Exit Strategy: Career Concerns and Revolving Doors in Congress*

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Abstract

Although the majority of research on revolving-door lobbyists centers on influence they exhibit during their post-government careers, relatively little attention is given to whether future career concerns affect the behaviors of revolving-door lobbyists while they are still working in government. We argue that the revolving-door incentivizes staffers to showcase their legislative skill to the lobbying market in ways that affect policymaking in Congress. Using comprehensive data on congressional staffers, we find that hiring staffers who later become lobbyists is associated with higher legislative productivity, especially in staffers' final term in Congress, and increases in a member's bill sponsorship in the areas of health and commerce, the topics most frequently addressed by clients in the lobbying industry. We also find that hiring a future revolving-door staffer is associated with granting more access to lobbying firms. These results provide the first empirical evidence of the pre-exit effects of the revolving-door on Congress.

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

As this "revolving door" phenomenon has become a more prominent force in American politics, most of the extant literature has focused on whether revolving-door lobbyists have disproportionate access to members of Congress due to their connections, thereby distorting representation and the policymaking process. 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; McCrain, 2018) and have a disproportionately large amount of access to their connected politicians (Kang and You, 2018).

Beyond this dominant focus in the literature, one aspect of the revolving door phenomenon that has received little attention is whether 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 literature has yet to be applied in the context of Congress, despite the fact that Congress is the governmental body that produces the most revolving-door lobbyists.[1]

On one hand, congressional offices, where there are members and staffers who later become lobbyists, might engage *quid-pro-quo* types of behaviors by tailoring legislative activities for the benefit of prospective future employers in expectation of future job opportunities in lobbying firms (Stigler, 1971). On the other hand, a potentially lucrative lobbying career in lobbying could incentivize congressional personnel to exert more effort in their legislative activities and develop

[1] A few exceptions include Santos (2006); Egerod (2017).

more expertise on specific issues to increase their market value for post-government careers (Che, 1995). Understanding the role of post-government career concerns on the behaviors of policymakers is important for assessing the normative implications of the private market for representation on democracy and for better assessing the role of the lobbying industry on policy outcomes.

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 all revolving-door lobbyists. We assemble a dataset including every employee who was a personal or committee staffer in Congress from 2001 to 2014. In total, there are 97,661 unique records in the dataset. For each staffer, we identify the period during which she worked for personal offices or congressional committees and the compensation she received from each office. We also identify 4,520 staffers who left Congress and became lobbyists. For those who became lobbyists, we track their lobbying activities, including the first year they submitted a lobbying report and the names of their employers.

One important limitation to using congressional staff as subjects 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 staffers' behaviors are constrained by their Congress members' priorities and agendas, scholars have noted that members delegate substantial autonomy to their staffers due to their own time constraints (Loomis, 1988; Romzek and Utter, 1997). Therefore, staffs' efforts and inputs could have significant impacts on member-level legislative outcomes (Montgomery and Nyhan, 2017).

Accordingly, we construct a member-level dataset for congressional offices both in the House of Representatives and the Senate from the 107th through the 113th Congress. 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), which measure members' success in moving

significant and substantive legislation through Congress (Volden and Wiseman 2014, 2018).[2] We also examine the 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 (e.g., health care) than others (e.g., social welfare), it is possible that staffers' future career concerns could be related to the amount they 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 member fixed effects across all specifications, as well as Congress fixed effects to control for underlying time trends in the data.

We find that employing a future revolving-door staffer is associated with increased legislative productivity, particularly in the House. Hiring revolving-door staffers correlates with higher LES of members and total numbers of bills sponsored from a member's office. Importantly, we find that not only does hiring a revolving door staffer increase legislative productivity overall, but that staffers appear to increase their member's legislative productivity over and above their already heightened levels in the staffers' final terms in Congress. This suggest that staffers attempt to showcase their legislative skills more visibly right before they exit Congress. We do not find this "last term" effect for the staffers who were forced to move to lobbying industry due to their member's sudden exit of the Congress caused by death and unexpected defeats in elections.

Additionally, we estimate staffer-specific fixed effects by exploiting staffers who move between members' office. This analysis bolsters our claims that the increased productivity we observe is systematically related to revolving door staffer effort and not other member level factors. 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 domestic commerce, suggesting that staffers who later become lobbyists may direct their efforts towards the most popular issues for the lobbying industry (Zheng 2015).

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 this re-

[2] "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).

lationship is mainly driven by member-staffer matching. Members with higher legislative capacity may prefer to hire staffers who are more capable in drafting legislation, which could be related to the probability of becoming a lobbyist in the future. We show that this is not the case. A member's lagged LES, committee chairmanship, majority power status, and other important characteristics that could influence legislative outcomes do not predict the number of staffers that the members hired who later became lobbyists. We also demonstrate that a pre-existing connections between a member's office and the lobbying industry through former staffer do not drive the results. Thus, the results we observe are not a function of previously established connections to firms or former staffers who have already gone through the revolving door.

Second, as we argue, career concerns could be the underlying mechanism in this relationship. Along these lines, net of simply displaying legislative prowess, staffers who want to appeal to lobbying firms and lobbying organizations may seek out opportunities to showcase their skills. One important way staffers can attract the attention of lobbying firms is to interact more frequently with them. This activity allows them to acquire more policy information, and thus improve their job performance and their members' productivity. Moreover, meeting with firms affords them the opportunity to market their skills to increase their odds of securing employment in the lobbying industry. Likewise, interest groups have similar incentives to provide a legislative subsidy to congressional offices through the provision of policy relevant information and other legislative resources (Hall and Deadorff 2006). As a result, this granting of access to interest groups may be in the staffer's interests.

To explore this mechanism, we use data on lobbying contacts with lobbying firms collected from the filings mandated by the Foreign Agent Registration Act (FARA) for the period between 2007 through 2010. FARA, unlike regulations 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 observe whether contacts between firms and congressional offices are made by staffers as opposed to members, and to connect each staffer with actual staff-level

outcomes. With this data, we examine whether employing staffers who later became lobbyists is associated with the amount of access granted to lobbying firms.

We find that congressional offices with future revolving-door lobbyists as current employees tend to grant more access to lobbying firms that are the prospective future employers of the departing staffers. This effect is also most consistently observed for personal staff members who later started their lobbying careers in a lobbying firm as opposed to working for an organization as an in-house lobbyist. We also find that the increased number of meetings between a congressional office and lobbying firms is mainly driven by contacts with the staffers themselves as opposed to direct contacts with members of Congress.

Our results present a more nuanced and complex picture of the overall impact of the revolving door on congressional policymaking. The revolving door incentivizes staffers to exert greater legislative effort and increase their bosses' overall legislative productivity. These effects are mostly positive for congressional capacity and lawmaking. However, the revolving door also incentivizes staffers to experience greater exposure to particular sets of interest groups through meetings with lobbying firms and to develop expertise in the issues of most interest to lobbying firms. The normative implications of these particular findings are less clear and could lead to biases in policy outcomes. Together, this findings highlight the importance of better understanding the how post-government career options impact the nature and quality of policymaking.

Congressional Staff and Their Career Concerns

Congressional staff members play a vital role in policymaking in Congress (Loomis 1988; Whiteman 1995; Romzek and Utter 1997). Due to a significant increase in workloads (Curry 2015) and members' perpetual fundraising and campaigning during congressional sessions (Lee 2016), their time for policymaking has become more scarce (Groll and Ellis 2017). Despite these challenges, the number of congressional staffers has been declining since the early 1990s.[3] At the same time,

[3]Figure A1 in the Appendix shows the number of staff in Congress 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

congressional staffers' wages have been stagnant or have even declined in real terms (Petersen et al. 2015). In contrast, lobbying firms pay significantly more to former congressional staff members (Birnbaum 2005; Drutman and Furnas 2014). Given the stark difference in wages between lobbying firms and Congress and the value given to staffers' skills by the lobbying industry, it is not surprising that increasing numbers of former congressional staffers sought lobbying careers over the last decade (Drutman 2012).

The emergence of the lobbying industry and the revolving-door phenomenon generates two main concerns. First, the existence of a market for representation imposes challenges to providing fair opportunities for groups to be represented in the policymaking process. The media and the public often interpret the fact that lobbyists with personal or political connections generate more revenues (Blanes i Vidal, Draca and Fons-Rosen 2012; Bertrand, Bombardini and Trebbi 2014) as evidence of corruption. However, given that connected lobbyists often tend to have more issue expertise or knowledge of political processes, these higher revenues could be an indication that connected lobbyists provide valuable information to members through better verification of information or screening of which interest groups to present to members based on their political merits (Ainsworth 1993; Groll and Ellis 2014; Hirsch and Montagnes 2015).

A 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 the potential effects of future employment in the lobbying industry on the behaviors of congressional staff. Regulatory capture scholars argue 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). The regulatory schooling literature posits that revolving doors can incentivize regulators to exert more effort to enhance their qualifications and increase their market value in their post-government careers (Che 1995).

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).

Building on these perspectives, how would a future career opportunity in the lobbying industry affect behaviors of congressional staffers? The regulatory capture school would predict that congressional offices where there are staffers who later became lobbyists may give more policy favors to their future employers in exchange for future jobs in those organizations. Such favors are difficult to imagine in the context of Congress. Whereas a regulator may be able to grant more patents to a specific firm or write regulation in a way the benefits a particular actor, the collective nature of Congress limits the potential for this kind of behavior. Of course, it is possible that specific components of pieces of legislation, casework, or other more subtle activities could be consistent with these types of behaviors. However, measuring or observing these types of capture-like effects is ripe with difficulty.

On the other hand, and more applicable in our case, regulatory schooling scholars would predict that there would be changes in the amount of effort exerted by staff to increase their market values. Therefore, we may observe changes in the legislative activities of connected members during the terms of these staffers' careers in Congress. For example, we might expect that staffers considering a post-government career in the lobbying industry exert more effort in ways that improve the overall legislative productivity of their bosses and increase overall bill sponsorship. This seems especially likely to occur in the time period immediately prior to the staffer's exit from Congress, when staffers have greater incentives to market their skills.

Additionally, we can observe one of the ways in which staffers may go about showcasing their skills or increased effort in ways consistent with the regulatory school perspective: their level of interactions with interest groups and lobbying firms. Interest groups collect information on issues of concern to them and they have incentives to disseminate this information to policymakers (Wright 1990; Austen-Smith 1993; Lohmann 1995; Schnakenberg 2017). Interest groups also provide other types of legislative subsidies, such as time and labor, to resource-constrained legislators. These subsidies help legislators achieve their policy goals (Hall and Deadorff 2006). In this way, the lobbying industry not only helps its clients, but also provides a valuable resource to Congress. The primary manner in which these benefits (i.e. information) reaches members of Congress is

through congressional staff. This affords career-minded staffers a vital opportunity to directly signal their worth to the lobbying market. As a result, career concerns may incentivize congressional staffers to grant lobbying firms more access to a member's office not only to improve their job performance, but also to improve their marketability for the lobbying sector.

Importantly, however, it is certainly possible that the kinds of legislative activities in which the staffers choose to engage or the groups they choose to meet with may be biased toward specific interest groups or future employers (Hall and Wayman 1990; Zheng 2015). In this way, increased productivity or access-granting may be slanted towards particular interests. For example, given that there are more lobbying clients that care about health or commerce issues than those who care about public welfare (Baumgartner et al. 2009), more interactions with lobbying firms and increased policy effort, could lead to more legislative activity in policy areas of most concern to lobbying interests. As a result, increased effort, something that is presumably a net positive for congressional lawmaking, may slant congressional activity in the favor of well-resourced interests. Such behavior would suggest complimentary schooling and capture-like effects on congressional behavior.

Data and Stylized Facts

To test these expectations, we start with the list of all congressional staffers who were enrolled in the payroll system in the US Congress between 2001 and 2014. 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.[4] Congress has started post SODs online since 2009 in PDF format and reports before 2009 are not accessible via online. Therefore, it is difficult to work with the raw data from the SODs. Legistorm, an online information service that provides information about the career histories of congressional staff, assembles congressional staff salary data from the official records of the House and Senate. Legistorm supplements the salary data with biographical information for staffers from available sources such as LinkedIn

[4] https://disbursements.house.gov/archive.shtml

pages.[5]

We purchased congressional staff data from Legistorm, which includes the name and title of each staffer, the name of the congressional office in which she worked, the pay period, and the salary paid during 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 also drop the staffers whose total number of days worked per Congress totaled less than 6 months. We aggregate the total salary paid to a staffer from each office by 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. We examine the lobbying reports for the period between 1998 and 2016, 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.[6] 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 person 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.[7]

For each ex-staff-turned-lobbyist in our final sample, we found information about their lobbying

[5]For example, we have educational attainment information for 35% of the staffers in the payment directory.

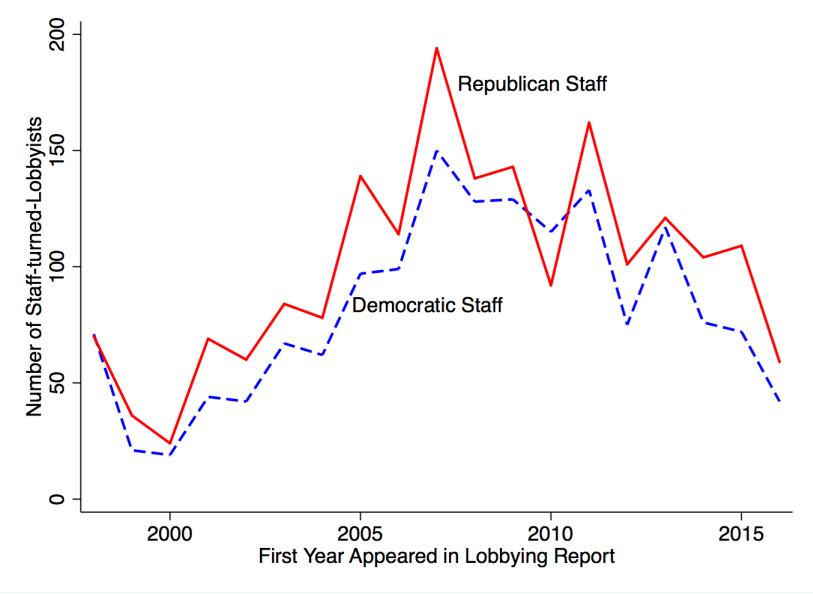
[6]We acknowledge that there were some ex-staffers who did not register as lobbyists, although they were required to do so (Thomas and LaPira 2017). For those ex-staffers, we have no information about when they started lobbying or the clients they represented, which is important information for our analysis. Therefore, we only focus on registered ex-staff-turned-lobbyists.

[7]A significant fraction of lobbyists in our data were committee staffers in Congress. Legistorm provides the names of Congress members to whom those lobbyists were connected for some of these cases. However, for the majority of the cases, we do not have information about connected members. For this set of 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). We validate the staff-turned-lobbyist's career descriptions with the actual salary data.

activities. Specifically, we collected the first year that a lobbyist appeared in the lobbying data. There were 4,697 unique lobbyists who had prior work experience in Congress and submitted at least one lobbying report between 1998 and 2016; 4,520 lobbyists appeared in the staff data between 2001 and 2014.[8] Around 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.[9]

Figure 1 displays the number of ex-staff-turned-lobbyists in each year in terms of the first year they submitted a lobbying report. We divide the personal staffers into Democrats and Republicans based on the party of the member they served during their tenure in Congress and present separate graphs on their first year in lobbying by party line.

Figure 1: Number of Congressional Staffers-Turned-Lobbyists, 1998 - 2016



A significant increase in 2007 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; the law prohibited ex-staff-turned-lobbyists from contacting their former offices or com-

[8] 177 staffer-turned-lobbyists worked in the Congress before 2001 so we do not have their detailed salary information.

[9] The total number of Congress members who were connected with these ex-staff-turned-lobbyists was 943: 176 members were Senators and 767 members 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.

mittees 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 and started their lobbying activities in 2007. 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.[10] Due to this upcoming change in the political environment, it is likely that many staffers left their jobs and moved into the lobbying industry.

To explore the impact of hiring future revolvers on legislative outcomes, we create a member-level dataset for every person who served in the House or Senate from the 107th through the 113th Congress. We calculate the total number of staffers who worked for a member in each Congress and staffers' mean salaries. 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. Most of the staffers who later became lobbyists at the federal level worked in a Washington, D.C. office as opposed to members' district- or state-offices. They were also much more likely to work in legislative-oriented positions (such as legislative assistants) than staffers who never became lobbyists. By comparing the year staffers finished working for a member and the first year they appeared in lobbying reports, we also calculate the total number of "last-term" personal staff who became lobbyists after a given Congress for each member.

Table 1 presents summary statistics at the Congress-member level for the Congress members' staffers and ex-staffers who later became lobbyists. The unit of observation is member $\times$ Congress. Members in the House had, on average, 21 staffers on their payrolls during a given Congress. For the Senate, the average number of staffers in members' personal offices was 52. House members in a given Congress employed 1.7 personal staffers who became lobbyists at some later point. In the

[10] "Executive Order 13490: Ethics Commitments by Executive Branch Personnel," January 21, 2009.

Senate, the average number of personal staffers who later became lobbyists in a given Congress was 4.1. 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. For committee chairpersons who were connected to committee staffers, the average number of committee staffers who worked for a member in a given Congress and later became lobbyists was 11.8 in the House and 10.8 in the Senate.[11]

Table 1: Member Level Summary Statistics on Staffers

	House				**Senate**			
	N	Mean	Min.	Max.	N	Mean	Min.	Max.
Number of Staff	3,080	21	11	35	704	52	24	97
Mean Compensation ($K)	3,080	91	26	177	704	101	49	176
Future Lobbyist Personal Staff	3,080	1.7	0	7	704	4.1	0	16
Future Lobbyist Committee Staff[a]	139	11.8	0	57	130	10.8	0	36

Note: The unit of observation is member × congress. **a**. This statistics is only provided for members who served as a committee chair.

We rely on two outcome variables. 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 of Congress (Volden and Wiseman 2014, 2018). This dataset includes the number of bills that each representative sponsored as well as their LES in each Congress.[12] Second, we use Congressional Bills Project to examine whether hiring staffers who later became lobbyists is associated with the types of legislation that legislators sponsor in Congress (Adler and Wilkerson 2017). 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 20 major issue areas. Therefore, we are able to identify whether members with staffers who later

[11]The average number of committee staffers in a given standing committee in the House was 76 and was 65 in the Senate.

[12]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." Of course, Legislative Effectiveness Scores do not capture all important or influential parts of lawmaking. For example, many legislators are particularly skilled at slowing down or stopping the progress of pieces of legislation they or their constituents find harmful. Such behavior would not be captured in this measure. Moreover, Legislative Effectiveness Scores may mask the legislative contributions of members who are not the official sponsors of pieces of legislation.

became lobbyists tended to sponsor bills on particular topics. This is particularly interesting given that lobbying clients are not equally distributed across issue areas.[13]

Future Lobbyist Staff and Legislative Activities

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

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

, 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. Given that all outcome variables have a highly skewed distribution, we use log-transformed variables in the estimation (Berry and Fowler 2018). α_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. α_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. X_{it} is a vector that includes variables that could affect the legislative activities of members such as their party, institutional position (e.g., leadership or committee chair), and overall staff size and compensation level.

Table 2 presents the results on overall legislative activities. We present results for the House (Panel A) and Senate (Panel B) separately.[14] Columns (1) through (3) present the results when a rich set of member-level characteristics are included as control variables; columns (4) through (6) present the results when a member FE is included. First, in the House, the number of staffers and the average staff salary levels are associated with higher LES and more bill sponsorship. Regarding variables on staffers who later became lobbyists, employing a personal revolving-door lobbyist

[13] As Table A3 indicates, after budget and tax issues, health, defense, and energy issues are most often mentioned in lobbying reports, whereas housing and law and enforcement issues are mentioned with less frequency.

[14] Full regression results are presented in Tables A4 and A5 in the Appendix.

is associated with increases in 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.[15] These results are robust when we include member fixed effects, except the results for the sponsorship of substantive and significant bills. Having a committee staffer who later became a lobbyist is also associated with higher LES and sponsorship of substantive and significant bills.[16]

To provide a more substantive interpretation of these regression results, we follow Mummolo and Peterson (2018), who suggest that researchers need to consider the plausible variation in the treatment when fixed effects estimates are used to describe the substantive significance of the results. Given that the variation within-unit is generally more limited than variation across units, the coefficients of the interest from the fixed effect models may overestimate the substantive effect of the treatment if the plausible variation would be smaller than *a unit* change in the treatment. Following Mummolo and Peterson (2018)'s method, we find that in our fixed effect framework, a one standard deviation (0.34) increase in the number of staffers who later became a lobbyist within a member's office in a given Congress is associated with an increase of 0.35 ($= 0.34 \times e^{0.0317}$) in the member's Legislative Effectiveness Score. Given that the average LES is 1.7 in our sample, this suggests that one standard deviation in the number of future lobbyist staff is associated with a 20% increase in an average member's LES.

Second, in the Senate, overall staff size is associated with higher LES and the number of bills and substantive bills that senators sponsor. However, the number of future lobbyists on staff is not associated with a member's overall legislative productivity. One of the reasons we observe these differences between the House and the Senate is the different distributions in the number of future lobbyist staff members in congressional offices between the chambers. In the Senate, out of 181

[15]The definition of significant and substantive legislation follows Volden and Wiseman (2014)'s categorization scheme.

[16]Given that the measures of the LES and the bill sponsorship are highly dependent on the majority party status and especially the LES does not capture other legislative activities such as obstructions on the advancement of the bills, the effect of hiring a staffer who later became a lobbyist could be only salient among members of the majority party. Panel A in Table A6 in the Appendix presents the results for the House and the effect of future lobbyist staff is not confined to the majority party members.

Table 2: Future Lobbyists as Staff and Legislative Activities

	(1) LES	(2) No. Bills[a]	(3) SS Bills[b]	(4) LES	(5) No. Bills	(6) SS Bills
Panel A: House						
(ln) Mean Staff Salary	0.201***	0.471***	0.0439	0.358***	0.809***	0.120**
	(4.35)	(4.28)	(1.28)	(4.97)	(7.05)	(1.98)
No. Non-Lobbyist Staff	0.0189***	0.0528***	0.00264	0.0184***	0.0422***	0.00441
	(7.14)	(8.23)	(1.37)	(4.57)	(6.36)	(1.29)
No. Lobbyist Personal Staff	0.0252***	0.0761***	0.00853*	0.0317***	0.0767***	0.00771
	(3.75)	(5.68)	(1.67)	(2.91)	(5.63)	(0.82)
No. Lobbyist Committee Staff	0.0159***	0.00215	0.0164***	0.0117**	0.0169**	0.0101*
	(3.70)	(0.33)	(3.42)	(2.23)	(2.39)	(1.65)
Member-level Controls	✓	✓	✓	✓	✓	✓
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	3070	3070	3070	3070	3070	3070
adj. R^2	0.411	0.157	0.360	0.579	0.620	0.426
Panel B: Senate						
(ln) Mean Staff Salary	0.0270	0.0666	0.0232	0.148	0.860*	0.657*
	(0.20)	(0.18)	(0.07)	(0.98)	(1.69)	(1.72)
No. Non-Lobbyist Staff	0.00569**	0.0230***	0.0234***	0.000904	0.0170**	0.0138*
	(2.55)	(4.77)	(4.89)	(0.28)	(1.98)	(1.95)
No. Lobbyist Personal Staff	0.000105	0.0163	0.0213	-0.000151	0.00983	0.0151
	(0.02)	(1.04)	(1.38)	(-0.02)	(0.71)	(1.06)
No. Lobbyist Committee Staff	0.00296	0.0126	0.0151	0.00665	0.00603	0.00473
	(0.58)	(1.36)	(1.52)	(1.17)	(1.04)	(0.68)
Member-level Controls	✓	✓	✓	✓	✓	✓
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	697	697	697	697	697	697
adj. R^2	0.460	0.305	0.305	0.638	0.826	0.797

Note: The unit of observation is member × congress. t statistics in parentheses. $* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$. Standard errors are clustered at member-level. All three outcome variables are highly skewed in the distributions so we use log-transformed each variable as outcome measures. **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.

unique members in our sample, only 8 members (4.3%) never had a staffer who later became the lobbyist. In contrast, among 853 unique members who served in the House during the period, 135 members (15.8%) had no staffers who later became lobbyists. In other words, there is more variation in the number of revolving-door staffers in the House than in the Senate. Additionally, House members display more variation in their tenure and experience in Congress than Senators, and therefore, there may be more room for staffer incentives to influence the legislative outcomes.

To this point, we have shown that hiring future revolving door lobbyists as staff members is associated with increases in member legislative effectiveness and bill sponsorship activity, especially in the U.S. House. We have argued that these results are best understood as the result of how lobbying career concerns incentivize increased legislative effort by staffers and are actually the product of staffer effort and not some other member-level factor. We probe each of these assertions with additional tests.

First, if career concerns truly drive increased staffer effort in legislative activities, we should expect that the effects of career concerns should be the strongest in the period right before the staffer moved to the lobbying industry. A "last term" effect of this sort would suggest that, in addition to being highly effective over the course of their career, staffers strategically display even more legislative effort in the immediate run up to their exit from Congress. To test for evidence of this career-driven "last term" effect, we divide staffers who later became lobbyists into two categories, non-last-term and last-term lobbyist staff, depending on whether the current term is their last term of employment in Congress.

Panel A in Table 3 presents the results for the House. The results suggest that although the increased effort of staffers who became lobbyist is not entirely attributable to last term effort, offices with more last-term personal staff experience additional increases in LES and bill sponsorship. That is to say, although hiring future revolvers leads to heightened productivity in general, future revolvers in their last term generate even larger increases in member effectiveness. We view this as being consistent with a staffer highlighting their legislative worth while they are actively seeking post-government employment in the lobbying sector.

Of course, some of these staffers left Congress voluntarily, but others are forced to leave government because the politicians they served exited Congress due to reasons like death or an unexpected loss in an election. Compared to staffers who may plan their career change to lobbying industry, staffers who were forced to leave Congress should not be able to time their heightened legislative efforts in the same way. If strategic career concerns are associated with a staffer's effort level, we would not observe this "last term" effect for those who were forced to leave the government due to their connected politician's sudden exit. Following Blanes i Vidal, Draca and Fons-Rosen (2012), we identified staffers who worked in a politician's office when a politician made an exit from Congress after a given term because the politician was defeated in primaries or general election, died, sought federal/state/local posts, or resigned from scandals. There are 339 cases (11%) of these types of exits in the House. Panel B in Table 3 presents the results. As we expected, we do not observe the positive correlation between the last term of staffers who became the lobbyist and members' legislative productivity when a member suddenly exited the Congress.

Second, we may also be worried that the increases in productivity we observe are not a result of staffer effort and are instead attributable to some other member-level factors. For example, although we include member fixed effects and time-varying characteristics, it is possible that a person who is considering becoming a lobbyist in the future selects into a member's office where the member is more likely to be legislatively productive or sponsor bills in certain areas. To examine potential matching between a member and a revolving-door staffer, we examine whether members' observable characteristics (e.g., legislative outcomes and institutional positions from the previous Congress) predicts the number of future lobbyist staffers in a current Congress. Tables A10 and A11 in the Appendix show that members' legislative activities and institutional positions, such as committee assignments, do not predict the number of future lobbyist staffers in the current Congress. We also find that sponsorship activities in certain issue areas are not correlated with recruiting of future lobbyist staff. This bolsters our claim that we are observing the output of staffer effort and not selection into certain types of offices. Moreover, because most staffers only work within one office for their careers and the congressional hiring process for young staffers appears

Table 3: Future Lobbyists as Staff, Majority Party Status, and The Last Term Effect (House)

	(1) LES	(2) No. Bills[a]	(3) SS Bills[b]
Panel A: Last Term Effect			
No. Non-Last Term Lobbyist Staff	0.0369***	0.0824***	0.00921
	(2.94)	(5.24)	(0.83)
No. Last Term Lobbyist Staff	0.0245**	0.0687***	0.00564
	(2.01)	(4.29)	(0.51)
Member-level Controls	✓	✓	✓
Congress FE	✓	✓	✓
Member FE	✓	✓	✓
N	3070	3070	3070
adj. R^2	0.579	0.620	0.426
Panel B: Sudden Exit of a Politician			
No. Non-Last Term Lobbyist Staff	0.0277***	0.0784***	0.00939
	(3.49)	(5.11)	(1.56)
No. Last Term Lobbyist Staff	0.0222**	0.0767***	0.0108
	(2.27)	(4.37)	(1.25)
Sudden Exit × No. Last Term Lobbyist Staff	-0.00434	-0.0214	-0.0188
	(-0.22)	(-0.59)	(-1.26)
Sudden Exit	-0.00748	0.0775	0.00714
	(-0.28)	(1.39)	(0.39)
Member-level Controls	✓	✓	✓
Congress FE	✓	✓	✓
Member FE	✓	✓	✓
N	3070	3070	3070
adj. R^2	0.411	0.157	0.360

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

to be idiosyncratic, it is unlikely as a practical matter that many young staffers have options to choose between offices or select into offices based on policy interests or ability.

Third, another alternative explanation that could explain the positive relationship between the number of staffers who later became lobbyists and a member's legislative productivity is that a some members' offices may already have established connections with particular lobbyists or firms. These connected firms provide legislative subsidies which could make the member's office more productive. At the same time, members who already have a good connection with lobbying firms may be more likely to send their staffers into the lobbying industry. Although we include

member fixed effects, time-varying characteristics such as the number of alumni staffers as lobbyists could drive the results. To test this alternative mechanism, we calculate the total number of alumni staffers who used to work in a member's office but currently work as lobbyists in a given Congress and include this variable as a control.[17] Panel B in Table A6 in the Appendix presents the results. The number of alumni staffer who became lobbyists is not systematically correlated with the changes in legislative activity we observe and the main results hold after including the number alumni staffers who became lobbyists as a control variable in the analysis.

To continue to more formally probe how much of the changes in legislative productivity we are observing are attributable congressional staff effort, we conduct yet another test to see whether changes in legislative outcomes are driven specifically by changes in the composition of staffers. We exploit the fact that some staffers move between members' offices. Following Bertrand and Schoar (2003) who estimate manager fixed effects from a manager-firm matched panel data, we estimate the role of staffers in a framework from a member-staff matched panel data where we can control for observable and unobservable differences across members. Specifically, we estimate the following model:

$$y_{ist} = \alpha_i + \underbrace{\alpha_s}_{\text{staff FE}} + \alpha_t + \Gamma X_{ist} + \varepsilon_{ist} \tag{2}$$

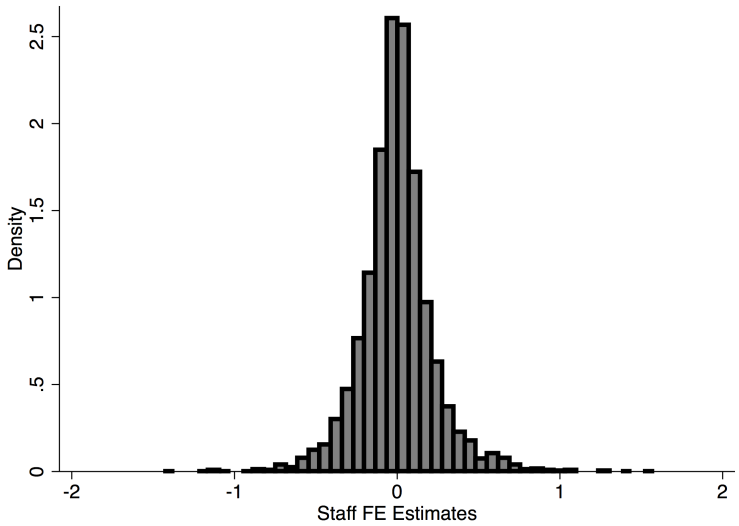
, where i, s and t indicate member, staffer, and Congress. We are interested in estimating staff fixed effects, α_s. Given that staffers do not randomly move among members' offices and staffers who switch congressional offices could be systemically different from those who stay in one office, we do not argue that our results present the causal effect of staffers on members' legislative outcomes. Instead, we examine whether the characteristics of staffers, including whether they became lobbyists, are systematically related to changes in legislative activities of members.

We created a member $\times$ staff $\times$ Congress (year) data (N = 58,809) in the House. Out of the set of about 26,480 staffers in our sample, 3,603 staffers moved from one office to another office.

[17] Since our data starts from the 107th Congress, we do not have information how how many alumni staff worked as lobbyists for the 107th Congress. Therefore, this analysis covers the period from the 108th through 113th Congresses.

Figure 2 presents the distribution of staff fixed effects in the House when the outcome variable of interest is LES. The median staffer fixed effects for the LES is zero but there is significant variation in terms of staff fixed effect estimates.

Figure 2: Distribution of Staff Fixed Effects (Regression on (ln) LES)



Next, we tie the differences in staff fixed effects to observable staff characteristics to examine whether staffers' future career choices are correlated with staff fixed effects that are retrieved from the regression on LES. Specifically, we estimate the following regression:

$$\alpha_s = \beta * Became\ Lobbyist_s + \Gamma X_s + \varepsilon_s \tag{3}$$

, where s indicates a staffer. X_s include staffer-level characteristics such as gender and holding a graduate degree. Table 4 presents the results. We have staff gender information for 99% of the sample and have the information about education level for 37% of the sample. We find that staffers who later became lobbyists are positively related to higher staff fixed effects. This provides further evidence that hiring future revolving-door-lobbyists is related to the legislative productivity of members.

The analyses over the previous pages have demonstrated the hiring future revolving door lobbyists is associated with increased member productivity. We have taken careful steps to show that

Table 4: Correlation between Staff FE and Becoming a Lobbyist

	(1)	(2)
DV =	Staff FE	Staff FE
Became Lobbyist	0.0158***	0.0133**
	(3.27)	(2.19)
Female	0.00444	0.00656
	(1.40)	(1.27)
JD or PhD Holder		0.0105*
		(1.71)
N	26450	9887
adj. R^2	0.000	0.001

Note: t statistics in parentheses. $* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$.

these associations are a function of staff effort and are consistent with the regulatory schooling prospective on the impact of career concerns. However, and as we laid out in Section 2, it is possible that career concerns could also influence the types of bills in which members allocate time and energy in ways that we reflect both the schooling and capture perspectives on the impact of career concerns. For example, given that there are disproportionately more clients who care about health issues than public welfare in the lobbying process (Baumgartner et al. 2009), 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.

To test for this type of an effect, we estimate the following model:

$$y_{ijt} = \alpha_i + \alpha_j + \alpha_t + \beta * \text{Future Lobbyist Staff}_{it} + \Gamma X_{it} + \varepsilon_{ijt} \tag{4}$$

, where i, j, and t denote member, committee assignment, and Congress, respectively. y_{ijt} is a log-transformed number of bills sponsored by a member i in each issue area. Given that committee assignment plays a significant role in the types of bills that members introduce, we include a committee fixed effect (α_j).[18] We also include the total number of bills a member introduces in

[18]Members serve on multiple committees in a given Congress. We assign a primary committee based on a member's ranking within each committee (Stewart and Woon 2017) to employ a committee FE.

each Congress as a control variable.

In Figure 3, 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 in the House. Each bar indicates how hiring one additional staffer who later became a lobbyist changes the bill sponsorship in 20 different issue areas from the baseline propensity to sponsor a bill in each issue area.[19] It shows that employing personal staff who later became lobbyists is associated with increased sponsorship of bills on health, education, environment, and domestic commerce. In the Senate, hiring personal staff who later became lobbyists is not associated with increased sponsorship of particular issues.

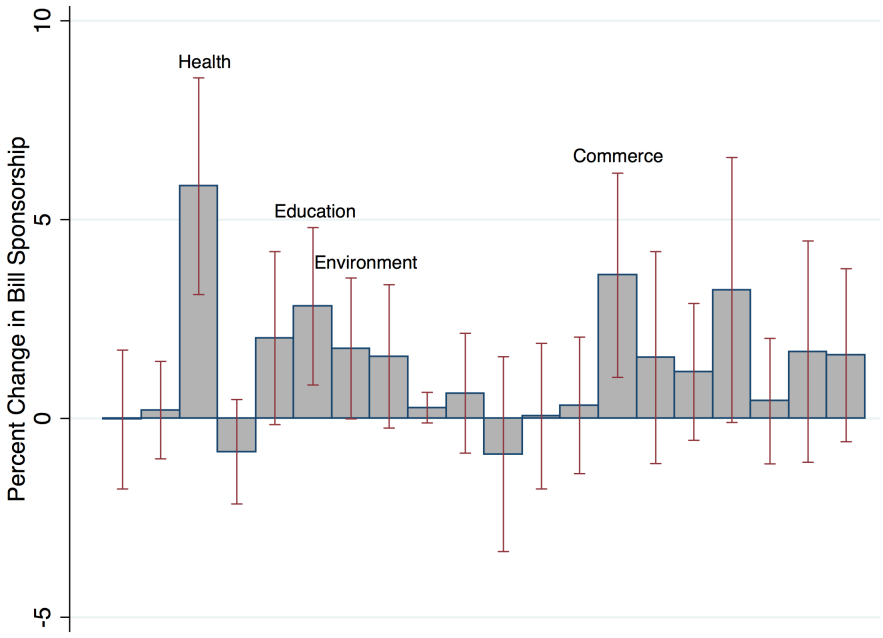
The evidence presented in this section presents a complex picture of how career concerns effect the behaviors of congressional staff. Hiring future revolving-door-lobbyists increases the productivity of members of Congress. This is broadly consistent with the skill-investment perspective of the regulatory schooling theory, where staffers showcase their skills to the lobbying market. However, this increased effort appears to be directed towards the areas of policymaking of most interest to lobbying firms, their prospective employers.

Future Revolvers and Access Granting to Lobbying Firms

In this section, we examine whether offices with more future revolving door staffers grant more access to lobbying firms. Meetings with congressional staff afford interest groups vital opportunities for information transmission in Congress. These meetings also offer staffers an opportunity to display their legislative acumen and increase their exposure to potential future employers. Thus, access granting may play an important role in the relationship between the number of staffers who later became lobbyists in a given office and the member's legislative activities. A significant challenge in testing whether particular member's offices tend to grant more access to lobbying firms is the lack of comprehensive information on lobbying contacts. We take advantage of data on lobbying contacts granted to lobbying firms garnered from the filings mandated by the Foreign Agent

[19] For the regression results, see Table A7 in the Appendix.

Figure 3: Future Lobbyist Staffer and Changes in the Bill Sponsorship by Issue



Note: Each bar indicates the regression coefficient from the 20 separate regressions of the (log) number of bills in 20 major issue areas defined by Adler and Wilkerson (2017) in the House of Representatives. Each regression includes Congress, committee, and member fixed effects, as well as other time-varying member characteristics. Bars with issue names indicate the statistically significant results either at 5% or 10%level and solid lines indicate 95% confidence interval. Issues from the left to right: macroeconomics, civil right, health, agriculture, labor, education, environment, energy, immigration, transportation, law & order, welfare, housing, commerce, defense, technology, trade, international affairs, government operation, and public lands.

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 2018). 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 results of our study should 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.[20] We

[20]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

focus on lobbying firms' activities regarding legislative issues during 2007 through 2010, covering two Congresses (the 110th and the 111th Congresses).[21] To do so, we analyze all lobbying reports that include congressional contacts via phone calls or in-person meetings.[22] 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.[23]

We focus on lobbying contacts made to congressional offices. Another advantage of the FARA lobbying contact data is that it allows us to observe staff-level outcomes. FARA reports indicate whether contacts were made directly with members or with staffers. 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.[24]

We estimate the following model:

$$y_{ijt} = \alpha_j + \alpha_t + \beta * \text{Lobbyist Staff}_{ijt} + \Gamma X_{ijt} + \varepsilon_{ijt} \tag{5}$$

, where i, j, t denote member, committee assignment, and Congress, respectively. X_{ijt} include

submitted reports under FARA since 1995 were foreign governments.

[21] 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, while the remainder was by in-house lobbyists.

[22] In our study, we focus on legislative lobbying. Therefore, lobbying firms that exclusively focused on media and/or executive contacts or legal advice are not included in the analysis.

[23] Figures A2 in the Appendix presents an example of a FARA lobbying report.

[24] Table A2 presents the summary statistics for contacts made between congressional offices and lobbying firms that represented foreign entities in a given period.

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. α_j and α_t indicate committee FE and Congress FE, respectively.[25] Given that we use data on access granted to lobbying firms, we include an interaction term between a number of staffer who later became a lobbyist and whether any of them started their first lobbying career in a lobbying firm (*No. Lobbyist Staff* $\times$ *Hired by Lobbying Firms*).[26]

Table 5 presents the results.[27] Panels A and B present the results for House staff and Senate staff, respectively. Panel A shows that hiring an additional staffer who later became a lobbyist and started their career in a lobbying firm increased 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 staffer who later became a lobbyist. Indeed, the effect of hiring a staffer that was later hired by a lobbying firm on access granting was 2.5 times larger for staffer contacts than for member contacts. In Panel B, we observe a similar results in the Senate, but the size of the relationships are considerably smaller.

Conclusion

In this article, we study the relationship between hiring congressional staffers who later became lobbyists and behavioral changes in the activities of congressional offices in terms of legislative outcomes and the amount of access granted to lobbying firms. Our findings show that hiring a future lobbyist as a current staffer is associated with increased legislative effectiveness, more sponsorship of bills on health, education, and commerce–policy areas that are particularly important to the lobbying market, and the granting of greater levels of access to lobbying firms. We have

[25] Due to the data's relatively short time span (2007-2010), including a member FE significantly reduces the variation we can exploit. Therefore, we include a committee FE to control for the demand for access from lobbying firms that represent foreign governments.

[26] Some staffers who became lobbyists started their career as in-house lobbyists for a specific organization such as Google Inc.

[27] Full regression results are available in Tables A8 and A9 in Appendix A.

Table 5: Future Lobbyists as Staff and Access to Lobbying Firms

Outcome =	(1) Total Contact	(2) Member Contact	(3) Staff Contact
Panel A. House			
No. Lobbyist Staff	0.0182	0.0139	0.116
	(0.05)	(0.11)	(0.44)
No. Lobbyist Staff × Hired by Lobbying Firms	2.203***	0.617***	1.663***
	(3.45)	(3.02)	(3.43)
Member-level Controls	✓	✓	✓
Congress FE	✓	✓	✓
Committee FE	✓	✓	✓
N	872	872	872
adj. R^2	0.357	0.287	0.358
Panel B. Senate			
No. Lobbyist Staff	-1.024	-0.100	-0.885
	(-1.44)	(-0.65)	(-1.40)
No. Lobbyist Staff × Hired by Lobbying Firms	1.112**	0.141	0.978**
	(2.37)	(1.25)	(2.37)
Member-level Controls	✓	✓	✓
Congress FE	✓	✓	✓
Committee FE	✓	✓	✓
N	195	195	195
adj. R^2	0.441	0.252	0.437

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

argued that these changes are best understood as the product of staffer behavior, driven at least partially by post-government career incentives.

The ways in which post-government career concerns affect incentives for human capital accumulation and job performance are 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 for public versus private purposes. Our findings shed light on these distinct effects. Staffers who go through the revolving-door appear to invest in their own legislative skill development and political process knowledge. However, these skills are, in turn, used for the benefit of lobbying firms after, and potentially even *before* the staffers leave Congress.

When we consider these pre-exit effects of the revolving door, the public policy implications

and normative connotations of the revolving-door are less straightforward. Our findings suggest that policy remedies to the revolving-door phenomenon must consider balancing the positive and negative consequences of the existence of the lobbying industry on the incentives of congressional personnel. Positively, the revolving-door seems to incentivize greater legislative productivity and lawmaker effectiveness due to increased staff effort. In this way, having a well-paying private sector where the skills and expertise that staffers accumulate during their tenure in the Congress are highly valued might be good for congressional capacity. However, this productivity appears to come at a cost. The increased legislative effort appears to be slanted towards the issues of most interest to the lobbying industry.[28] Moreover, firms seem to reap greater levels of access to policymakers before and after staff members leave government. Both of which have the potential to bias policymaking.

Our work also has important implications for the role of connections in the rich literature on the revolving door in Congress. Scholars have demonstrated convincingly that connections are valuable in the lobbying sector and that connections tend to translate into better access to policymakers. One could easily interpret this literature as evidence that *whom you know* matters most and *what you know* matters little (Bertrand, Bombardini and Trebbi, 2014). However, our results demonstrate that even when staffers *know* the *same* politicians, they are rewarded in the lobbying market for their legislative skill, whether their efforts have focused on the issues of interest to lobbying firms, and the amount of access they granted to firms.

Beyond this, we believe that this work also highlights aspects of the revolving-door that should receive more focus in the future. While we document a meaningful and robust relationship between the composition of congressional offices in terms of the number of future revolving-door lobbyists and their legislative behaviors, more work is needed to discover more concrete policy outcomes that career concerns might influence. For example, do staffer career concerns shape the content and not just the types of policies pursued by congressional offices? Moreover, more work is needed to connect this kind of analyses to other staffer or staff level outcomes. While we have

[28]This ignores the likely negative effects of enhanced rates of staff turnover that occur because of the lobbying industry.

taken steps to show that the revolving door incentives increased legislative productivity and access-granting to lobbying firms, more work is needed to see how much these pre-exit effects actually bias congressional policymaking.

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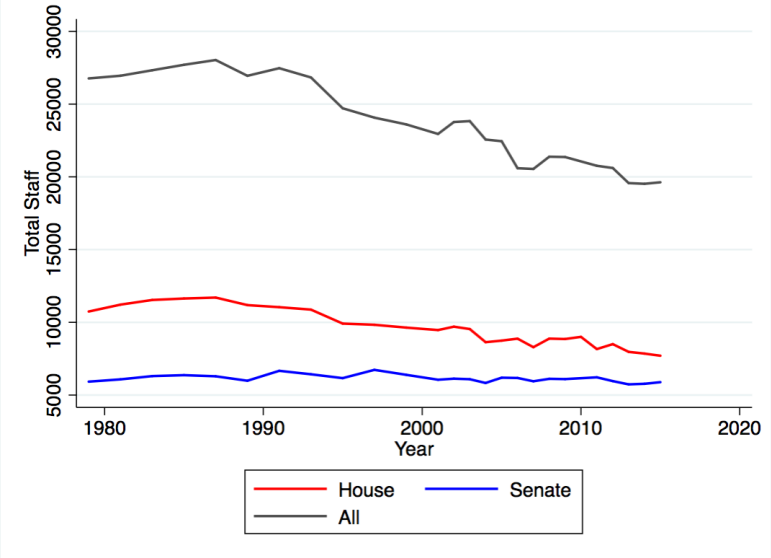
A Appendix: Figures and Summary Statistics

A.1 Number of Congressional Staff Over Time

Figure A1: 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*.

A.2 Summary Statistics of Staffers in Congress

Table A1 presents the summary statistics for congressional personal and committee staffers.

Table A1: Summary Statistics of Congressional Staff

Congress	No. Staff[a]	Female (%)	Average Total Compensation ($K)[b]	Turnover (%)[c]
Panel A: Personal Staff				
107	13,751	56.1	91	37.2
108	14,012	56.1	95	35.3
109	14,303	54.7	93	38.9
110	14,324	54.4	91	36.1
111	14,320	54.5	98	39.3
112	13,793	53.1	94	39.2
113	13,194	52.4	90	-
Panel B: Committee Staff				
107	2,622	44.3	127	37.3
108	2,723	44.3	141	34.9
109	2,822	43.7	135	44.2
110	2,855	45.7	137	36.1
111	3,045	45.4	147	44.2
112	2,755	43.2	134	36.8
113	2,647	43.7	128	-

Note: The unit of observation is staff $\times$ congress. **a.** Total number of personal office staffers who had a payment record and worked more than 6 months. **b**. This is the average total compensation given per congressional term (two years, in 2014 dollar term). **c.** Percentage of staffers enrolled in the payroll in a given Congress but did not appear in the payroll in the subsequent Congress.

A.3 An Example of FARA Report

Figure A2: A Lobbying Report Submitted by a Lobbying Firm, DLA Piper LLP in 2009

DLA Piper LLP (US) **(Page 15)**
FARA Supplemental Statement
for the period March 1, 2009 -- August 31, 2009
Attachments

Date	Mode of Communication	Name of Contact	Title of Contact	Contact Office	Topic of Exchange
Government of Afghanistan					
3/18/09	Telephone	David Wade	Chief of Staff	Sen. John Kerry	US-Afghanistan relations and meeting request
German State of Rheinland-Pfalz					
3/11/09	Telephone	Lucian Niemeyer	Professional Staff	Senate Armed Services Committee	European military bases
4/1/09	E-mail	Ryan Kaldahl	Legislative Director	Rep. Randy Forbes	Military housing
5/28/09	E-mail	Randy Zarate; Mark Carrie	Scheduler; Legislative Assistant; Counsel	Rep. Solomon Ortiz	Meeting request
6/9/09	E-mail	Drey Samuelson	Chief of Staff	Sen. Tim Johnson	Meeting request
6/9/09	E-mail	Emily Hall	Executive Assistant	Rep. Zach Wamp	Meeting request
6/9/09	E-mail	Martin Delgado	Minority Clerk	House Appropriations Military Construction Subcommittee	Meeting request
6/9/09	Telephone	Maggie Piggott	Scheduler	Sen. Richard Burr	Meeting request
6/10/09	Telephone	Ryan Kaldahl	Legislative Director	Rep. Randy Forbes	Meeting request
6/11/09	Telephone	Lucian Niemeyer	Professional Staff	Senate Armed Services Committee	Meeting request
6/15/09	Telephone	Richard Merew	Legislative Director	Rep. Elton Gallegly	Meeting request
6/16/09	Meeting	Lucian Niemeyer	Professional Staff	Senate Armed Services Committee	US military bases in Rheinland-Pfalz
6/16/09	Meeting	Barbara Westgate	Assistant Deputy Chief of Staff for Strategic Plans and Programs	U.S. Air Force	US military bases in Rheinland-Pfalz
6/16/09	Meeting	Bill Castle	Legislative Assistant	Sen. Orin Hatch	US military bases in Rheinland-Pfalz
6/17/09	Meeting	Rep. Bill Delahunt	Representative	Rep. Bill Delahunt	US military bases in Rheinland-Pfalz
6/17/09	Meeting	Rep. Solomon Ortiz	Representative	Rep. Solomon Ortiz	US military bases in Rheinland-Pfalz
6/29/09	Telephone	Ryan Kaldahl	Legislative Director	Rep. Randy Forbes	F-16 reduction issues
6/29/09	Meeting	Ryan Kaldahl	Legislative Director	Rep. Randy Forbes	F-16 reduction issues
6/29/09	Meeting	Ryan Crumpler	Legislative Assistant	Rep. Howard McKeon	F-16 reduction issues

A.4 Summary Statistics on Access to Lobbying Firms

Table A2: Access Granted to Lobbying Firms, 2007-2010

	N	Mean	SD	Min.	Max.
Panel A. House					
No. Meeting	872	5.1	7.8	0	72
No. Phone Call	872	4.0	7.1	0	69
No. Member Contact	872	2.9	4.4	0	50
No. Staff Contact	872	6.9	11.1	0	104
Panel B. Senate					
No. Meeting	195	9.0	8.0	0	49
No. Phone Call	195	9.3	11.6	0	95
No. Member Contact	195	3.5	3.3	0	21
No. Staff Contact	195	15.8	15.7	0	93

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

A.5 Lobbying Issues

There were 736,116 unique lobbying reports submitted during the period between 1998 and 2014. The Lobbying Disclosure Act (2 U.S.C. ξ 1604(b)) requires registrants to report specific information about the nature of their 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 issues in a given period. Table A3 presents the number of lobbying reports submitted under each general code between 1998 and 2014.

Table A3: 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

B Appendix: Full Regression Results

Table A4: Future Lobbyists as Staff and Legislative Activities: House (107th - 113th)

	(1) LES	(2) Total Bill[a]	(3) SS. Bill[b]	(4) LES	(5) Total Bill	(6) SS Bill
No. Non-Lobbyist Staff	0.0189***	0.0528***	0.00264	0.0184***	0.0422***	0.00441
	(7.14)	(8.23)	(1.37)	(4.57)	(6.36)	(1.29)
(ln) Mean Salary	0.201***	0.471***	0.0439	0.358***	0.809***	0.120**
	(4.35)	(4.28)	(1.28)	(4.97)	(7.05)	(1.98)
Female Staff Ratio	-0.0388	-0.232	0.0588	0.0471	0.190	-0.0484
	(-0.43)	(-1.35)	(1.04)	(0.38)	(1.04)	(-0.41)
No. Lobbyist Personal Staff	0.0252***	0.0761***	0.00853*	0.0317***	0.0767***	0.00771
	(3.75)	(5.68)	(1.67)	(2.91)	(5.63)	(0.82)
No. Lobbyist Committee Staff	0.0159***	0.00215	0.0164***	0.0117**	0.0169**	0.0101*
	(3.70)	(0.33)	(3.42)	(2.23)	(2.39)	(1.65)
Majority	0.264***	0.190***	0.118***	0.256***	0.161***	0.0981***
	(14.33)	(5.94)	(8.53)	(10.69)	(4.62)	(5.16)
DW-NOMINATE	-0.182***	-0.356**	-0.0462	-0.265	-0.158	-0.450**
	(-2.58)	(-2.18)	(-0.99)	(-1.24)	(-0.53)	(-2.04)
Budget	-0.0521**	-0.0125	-0.0216	-0.0132	0.0382	0.00441
	(-1.98)	(-0.28)	(-1.15)	(-0.44)	(0.75)	(0.18)
Committee Chair	0.739***	0.358***	0.645***	0.802***	0.349***	0.757***
	(10.51)	(4.87)	(7.98)	(9.54)	(4.08)	(7.35)
Subcommittee Chair	0.194***	0.0734*	0.134***	0.186***	0.137***	0.156***
	(7.11)	(1.77)	(5.03)	(5.40)	(3.29)	(4.42)
Seniority	0.0109***	0.00701	0.0114***	-0.000808	-0.0227	0.00703
	(3.34)	(1.11)	(6.24)	(-0.05)	(-1.27)	(0.27)
Majority Leader	0.191***	-0.00601	0.179***	0.272***	0.177*	0.168**
	(3.88)	(-0.07)	(3.22)	(4.29)	(1.76)	(2.26)
Minority Leader	-0.0581	-0.00809	-0.00927	0.0228	0.0959	-0.0260
	(-1.60)	(-0.08)	(-0.46)	(0.62)	(1.01)	(-0.58)
Powerful Committee	-0.0696***	-0.0709	0.0679***	-0.114***	0.176***	-0.0372
	(-3.18)	(-1.33)	(3.76)	(-3.30)	(3.06)	(-1.10)
Democrat	-0.193***	-0.179	-0.0881*			
	(-2.72)	(-1.12)	(-1.94)			
Member Became Lobbyist	-0.00568	-0.0140	0.00739			
	(-0.22)	(-0.25)	(0.35)			
Female	-0.00680	0.0996*	0.00248			
	(-0.27)	(1.69)	(0.16)			
African-American	-0.0716**	0.0107	-0.0358**			
	(-2.55)	(0.11)	(-2.08)			
Latino	-0.0216	-0.113	-0.0365*			
	(-0.52)	(-1.34)	(-1.66)			
State Legislature	0.0164	-0.00872	0.0232*			
	(0.87)	(-0.21)	(1.78)			
Southern Democrat	-0.0228	-0.339***	-0.00551			
	(-0.86)	(-4.03)	(-0.36)			
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	3070	3070	3070	3070	3070	3070
adj. R^2	0.411	0.157	0.360	0.579	0.620	0.426

Note: The unit of observation is member × congress. t statistics in parentheses. $* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$. Standard errors are clustered at member-level. All three outcome variables are highly skewed in the distributions so we use log-transformed each variable as outcome measures. a. Total number of bills that a member sponsored in a given Congress. b. Significant and Substantial Bills (Volden and Wiseman 2014).

Table A5: Future Lobbyists as Staff and Legislative Activities: Senate (107th - 113th)

	(1) LES	(2) Total Bill[a]	(3) SS Bill[b]	(4) LES	(5) Total Bill	(6) SS Bill
No. Non-Lobbyist Staff	0.00569**	0.0230***	0.0234***	0.000904	0.0170**	0.0138*
	(2.55)	(4.77)	(4.89)	(0.28)	(1.98)	(1.95)
(ln) Mean Staff Salary	0.0270	0.0666	0.0232	0.148	0.860*	0.657*
	(0.20)	(0.18)	(0.07)	(0.98)	(1.69)	(1.72)
Female Staff Ratio	-0.599***	-0.749	-0.732	-0.644*	-0.370	-0.139
	(-3.37)	(-1.54)	(-1.47)	(-1.84)	(-0.88)	(-0.32)
No. Lobbyist Personal Staff	0.000105	0.0163	0.0213	-0.000151	0.00983	0.0151
	(0.02)	(1.04)	(1.38)	(-0.02)	(0.71)	(1.06)
No. Lobbyist Committee Staff	0.00296	0.0126	0.0151	0.00665	0.00603	0.00473
	(0.58)	(1.36)	(1.52)	(1.17)	(1.04)	(0.68)
Majority	0.184***	0.217*	0.113	0.202***	0.166	0.109
	(3.82)	(1.75)	(1.01)	(3.69)	(1.64)	(1.06)
DW-NOMINATE	-0.261**	-0.293	-0.295	2.859	8.432	8.056
	(-2.09)	(-0.90)	(-0.90)	(0.29)	(0.33)	(0.37)
Committee Chair	0.376***	0.0305	0.0586	0.341***	0.163**	0.169**
	(5.95)	(0.23)	(0.43)	(5.22)	(2.05)	(1.99)
Subcommittee Chair	0.0608	0.0771	0.166	0.0695	0.0491	0.123
	(1.25)	(0.63)	(1.53)	(1.28)	(0.57)	(1.47)
Seniority	0.00981**	0.0108	0.00401	0.0111	-0.00104	-0.0218
	(2.12)	(0.98)	(0.35)	(1.01)	(-0.06)	(-1.13)
Majority Leader	-0.0239	0.00577	-0.178	0.0172	0.0479	-0.0293
	(-0.29)	(0.04)	(-1.20)	(0.23)	(0.45)	(-0.26)
Minority Leader	-0.00981	-0.118	-0.195	0.00836	-0.0850	-0.0790
	(-0.20)	(-0.87)	(-1.20)	(0.12)	(-1.03)	(-0.91)
Powerful Committee	-0.0158	-0.120	-0.0977	-0.0225	0.0532	0.0614
	(-0.51)	(-1.38)	(-1.14)	(-0.48)	(0.79)	(0.83)
Up for Reelection	0.0409**	0.181***	0.173***	0.0511**	0.165***	0.151***
	(2.03)	(3.88)	(3.55)	(2.24)	(4.89)	(4.00)
Freshman	-0.217***	-0.536***	-0.502***	-0.200***	-0.425***	-0.447***
	(-5.93)	(-5.17)	(-4.91)	(-5.08)	(-5.31)	(-5.16)
Democrat	-0.188*	0.0609	0.132			
	(-1.86)	(0.23)	(0.50)			
African-American	-0.0697	-0.515	-0.455			
	(-0.61)	(-0.55)	(-0.52)			
Latino	-0.00654	0.487*	0.381			
	(-0.08)	(1.67)	(1.32)			
Southern Democrat	-0.0939	-0.0938	-0.169			
	(-1.57)	(-0.71)	(-1.23)			
Female	0.0519	0.0816	0.0864			
	(1.06)	(0.71)	(0.72)			
State Legislature	0.0174	0.0579	0.0693			
	(0.51)	(0.62)	(0.73)			
House Experience	-0.0513	0.0457	0.0427			
	(-1.05)	(0.42)	(0.38)			
House LES	0.0807*	-0.0518	-0.0215			
	(1.97)	(-0.50)	(-0.21)			
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	697	697	697	697	697	697
adj. R^2	0.460	0.305	0.305	0.638	0.826	0.797

Note: The unit of observation is member × congress. t statistics in parentheses. $* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$. Standard errors are clustered at member-level. All three outcome variables are highly skewed in the distributions so we use log-transformed each variable as outcome measures. a. Total number of bills that a member sponsored in a given Congress. b. Significant and Substantial Bills (Volden and Wiseman 2014).

Table A6: Future Lobbyists as Staff, Majority Party Status, and the Alumni Staff as Lobbyists (House)

	(1) LES	(2) No. Bills[a]	(3) SS Bills[b]	(4) LES	(5) No. Bills	(6) SS Bills
Panel A: Majority Party Status						
No. Lobbyist Staff	0.0169**	0.0547***	0.00203	0.0273**	0.0638***	0.00564
	(2.44)	(3.19)	(0.50)	(2.41)	(3.71)	(0.62)
No. Lobbyist Staff ×Majority Party	0.0154	0.0392**	0.0119	0.00875	0.0253	0.00407
	(1.49)	(2.31)	(1.27)	(0.68)	(1.42)	(0.31)
Member-level Controls	✓	✓	✓	✓	✓	✓
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	3070	3070	3070	3070	3070	3070
adj. R^2	0.412	0.158	0.360	0.579	0.620	0.426
Panel B: Alumni Staffer Lobbyist						
No. Lobbyist Staff	0.0253***	0.0736***	0.00774	0.0413***	0.0962***	0.0205
	(3.52)	(5.27)	(1.42)	(2.92)	(5.11)	(1.61)
No. Alumni Staff as Lobbyists	-0.00464	0.0285*	-0.000412	-0.00113	0.0139	0.0218
	(-0.64)	(1.69)	(-0.07)	(-0.07)	(0.58)	(1.29)
Member-level Controls	✓	✓	✓	✓	✓	✓
Congress FE	✓	✓	✓	✓	✓	✓
Member FE				✓	✓	✓
N	2630	2630	2630	2630	2630	2630
adj. R^2	0.405	0.152	0.358	0.568	0.622	0.410

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

Table A7: Future Lobbyists as Staff and Legislative Activities by Issue Areas

	House	**Senate**
	(1)	(2)
1. Macroeconomics	-.00028	-0.00593
	(.00891)	(0.0219)
2. Civil Rights	.00209	0.0133
	(.00625)	(0.0139)
3. Health	.0584**	-0.0371
	(.0139)	(0.0192)
4. Agriculture	-.00838	0.0137
	(.0067)	(0.0160)
5. Labor	.0202	0.000101
	(.0111)	(0.0204)
6. Education	.0282**	0.0167
	(.0101)	(0.0213)
7. Environment	.0176*	0.00124
	(.00904)	(0.0218)
8. Energy	.0156*	0.0171
	(.0092)	(0.0198)
9. Immigration	.00271	0.00709
	(.00196)	(0.00538)
10. Transportation	.00634	0.000613
	(.00769)	(0.0186)
11. Law and Crime	-.00898	0.0128
	(.0125)	(0.0171)
12. Social Welfare	.000573	0.00842
	(.00934)	(0.0145)
13. Housing	.00328	-0.00337
	(.00876)	(0.0151)
14. Commerce	.036**	-0.0128
	(.0131)	(0.0225)
15. Defense	.0153	-0.0153
	(.0136)	(0.0217)
16. Technology	.0117	-0.00615
	(.00878)	(0.0178)
17. Foreign Trade	.0323*	-0.00620
	(.017)	(0.0331)
18. International Affairs	.00435	-0.00623
	(.00805)	(0.0176)
19. Government Operation	.0168	0.000245
	(.0142)	(0.0191))
20. Public Lands	.0159	0.00504
	(.0111)	(0.0186)
Member-level Controls	✓	✓
Congress FE	✓	✓
Member FE	✓	✓
Committee FE	✓	✓

Note: The unit of observation is member $\times$ congress. Each number under Columns (1) and (2) indicates the coefficient from the separate regressions for each issue area (dependent variables are log-transformed number of bills introduced by each member in each issue area) for each independent variable of interest. Standard errors are in parentheses. $*$ $p < 0.10$, $**$ $p < 0.05$, $***$ $p < 0.01$. Standard errors are clustered at member-level. The number of observation is 3,070 in the House regressions and 697 in the Senate regressions.

Table A8: Future Lobbyists as Lobbyists and Access to Lobbying Firms: House (110th - 111th)

	(1) Total Access	(2) Member Access	(3) Staff Access
No. Lobbyist Personal Statff	0.0182	0.0139	0.116
	(0.05)	(0.11)	(0.44)
No. Lobbyist Personal Staff × Hired by Lobbying Firm	2.203***	0.617***	1.663***
	(3.45)	(3.02)	(3.43)
No. Lobbyist Committee Staff	-0.210	-0.0150	-0.226
	(-1.12)	(-0.20)	(-1.73)
No. Non-Lobbyist Staff	-0.0689	-0.00242	-0.0363
	(-0.43)	(-0.05)	(-0.29)
(ln) Mean Staff Salary	3.103	0.435	2.513
	(1.30)	(0.55)	(1.35)
Female Staff Ratio	-2.648	-0.619	-1.453
	(-0.55)	(-0.44)	(-0.38)
LES	1.922*	0.694	1.154**
	(1.93)	(1.53)	(2.03)
Majority Party	-2.158	-1.001	-1.196
	(-0.66)	(-1.00)	(-0.46)
DW-NOMINATE	-0.319	-0.0873	-0.538
	(-0.09)	(-0.08)	(-0.20)
Budget Committee	-0.915	-0.344	-0.619
	(-0.80)	(-0.70)	(-0.76)
Committee Chair	1.865	-0.0662	2.452
	(0.40)	(-0.05)	(0.66)
Subcommittee Chair	3.158**	0.671	2.646**
	(2.05)	(1.45)	(2.21)
Seniority	-0.0392	0.0121	-0.0165
	(-0.26)	(0.23)	(-0.14)
Majority Leader	1.205	-0.250	2.024
	(0.39)	(-0.31)	(0.76)
Minority Leader	-2.275	-0.528	-1.382
	(-0.69)	(-0.39)	(-0.54)
Powerful Committee	4.150**	1.220**	2.898*
	(2.03)	(1.99)	(1.83)
Congress FE	✓	✓	✓
Committee FE	✓	✓	✓
N	872	872	872
adj. R^2	0.357	0.287	0.358

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

Table A9: Future Lobbyists as Lobbyists and Access to Lobbying Firms: Senate (110th - 111th)

	(1) totmeeting	(2) nummemcontact	(3) numstaffcontact
No. Lobbyist Personal Staff	-1.024	-0.100	-0.885
	(-1.44)	(-0.65)	(-1.40)
No. Lobbyist Personal Staff × Hired by Lobbying Firm	1.112**	0.141	0.978**
	(2.37)	(1.25)	(2.37)
No. Lobbyist Committee Staff	0.172	-0.0851	0.117
	(0.29)	(-0.72)	(0.22)
No. Non-Lobbyist Staff	0.180	0.0180	0.181
	(1.53)	(0.66)	(1.76)
(ln) Mean Salary	1.439	0.0864	3.515
	(0.21)	(0.05)	(0.55)
Female Staff Ratio	-22.62	-4.039	-17.70
	(-1.75)	(-1.39)	(-1.50)
LES	4.715***	0.126	4.988***
	(3.72)	(0.30)	(4.38)
Majority Party	6.927	1.240	6.162
	(1.43)	(1.04)	(1.45)
DW-NOMINATE	17.25***	3.363**	14.30***
	(2.79)	(2.21)	(2.63)
Committee Chair	-3.406	0.980	-3.237
	(-0.55)	(0.81)	(-0.58)
Subcommittee Chair	1.479	0.707	0.448
	(0.45)	(0.90)	(0.15)
Seniority	0.606	0.168	0.472
	(1.69)	(1.85)	(1.47)
Majority Party Leader	-5.922	-0.936	-4.085
	(-1.24)	(-0.95)	(-0.95)
Minority Party Leader	10.08	1.069	9.097
	(1.57)	(1.14)	(1.49)
Powerful Committee	-1.308	-0.911	-0.782
	(-0.43)	(-1.30)	(-0.28)
Up for Reelection	1.766	0.972	0.726
	(0.86)	(1.78)	(0.38)
Freshman	-3.823	-1.297	-3.188
	(-1.19)	(-1.78)	(-1.01)
Congress FE	✓	✓	✓
Committee FE	✓	✓	✓
N	195	195	195
adj. R^2	0.420	0.238	0.418

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

Table A10: Lagged Member Characteristics and Hiring Future Lobbyist Staff: House (108th - 113th)

DV = Number of Future Lobbyist Staff	(1)	(2)
Lagged LES	-0.0282	-0.000392
	(-0.77)	(-0.01)
Lagged No. Sponsored Bill	0.000818	0.00258
	(0.28)	(0.70)
Lagged No. Substantial Bill	0.0667	0.0153
	(1.44)	(0.29)
Lagged Majority Party	-0.105	-0.158*
	(-1.45)	(-1.91)
Lagged Budget Committee	-0.0602	-0.151
	(-0.54)	(-1.23)
Lagged Committee Chair	-0.0832	0.169
	(-0.45)	(0.98)
Lagged Subcommittee Chair	0.0173	0.0735
	(0.19)	(0.77)
Lagged Seniority	-0.00578	0.108**
	(-0.44)	(2.34)
Lagged Majority Leader	0.541***	0.104
	(2.79)	(0.35)
Lagged Minority Leader	0.173	-0.375
	(0.89)	(-1.24)
Lagged Powerful Committee	0.0221	-0.0274
	(0.23)	(-0.20)
Lagged Number of Staff	-0.0103	-0.0151
	(-0.78)	(-1.05)
Lagged Mean Staff Salary	-0.196	-0.160
	(-0.85)	(-0.63)
Lagged Female Staff Ratio	-0.584*	-0.284
	(-1.73)	(-0.67)
Democrat	-0.217**	
	(-2.21)	
Member Became Lobbyist	0.568***	
	(4.43)	
Female	0.145	
	(1.08)	
African-American	-0.423***	
	(-3.07)	
Latino	-0.353**	
	(-2.17)	
State Legislature	-0.00644	
	(-0.08)	
Southern Democrat	0.0842	
	(0.56)	
Congress FE	✓	✓
Member FE		✓
N	2221	2221
adj. R^2	0.188	0.595

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

Table A11: Lagged Member Characteristics and Hiring Future Lobbyist Staff: Senate (108th - 113th)

DV = Number of Future Lobbyist Staff	(1)	(2)
Lagged LES	-0.0534	0.0108
	(-0.35)	(0.08)
Lagged No. Sponsored Bill	-0.0153	0.00979
	(-1.06)	(0.65)
Lagged No. Substantial Bill	0.0170	-0.0171
	(1.06)	(-1.05)
Lagged Majority Party	0.168	0.302
	(1.03)	(1.63)
Lagged Freshman	-0.0704	-0.0765
	(-0.24)	(-0.25)
Lagged Majority Party	-0.465	-0.262
	(-1.33)	(-0.69)
Lagged Committee Chair	0.0556	0.368
	(0.13)	(0.93)
Lagged Subcommittee Chair	0.365	-0.106
	(1.06)	(-0.30)
Lagged Seniority	-0.0152	-0.587***
	(-0.42)	(-7.91)
Lagged Majority Leader	0.246	-0.274
	(0.49)	(-0.60)
Lagged Minority Leader	-0.332	-0.110
	(-0.74)	(-0.30)
Lagged Powerful Committee	0.833**	-0.100
	(2.43)	(-0.23)
Lagged Number of Staff	0.0233	-0.0415
	(1.00)	(-1.42)
Lagged Mean Staff Salary	-0.474	-0.234
	(-0.37)	(-0.16)
Lagged Female Staff Ratio	-3.674**	-1.191
	(-2.22)	(-0.54)
Democrat	-0.331	
	(-0.91)	
Member Became Lobbyist	0.501	
	(0.88)	
Female	0.707*	
	(1.73)	
African-American	-0.819	
	(-1.51)	
Latino	1.310**	
	(2.26)	
State Legislature	-0.476	
	(-1.65)	
Southern Democrat	0.625	
	(1.47)	
Congress FE	✓	✓
Member FE		✓
N	518	518
adj. R^2	0.350	0.703

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