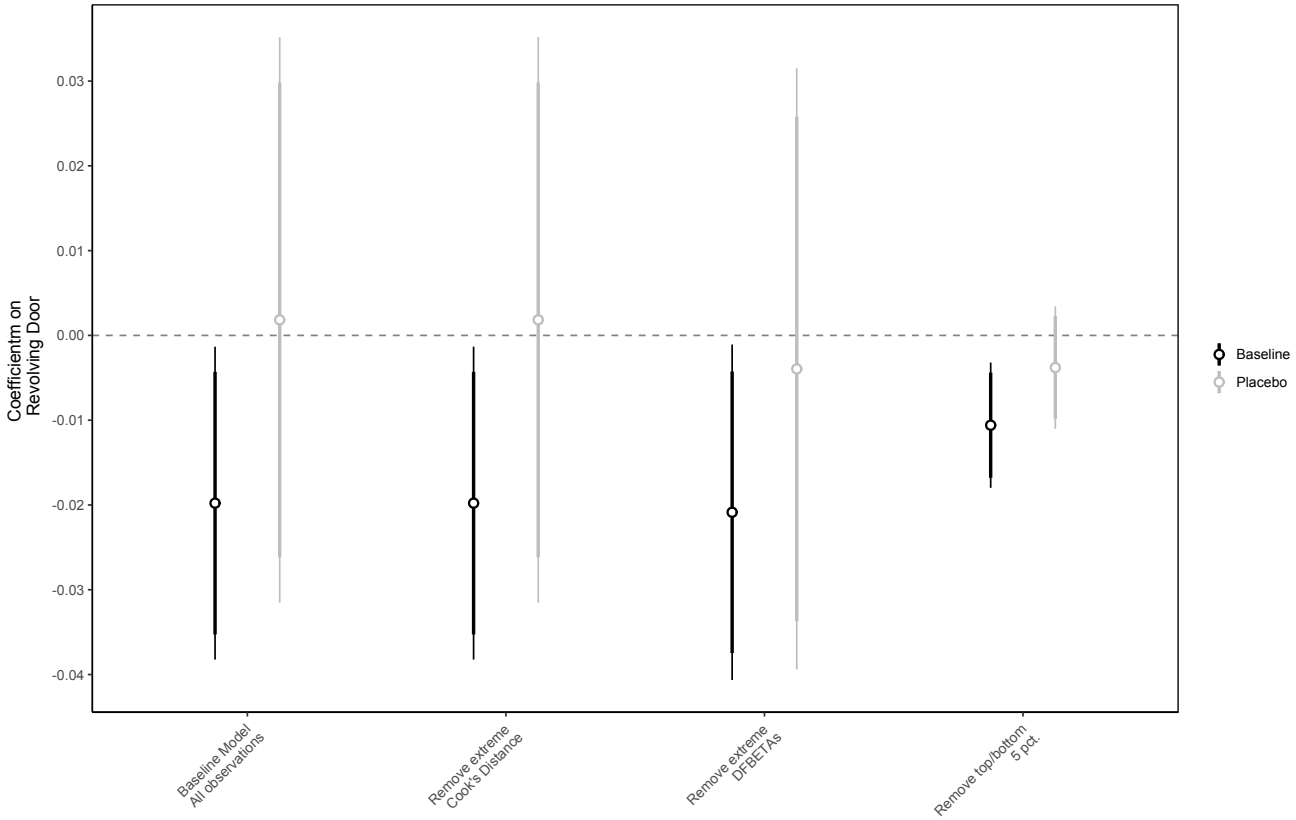

Figure 6: Sensitivity to Outlying firms. *Each set of models exclude observations that are influential by some metric. Cook's D threshold of* $4 * \bar{D}$ *excludes 8 observations. No observations exceeded the standard threshold for DFBETA* $(2/\sqrt{n})$*, so the 8 observations with highest scores were excluded. Dependent variable in baseline specifications is Tax Rate (logged) the year after hiring a politician. Dependent variable in placebo models is the Tax Rate (logged) the year prior to hiring a politician. Thick and thin lines represent 90 and 95 pct. confidence intervals, respectively, calculated using robust standard errors clustered at the firm level.*

Probing the mechanism

There are two main turning points in the argument, I present. First, the decrease in corporate tax rates should be driven by the most well-connected revolving door legislators. In this section, I show that decreases in corporate tax rates are driven by the best connected legislators. To further explore the mechanism behind this pattern, I investigate which non-market strategies firms hiring the best connected legislators follow to obtain their tax savings.

The other important observable implication is that, the effect should come about, because the IRS carry out their discretionary enforcement activities in a less strict fashion against politically connected firms – not because of more general changes in rules, which could apply to a number of firms. I provide suggestive evidence that the patterns uncovered here are not driven by general changes in IRS enforcement.

Connectedness of legislator drives 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 7, 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.

First of all, MCs, who served on committees with oversight of the IRS, are likely to have connections with currently serving members of those committees. Furthermore, they are likely to have had extensive interactions with the IRS. 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 in the Senate Finance Committee or the Ways and Means Committee in the House. I acquired data for this through Stewart III and Woon (2017). I estimate that the decrease in tax rate is 12 percent larger, when firms hire a former member of a committee with oversight of the IRS. This interaction effect is noisy, however, and only significant – statistically speaking – at the 10 percent level.

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. First of all, they are likely to preserve their connections to currently serving MCs, and because they are connected to different coalitions in Congress, they can rally support among various blocs to pressure the IRS. Also, hiring a well-connected MC sends a very strong message about the firm's political muscle to the agency.

To test this proposition, I follow Fowler (2006a,b) and 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 (2006a)) 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 give us 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

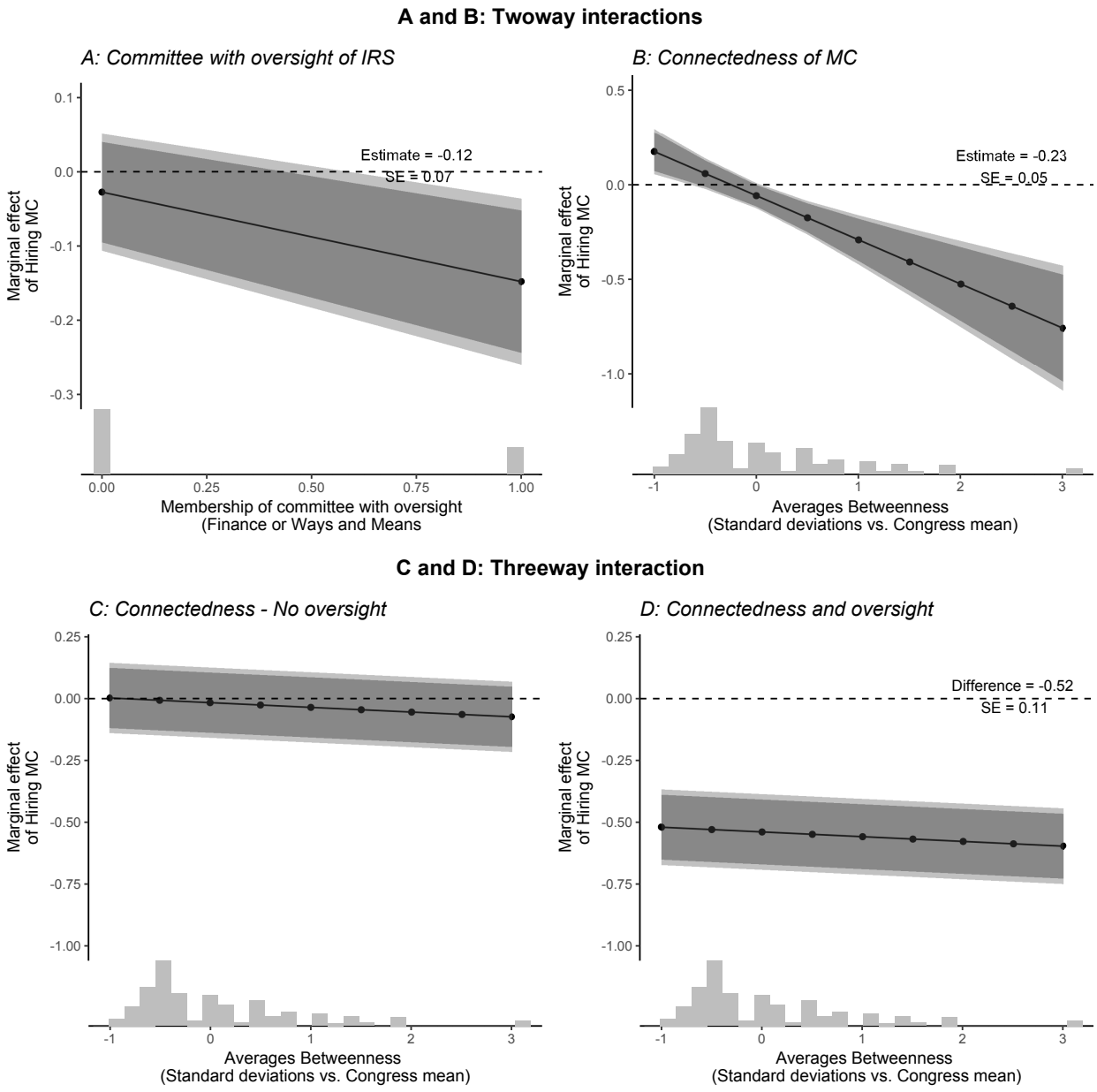

Figure 7: Heterogeneous effects for well-connected legislators.

Note: The plots show the marginal effect of hiring a revolving door MC on tax rate (with a one-year lead) across different values of two moderator variables. 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 hired 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 both moderator variables. All models include fixed effects for firm and year as well as lagged values of tax rate and hiring a revolving door MC. All terms of the interactions are included but not shown for presentational purposes. Confidence intervals are 90 pct. (dark) and 95 pct. (light shaded areas) computed using Beck-Katz panel corrected standard errors.

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. The result from the interaction model is presented in Panel B and 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 1 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 pct. 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 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, either because of the strength of the signal, or because they actually make use of their connections to pressure the IRS, the largest decrease in tax rates should come, when hiring MCs, who have 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 pct. if that MC also served on a committee with oversight. Conversely, the additional effect of hiring an MC, who served one such a committee, increases by 2 pct. 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.

It should be noted that all of the above-mentioned results also hold, when legislator fixed effects are included by themselves or in conjunction with the firm fixed effects.

Overall, these results show that the effect is strongest and almost exclusively present, when hiring the most well-connected legislators. This provides a positive indication that the decrease in corporate tax rates comes about due to the revolving door legislator connections to currently serving MCs.

Political connections and non-market strategy

I now investigate, why hiring well-connected legislators, who served on committees with oversight of the IRS, is associated with decreased taxation, while hiring other legislators is not. I do so by looking into two prominent non-market strategies that highly connected firms could use to pressure the IRS. First, I investigate whether political connections are used as part of a more general lobbying strategy aimed at influencing decisions made in

the IRS. Second, I look into, whether firms can use political connections to testify at committee hearings in Congress.

Political connections and corporate lobbying activity

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. As outlined previously, hiring a former MC could be used as a scare tactic, which would likely be most effective, if used alongside increases in contacts with the IRS. Additionally, a more benign reason that such contacts could be effective is that MCs with experience in tax legislation could better communicate with decision-makers and convey information more efficiently (Richter, Samphantharak, and Timmons 2009).

But hiring former MCs could be a substitute for direct lobbying campaigns. If political connections provide other and more efficient means of pressuring the IRS than directly contacting the agency, it stands to reason that firms would substitute away from direct lobbying, and use these alternative channels instead. One such channel is congressional hearings, which I investigate in more detail below.

Whether the firm uses its newly found political connection to engage in more lobbying or less, hiring a well-connected former MC, should be most efficient. This is, because they will have the necessary connections to put pressure on the IRS – either through direct lobbying or by other means. Two reasonable expectations would be that hiring a former member of the committees conducting IRS oversight should be related to direct lobbying of the agency, while hiring a legislator, who is generally well-connected, should be related to lobbying more generally.

In Figure 8, I test these propositions. In Panels A, B and C I do so by interacting the revolving door indicator with a dummy for, whether the former MC served on a committee with oversight of the IRS. Here, 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.

In Panels D, E and F, I do so by interacting the revolving door indicator with my measure of legislator connectedness. Here, I look at the propensity and extent of their engagement in lobbying generally – not just aimed at the IRS. Because the outcome variables are highly skewed, I use non-parametric bootstrap with 500 resamples at the firm-level to compute uncertainty in all models presented here.

First examining the results in Panels A, B and C, we can see that across all three specifications, hiring a former member of one of the oversight committees significantly

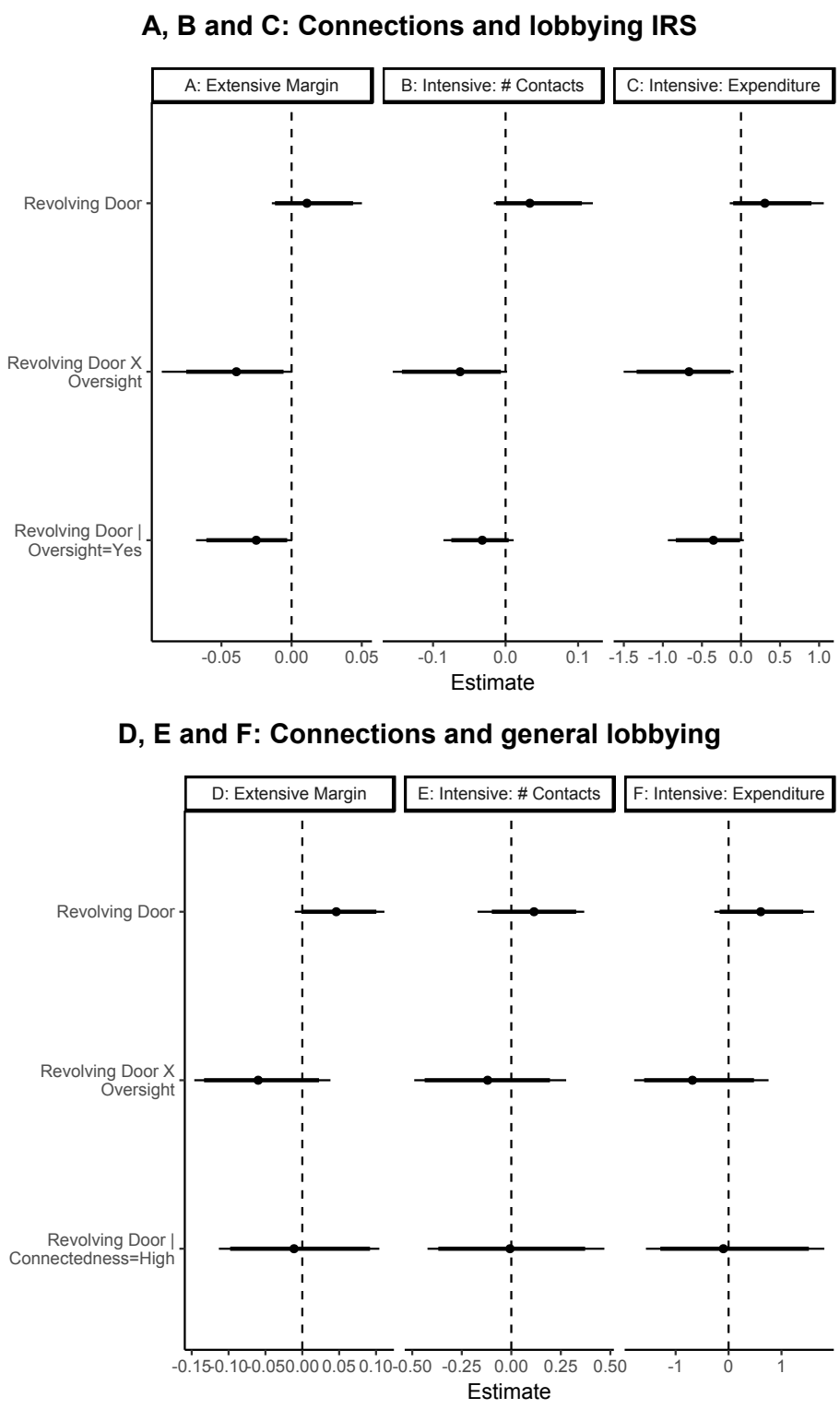

Figure 8: Hiring a former MC and directly lobbying the IRS.

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. In Panels D, E and F, the dependent variable is, respectively, the probability of lobbying in general, the (logged) number of lobbying contracts, and the (logged) lobbying expenditure. 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, MC, and time fixed effects are included.

decreases a firm's propensity to lobby the IRS and the extent of its lobbyism. Hiring a revolver is associated with a decrease of three percentage point in the probability of lobby the IRS (significant at the five percent level), a three percent decrease in the number of contracts indicating that the IRS is lobbied – an estimate which is too noisy to be statistically significant – and a decrease of just short of 50 percent in the amount of money associated with the contracts aimed a lobbying the IRS. Especially the latter decrease is very marked. Hiring former legislators, who did not serve on oversight committees, seems to be associated with an increase in the propensity to contact the IRS. The coefficients on the base term of the revolving door dummy is almost of the same size – in absolute terms – as the marginal effect of hiring a former member of IRS oversight committees. However these latter associations are noisy and not statistically significant at conventional levels, even though the estimates are sizable.

Turning to the results in Panels D, E and F, they are generally more noisy than the ones presented in the first three panels. However, since they show the same patterns, and the coefficients are quite large, the results in these latter three panels should not be disregarded. On average, I find that hiring a former legislator, who is not well-connected, is associated with an increase in the probability of engaging in direct lobbying by 3 percentage points, in the number of lobbying contracts by 12 percent, and in total lobbying expenditure by 50 percent. Among the firms hiring a highly connected legislator, however, I estimate a (noisy) null – the point estimates are very small.

Finally, in the appendix, I show that spending an additional percent on lobbying the IRS is associated with a 0.5 percent decrease in taxes a firm pays. This confirms that the results in Richter, Samphantharak, and Timmons (2009) hold for the subset of firms and the period of time, I investigate here. This suggests that firms hire well-connected former MCs as a substitute for traditional lobbying activities.

Political connections and testifying in Congressional committees

Firms might use their political connections to get a chance to give testimony in Congressional committees. Recent research has shown that, for instance, text from letters from interest groups finds its way into legislation (e.g. McKay (2018)), indicating that firms could influence tax policy in this way. Additionally, being called as a witness on one of the committees with direct oversight over the IRS is a close to ideal way of flexing muscle at the agency. It acts as a signal to the IRS that the firm is the people in control of the agency's future listens to the firm. It could also proxy direct connections between the firm and members of the committees with IRS oversight. If connections are particularly strong, members of the committee might be persuaded to pressure the IRS on behalf of the firm. Former members of the committees should stand the best chance of getting

their new employer invited. Because of their tenure, they have the relevant expertise and connections to secure such an invitation.

More broadly speaking, giving testimony at any committee should send a strong signal of a firms political muscle. This might also scare away the IRS. While being a former member of one of the committees with oversight of the IRS might not help getting invited to testify at other committees, generally being well-connected could.

On the other hand, witnessing in committees can be very high profile, and other research has shown that influence-seeking firms generally attempt to stay out of the limelight (Godwin, Ainsworth, and Godwin 2012).

To test these propositions, I have manually collected data from the ProQuest Congressional database on the number of times each firm has been invited to testify in hearings at a) committees with oversight of the IRS and b) committees in general. In Figure 9 I show the results. In Panels A and B, I model, respectively, the probability of giving testimony and the (logged) number of times firms have testified in hearings at IRS oversight committees. I show results from an interaction between the revolving door indicator and a dummy for whether the MC served on the committees. In Panels C and D, I model invitations to all committees, and interact the revolving door dummy with my measure of legislator connectedness. Once again, all controls as well as two-way fixed effects are included. As previously, I use the non-parametric bootstrap with resampling at the firm-level.

The results in Panels A and B show that hiring a former member of one of the oversight committees significantly increases both the propensity to give testimony and the number of times firms testify at an IRS oversight committee by approximately 10 percent. There is no change for firms, who hire former legislators with other committee experience.

Turning to the results in Panels C and D, I find that hiring legislators that on average were one standard deviation better connected than her peers increases the probability of being invited to testify at any committee by 10 percentage points and the number of times by 10 percent. While these are sizable estimates, they are also noisy and statistically insignificant at conventional levels.

Testing alternative explanations

Previous research by Richter, Samphantharak, and Timmons (2009) suggests that companies can bring down their tax rates by lobbying for changes in the tax code, which grants them lucrative depreciation schedules that are tailored specifically to their portfolio. While this is likely for firms engaged in traditional lobbying activities during the early 2000s, I do not expect this to account for the effect of hiring revolving door personnel

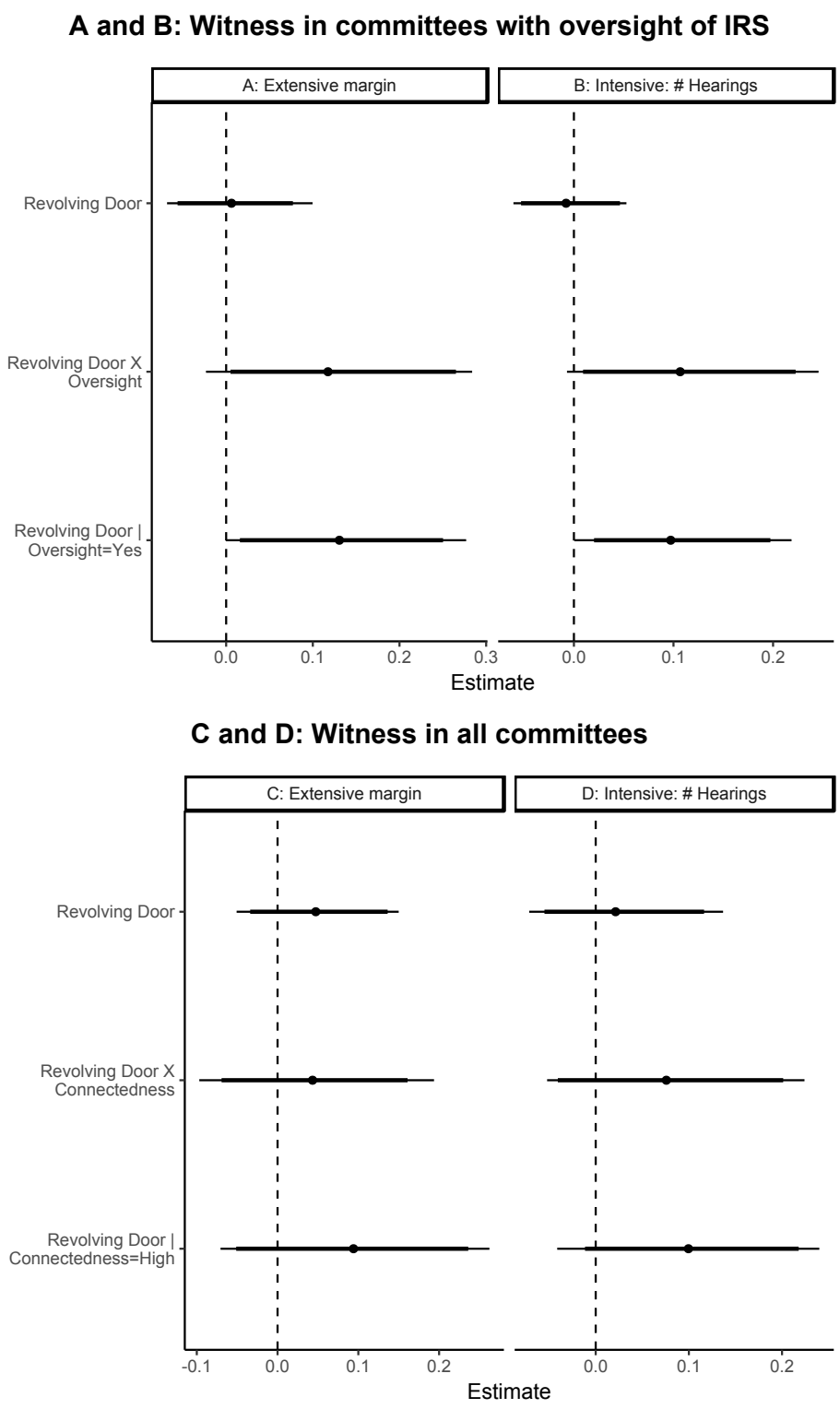

Figure 9: Hiring a former MC and testifying in committees.

Note: Note: The dependent variable in Panels A and B is, respectively, the probability of testifying in a hearing held by one of the committees responsible for oversight of the IRS, and the (logged) number of times they testified. In Panels C and D, the dependent variable is, respectively, the probability of giving testimony at hearings held by any committee, and the (logged) number of testimonies they give. Confidence intervals are (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, MC, and time fixed effects are included.

today. First, changing the tax code generally requires lengthy political negotiations and compromises, making it highly inert. Thus, the tax code has only changed rarely in more recent years, but did change in the period initially investigated by Richter, Samphantharak, and Timmons (2009). Additionally, tax decreases due to changes in the tax code – almost no matter how narrowly defined – will accrue to a number of companies with similar asset holdings, and they will encounter a collective action problem. Subverting the IRS's enforcement activities, in comparison, seems more achievable, and the rents extracted in this way are more concentrated at with the individual firm. Still, the evidence I have presented so far is consistent with both these explanations.

To test whether general rule changes rewarding specific types of asset holdings can account for the effect, I 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. Following Richter, Samphantharak, and Timmons (2009), I use capital intensity (the ratio of fixed to total assets), size (total assets) and return on assets (the ratio of pre-tax income to total assets). The only statistically significant moderator used by Richter, Samphantharak, and Timmons (2009), which I do not investigate, is R&D intensity, since I could not acquire data on it. We 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 (Richter, Samphantharak, and Timmons 2009). Figure 10 shows the coefficients on the interaction terms.

As we can see, none of the interaction terms are statistically significant. In addition, the first three are very small – less than 1/10 of the baseline effect presented in Figure 3. The coefficient on the interaction between the revolving door dummy and the number of employees is substantively meaningful, but has the wrong sign. Additionally, it is very noisy and statistically insignificant.

Making sense of the evidence

There is a wide array of potential observable implications of the argument presented here. Because of this, investigating the mechanism will always be – in some part – an exploratory exercise, and all channels through which political connections lower tax rates are unlikely to be uncovered. Still, the evidence presented in the preceding sections helps in painting a picture of how firms use political connections to get the tax rates they desire.

First of all, only hiring the best connected legislators, who served on committees with oversight of the IRS, was associated with a decrease in tax rates. This is likely, because the firms hiring that kind of former MC are the ones seeking to use political means to

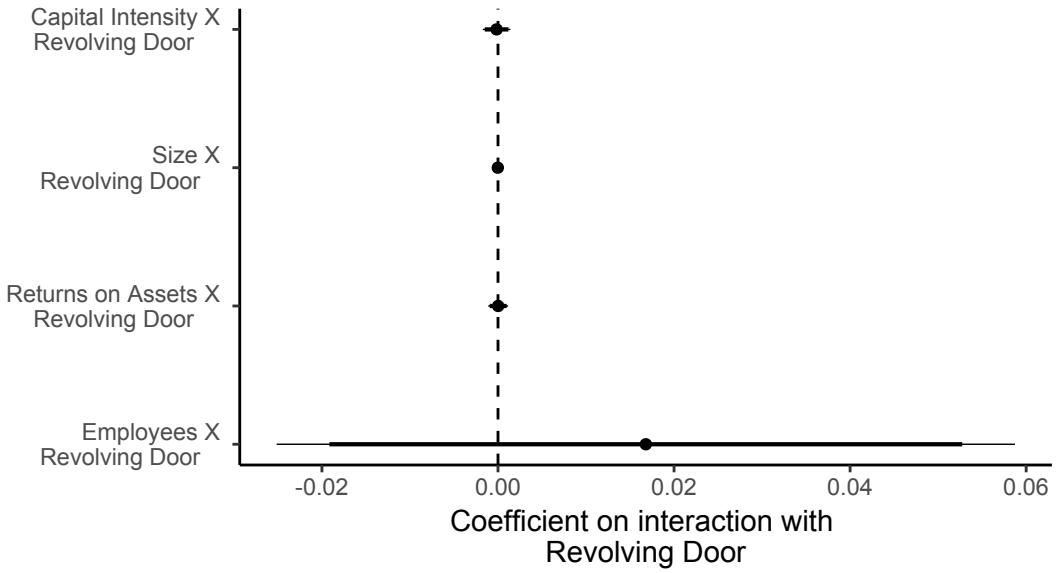

Figure 10: Portfolio of assets does not drive the effect.

Note: The dependent variable is Tax Rate (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 versions of tax rate and the revolving door dummy included as covariates.

lower their tax rates. However, this should be viewed in conjunction with the findings that these firms also reduce the part of their lobbying activities directed at the tax authorities and give testimony more frequently in the committees overseeing the IRS.

Together, these results indicate that firms hire former legislators, who have the kind of connection they seek, as a substitute for engaging in traditional forms of lobbyism. They expect well-connected revolvers to provide a more efficient way of lowering their tax rates than directly lobbying the decision-makers. Connections to the committee overseeing the IRS's activity is one very likely avenue through which tax savings might accrue.

Importantly, this also suggests that the decrease in tax rates does not come about, because former MCs provide better information to or communicates better with the IRS. It should also be noted that I found no cases, where former MCs testified on behalf of their new employer, indicating that the connected firms are not invited, because of the revolver's expertise.

Finally, the evidence on non-market strategies of firms hiring legislators, who are well-connected more generally, is more noisy. One reason of many for the noise is that firms might hire the best connected legislators for a wider variety of reasons than the ones, that hire revolvers, who used to oversee IRS activities. On average, however, these firms testify more often in congressional committees, and while other firms combine the hiring of a revolver with increases in general lobbying activities, the point estimate for

best connected legislators was almost exactly zero. Since these estimates are not close to being statistically significant at any conventional level, they obviously should not be given too much weight. Despite the noise, however, the general pattern uncovered for these firms is similar to the one among firms hiring former members of committees with oversight of the IRS, and they should not be disregarded outright. Instead, future research should delve more deeply into which non-market strategies link political connections to decreases tax rates.

Conclusion

In this paper, I have estimated twoway fixed effects models to document 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 only persisted for between one and 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.

Additionally, 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. To investigate how these highly connected legislators bring about decreases in taxation, I explored, which non-market strategies their employers follow. In doing so, I provided evidence that firms, which hire former members of committees responsible for IRS oversight, decrease the part of their lobbying activities aimed at the IRS, but give testimony at oversight committees more frequently. Additionally, I provided some suggestive evidence that employers of highly connected former MCs are invited to give testimony across all committees more frequently. This latter estimate was, however, very noisy and should not be given excess weight. This provides some suggestive evidence that firms, who hire highly specialized and connected politicians, substitute away from lobbying relevant agencies directly. Instead, they use their newly gained connections to be invited to testify at committees. This signals to the agencies under the committee's oversight that they should stay away from the connected firms. Finally, I did not find any heterogeneities across different asset portfolios. This indicates that the connected companies do not bring about rule changes tailored to their specific asset portfolios.

One important caveat is that the results do not directly show that hiring a former legislator makes the IRS change its enforcement activities. I only show that hiring a former legislator is associated with lower taxes, and suggest a variety of non-market strategies, that could be used to obtain this. Thus, I can only provide indirect evidence of the proposed mechanisms. An alternative explanation is that the hiring firm expects

more lenient regulation and engages in fraud, but that the IRS actually does not provide this. That the decrease in taxes persists for two years would, however, speak against this. Additionally, I reiterate that previous research has documented that agencies do, in fact, change their enforcement in the face of corporate political activities (Blau, Brough, and Thomas 2013; Fulmer and Knill 2012; Gordon and Hafer 2005; Kim and Zhang 2016; Yu and Yu 2011). However, more research into how the IRS reacts to politically connected firms is needed, before firm conclusions can be made.

Finally, it is important to note that, while the estimated effects were meaningful for the individual firm, the impact on public finances are modest. The fact that the cost is small in the entirety of things, and the bill is not footed by any single actor, is likely to be one reason why the effect persists (Olson 1965).

Lower tax rates can give the politically connected firm a competitive edge on its market, however, which is likely to yield second order effects, magnifying the ones uncovered here. In that regard, it is important to note, that corporate tax rates, which I have investigated here, is but one outcome, on which political connections can have a meaningful impact. While the literature is too vast to review comprehensively here, a few examples should be noted. Ferris and Houston (2016) have found that political connections can shape public procurement, and Lazarus and McKay (2012) presented evidence indicating that connected universities gain more federal earmarks. A few studies have documented very well-identified effects of connections on firm operating performance both in the US (Do, Lee, and Nguyen 2015) and in Russia (Szakonyi 2017). A host of studies have found political connections in the US to impact stock market performance (e.g. Acemoglu et al. (2016), Fisman et al. (2012), Goldman, Rocholl, and So (2009), and Luechinger and Moser (2014)), which could ultimately lead investors to make inefficient investment decisions (Fisman 2001), and skew the stock market in favor of connected firms. Finally, an array of studies suggest that political connections increase the revenue of lobbying firms (LaPira and Thomas 2017; McCrain forthcoming; Vidal, Draca, and Fons-Rosen 2012). Taken together, this indicates that the cumulative impact of political connections across different spheres of public policy could ultimately be quite large – even though the effect on any single political or regulatory decision in itself is small. It is obviously democratically problematic, if politically connected firms can distort decisions of bureaucratic agencies – as the results indicate – or public policy more broadly.

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