

# Legislative Capture? Career Concerns, Revolving Doors, and Policy Biases\*

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## Abstract

While the majority of research on revolving-door lobbyists centers around the disproportionate amount of influence they exhibit during their post-government careers, relatively little attention is given to questions of whether future career concerns affect the behaviors of revolving-door lobbyists while they are still working in the government. Using comprehensive data about congressional staffers, we find that hiring staff who become lobbyists in the future is associated with higher Legislative Effectiveness Scores. We find that congressional offices sponsor more legislation in the areas of health and commerce, but less in law and crime, social welfare, and government operations after hiring staffers who later became lobbyists. We also find that hiring a future revolving-door staffer is associated with granting more access to lobbying firms. All of these results are most consistently observed for lower-level personal staff.

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# 1 Introduction

Lobbying has become a lucrative career choice for many US government officials after they leave government service. The number of lobbying firms and individual lobbyists has increased over time, as the number of interest groups and their political spending has skyrocketed (Rosenthal 2000; Baumgartner et al. 2009; Schlozman, Verba and Brady 2012). This robust growth in the lobbying industry has brought changes to the labor market for members of Congress and their staff during their post-government careers. Over time, increased numbers of legislators have shifted to the lobbying world after leaving Congress (Lazarus, McKay and Herbel 2016; Maske 2017) and a similar pattern is observed among congressional staffers (Cain and Drutman 2014; LaPira and Thomas 2017).

As the “revolving door” phenomenon has become a more prominent force in American politics, the main interest in the literature has been whether revolving-door lobbyists have disproportionate access to members of Congress due to their connections, thereby distorting representation and the policymaking process. Connections matter in many contexts, but the value of connections is particularly important in the lobbying industry where access to politicians is considered the most important asset (Langbein 1986; Austen-Smith 1995; Lohmann 1995; Wright 1990, 1996). Recent empirical papers document that revolving-door lobbyists generate large premiums in lobbying revenues from their political connections (Blanes i Vidal, Draca and Fons-Rosen (2012); Bertrand, Bombardini and Trebbi (2014); Kang and You (2017)).

Beyond this dominant focus in the literature, one aspect of the revolving door phenomenon that has received little attention is that possible future career opportunities as lobbyists may influence legislative activities while people are still serving in the government. Although there is a rich literature on how future career concerns influence the behaviors of regulators (Peltzman 1976; Laffont and Tirole 1991), this issue has not been considered in the context of revolving-door lobbyists from Congress despite the fact that Congress is the government

agency that produces the most revolving-door lobbyists.<sup>1</sup> The literature on the impact of career concerns on regulatory behavior presents two different predictions regarding the effect of a revolving door on regulators. The “regulatory capture” perspective argues that policy distortion can occur while regulators serve in the government due to their career concerns in expectation of rewards such as future job opportunities in regulated firms (Stigler 1971). On the other hand, the “regulatory schooling” perspective posits that a revolving door can incentivize regulators to exert more effort to enhance their qualifications thereby increasing their market value for their post-government careers (Che 1995).

The same set of arguments can be applied to Congress members and staffers who intend to become lobbyists in their post-government careers. We could expect that congressional offices, where there are members and staffers who later became lobbyists, may simply grant more access to their future employers or tailor legislative activities for their benefit in exchange for a future job. On the other hand, a possible lucrative lobbying career in the future could incentivize congressional personnel to exert more efforts in their legislative activities and develop more expertise on specific issues, thereby increasing their market value for prospective future employers - lobbying firms or organizations.

In this paper, we investigate whether future career concerns affect the behaviors of revolving-door lobbyists while they are still working in the government. To do that, we focus on congressional staffers because they account for more than a majority of revolving-door lobbyists, despite having received little attention in the literature on the effect of career concerns. We assemble a dataset including every employee who was a personal or committee staffer in the Congress from 2001 to 2012. In total, there are 47,877 unique records in the dataset. For each staffer, we identify the period during which she worked for personal offices and congressional committees and the compensation she received from each office. We also identify staffers who left the Congress, and for those who became lobbyists, we track their lobbying activities, including the first year they submitted a lobbying report and the names

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<sup>1</sup>A few exceptions are Santos (2006) and Egerod (2017).

of their employers.

One important limitation to using congressional staff as a subject to identify the effect of future lobbying careers on present legislative activities is that we cannot link legislative outcomes directly to staffers. Staffers' efforts and incentives are realized through members' legislative activities and votes. While it is true that a staff's behavior is constrained by their Congress member's priorities and agenda, scholars have noted that members delegate substantial autonomy to their staff due to their own time constraints (Loomis 1988; Romzek and Utter 1997). What is more, as Congressional workloads have significantly increased over time (Curry 2015) and members of Congress continue to perpetually campaigning due to fundraising pressures and increased electoral competition (Lee 2016), there is ample reason to believe that a staff's efforts and inputs could have significant impacts on member-level legislative outcomes.

Accordingly, we constructed a member-level dataset for congressional offices both in the House of Representatives and the Senate for the period from the 107th through the 112th Congresses. We examine two particular sets of outcomes to see whether hiring future lobbyists as current staff is associated with behavioral changes in congressional offices. First, we examine members' legislative activities. To do so, we use *Legislative Effectiveness Scores* (LES), members' success in moving a significant and substantial amount of legislation through the Congress (Volden and Wiseman 2014, 2017).<sup>2</sup> We also examine types of bills that legislators sponsor in Congress using the Congressional Bills Project (Adler and Wilkerson 2017). Given that lobbying clients care more about some issues, such as health care, than other issues, like social welfare, it is possible that staffers' future career concerns could be related to more focus on specific sets of issues. To control for heterogeneity across Congress members in terms of their abilities and preferences for hiring specific types of employees, we include a member fixed effect across all specifications, as well as congressional fixed effect to control for time trend.

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<sup>2</sup>“A bill is deemed substantive and significant if it had been the subject of an end-of-the-year write-up in the *Congressional Quarterly Almanac*” (Volden and Wiseman 2014).

Second, we use data on lobbying contacts with lobbying firms collected from the lobbying filings mandated by the Foreign Agent Registration Act (FARA) for the period between 2007 through 2010. FARA, unlike regulation on domestic lobbying under the Lobbying Disclosure Act (LDA), requires that lobbyists representing foreign entities submit a semi-annual report detailing all lobbying contacts, including information on who, when, why, and how those contacts were made. This allows us to identify whether contacts with lobbying firms are held with staffers as opposed to members, and to connect each staffer with staff-level outcomes. We examine whether employing staffers who later became lobbyists is associated with the amount of access granted to lobbying firms.

First, we find that employing a future revolving-door staffer is associated with increased legislative productivity. Hiring revolving-door staffers correlates with higher LES of members. We also find that having a future revolving-door staffer is positively associated with bill sponsorship in the issue areas of health, the environment, and commerce, and is negatively associated with bill sponsorship in issue areas of law and order, social welfare, and international affairs. By dividing staffers into higher- or lower-ranked positions based on their job titles, we find that effects on legislative activities are mainly driven by changes in the number of lower-level personal staff members who later became lobbyists.

How should we understand the positive relationship between employment choices that staffers made in their post-congressional careers and legislative outcomes? First, it is possible that lobbying firms hired staffers from the most productive congressional offices measured in terms of legislative outcomes. Second, consistent with the regulatory schooling hypothesis, it is possible that staffers who want to appeal to lobbying firms and lobbying organizations might exert more effort, which enables their members to produce more legislative outcomes. Given that offices tend to sponsor more bills on commerce, the environment, health, and transportation issues - areas most frequently addressed by lobbying clients - this suggests that staffers who later became lobbyists may tailor their efforts to favor the most popular issues for the lobbying industry. The other potential interpretation is that, given that lobbying

intensity is endogenous to what government does, staffers who later became lobbyists may exert efforts to expand the “market” for their skills demanded from lobbying clients by sponsoring more bills and advancing those bills in the in the legislature (Zheng 2015).

Second, we find that congressional offices with future revolving-door lobbyists as current employees tend to grant more access to lobbying firms that are prospective future employers of those departing staffers. This effect is also most consistently observed for lower-level personal staff members and that the increased number of meetings between a congressional office and lobbying firms are mainly driven by contacts with staffers as opposed to direct contacts with Congress members. This positive relationship between the number of future revolving-door lobbyists as staff and the amount of access granted to lobbying firms, prospective future employers of staffers, can be explained by at least two mechanisms. First, as the regulatory capture theory suggests, it is possible that staff with future career concerns might sell access to lobbying firms to secure future employment. Second, it is also possible that frequent interactions between staffers in a member’s office and lobbying firms, driven by factors not related to career concerns, leads staffers to take jobs in the lobbying industry. The two explanations that we outline here are not mutually exclusive. Further research is required to disentangle these two mechanisms.

Our findings document that congressional offices with staffers who later became lobbyists show behavioral differences from congressional offices with no such staff, both in terms of legislative activities and interactions with lobbying firms. Although these results are not definitive, they provide some support for both the regulatory schooling and capture theories of how future career concerns shape the behaviors of government officials. Future lobbying concerns seem to inspire staffers to exert greater legislative effort on behalf of their bosses and increase their bosses’ overall legislative productivity, while presumably developing their own legislative process expertise on certain issues or expanding markets for their future careers. Additionally, future career concerns seem to be associated with congressional offices granting more access to lobbying firms.

The ways that outside options affect incentives of human capital accumulation is complex. As [Che \(1995\)](#) argues, job markets in private sectors for ex-government officials have two distinctive effects: *ex ante* effects on human capital accumulation, such as investment in skills and knowledge, and *ex post* effects on using acquired human resources on public versus private purposes. Our finding suggests that policy remedies to the revolving-door phenomenon should consider balancing the positive and negative consequences of the existence of the lobbying industry on incentives for congressional personnel.

## 2 Congressional Staff and Their Career Concerns

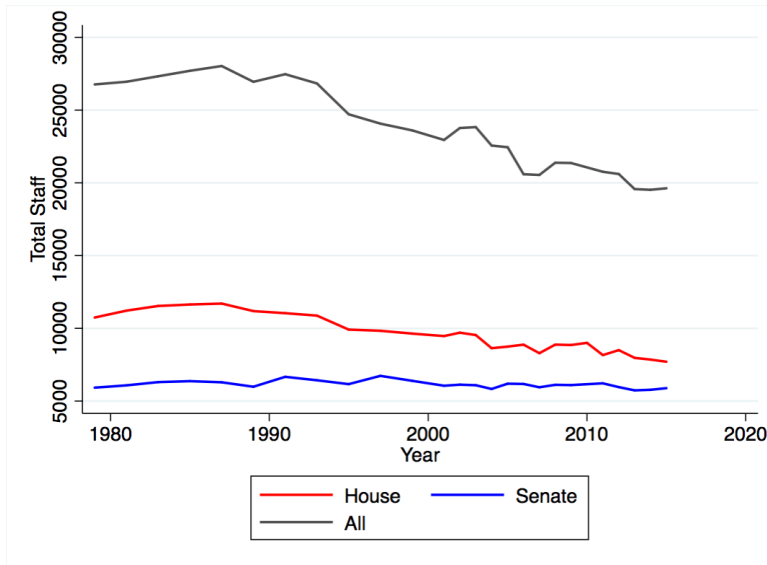
Congressional staff members play a vital role in policymaking in Congress. Members of Congress delegate substantial autonomy to their staff due to their own time constraints and the complexity of legislative activities ([Loomis 1988](#); [Whiteman 1995](#); [Romzek and Utter 1997](#)). Over time, congressional workloads have significantly increased ([Curry 2015](#)). Yet, members of Congress must also spend considerable amounts of time for fundraising and campaigning during congressional sessions, and therefore, their time for policymaking has become more scarce ([Groll and Ellis 2017](#)). Despite these challenges, the number of congressional staff workers has been declining since the early 1990s.<sup>3</sup> [Figure 1](#) shows the pattern in terms of staff over time. The number of staff employed in the House is currently 12% lower than it was in 1979. In particular, the number of staff working in policymaking roles has decreased while the number of those working in congressional districts for constituency services has increased over time ([Petersen, Reynolds and Wilhelm 2010](#); [Baumgartner and Jones 2015](#); [Lee 2016](#)). This suggests that the role of individual staffers who are involved in policymaking has become more important over time.

There is evidence that staff wield significant influence on policymaking by how they choose to allocate their time and attention differently across issues ([Hall 1993](#); [DeGregorio 1995](#);

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<sup>3</sup>Brookings Institute, 2017, “Vital Statistics on Congress” (<https://www.brookings.edu/multi-chapter-report/vital-statistics-on-congress/>).

Figure 1: Number of Congressional Staff Over Time, 1979 - 2015



*Note:* Both *House* and *Senate* totals include personal, committee, leadership, and the Officers of the House staff. *All* includes total House and Senate staff, as well as staff in joint committees and supporting agencies such as the Congressional Research Service, CBO, GAO, OTA, and Capitol police, and miscellaneous functions. Data source: “Vital Stats for Congress,” 2017, *The Brookings Institute*.

Hammond 1996), with some scholars arguing that congressional staffers are issue leaders (Hammond 1990). Indeed, Congress members who shared senior staff members across Congresses show similar voting patterns and legislative activity (Montgomery and Nyhan 2017). Staffers for congressional committees are also known to develop expertise on the specific issues under their committees’ jurisdictions (Patterson 1970; Romzek and Utter 1996). Combined, this suggests that a staff’s efforts and inputs could have significant impacts on legislative outcomes.

Despite their significant roles in Congress, wages for congressional staffers have been stagnant or have even declined in real terms (Petersen, Chausow and Wilhelm 2014; Petersen et al. 2015). In contrast, some suggest that lobbying firms pay significantly more to former congressional staff members because they generate significantly higher lobbying revenues for their firms (Birnbaum 2005; Drutman and Furnas 2014). Given the stark difference in wages and skills that are valued in the lobbying industry, it is not surprising that the lobbying industry has become a new home for former congressional staffers who have pursued



post-government careers over the last decade. One report notes that at least 377 House staffers left Congress to become registered lobbyists over the period between 2009 and 2011 (Drutman 2012). Bertrand, Bombardini and Trebbi (2014) found that around 10% of the 13,720 registered lobbyists about whom they could find background information from [www.lobbyists.info](http://www.lobbyists.info) had previous work experience in Senators' offices.

The emergence of the lobbying industry and the revolving-door phenomenon generate two main concerns. First, the existence of a market for representation and political access imposes challenges to providing fair opportunities for groups to be represented in the policymaking process. Lobbyists with personal or political connections generate more revenues (Blanes i Vidal, Draca and Fons-Rosen 2012; Bertrand, Bombardini and Trebbi 2014) and revolving-door lobbyists have disproportionate access to Congress members for whom they previously worked (Kang and You 2017). While the media and the public often lament this by interpreting this empirical pattern as evidence of corruption, it is unclear whether politicians granting disproportionate access to connected lobbyists should be interpreted as a *quid-pro-quo* exchange of contributions or policy favor for access (Grossman and Helpman 1994). Given that connected lobbyists often tend to have more issue expertise or knowledge of political processes, this could be an indication that connected lobbyists provide valuable information to members through better verification technology (Ainsworth 1993; Groll and Ellis 2014) or screening of which interest groups to present to members based on their political merits (Hirsch and Montagnes 2016).

The second concern regarding the rise of the revolving-door phenomenon is that the career concerns of congressional staffers could influence their behaviors while they still serve in the government. Existing literature on how future career concerns influence the behaviors of regulators can inform the study of potential effects of future employment in the lobbying industry on the behaviors of congressional staff. The existing literature on regulators presents two different predictions regarding the effect of the presence of a revolving door on regulators. The regulatory capture hypothesis argues that policy distortion (i.e., giving

favors to regulated firms) can occur while regulators serve in the government due to their career concerns in expectation of rewards such as future job opportunities in regulated firms (Stigler 1971). On the other hand, the regulatory schooling perspective posits that revolving doors can incentivize the regulators to exert more effort to enhance their qualifications and increase their market value in their post-government careers (Che 1995).

The empirical studies that have tested these competing predictions present mixed results. Tabakovic and Wollmann (2017) find that examiners at the US Patent and Trademark Office grant significantly more patents to firms that later hire them. Cornaggia, Cornaggia and Xia (2016) find that crediting agency analysts tend to issue higher ratings to firms for which they later worked. In contrast, Lucca, Seru and Trebbi (2014) find that outflow from regulatory agencies to private sector jobs among US banking regulators are higher during periods of intense enforcement and conclude that financial regulators' behavior tends to follow the predictions from the regulatory schooling theory. deHaan et al. (2015) also find that private firms are more likely to hire trial lawyers who were tougher on regulatory enforcement at the SEC.

We can apply the same set of arguments regarding the career concerns of regulators to congressional staff who intend to become lobbyists in their post-government careers. The regulatory capture school would predict that congressional offices where there are staffers who later become lobbyists may give more access to their future employers - either lobbying firms or organizations - given the assumption that staffers have significant control over the decision of which groups have access to their Congress members. On the other hand, regulatory schooling scholars would predict that there will be changes in the amount of effort exerted by staff to increase their market values, and therefore, we may observe changes in the legislative activities of connected members during the terms of these staffers' careers in Congress. Importantly, however, it is certainly possible that the kinds of legislative activities in which the staffers and members choose to engage may be biased toward specific interest groups or future employers (Hall and Wayman 1990).

### 3 Data and Stylized Facts

We start with the list of all congressional staffers who enrolled in the payroll system in the US Congress for the period between 2001 and 2012. Legistorm, an online information service that provides information on career histories of congressional staff, assembles the congressional staff salary data from the official records of the House and Senate. Congress publishes a quarterly statement of disbursement (SOD) and the SOD reports all receipts and expenditures for congressional members, committees, and other offices within Congress.<sup>4</sup> Legistorm supplements the salary data with biographical information for staffers from available sources such as LinkedIn pages.<sup>5</sup> We purchased the congressional staff data from Legistorm that includes the name of the congressional office, each staffer’s name and title, pay period, and salary paid in that period. We drop staffers if they were interns, part-time or temporary employees, shared employees, or drivers (based on their staff titles) to measure the number of full-time employees in congressional offices. We aggregate the total salary paid to a staffer from each office by Congress.

Table 1 presents the summary statistics for congressional staffers.<sup>6</sup> Panel A and B present the summary statistics for staffers who worked in members’ personal offices and congressional standing committees, respectively. On average, more than 17,000 people received a positive payment from personal offices in the Congress in a given term and more than half of the personal staffers were women. The average total compensation in a given term (two years) is around \$77,000 and this number increases to \$94,000 if we restrict the sample to people who worked at least six months in the Congress in a given term. The turnover rate, which indicates the percentage of staffers who were enrolled in the payroll in a given Congress but did not appear on the payroll in the subsequent Congress, is around 35% for personal staffers. Regarding staffers who worked on standing committees in the House and the Senate, the total number of staffers who enrolled in a payroll in a given Congress is around 3,200 and

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<sup>4</sup><https://disbursements.house.gov/archive.shtml>

<sup>5</sup>We have educational attainment information for 35% of the staffers in the payment directory.

<sup>6</sup>Table A1 in Appendix presents the summary statistics on personal-level characteristics of staffers.

the percentage of female staffers is around 44%. The average compensation for a two-year term is around \$135,000 and this is much larger than the average compensation for personal staffers. The turnover rate is, on average, 37% across Congresses.

Table 1: Summary Statistics of Congressional Staff

Congress	No. Staff <sup>a</sup>	Female (%)	Mean Salary (\$K) <sup>b</sup>	Turnover (%) <sup>c</sup>
<i>Panel A. Personal Office</i>				
107	17,151	55.7	75	34.6
108	17,233	55.9	79	38.1
109	16,583	54.7	77	31.9
110	18,017	54.2	76	35.0
111	17,777	54.2	82	32.8
112	17,845	52.8	76	36.2
<i>Panel B. Standing Committee</i>				
107	3,183	44.5	127	39.7
108	3,193	44.3	141	39.0
109	3,171	43.8	135	35.6
110	3,479	44.7	137	36.9
111	3,530	44.7	147	35.7
112	3,413	44.0	134	41.1

*Note:* The unit of observation is staff  $\times$  congress. **a.** Total number of personal office staffers who have a payment record. If we limit the staffer who worked more than or equal to six month, the numbers decrease by 20%. **b.** This is the total compensation given per congressional term (two years, in 2014 dollar term). If we restrict the sample to personal staffers who worked more than or equal to six months during a congressional term, the average compensation level is around \$94,000, which suggests that the annual salary of a typical congressional staffer is \$47,000. But there is a significant variation in compensation depending on the title of staffers. **c.** Percentage of staffers enrolled in the payroll in a given Congress but did not appear in the payroll in the subsequent Congress.

Next, we identify staffers-turned-lobbyists from the data on the list of lobbyists from the lobbying disclosure reports filed with the Secretary of the Senate’s Office of Public Records (SOPR) and compiled by The Center for Responsive Politics ([www.opensecrets.org](http://www.opensecrets.org)). We examine the lobbying reports for the period between 1998 and 2014, given that systematic lobbying data is only available since 1998. If a lobbyist previously worked for the government in any type of position, the list includes a description of that position. Among those descriptions, we select lobbyists with congressional career histories including experience as both personal and committee staff employees in the House and/or Senate. For the selected lobbyists, we use Legistorm to find connected politicians for each lobbyist.<sup>7</sup>

<sup>7</sup>We acknowledge that there were some ex-staffers who did not register as lobbyists, although they were

For each politician-lobbyist pair, we collect information on the year a lobbyist began work in a Congress member’s office and the last year that a lobbyist worked in that member’s office. This allows us to calculate how many future revolving-door lobbyists worked in a member’s office in a given year and how many ‘last-term’ staffers, who became lobbyists in the next congressional session, served the member in a given period. For lobbyists who were personal staffers for Congress members, finding the member connection was straightforward. However, there is a significant fraction of lobbyists who were committee staffers in Congress. Legistorm provides the names of Congress members to whom those lobbyists were connected for some of the cases; but for the majority of the cases, we do not have information about connected members. For those lobbyists, we used information about the time period they served on a specific committee and assign the chairperson of the committee on which that lobbyist worked as a connected politician for a given Congress (Stewart and Woon 2017).

For each ex-staff-turned-lobbyist in our final sample, we find information about their lobbying activities. Specifically, we collect the first year that a lobbyist appeared in the lobbying data. Using the information on ‘registrants’ in the lobbying reports, we identify the employers of ex-staff-turned-lobbyists for each year. This provides the employment history of their lobbying career. We also collect information about the list of bills on which they lobbied on behalf of their clients and identify the Congress, a sponsor, and the originating committee for a given bill. This allows us to analyze whether the legislative activities they performed as a congressional staff member are associated with the lobbying activities they performed as a lobbyist.

There were 3,672 unique lobbyists who had prior work experience in Congress from 1998 through 2014.<sup>8</sup> The total number of Congress members who were connected with these

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required to do so (Thomas and LaPira 2017). For those ex-staffers, we have no information about when they started lobbying or the clients they represented, which is important information for our analysis. Therefore, we only focus on registered ex-staff-turned-lobbyists.

<sup>8</sup>During this time period, former Congress members also joined the lobbying industry. Among the 767 members who served in the House of Representatives from the 106th through the 112th Congresses, 111 members (14.5%) became lobbyists. Among the 149 members who served in the Senate during the same period, 16 members (9.7%) became lobbyists.

ex-staff-turned-lobbyists was 895: 451 members (50.4%) were Senators and 444 members (49.6%) were House Representatives. The median number of connected politicians per lobbyist is 1 and the connected number of politicians per staff ranges from 1 to 8. 82% of ex-staff-turned-lobbyists who worked exclusively as personal staff for a Congress member; 10% exclusively worked on congressional committees. The remaining 8% worked both in members' personal offices and on committees. Figure 2 displays the number of ex-staff-turned-lobbyists in each year in terms of the first year they submitted a lobbying report. The trends are extremely similar for ex-staff from the House and from the Senate.

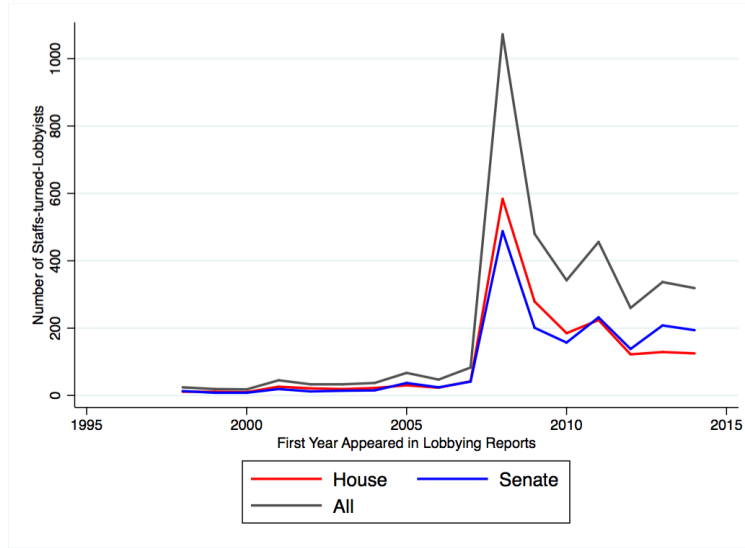
A significant increase in 2008 is noticeable and several factors explain this pattern. First, Congress passed the Honest Leadership and Open Government Act (HLOGA) in 2007 as an ethics reform and the law prohibited ex-staff-turned-lobbyists from contacting their former offices or committees in the House, and any offices in the Senate for a certain period of time (Cain and Drutman 2014). Hence, many staffers who had considered lobbying careers may have left their government jobs before the HLOGA passed Congress in 2007 and started their lobbying activities in 2008. Second, there was an expectation that the party in control in the White House was likely to change in the 2008 presidential election and the Democratic candidate, Barack Obama, promised tougher regulations on revolving-door lobbyists if he were to be elected. Just one day after his inauguration in 2009, President Obama issued an executive order banning federal employees from taking jobs in the lobbying industry for two years after leaving government service.<sup>9</sup>

We create a member-level dataset for every person who served in the House or Senate from the 107th through the 112th Congresses. We calculate the total number of staffers who worked for a member in each Congress and staffers' mean salary. Based on the career histories of ex-staff-turned-lobbyists, we also calculate the total number of former personal and committee staff who later became lobbyists for each member in each Congress. Based on the employee's title during their tenure in the Congress, we consider a person with either

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<sup>9</sup>“Executive Order 13490: Ethics Commitments by Executive Branch Personnel,” January 21, 2009.

Figure 2: Number of Congressional Staffers-Turned-Lobbyists, 1998 - 2014



the title (Deputy) Chief of Staff or (Deputy) Legislative Director to have been a high-level staff employee; we categorize those with the remainder of titles as low-level employee. We calculate the total number of high- and low-level personal and committee staffers who later became lobbyists for each member in each Congress. By comparing the year a staffer finished working for a member and the first year they appeared in lobbying reports, we also calculate the total number of ‘last-term’ high- and low-level staff who became lobbyists after a given Congress for each member.

Table 2 presents the summary statistics at the Congress-member level regarding Congress members’ staffers (Panel A) and ex-staffers who later became lobbyists (Panel B). The unit of observation is member  $\times$  congress. Members in the House have on average 23.6 staffers on their payroll in a given Congress and this number reduces to 19.8 if we only consider those who worked at least 6 months. Among total staffers, 2.7 were high-level staffers and the average number of female staffers was 12.4. For the Senate, the average number of staffers in member’s personal offices is larger and more than a majority of the personal staffers were women.

House members in a given Congress employed 1.64 personal staffers who became lobbyists at some later point. House members employed, on average, 0.56 high-ranked and 1.07 low-

Table 2: Member Level Summary Statistics on Staffers-Turned-Lobbyists

Variables	House				Senate			
	N	Mean	Min.	Max.	N	Mean	Min.	Max.
<i>Panel A: All Staff</i>								
Number of Staff	2,642	23.6	10	52	603	61.8	29	113
High-level Staff	2,642	2.7	1	8	603	4.2	1	10
Low-level Staff	2,642	20.9	9	49	603	57.6	25	111
Number of Female Staff	2,642	12.4	3	27	603	33.1	13	70
Mean Compensation (\$K)	2,642	81	.53	188	603	89	9.4	160
Number of Long-term Staff <sup>a</sup>	2,642	19.8	4	32	603	52.5	12	100
<i>Panel B: Staff-Turned-Lobbyists</i>								
Personal Staff	2,642	1.64	0	11	603	4.04	0	18
High Personal Staff	2,642	0.56	0	4	603	0.97	0	5
Low Personal Staff	2,642	1.07	0	11	603	3.07	0	16
Personal Last Term	2,642	0.25	0	6	603	0.74	0	7
Committee Staff	2,642	0.51	0	29	603	1.8	0	25
Committee Last Term	2,642	0.08	0	8	603	0.39	0	7

*Note:* The unit of observation is member  $\times$  congress. **a.** Number of staffers who worked more than or equal to six months in a given office during a given congressional term (two years).

ranked personal ex-staff-turn-lobbyists. In a given Congress, House members employed, on average, 0.25 personal staffers who left congressional service after the term. In the Senate, the average number of personal staffers who later became lobbyists in a given Congress was 4.03 and, on average, 0.74 personal staffers who left Congress after the term.

Given that only committee chairs could be connected to committee staff based on our definition - unless Legistorm mentioned a specific Congress member as a connected politician for a committee staffer - most Congress members are denoted as having no connections with committee staffers who became lobbyists. Of the observations, 88% in the House and 57.0% in the Senate have a zero value for the *Committee Staff* variable. For Congress members who were connected to a committee staffer, the average number of committee staffers who worked for a member in a given Congress and later became lobbyists was 0.51 in the House and 1.8 in the Senate. The average number of ‘last-term’ committee staff - those who left Congress after that term to become lobbyists - for a member in a given Congress is 0.08 in the House and 0.39 in the Senate.

To measure potential biases and changes in policy outcomes, we use three outcomes. First,



we use the *Legislative Effectiveness Score (LES)*, which measures the “ability to advance a member’s agenda items through the legislative process and into law” for members in the House of Representatives (Volden and Wiseman 2014, 2017). This dataset includes the number of bills that each representative sponsored as well as their LES in each Congress. We examine whether there is a distinct pattern in a member’s legislative productivity after hiring an employee who later became a lobbyist and around the time that one of their staff members departed for the lobbying industry.

Second, we examine whether hiring staffers who later became lobbyists influences the types of legislation that legislators sponsor in Congress. To do this, we use E. Scott Adler and John Wilkerson’s Congressional Bills Project. This data tracks the sponsor of every bill and resolution in Congress from the 80th to the 114th Congress. In addition to sponsorship, the data also categorize all bills into 21 major issue areas.<sup>10</sup> Therefore, we are able to identify whether members with staffers who later became lobbyists tended to sponsor bills on particular topics. This is particularly interesting given that lobbying clients are not equally distributed across different issue areas. As Table A2 indicates, after budget and tax issues, health, defense, and energy issues are most often mentioned in the lobbying reports, whereas housing and law and enforcement issues are mentioned with less frequency.

Third, we examine whether interactions between a member’s office and lobbying firms vary depending on the composition of staff regarding their future career choice. A member’s office with a staff member who will become a lobbyist may give more access to her future employer as a *quid pro quo* for future job opportunities or to signal their abilities and interests to lobbying firms. Given that domestic lobbying reports under the Lobbying Disclosure Act (LDA) of 1995 do not include information on lobbying contacts, we take an advantage of data on lobbying contacts granted to lobbying firms garnered from the filings mandated by the

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<sup>10</sup>The major issue areas are: (1) Macroeconomics, (2) Civil rights, (3) Health, (4) Agriculture, (5) Labor, (6) Education, (7) Environment, (8) Energy, (9) Immigration, (10) Transportation, (12) Law and Crime, (13) Social Welfare, (14) Housing, (15) Domestic Commerce, (16) Defense, (17) Technology, (18) Foreign Trade, (19) International Affairs, (20) Government Operations, (21) Public Lands, and (23) Culture. For more specific details, see: <http://www.comparativeagendas.net/pages/master-codebook>

Foreign Agent Registration Act (FARA). Unlike domestic lobbying reports regulated under the LDA, FARA requires that lobbyists representing foreign entities submit a semi-annual report detailing all lobbying contacts, including information on who, when, why, and how those contacts were made (Kang and You 2017). Using lobbying contacts from the FARA reports for the period from 2007 to 2010, we examine whether members increased lobbying contacts with lobbying firms that hired their ex-staffers after they left congressional jobs. One advantage with this outcome measure is that we can directly connect the staffer into each contact because FARA data provides information about the person who was contacted by a lobbyist.

## 4 Career Concerns and Legislative Activities

In this section, we examine if hiring a future revolving-door lobbyist is associated with a member’s legislative activities. The empirical specification is as follows:

$$y_{it} = \alpha_i + \alpha_t + \beta * \text{Lobbyist Staff}_{it} + \Gamma X_{it} + \varepsilon_{it} \quad (1)$$

, where  $i$  denotes member and  $t$  indicates congress.  $y_{it}$  is an outcome variable - LES, number of total sponsored bills, and number of bills in each issue category, which varies by the regression.  $\alpha_i$  is a member-level fixed effect (FE) to capture member-specific time-invariant characteristics such as innate ability in legislating and inherent interest in specific topics.  $\alpha_t$  is a Congress FE that captures a time trend. *Lobbyist Staff* is a vector of staff-turned-lobbyist-level variables: how many future lobbyists worked as staffers in a member’s office in a given Congress, and how many last-term staff-turned-lobbyists worked as staffers.  $X_{it}$  is a vector that includes variables that could affect the legislative activities of members such as their party, institutional position such as leadership or committee chairs, and overall staff size and compensation level.

Table 3 presents the results on overall legislative activities. We present results for the

House (Panel A) and Senate (Panel B) separately.<sup>11</sup> First, the number of staffers and the average staff salary level are associated with higher LES in the House. Regarding variables on staffers who later became lobbyists, employing a low-level, personal revolving-door lobbyist is associated with a member’s legislative productivity as measured by their LES, the number of bills the member sponsors, and the number of substantive and significant bills the member sponsors.<sup>12</sup> Adding a committee staffer who later became a lobbyist is not systematically associated with a member’s legislative productivity in the House. In the Senate, overall staff size is associated with the number of bills and substantive bills that Senators sponsor, but the existence of future lobbyists on the staff is not associated with a member’s overall legislative productivity.

Why do we only observe the effects of low-level staffers who later became lobbyists? First of all, we use member fixed effect so there is less variation in changes in the number of high-level staffers who later became lobbyists than the variation in the number of low-level staffers who became lobbyists. The other potential reason is that for high-level-staff-turned lobbyists, the degree to which the lobbying market influences their incentive to invest in related skills might be weaker than its effect on the incentives of lower-level staffers. High-level staffers are Chiefs of Staff or Legislative Directors and these job titles themselves are proof of their skills and political connections. For lower-level staffs, there may be more competition to be selected by lobbying firms or other organizations and this might drive changes in their levels of effort.

To see if these results are driven by a “last term” effect, we analyze the relationship between the number of personal and committee revolving-door lobbyists in their last term by congressional office and member’s legislative productivity. Columns (4), (5), and (6) present the results. We divide staffers who later became lobbyists into two categories depending on whether the current term is their last term of employment in Congress. For last-term

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<sup>11</sup>Full regression results are presented in Tables A3 and A4 in Appendix.

<sup>12</sup>The definition of significant and substantial legislation follows Volden and Wiseman (2014)’s categorization scheme.

Table 3: Future Lobbyists as Staff and Legislative Activities

	(1)	(2)	(3)	(4)	(5)	(6)
	LES	No. Bills <sup>a</sup>	SS Bills <sup>b</sup>	LES	No. Bills	SS Bills
<i>Panel A: House</i>						
No. Non-Lobbyist Staff <sup>c</sup>	0.0257** (2.54)	0.0440 (0.29)	0.0101 (1.58)	0.0256** (2.54)	0.0466 (0.31)	0.0100 (1.57)
(ln) Mean Staff Salary	0.327*** (2.83)	2.169 (0.56)	0.00397 (0.06)	0.328*** (2.77)	2.069 (0.54)	-0.000519 (-0.01)
No. Lobbyist Personal Staff (High)	-0.0299 (-0.63)	0.695 (1.36)	-0.0329 (-0.99)			
No. Lobbyist Personal Staff (Low)	0.0798** (2.20)	0.567* (1.68)	0.0575** (2.12)			
No. Lobbyist Committee Staff	0.00675 (0.18)	0.139 (1.01)	0.0325 (1.09)			
No. Lobbyist Personal Staff (Non Last Term)				0.0541** (1.99)	0.663*** (2.78)	0.0400* (1.78)
No. Lobbyist Personal Staff (Last Term)				0.0312 (0.52)	0.238 (0.54)	-0.00833 (-0.21)
No. Lobbyist Committee Staff (Non Last Term)				0.00420 (0.09)	0.192 (1.13)	0.0275 (0.68)
No. Lobbyist Committee Staff (Last Term)				0.0353 (0.29)	-0.302 (-0.64)	0.0808 (0.68)
<i>N</i>	2632	2632	2632	2632	2632	2632
adj. <i>R</i> <sup>2</sup>	0.565	0.589	0.436	0.564	0.589	0.435
Controls	Y	Y	Y	Y	Y	Y
Member FE	Y	Y	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y	Y	Y
<i>Panel B: Senate</i>						
No. Non-Lobbyist Staff	0.00829 (1.18)	0.639*** (2.86)	0.400** (2.09)	0.00804 (1.17)	0.647*** (2.84)	0.403** (2.05)
(ln) Mean Staff Salary	0.198 (0.71)	6.855 (1.11)	5.039 (1.02)	0.195 (0.74)	6.999 (1.07)	5.207 (1.03)
No. Lobbyist Personal Staff (High)	-0.00534 (-0.09)	-0.332 (-0.19)	-0.454 (-0.29)			
No. Lobbyist Personal Staff (Low)	-0.00171 (-0.07)	1.024 (1.60)	0.629 (1.17)			
No. Lobbyist Committee Staff	0.0153 (0.66)	0.128 (0.29)	0.331 (0.87)			
No. Lobbyist Personal Staff (Non Last Term)				-0.000191 (-0.01)	0.643 (1.04)	0.310 (0.59)
No. Lobbyist Personal Staff (Last Term)				-0.0130 (-0.34)	1.937 (1.57)	1.277 (1.27)
No. Lobbyist Committee Staff (Non Last Term)				0.0179 (0.94)	0.00617 (0.02)	0.246 (0.75)
No. Lobbyist Committee Staff (Last Term)				0.0189 (0.23)	-0.491 (-0.55)	-0.536 (-0.62)
<i>N</i>	603	603	603	603	603	603
adj. <i>R</i> <sup>2</sup>	0.603	0.688	0.662	0.603	0.688	0.661
Controls	Y	Y	Y	Y	Y	Y
Member FE	Y	Y	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y	Y	Y

*Note:* The unit of observation is member  $\times$  congress. **a.** Total number of bills that a member sponsored in a given Congress. **b.** Number of significant and substantial bills (Volden and Wiseman 2014). **c.** Number of staffers who worked for a member in a given Congress and did not become a lobbyist later. *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level.

personal staff, we essentially see no relationship in the House or Senate. The last term results imply that the increased effort of personal staff-turned-lobbyists is not entirely attributable to their last term efforts. Instead, the results in the House suggest that personal staff-turned-lobbyists seem to increase their members’ legislative effectiveness throughout their time in Congress.

As [Volden and Wiseman \(2014\)](#) explain, legislative effectiveness is “the proven ability to advance a member’s agenda items through the legislative process and into law.” In that sense, LES or number of sponsored bills could be an appropriate measure for overall legislative activities. However, it is possible that career concerns of staffers who work for Congress members could influence the types of bills to which members allocate time and energy. For example, given that there are disproportionately more clients who care about health issues than public welfare in the lobbying process, it is possible that staffers’ career concerns could influence the number of bills in some issue areas if accumulating knowledge in those areas will help staffers in their post-congressional careers in the lobbying industry.

We estimate the following model:

$$y_{ijt} = \alpha_j + \alpha_t + \beta * \text{Lobbyist Staff}_{it} + \Gamma X_{it} + \varepsilon_{ijt} \quad (2)$$

, where  $i, j$ , and  $t$  denote member, committee assignment, and Congress, respectively. Given that the committee assignment plays a significant role in the types of bills that members introduce, we include a committee fixed effect ( $\alpha_j$ ). We also include the total number of bills a member introduces in each Congress and the member’s lagged LES from previous Congress.

In [Table 4](#), we present the results of a series of analyses that attempt to determine if hiring a future revolving-door lobbyist is associated with increased sponsorship of particular kinds of bills. Each number indicates the coefficient for three main variables of interest regarding the number of staff-turned-lobbyists: *No. Personal Staff (High)*, *No. Personal Staff (Low)*, *No. Committee Staff* - from regressions for each issue area. Columns (1) through (3) present

the results for the House of Representatives; columns (4) through (6) present the results for the Senate. The table shows that, in the House of Representatives, employing personal staff who later become lobbyists is associated with increased sponsorship of bills on health and domestic commerce but with decreased sponsorship of bills concerning civil rights, law and crime, social welfare, housing, international affairs, and government operations. This could be related to the distribution of lobbying clients by issue areas.

In the Senate, hiring personal staff who later became lobbyists is associated with increased sponsorship of bills concerning macroeconomics, domestic commerce, and transportation. Employing Senate committee staff who later became lobbyists shows a tighter relationship with types of legislation. Specifically, employing a committee staffer who later became a lobbyist is associated with increased sponsorship of bills concerning agriculture and technology.

## 5 Career Concerns and Access to Lobbying Firms

While career concerns of staffers could change legislative activities of the members whom they serve, there may be a more direct link between staffer's career concerns and their behaviors: granting access to their potential future employers in the lobbying industry. Access to policymakers is one of the most important and scarce resources sought after in the lobbying process (Hansen 1991; Lohmann 1995; Wright 1996; Austen-Smith 1995; Blanes i Vidal, Draca and Fons-Rosen 2012; Bertrand, Bombardini and Trebbi 2014) and commercial lobbyists often provide this type of political access as intermediaries between interest groups and policymakers (Groll and Ellis 2014). Career concerns of congressional staffers could lead to granting more access to lobbying firms from a member's office for two reasons. First, like a regulatory capture, it is possible that staffers grant more access as a *quid-pro-quo* for their future jobs in lobbying firms. Second, it is possible that staffers who consider lobbying as a post-government career grant more access to lobbying firms if they want to signal their abilities and contributions in specific legislation to lobbying firms. These two motives are

Table 4: Future Lobbyists as Staff and Legislative Activities by Issue Areas

Issues	House			Senate		
	No. Personal Staff (High)	No. Personal Staff (Low)	No. Committee Staff	No. Personal Staff (High)	No. Personal Staff (Low)	No. Committee Staff
[1] Macroeconomics	0.0263 (0.80)	-0.00566 (-0.27)	0.0178 (1.54)	0.0847 (0.79)	0.0716** (1.98)	0.00615 (0.16)
[2] Civil Rights	-0.0240 (-1.61)	-0.0170* (-1.67)	0.00696 (0.88)	0.0158 (0.31)	-0.0209 (-0.98)	-0.00190 (-0.11)
[3] Health	0.198** (2.43)	0.0988** (2.21)	-0.0113 (-0.44)	0.104 (0.03)	-0.0942 (-1.00)	0.0602 (0.92)
[4] Agriculture	-0.0238 (-0.89)	-0.00590 (-0.42)	-0.00399 (-0.91)	-0.0375 (-0.64)	-0.00588 (-0.16)	0.0421** (2.16)
[5] Labor	0.0276 (0.63)	-0.00772 (-0.27)	-0.00440 (-0.27)	-0.144 (-1.40)	-0.0146 (-0.33)	0.0388 (0.97)
[6] Education	0.0582 (1.44)	-0.00961 (-0.36)	-0.00554 (-0.36)	-0.0560 (-0.38)	-0.00419 (-0.10)	-0.0136 (-0.40)
[7] Environment	-0.00559 (-0.13)	0.0192 (0.77)	-0.0101 (-0.67)	-0.114 (-1.44)	0.00294 (0.08)	0.0105 (0.30)
[8] Energy	0.0123 (0.34)	0.00948 (0.47)	0.00204 (0.16)	0.132 (1.09)	-0.0658 (-1.50)	-0.0358 (-1.02)
[9] Immigration	0.023 (0.45)	0.043 (0.76)	-0.001 (-0.04)	-0.034 (-0.72)	-0.065 (-0.57)	0.002 (0.05)
[10] Transportation	0.0374 (1.31)	-0.00162 (-0.09)	-0.0158 (-0.82)	0.136* (1.76)	0.278** (2.76)	0.0614 (1.42)
[12] Law and Crime	0.0162 (0.44)	-0.0488** (-2.03)	0.0269 (0.97)	0.127 (1.10)	-0.0659 (-1.17)	0.106 (1.66)
[13] Social Welfare	0.0131 (0.64)	-0.0231* (-1.77)	0.000646 (0.08)	-0.00437 (-0.08)	0.0127 (0.62)	0.0121 (0.97)
[14] Housing	-0.0321** (-1.99)	0.00649 (0.48)	0.00378 (0.34)	-0.0380 (-0.75)	0.0148 (0.78)	-0.0187 (-1.26)
[15] Domestic Commerce	0.0187 (0.51)	0.0880** (2.02)	0.0161 (0.70)	0.353* (1.82)	0.0436** (2.08)	-0.0577 (-1.14)
[16] Defense	-0.0511 (-1.24)	-0.0225 (-0.84)	-0.0273 (-1.49)	-0.0284 (-0.21)	-0.0571 (-0.83)	-0.118 (-1.66)
[17] Technology	0.0166 (0.74)	-0.00657 (-0.60)	0.0127 (1.45)	-0.0392 (-0.68)	-0.0121 (-0.38)	0.0882** (2.38)
[18] Foreign Trade	-0.175 (-1.46)	-0.169* (-1.83)	-0.0543* (-1.89)	0.103 (0.23)	0.210 (1.19)	0.00637 (0.05)
[19] International Affairs	-0.0562* (-1.82)	-0.00652 (-0.30)	-0.0291** (-2.07)	-0.0891 (-0.91)	-0.00514 (-0.18)	-0.0439 (-1.17)
[20] Government Operations	-0.0840** (-2.15)	-0.0642** (-2.33)	0.0379 (1.44)	-0.0312 (-0.29)	-0.0917 (-1.64)	0.0303 (0.76)
[21] Public Lands	0.0254 (0.39)	-0.0426 (-1.16)	-0.0318 (-1.36)	0.0690 (0.25)	-0.0821 (-0.95)	0.00159 (0.02)
Controls	Y	Y	Y	Y	Y	Y
Committee FE	Y	Y	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y	Y	Y

*Note:* The unit of observation is member  $\times$  congress. Dependent variables are number of bills introduced by each member in each issue area. Each number indicates the coefficient from the separate regressions for each issue area for each independent variable of interest.  $t$  statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level. The number of observation is 2,601 in the House regressions and 591 in the Senate regressions.

not mutually exclusive.

A significant challenge in testing whether a congressional member’s office with more staffers who later became lobbyists tends to grant more access to lobbying firms is the lack of comprehensive information on lobbying contacts. Most empirical studies on US lobbying are based on domestic lobbying reports under the Lobbying Disclosure Act of 1995, which does not include information on lobbying contacts. The LDA requires that lobbyists disclose the names of the government bodies they contact, but it does not require them to specify any further details about their lobbying contacts. To overcome this limitation, we take advantage of information on lobbying contacts from semi-annual reports submitted by lobbying firms under the Foreign Lobbying Registration Act (FARA) for the period from 2007 through 2010 (Kang and You 2017).<sup>13</sup> FARA, unlike LDA, requires that lobbyists representing foreign entities submit a semi-annual report detailing all lobbying contacts, including information on who, when, why, and how those contacts were made. While the data on lobbying contacts are about interactions between policymakers and lobbying firms representing foreign entities, among the 93 lobbying firms in our data, 61 firms represented domestic clients in addition to their foreign clients (i.e., they were registered by both the LDA and FARA). This suggests that the conclusions of our study could have general implications for the interactions between congressional offices and lobbying firms in the US.

We study the lobbying activities of foreign governments, as opposed to foreign businesses.<sup>14</sup> We focus on lobbying firms’ activities regarding legislative issues during 2007 through 2010, covering two Congresses (the 110th and the 111th Congresses).<sup>15</sup> To do so,

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<sup>13</sup>The Foreign Agent Registration Act (FARA) regulates lobbying activities of foreign entities in the United States. FARA was enacted in 1938 in an attempt to prevent the influence of Nazi propaganda on US public opinion (Waters, 1988). Under FARA, any person who represents the interests of a foreign entity or principal by “engaging in political activities, acting as public relations counsel, soliciting money for the foreign principal, dispensing contributions, and representing the principal before any agency or official of the government” is defined as a “foreign agent” (Atieh, 2010). These foreign agents are mandated to be registered and to submit semi-annual lobbying disclosure reports.

<sup>14</sup>After Congress passed the LDA in 1995, foreign businesses that have subsidiaries in the US have been allowed to report their lobbying activities via the LDA, instead of through FARA. As a result, most of the foreign entities that submitted reports under FARA since 1995 are foreign governments.

<sup>15</sup>Although some foreign governments hire in-house lobbyists, their activities seem relatively limited regarding lobbying contacts. In our dataset, 94.3 percent of lobbying contacts were made by lobbying firms,



we analyze all lobbying reports that include congressional contacts via phone calls or in-person meetings.<sup>16</sup> In these reports, we identify 20,606 records of contacts between lobbying firms and others, consisting of contacts to members of Congress or congressional committees (73.5 percent), the executive branches of the federal government (18.8 percent), the media (2.9 percent), and others (4.8 percent) such as members of think tanks, labor unions, firms, universities, and non-profit organizations. We do not consider emails or social encounters as contacts, since they are most likely to be one-sided. In total, there are 676 reports of lobbying activities reported by 98 lobbying firms on behalf of 70 foreign governments in the data.

We focus on lobbying contacts made to congressional offices. Another advantage of the FARA lobbying contact data, in addition to comprehensive data on lobbying contacts, is that it allows us to observe staff-level outcomes. FARA reports indicate whether contacts were made directly with members or with staffers.<sup>17</sup> Based on this information, we can examine whether a staffer gave more access to the lobbying firm that became her future employer, not just the total number of contacts given to all lobbying firms present in the data. In the House, there were 8,030 contacts with lobbying firms and 68% of them (5,420) were made directly with staffers as opposed to Congress members. In the Senate during the same period, there were 3,663 contacts made to Senate offices and 81% were contacts with staffers. Table 5 presents the summary statistics for contacts made between congressional offices and lobbying firms that represented foreign entities in a given period.

We estimate the following model:

$$y_{ijt} = \alpha_t + \beta * \text{Lobbyist Staff}_{ijt} + \Gamma X_{ijt} + \varepsilon_{ijt} \quad (3)$$

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while the remainder was by in-house lobbyists.

<sup>16</sup>In our study, we focus on legislative lobbying. Therefore, lobbying firms exclusively focused on media and/or executive contacts or legal advice are not included in the analysis.

<sup>17</sup>For the cases when the contacts were made with staffers, we know the name of the contacted person for 60% of all contacts with staff. Therefore, we are able to identify whether a staffer who met with lobbying firms became lobbyists later, and which lobbying firm hired her. This analysis will be added soon.

Table 5: Access Granted to Lobbying Firms, 2007-2010

	N	Mean	SD	Min.	Max.
<i>Panel A. House</i>					
No. Meeting	874	5.1	7.8	0	72
No. Phone Call	874	3.9	7.1	0	69
No. Member Contact	874	2.9	4.4	0	50
No. Staff Contact	874	6.9	11.1	0	104
<i>Panel B. Senate</i>					
No. Meeting	199	9.0	8.0	0	49
No. Phone Call	199	9.3	11.5	0	95
No. Member Contact	199	3.5	3.3	0	21
No. Staff Contact	199	15.7	15.6	0	93

Note: Unit of observation is member  $\times$  congress.

, where  $i, j, t$  denote member, committee assignment, and congress, respectively.  $X_{ijt}$  include a member-level characteristics such as committee assignment, leadership position, and party.  $y_{ijt}$  is an outcome variable that indicates the frequency of contacts with lobbying firms.

Table 6 presents the results.<sup>18</sup> Panel A and B present the results for House staff and Senate staff, respectively. Panel A shows that, like the results for legislative productivity, most of the statistically significant effects are confined to low-level, personal-staff-turned-lobbyists. Hiring an additional low-level staffer who later became a lobbyist increases the total amount of access that office granted to lobbying firms. In particular, the total number of contacts that lobbying firms had with staffers, presumably a behavior over which staffers have more control, significantly increased if a member's office had a lower-level staffer who later became a lobbyist. This result also holds for lower-ranked staffers in the Senate. The positive relationship between the number of future lobbyists as current staffers in a member's office and the amount of access granted to lobbying firms by the member's office can be driven by two different mechanisms. First, it is possible that staffers with lobbying career aspirations grant extra access to lobbying firms in an attempt to secure future lobbying employment. On the other hand, it is also possible that frequent interaction between a member's office and lobbyists, driven by other unobserved factors, caused staffers to pursue careers in the

<sup>18</sup>Full regression results are available in Tables A5 and A6 in Appendix A.

lobbying firms later.

Table 6: Future Lobbyists as Staff and Access to Lobbying Firms

Outcome =	(1) Meeting	(2) Phone Call	(3) Member Contact	(4) Staff Contact
<i>Panel A. House</i>				
No. Non-Lobbyist Staff	-0.0776 (-0.81)	-0.0130 (-0.16)	-0.0247 (-0.41)	-0.0107 (-0.09)
No. Lobbyist Personal Staff (High)	-0.146 (-0.41)	0.128 (0.43)	0.0572 (0.27)	0.179 (0.38)
No. Lobbyist Personal Staff (Low)	1.222*** (3.62)	1.149*** (3.25)	0.441*** (3.07)	2.044*** (3.47)
No. Lobbyist Committee Staff	-0.0123 (-0.08)	-0.123 (-1.12)	0.00372 (0.03)	-0.174 (-1.15)
Controls	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y
<i>N</i>	861	861	861	861
adj. <i>R</i> <sup>2</sup>	0.224	0.207	0.189	0.233
<i>Panel B. Senate</i>				
No. Non-Lobbyist Staf	0.0617* (1.70)	0.0836* (1.79)	0.0146 (0.89)	0.133* (1.97)
No. Lobbyist Personal Staff (High)	-0.386 (-0.69)	-0.364 (-0.51)	-0.258 (-1.15)	-0.775 (-0.80)
No. Lobbyist Personal Staff (Low)	0.439* (1.73)	0.345 (1.03)	0.0694 (0.47)	0.683** (2.06)
No. Lobbyist Committee Staff	0.102 (0.37)	0.385 (1.08)	0.0191 (0.16)	0.370 (0.78)
Controls	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y
<i>N</i>	198	198	198	198
adj. <i>R</i> <sup>2</sup>	0.278	0.280	0.164	0.341

*Note:* The unit of observation is member  $\times$  congress. *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member level. Including a committee fixed effect produces similar results.

While it is challenging to distinguish these two different mechanisms, it is noticeable that offices with many staff-turned-lobbyists show different behaviors regarding interactions with lobbying firms than member's office with fewer or no staff who later became lobbyists.

## 6 Conclusion

In this paper, we study the relationship between hiring congressional staffers who later became lobbyists and behavioral changes in Congress member's office in terms of legislative outcomes and the amount of access granted to lobbying firms. Our findings suggest that congressional offices with more future lobbyists behave differently than those with fewer. Hiring a future lobbyist as a current staffer is associated with increased legislative productivity, more sponsorship of bills on health and commerce, and less sponsorship of bills on social welfare and government operations, and granting greater access to lobbying firms.

Beyond the specific findings, we believe this work questions and highlights which aspects of the revolving door should be more of focus in the future. While the vast majority of the important literature on the revolving-door phenomenon has focused on how bias enters after staffers leave Congress, we assert that policy bias and unequal access to politicians attributable to the revolving door might actually begin before staffers leave. In our view, this is the component of the revolving door that is too often ignored and that needs to be more seriously considered as a source of bias in the policymaking process.

While we document a meaningful relationship between the composition of congressional offices in terms of the number of future revolving-door lobbyists and their behaviors, it is too early to definitely conclude whether this is driven by the career concerns of congressional staffers. Future work is needed to disentangle the effect of career motives from other alternative explanations. Moreover, work is needed to discover other sources of bias that career concerns might influence. Finally, a more expanded investigation is needed to determine whether the increased productivity the revolving door seems to inspire is biased towards future employers and business interests.

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# A Appendix: Tables

## A.1 Characteristics of Staffers in Congress

In total, there are 57,153 unique staff members from personal offices and committees who have a record of the payment from the Congress during the period from 2001 to 2012. We have a salary information for every staffer in the data. For other personal characteristics, the number of staffers we have information varies because Legistorm relies on online sources such as Linkdin to find personal information such as educational attainment or age. For example, we know gender of 55,047 (95%) people in our sample. For party affiliation, we have information for 24,634 (43.1%) people. For age, we have information for 11,113 (19.4%) people. For educational attainment, we have information for 16,276 (28.5%) people. Given that we do not have the complete information for some characteristics, we can only provide a limited summary statistics based on the available information.

Table A1: Staffer Personal Characteristics

Characteristics	Non-Lobbyist Staff		Lobbyist Staff	
	Obs.	Statistics	Obs.	Statistics
Female	51,888	26,560 (51.9%)	3,159	1,209 (38.3%)
Mean Compensation (low-level) <sup>a</sup>	82,878	\$67,654	4,548	\$80,012
Mean Compensation (high-level) <sup>b</sup>	7,565	\$165,695	2,095	\$160,182
Held High Staff Position <sup>c</sup>	39,771	1,836 (4.6%)	2,388	481 (20.1%)
Republican <sup>d</sup>	21,503	10,483 (48.7%)	3,131	1,740 (55.2%)
Mean Age (while serving) <sup>e</sup>	9,721	36.4	1,392	41.4
Degree Info Available <sup>f</sup>	53,979	14,177 (26.3%)	3,174	2,099 (66.1%)
Graduate Degree Holder <sup>g</sup>	14,177	6,567 (46.3%)	2,099	1,231 (58.6%)
J.D. or Ph.D Holder <sup>h</sup>	14,177	2,920 (20.6%)	2,099	658 (31.3%)
Elite University Graduate <sup>i</sup>	14,177	2,328 (16.4%)	2,099	375 (17.8%)

*Notes:* **a.** Average sum of salaries given to low-level staffer in a given Congress (two years). The unit of observation is staff  $\times$  congress. **b.** Average sum of salaries given to high-level staffer in a given Congress (two years). The unit of observation is staff  $\times$  congress. **c.** Whether a staffer held any high-staff position during her tenure in Congress. **d.** Staffer's party ID. **e.** Average of age of staff when they served in Congress. **f.** Whether a staffer's educational attainment data is available. **g.** Whether a staffer has a graduate degree. **h.** Whether a staff has either J.D. or/and Ph.D degree. **i.** Whether a staffer graduated from top 30 most selective universities based on the average SAT scores as of 1990.

## A.2 Lobbying Issues

From the period between 1998 and 2014, there were 736,116 unique lobbying reports were submitted. The Lobbying Disclosure Act (2 U.S.C. § 1604(b)) requires registrants to report specific information on the nature of the lobbying activities on quarterly activity reports (LD-2), including disclosing the general lobbying issue area code(s). There are 76 pre-determined general issue codes. A lobbying report could contain multiple general lobbying codes if a client lobbied on multiple different issues in a given period. Table A2 presents the number of lobbying reports submitted under each general code between 1998 and 2014.

Table A2: Number of Lobbying Reports Submitted by Issue, 1998 - 2014

Code	Description	No. Report	Code	Description	No. Report
ACC	Accounting	2472	HOM	Homeland Security	25457
ADV	Advertising	2896	HOU	Housing	15709
AER	Aerospace	5442	IMM	Immigration	17440
AGR	Agriculture	32779	IND	Indian/Native American Affairs	15281
ALC	Alcohol & Drug Abuse	2935	INS	Insurance	15006
ANI	Animals	4046	LBR	Labor Issues/Antitrust/Workplace	29110
APP	Apparel/Clothing Industry/Textiles	1518	INT	Intelligence and Surveillance	1473
ART	Arts/Entertainment	4382	LAW	Law Enforcement/Crime/Criminal Justice	16902
AUT	Automotive Industry	5409	MAN	Manufacturing	6483
AVI	Aviation/Aircraft/Airlines	17335	MAR	Marine/Maritime/Boating/Fisheries	13936
BAN	Banking	22121	MED	Medical/Disease Research/Clinical Labs	13084
BNK	Bankruptcy	2036	MIA	Media (Information/Publishing)	1772
BEV	Beverage Industry	4580	MMM	Medicare/Medicaid	51952
BUD	Budget/Appropriations	185689	MON	Minting/Money/Gold Standard	637
CAW	Clean Air & Water (Quality)	21909	NAT	Natural Resources	24451
CDT	Commodities (Big Ticket)	1686	PHA	Pharmacy	9286
CHM	Chemicals/Chemical Industry	5428	POS	Postal	5143
CIV	Civil Rights/Civil Liberties	5122	RRR	Railroads	6936
COM	Communications/Broadcasting/Radio/TV	14501	RES	Real Estate/Land Use/Conservation	8122
CPI	Computer Industry	8661	REL	Religion	910
CSP	Consumer Issues/Safety/Protection	14552	RET	Retirement	11669
CON	Constitution	1893	ROD	Roads/Highway	6267
CPT	Copyright/Patent/Trademark	23389	SCI	Science/Technology	18548
DEF	Defense	80490	SMB	Small Business	7666
DOC	District of Columbia	916	SPO	Sports/Athletics	1654
DIS	Disaster Planning/Emergencies	6971	TAR	Miscellaneous Tariff Bills	311
ECN	Economics/Economic Development	13183	TAX	Taxation/Internal Revenue Code	105986
EDU	Education	45372	TEC	Telecommunications	29385
ENG	Energy/Nuclear	65158	TOB	Tobacco	5141
ENV	Environmental/Superfund	48744	TOR	Torts	6695
FAM	Family Issues/Abortion/Adoption	3283	TRD	Trade (Domestic & Foreign)	46135
FIR	Firearms/Guns/Ammunition	32780	TRA	Transportation	64947
FIN	Financial Institutions/Investments/Securities	1869	TOU	Travel/Tourism	3068
FOO	Food Industry (Safety, Labeling, etc.)	11581	TRU	Trucking/Shipping	2913
FOR	Foreign Relations	15552	URB	Urban Development/Municipalities	8353
FUE	Fuel/Gas/Oil	8928	UNM	Unemployment	995
GAM	Gaming/Gambling/Casino	5671	UTI	Utilities	10025
GOV	Government Issues	27331	VET	Veterans	7945
HCR	Health Issues	101973	WAS	Waste (hazardous/solid/interstate/nuclear)	4850
			WEL	Welfare	3260

## A.3 Full Regression Results

Table A3: Future Lobbyists as Staff and Legislative Activities: House (107th - 112th)

	(1)	(2)	(3)	(4)	(5)	(6)
	LES	Total Bill	SS. Bill	LES	Total Bill	SS Bill
pstaff_lob_high_old	-0.0299 (-0.63)	0.695 (1.36)	-0.0329 (-0.99)			
pstaff_lob_low_old	0.0798** (2.20)	0.567* (1.68)	0.0575** (2.12)			
cstaff_lob_old	0.00675 (0.18)	0.139 (1.01)	0.0325 (1.09)			
pstaff_lob_nolast				0.0541** (1.99)	0.663*** (2.78)	0.0400* (1.78)
cstaff_lob_nolast				0.00420 (0.09)	0.192 (1.13)	0.0275 (0.68)
plastterm_old				0.0312 (0.52)	0.238 (0.54)	-0.00833 (-0.21)
clastterm_old				0.0353 (0.29)	-0.302 (-0.64)	0.0808 (0.68)
dem	0.352*** (2.78)	-4.368*** (-4.48)	0.285** (2.54)	0.381 (1.34)	-4.904*** (-3.36)	0.357 (1.20)
majority	0.518*** (7.77)	3.198*** (4.66)	0.165*** (3.92)	0.518*** (7.80)	3.251*** (4.76)	0.168*** (3.98)
chair	3.917*** (6.29)	7.756*** (4.36)	2.217*** (5.52)	3.898*** (6.22)	7.844*** (4.31)	2.189*** (5.48)
subchr	0.371*** (3.48)	1.545* (1.73)	0.264*** (3.26)	0.375*** (3.56)	1.510* (1.68)	0.268*** (3.34)
power	-0.392*** (-3.27)	5.396*** (3.91)	-0.173* (-1.89)	-0.386*** (-3.26)	5.317*** (3.85)	-0.168* (-1.83)
budget	-0.0423 (-0.60)	-0.00127 (-0.00)	-0.00339 (-0.08)	-0.0520 (-0.72)	-0.0340 (-0.03)	-0.0140 (-0.32)
seniority	0.0291 (1.00)	0.101 (0.22)	0.0215 (0.88)	0.0354 (1.29)	0.111 (0.24)	0.0272 (1.16)
maj_leader	0.677*** (3.30)	3.237** (2.01)	0.336** (2.03)	0.671*** (3.35)	3.318** (2.07)	0.334** (2.03)
min_leader	0.0337 (0.28)	-0.0216 (-0.01)	-0.0153 (-0.16)	0.0262 (0.21)	-0.0631 (-0.03)	-0.0267 (-0.27)
nolobstaff	0.0257** (2.54)	0.0440 (0.29)	0.0101 (1.58)	0.0256** (2.54)	0.0466 (0.31)	0.0100 (1.57)
ln_meansalary	0.327*** (2.83)	2.169 (0.56)	0.00397 (0.06)	0.328*** (2.77)	2.069 (0.54)	-0.000519 (-0.01)
_cons	-4.072*** (-2.92)	-13.53 (-0.29)	-0.412 (-0.54)	-4.157*** (-2.90)	-12.37 (-0.27)	-0.459 (-0.59)
Member FE	Y	Y	Y	Y	Y	Y
Congress FE	Y	Y	Y	Y	Y	Y
N	2632	2632	2632	2632	2632	2632
adj. R <sup>2</sup>	0.565	0.589	0.436	0.564	0.589	0.435

*Note:* The unit of observation is member  $\times$  congress. a. Total number of bills that a member sponsored in a given Congress. b. Significant and Substantial Bills (Volden and Wiseman 2014). *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level.

Table A4: Future Lobbyists as Lobbyists, Last Term, and Legislative Activities: Senate(107th - 112th)

	(1)	(2)	(3)	(4)	(5)	(6)
	LES	Total Bill	SS Bill	LES	Total Bill	SS Bill
nolobstaff	0.00829 (1.18)	0.639*** (2.86)	0.400** (2.09)	0.00804 (1.17)	0.647*** (2.84)	0.403** (2.05)
ln_meansalary	0.198 (0.71)	6.855 (1.11)	5.039 (1.02)	0.195 (0.74)	6.999 (1.07)	5.207 (1.03)
pstaff_lob_high_old	-0.00534 (-0.09)	-0.332 (-0.19)	-0.454 (-0.29)			
pstaff_lob_low_old	-0.00171 (-0.07)	1.024 (1.60)	0.629 (1.17)			
cstaff_lob	0.0153 (0.66)	0.128 (0.29)	0.331 (0.87)			
pstaff_lob_nolast				-0.000191 (-0.01)	0.643 (1.04)	0.310 (0.59)
cstaff_lob_nolast				0.0179 (0.94)	0.00617 (0.02)	0.246 (0.75)
plastterm_old				-0.0130 (-0.34)	1.937 (1.57)	1.277 (1.27)
clastterm_old				0.0189 (0.23)	-0.491 (-0.55)	-0.536 (-0.62)
dem	-0.897 (-1.63)	-2.130 (-0.38)	-6.152 (-1.15)	-0.886 (-1.61)	-2.254 (-0.39)	-6.279 (-1.13)
majority	0.451*** (7.14)	8.150*** (4.12)	6.359*** (3.68)	0.451*** (7.24)	8.088*** (4.05)	6.305*** (3.63)
comchair	1.043*** (5.27)	9.071* (1.87)	4.541 (1.10)	1.004*** (5.27)	10.54** (2.18)	5.743 (1.37)
leadership	-0.181 (-0.40)	-2.727 (-0.32)	-8.927 (-1.48)	-0.155 (-0.35)	-4.822 (-0.57)	-10.63* (-1.77)
_cons	-1.823 (-0.54)	-88.75 (-1.17)	-54.06 (-0.89)	-1.803 (-0.57)	-90.43 (-1.12)	-55.89 (-0.89)
<i>N</i>	603	603	603	603	603	603
adj. <i>R</i> <sup>2</sup>	0.603	0.688	0.662	0.603	0.688	0.661

*Note:* The unit of observation is member  $\times$  congress. a. Total number of bills that a member sponsored in a given Congress. b. Significant and Substantial Bills (Volden and Wiseman 2014). *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level.

Table A5: Future Lobbyists as Lobbyists and Access to Lobbying Firms: House (110th - 111th)

	(1)	(2)	(3)	(4)
	Meeting	Phone Call	Member Contact	Staff Contact
Democrat	0.349 (0.55)	-0.463 (-0.94)	-0.448 (-1.21)	0.489 (0.61)
Female	-0.128 (-0.16)	0.462 (0.57)	0.111 (0.24)	0.217 (0.17)
Com. Chair	3.352 (1.27)	3.324 (1.11)	2.079* (1.66)	4.874 (1.13)
Sub Com. Chair	1.095 (1.26)	1.148 (1.29)	0.622 (1.39)	1.750 (1.29)
Powerful Com.	3.125*** (2.93)	0.643 (0.78)	1.254** (2.32)	2.648* (1.90)
Budget Com.	-0.328 (-0.40)	-0.719 (-1.25)	-0.252 (-0.56)	-0.799 (-0.79)
Seniority	0.0914 (1.07)	0.133 (1.55)	0.0827* (1.74)	0.175 (1.32)
Majority Leader	3.290* (1.68)	4.487** (2.46)	1.107 (1.23)	7.455** (2.34)
Minority Leader	1.792 (0.71)	3.325 (0.99)	2.439 (1.09)	3.351 (0.93)
Economic Com.	-1.083 (-0.96)	-0.604 (-0.67)	-0.775 (-1.29)	-1.035 (-0.69)
Security Com.	0.800 (0.89)	0.786 (0.90)	0.906 (1.55)	1.053 (0.81)
Trade Com.	0.581 (0.57)	-0.520 (-0.67)	0.427 (0.83)	-0.181 (-0.14)
Foreign Affairs Com.	15.69*** (4.79)	12.32*** (3.57)	8.236*** (4.97)	21.25*** (4.11)
No. Non-Lobbyist Staff	-0.0776 (-0.81)	-0.0130 (-0.16)	-0.0247 (-0.41)	-0.0107 (-0.09)
(ln) Mean Salary	-0.256 (-0.12)	0.79 (0.73)	-0.0450 (-0.33)	0.237 (0.71)
No. Lobbyist Personal Staff (High)	-0.146 (-0.41)	0.128 (0.43)	0.0572 (0.27)	0.179 (0.38)
No. Lobbyist Personal Staff (Low)	1.222*** (3.62)	1.149*** (3.25)	0.441*** (3.07)	2.044*** (3.47)
No. Lobbyist Committee Staff	-0.0123 (-0.08)	-0.123 (-1.12)	0.00372 (0.03)	-0.174 (-1.15)
Constant	3.249 (0.89)	0.680 (0.19)	2.694 (1.18)	-0.931 (-0.18)
Congress FE	Y	Y	Y	Y
N	861	861	861	861
adj. $R^2$	0.224	0.207	0.189	0.233

Note: The unit of observation is member  $\times$  congress.  $t$  statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level.

Table A6: Future Lobbyists as Lobbyists and Access to Lobbying Firms: Senate (110th - 111th)

	(1)	(2)	(3)	(4)
	Meeting	Phone Call	Member Contact	Staff Contact
Democrat	-1.106 (-0.89)	-2.881* (-1.85)	-1.009* (-1.94)	-2.940 (-1.30)
Leadership	10.17** (2.25)	18.63*** (2.91)	3.370*** (3.65)	27.72*** (4.63)
Committee Chair	5.397** (2.16)	4.048 (1.19)	2.197** (2.09)	9.174* (1.86)
Economic Com.	-1.555 (-0.66)	-2.950 (-0.77)	-0.280 (-0.31)	-4.031 (-0.75)
Security Com.	0.452 (0.25)	0.574 (0.29)	1.489* (1.77)	0.242 (0.08)
Trade Com.	13.82*** (2.83)	34.78*** (5.83)	8.335*** (4.03)	40.88*** (4.97)
Foreign Affairs Com.	10.41*** (2.69)	4.897 (1.15)	2.152* (1.77)	14.38* (1.97)
No. Non-Lobbyist Staff	0.0617* (1.70)	0.0836* (1.79)	0.0146 (0.89)	0.133* (1.97)
(ln) Mean Salary	-0.214 (-0.11)	1.558 (0.81)	0.609 (0.61)	1.475 (0.52)
No. Lobbyist Personal Staff (High)	-0.386 (-0.69)	-0.364 (-0.51)	-0.258 (-1.15)	-0.775 (-0.80)
No. Lobbyist Personal Staff (Low)	0.439* (1.73)	0.345 (1.03)	0.0694 (0.47)	0.683** (2.06)
No. Lobbyist Committee Staff	0.102 (0.37)	0.385 (1.08)	0.0191 (0.16)	0.370 (0.78)
Constant	4.102 (0.18)	-14.88 (-0.65)	-4.510 (-0.40)	-14.47 (-0.44)
Congress FE	Y	Y	Y	Y
<i>N</i>	198	198	198	198
adj. <i>R</i> <sup>2</sup>	0.278	0.280	0.164	0.341

*Note:* The unit of observation is member  $\times$  congress. *t* statistics in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at member-level.