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Labor Markets, Policymaking, and Representation in Congress

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An abstract of
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Abstract

Labor Markets, Policymaking, and Representation in Congress
By Joshua McCrain

In political institutions, personnel are politics. In congressional scholarship, the importance and influence of congressional staff is well-studied: members of Congress rely on their staff in all aspects of their representational tasks. In this dissertation, I argue that the influence of legislative staff on congressional policymaking and representation is shaped by the way members strategically employ their resources for personnel and how these allocation choices interact with individual staff career concerns and the collective labor market. In the first chapter, I demonstrate that district traits and demographics, such as median income, urbanness, and competitiveness, predict personnel allocations. Richer constituents tend to have greater representation in policymaking as measured by staff allocations, while poorer districts see more resources dedicated to constituent service. In the second chapter, I suggest that these allocation choices shape the influence of staff in Congress through the labor market. Specifically, staff with higher levels of human capital select into offices with more electoral security and higher potential for policy influence. Offices that spend more of their resources in policy possess higher human capital staff. In the final chapter, I show evidence that staff do in fact attempt to strategically build their careers on Capitol Hill, incentivized by future payoffs in the private sector, specifically in lobbying. Taken together, this dissertation shows that the influence of staff in Congress is shaped by an interaction of legislator incentives and labor market concerns, with important implications for representation.

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I am very grateful to the advice, support, mentorship, and friendship of many individuals during my time at Emory.

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what I was excited about.

For Danielle, Mom & Dad

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Chapter 1

Introduction

Policymaking in legislatures involves individuals interacting with legislative institutions. In the U.S. Congress, a majority of the policymaking, constituency service, and information gathering work is performed by staff working behind the scenes. These staff, a long-studied feature of Congress, are of increased importance in recent decades due to the removal of other internal sources of expertise and assistance available to members of Congress. Simultaneously, the demand for individuals with congressional staff backgrounds has dramatically increased in the private sector, especially in lobbying, while the role of serving as a staffer has worsened. My dissertation consists of three essays on staffing, the internal congressional staff labor market and career concerns, and the use of legislative resources.

The foundational assumption in this dissertation is staff are important and influential in Congress. A broad research agenda, largely qualitative in nature, informs this assumption and facilitates a categorization of staff influence as follows. First, staff are the access point for most individuals seeking congressional influence, includ-

ing constituents, district stakeholders, other legislators, and special interests (Fox and Hammond 1977, Grose 2011, Kalla and Broockman 2016). This ability to control access allows them to filter out who gets heard and seen by the member herself (Whiteman 1995). Next, staff have direct access to the elected member of Congress, which permits them direct influence over legislative entrepreneurship and policy agendas of the office (Hall 1996, Price 1971, Romzek and Utter 1997). Finally, staff have substantial ability to control information that reaches their principal, including deciding what information to initially seek Curry (2015), Malbin (1980), Montgomery and Nyhan (2017), Whiteman (1995). These categorizations are of course not mutually exclusive.

This prior research suggests multiple avenues through which staff are influential but does not consider staffer-side explanations for their role in Congress. Accounts of congressional staff, particularly recently, highlight the need to focus on staffer careers due to potential influence exerted by private sector employers with the ability to offer outsized salaries (Blanes i Vidal, Draca and Fons-Rosen 2012, Cain and Drutman 2014, Congressional Management Foundation 2017, LaPira and Thomas 2017). My research argues that, given this importance, we should think carefully in both methodological and theoretical terms about uncovering the influence of staff. To do so, we must consider how legislators use this resource and how that interacts with staffer incentives and career concerns. If legislative staff can shape information, legislator behavior, and district representation then it is important to understand what shapes an office's human capital both a supply and demand and institutional perspective.

The motivating questions behind this research agenda consist of: 1) What do legislators consider when allocating their vast personnel resources? 2) How do legislators use staff in pursuit of their objectives? 3) What features of the labor market for staff drive selection into certain offices and roles, and how do members respond to these supply-side considerations? 4) What are implications of these questions for representation?

I consider the institutional arrangement itself as worthy of study and to be somewhat puzzling. Congress sets its own allocations for use of personnel (part of the Member Representational Allowance), which is much larger in Congress than in almost any other advanced democracy. Even backbench rank-and-file members have access to massive amounts of money and (potentially) qualified personnel to place in their offices and their districts. Yet, Congress also feels as if it does not have adequate capacity to perform its constitutionally mandated roles, as evidenced by recent efforts by the Select Committee on Modernization. The largest area needing improvement they believe is in their personnel. A careful descriptive analysis of the equilibrium created by this institutional setup is an important contribution of this dissertation.

Other legislatures possess much different arrangements in the use of resources in personnel for individual legislators. Most Western European democracies, including the European Parliament, assign staff to their members; the staff are typically employed by the party or legislator itself. Some legislators do not provide any specific staff to their members and instead members must use non-partisan technocratic staff for policymaking assistance. In the U.S. states, where many legislatures are modeled after Congress, members have no access to personal staff or non-partisan staff. Some

legislatures require leadership approval of hiring of individual staffers. In fact, the most similar legislature in the world to Congress in these matters is California.

My dissertation examines the outcome of a system where members confront a competitive labor market and where individual staff have clear career concerns. Problematic to the legislator, these career concerns do not necessarily, or even frequently, align with the preferences of the legislator who is doing the hiring. For instance, staff do not wish to work in competitive offices because it could put them without a job every two years. However, even competitive legislators need qualified staff; from the point of view of the party wishing to secure majorities, these legislators may need qualified staff the most in order to bolster their re-election chances. Additionally, legislators strategically allocate their resources towards fulfilling the demands of their constituents. If their constituents place more demands on their office for, say, constituency service or assistance with government programs, legislators respond by placing more staff in those assigned roles. My dissertation argues and shows evidence for this affecting that office's position in the overall labor market. Staff desire positions of policy influence, and offices primarily focusing on constituency service struggle to offer these sorts of roles.

Taken together, this argument suggests human capital is not equally dispersed throughout Congress. Further, given the presumed and established importance of staff on Capitol Hill, these imbalances in human capital have implications for congressional representation. Some members from some districts are systematically in better positions for affecting policymaking. Others, from regularly competitive, poorer, rural districts, must allocate resources in such a way that places them at a disadvantage

when attempting to hire and retain qualified staff. This in turn results in members from wealthier, safer districts gaining seniority and more positions of policy influence which facilitates attracting better staff. It also enables them to more effectively produce legislation, resulting in more of the collective policymaking output of Congress coming from a certain type of district.

Paper 1: Legislative Resources, Staff, and Inequality in Representation

In this paper, I argue that examining the use of staffing resources at the individual district and member level allows us to learn about member priorities. It is a measure of their revealed preferences, especially since staffing is so essential to performance in Congress. Based on theoretical and empirical work that analyzes legislator styles and what strategic considerations shape their use of resources, I argue these mechanisms should also be true within the use of personnel. Specifically, legislators facing competitive elections allocate more towards constituency service. Districts that place more demand on their legislator for constituency service, such as help with government programs, have legislators that respond to these constraints and in turn allocate more resources to constituency service. These districts tend to be poorer and more rural.

I find that legislators do allocate personnel resources based on these considerations; wealthy, urban, and electorally secure districts spend substantially more in policymaking and less in constituency service. Moreover, there are large differences in districts that have frequent turnover, either due to elections or resignations of their elected representative. This suggests a systematic advantage for certain mem-

bers and districts: those that can build longer careers on Capitol Hill can gain more policy influence, establish better electoral fortunes, and invest in areas that attract staff. Based on the assumption that staff are influential, this also enables them to better affect policymaking, again providing a leg up in the internal labor market. I also find that these patterns remain largely constant within districts, regardless of who exactly is representing it.

The primary conclusions of this paper are to 1) provide evidence of congressional resource allocations using a less-fungible measure of relative importanc: personnel; and 2) to establish that certain districts systematically look certain ways at the macro level. Each of these conclusions has important implications for policymaking and collective representation, as well as institutional discussions on reforming the way members are assigned and can use their resources. I also use unique data on overall office disbursements, showing that personnel spending is substitutable for franked mail spending, a common measure of constituency service.

This paper links the strategic use of resources, and the constraints placed on those resources based on district preferences, to the human capital of Congress. It suggests that providing flexibility to members of Congress in how they use resources allows them to best serve their constituents and their own abilities to remain in office – an objective shared by party leadership. While constituents in poorer and more rural districts may be receiving more constituency service representation by their elected representative, they are also not as strongly represented in the policymaking arena.

The system allows a more nimble response to district traits than some alternative, more centralized system that is in evidence in comparative settings. As such, the

avenue through which staff influence legislators and representation comes through how these district traits shape the labor market. Individual staffer career concerns lead to selection into (and retention within) specific types of offices. The next paper considers specific labor market implications at both the aggregate office level and the individual staffer level, demonstrating further evidence for supply-side mechanisms as an important determinant of the influence of staff.

Paper 2: Human Capital on Capitol Hill

I next analyze specific trends of the congressional staff labor market. I examine macro level data on important and previously unknown features of congressional staffing, including tenure, turnover, and salary trajectories. I find evidence of short careers over time (although only through examining recent decades), contrary to popular evidence that staff turnover more frequently now than in prior years. I also find that salaries have stagnated or decreased across all positions, while salaries have increased for these individuals in the lobbying industry and cost of living in DC has grown.

Then, premised on the argument that staff are strategic and value stability and positions of policy impact, I look at individual, member, and district level predictions related to human capital. I first find that electoral fortunes relate to congressional careers, with staff in competitive districts having shorter careers. Further, districts with frequent turnover in legislators that represent them also are at a disadvantage in staff human capital. I measure human capital in a variety of ways, including years of Hill experience, prior individual experiences such as in committees or government service, and the possession of graduate degrees. Across all measures, competitive

districts and those districts with high turnover see large decreases.

Finally, I take the ideas from the previous paper to look at how allocation choices relate to staff career concerns. I find that offices that proportionally spend more on constituency service relative to policymaking possess staff with less Hill experience in aggregate and on average, and their staff have lower rates of other human capital. These are important contributions to the literature of policymaking and staffing, as little is previously known about the structure of this labor market. There is substantial evidence that staff respond to how legislators run their office, and certain features of an office place that office and district in losing positions relative to the labor market.

An important implication from this paper is that the evidence supports a systematic selection effect on the part of staffers. Those staff with higher levels of human capital, such as more Hill experience or possession of a graduate degree, are better able to withstand career shocks such as election losses. They are also more likely to move into the offices of senior, electorally safe members with positions of higher institutional authority. This suggests, then, that a particularly strong avenue of influence of staff comes through selection into working for members with greater *potential* impact in policymaking. The observation that staff do affect policy comes not necessarily through how individual staffers drive more productivity, but by the rotation of experienced staff into effective offices. Labor market asymmetries can create a feedback loop that reinforces who has power in policy in Congress.

Paper 3: Revolving Door Lobbyists and the Value of Congressional Staff Connections

A key premise in analyzing the structure of the staffing labor market is the strategic nature of individuals wishing to build their Capitol Hill careers with an eye towards their future. Journalistic and anecdotal accounts, especially in recent years, are clear on this – staff cash out once they achieve valuable experience (e.g. Williams 2017). Policymakers are also aware of this, and in 2007 implemented strict cooling off periods for those staff transitioning into lobbying. Unfortunately these policies remain largely toothless, and lobbying is still an active target for congressional staff once they leave Capitol Hill. This paper builds a theory of revolving door lobbying on the foundation of the role of congressional staff in Congress.

I argue that under a theory of legislative subsidy (Hall and Deardorff 2006), lobbyists and their clients desire hiring lobbyists who possess connections to congressional staff. The best way to impact policymaking is through personal ties to staffers. I construct measures of staff careers, such as their experience and position titles, as well as their networks to other staff on Capitol Hill. Using the outcome of revenue of staffers-turned-lobbyists in their first year as lobbyists, arguing that this is when their Hill career is most highly correlated with lobbying importance, I find evidence that Hill careers predict large differences in lobbying revenue. Staff with more senior positions on Capitol Hill, and more experience, are associated with higher lobbying revenue. Additionally, staff with more connections to other staff, and not necessarily sitting legislators, are also associated with higher revenue. These results are

robust to multiple attempts at controlling for individual lobbying ability, an obvious confounder.

This paper provides two primary contributions. First, it suggests additional evidence of the value of connections for lobbyists, but to those with greatest access to policymaking: staff. Second, it shows clear evidence of substantial differences in post-congressional career outcomes for staff based on their time in public service. Those these revenue figures are not salaries, it is not a stretch to imagine a correlation with lobbying salaries. In ongoing work, I am researching the other side of this story: who selects into lobbying, when, and why?

One puzzle raised by this paper regarding how staff influence congressional activity is: why do members continue to hire staff with these well-known career concerns? If staff are solely (or primarily) focused on reaping the rewards of their short congressional careers in the private sector, why do members continue to employ staff that might have few incentives to invest in their particular office? Combined with the evidence from the previous two papers, it may be the case that the pool of staff with substantial experience is limited and members do not have another choice. Indeed, they may benefit from hiring those who go on to lucrative lobbying careers because it serves as a signal of the quality of office to other ambitious, high human capital staff. This observation also holds an important conclusion in thinking about the mechanisms through which staff influence congressional activity. The close access they possess to members, in essence controlling much of their day-to-day lives, permits them to differentially offer access to special interests – their future employees. If staff choose which voices get heard by their bosses, and this is at least in part influenced

by their career concerns, the potential impact on policymaking is substantial.

Chapter 2

Legislative Resources, Staff, and Inequality in Representation

[1]

[1]I thank Zac Peskowitz, Alex Bolton, Adam Glynn, John Patty, Tom Clark, Pablo Montagnes, Jim Curry, Alex Hertel-Fernandez, Justin de Benedictis-Kessner, Brian Richter, Hans Hassell, James Szewczyk, Kirsten Widner, Steven Webster, Kaylyn Jackson Schiff, Daniel Schiff, Danielle Pavliv and participants at the SPSA annual meeting for helpful comments and feedback.

ABSTRACT

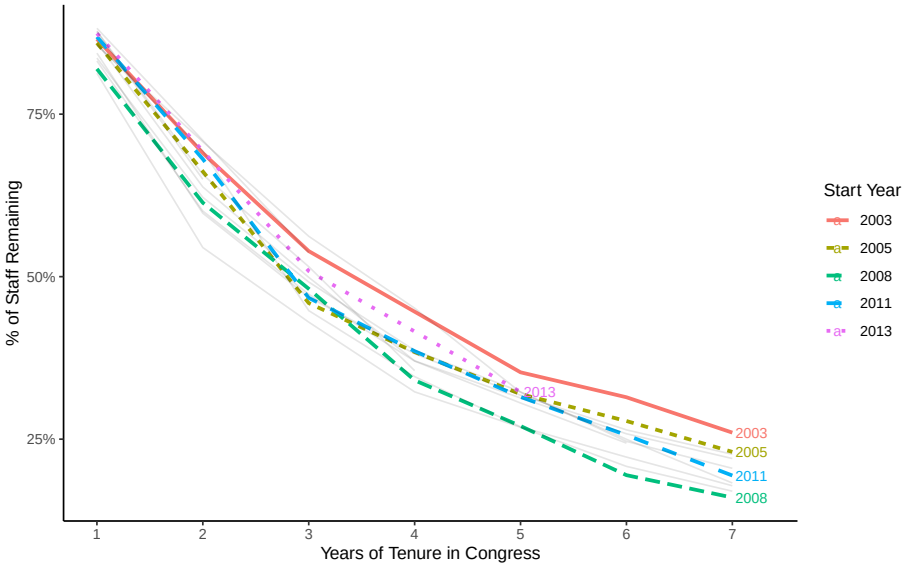
Members of Congress are provided substantial resources for the task of representing their districts. A common trade-off legislators make in the use of their resources is between constituency service and policy representation, with certain populations and district traits determining the nature of this allocation choice. This paper focuses on legislative staff as an important legislative resource. Staff, tasked with fulfilling the responsibilities of an office in each of these spheres of representation, are the mechanism through which offices respond to constituent preferences. Using comprehensive congressional staff employment data and an original data set of congressional disbursements, I show that offices that allocate their staff resources more towards policy representation relative to constituency service disproportionately come from electorally safe, wealthy, and urban districts. I then demonstrate these investment choices largely remain constant within districts, suggesting district traits, such as electoral competition or demographics, drive these decisions. The consequences of these patterns hold important implications for collective representation, whether citizens' policy preferences are equally represented, and the formation of policy agendas within Congress.

2.1 Introduction

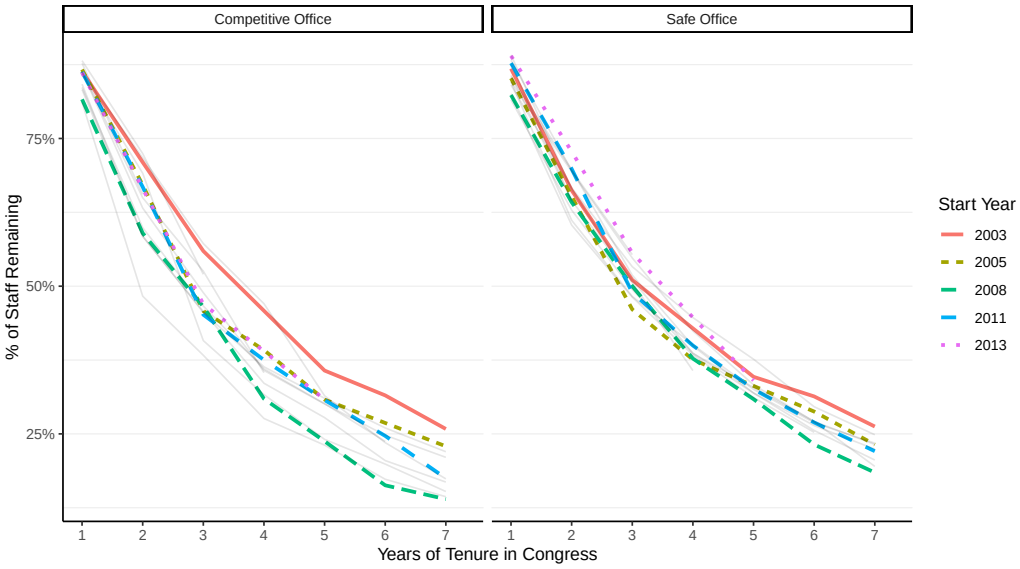
The decentralized, legislator-centric nature of Congress allows members to respond to their constituents and districts with flexibility, making representation a multi-faceted enterprise (Eulau and Karps 1977, Fenno 1978, Mayhew 1974). Members benefit from substantial autonomy in how they spend their institutionally-allocated resources, allowing them to develop their own styles geared towards their idiosyncratic district demands largely outside of the control of party leadership (Bernhard and Sulkin 2018, Hall 1996). Research shows that variation in representation styles has important implications for the collective policy that comes from Congress as a whole (Ashworth and Bueno de Mesquita 2006, Grimmer 2013).

An argument in support of a decentralized legislature is better responsiveness to constituent preferences. These legislatures result in collective policy that represents, broadly, the country as a whole – or, at the very least, each member is given a chance to influence the policy process and no particular district stands at a disadvantage. On the other hand, this institutional arrangement has produced disproportionate representation in Congress, especially in policy, with wealthier citizens advantaged relative to poorer populations (Bartels 2018, Gilens 2005, Miler 2018). This paper argues that staffing is the mechanism through which legislative offices respond to constituent preferences and that analyzing the use of staffing sheds light onto why inequality in policy representation exists in Congress. Legislative staff, I argue, are an especially important and useful mechanism for examining representation in Congress. Choices in staffing are a function of member and constituent preferences and cap-

Figure 2.1: Career lengths of congressional staff



(a) Tenure by first year of career



(b) Tenure by starting salary

Note: These figures plot the career length of staffers who began their career within my sample. The x axis is the years of tenure in Congress, and the y axis is the percent of staff remaining by year t. The top figure splits the staffers into categories based on which year they started their career. The bottom figure splits the sample based on the starting salary of the staffer.

ture a meaningful signal of legislator priorities (e.g., Fiorina 1989, Madonna and Ostrander N.d., Matthews 1960). Looking specifically at two of the classic spheres of representation (Eulau and Karps 1977), policy and constituency service, I show asymmetries in how individual legislators allocate staff related to district traits.[2]

Using a comprehensive dataset of congressional staff employment matched to district demographics and member of Congress insitutional data, I find that electorally safer, wealthier, and more urban districts devote more of their staff resources towards policy and fewer resources towards constituency service. I find the poorest districts in the sample spend 19% less on policy than the wealthiest districts and the most urban districts spend 20% more on policy than the most rural districts. The largest spending differences are over half a million dollars per year. I also demonstrate evidence that some districts are consistently spending more on policymaking activities and less on constituency service and that these allocations stay largely constant even when a different representative is elected from that district. The districts with the lowest levels of spending on policy and constituency service – with implications for representation of constituents – are those with frequent legislator turnover.

This finding holds important implications for the literature on legislative organization, policymaking in Congress, and the formation of policy agendas. Staff are pivotal to the legislative enterprise, enabling representational activities both in the district and in Washington (Price 1971, Romzek and Utter 1997, Salisbury and Shepsle 1981). A large body of research, for instance, shows that staff facilitate the

[2]Following existing work (e.g., Eulau and Karps 1977, Griffin and Flavin 2011, Harden 2013), this paper broadly defines policy representation as how district preferences translate into policy action (e.g., bill introductions, position taking, voting) and constituency service as individualized (or group-level) assistance with various facets of government. I discuss this more below.

entrepreneurial efforts of members (Malbin 1980), seek out and filter policy-relevant information (Hertel-Fernandez, Mildenberger and Stokes 2018, Whiteman 1995), and influence the legislative activity of an office (Crosson et al. 2018, Montgomery and Nyhan 2017). Staff are often the link between constituents and representatives, deciding who gets their voice heard by the legislator herself (Grose 2011). In the broader comparative legislative politics literature, staff are a central feature of debates on the appropriate level of independence members of parliament should possess from party leadership due to their perceived influence (e.g., Högenauer and Neuhold 2015, Pegan 2017). On Capitol Hill in particular – the focus of this paper – the importance of staff has resulted in a high demand for their experience by private sector employees (Blanes i Vidal, Draca and Fons-Rosen 2012, McCrain 2018), which has gained increased importance due to the recently well-documented focus on low staff salaries, especially relative to outside employers.[3]

With this context, I show below that across, and even within districts, there are substantial differences in how legislators allocate staff including how much of their budget they spend on staff and whether they focus more on policy or constituency service. These differences are driven by district traits, such as competitiveness and demographics, and member characteristics, such as committee status and seniority. Using a unique dataset of financial disbursements from congressional offices, I also contribute important facts about how legislators trade off the use of their vast representational allowance – an understudied feature of legislator behavior. I conclude by

[3]This phenomenon has recently manifested in a joint committee on "modernizing" Congress with staff a central focus of reform.

discussing the broader implications of these findings for reforming congressional capacity and how studying legislative resources adds insight into the growing literature inequality in representation.

2.2 Theoretical and Institutional Background

The argument from classic congressional scholarship is that members develop both Washington and home styles, specifically tailored to what they believe will maximize three goals: 1) re-election chances; 2) advancement within Congress; and 3) policy impact (Fenno 1978). To achieve these goals, members are allocated substantial resources that they can use almost entirely to their discretion, with little oversight or control by party leadership. Existing work has studied this allocation in terms of the degree to which members invest in their home style versus their Washington style, typically as measured by focus on constituency service versus policy investment (e.g., Adler, Gent and Overmeyer 1998, Cain, Ferejohn and Fiorina 1987, Eulau and Karps 1977, Fiorina 1989). Since each member of the House, the focus of this paper, is given equal access to resources (with the exception of party and committee leaders), each member is provided an equal opportunity to affect the policy process while securing their own electoral fortunes.

I argue that staffing is the key resource available to members of Congress for the fulfillment of the three classic objectives. The allocation of this resource is a function of members' preferences regarding their focus towards constituency service and/or policy activity. The unique part of this argument, however, is that the nature of

the staffing resource both institutionally and through the staff labor market produces *unequal* opportunities to influence the policy process. Importantly, this can be a constant feature of a district such that certain districts remain largely unrepresented in congressional policymaking.

To motivate the focus on the staffing resource in representation, I first describe the institutional features of congressional staffing in the U.S. House of Representatives and the previous research on the importance of staff in Congress. This discussion serves to highlight the idiosyncratic features of the staffing labor market. I finally outline theories of resource allocation in Congress to generate empirically testable hypotheses about the relationship between staffing, resource allocation, and representation through policy.

2.2.1 Congressional Staff

The features of staffing present in Congress are uniquely American and, for the most part, unique to Congress.[4] In the U.S. House of Representatives, members appropriate for themselves substantial resources (called the Member's Representational Allowance, or MRA) for use in staffing and other representational activities such as franking and district office leases. Each member is allocated the same resources for use on personnel (roughly $1.4 million in 2018; see the appendix for overtime trends) and offices are allowed a maximum of 18 full-time equivalent employees. However, offices are free to allocate as many or as few resources to their D.C. office as they see fit. A

[4]The institutional arrangement of allocating individual legislators substantial resources for both policy and constituency service staffing is uncommon in developed democracies and rare in the U.S. states.

typical House offices employs junior staff to respond to constituents' correspondence both in D.C. and in the District, caseworkers that have specific responsibilities related to helping constituents with more demanding tasks (e.g., social security complaints, immigration, etc.), and occasionally, but not always, dedicated communications staff.[5] Offices also employ policy-oriented staff who often take on a variety of policy portfolios. In House offices, the Legislative Director and Chief of Staff are typically the most senior staff and take on management roles and policy tasks.

This paper focuses on the U.S. House because of the fixed and limited resources members are given for use on personnel, as opposed to the Senate where offices are provided substantially more resources that vary depending on a formula that includes the size of the state and its population. In the House, the fixed amount of resources are constraining for many offices both in terms of the salaries they are able to offer staff (e.g., Montoya-Galvez 2018) and the number of staff allocated towards certain tasks.[6] This fixed resource constraint means it is difficult to reward qualified staff with pay raises and promotions unless turnover occurs.[7]

Staffing is also one of the remaining truly decentralized features of Congress, similar to Mayhew's (1974) classic description of Congress. Party leadership has little-to-no control over individual member's staffing decisions and, as a result, substantial heterogeneity exists in how individual offices use this resource. The weighting of resource use determines legislators' "style" (Bernhard and Sulkin 2018, Fenno 1978),

[5]Fenno (1978) and Grose (2011) have more detailed descriptions of casework examples.

[6]Since the pool of money provided to members for staffing is fixed, there is necessarily a tradeoff between how many staff are employed and their salaries. I investigate this further below.

[7]Both the work-life balance issues and the salary constraints are frequently cited in surveys of staff for why they consider leaving Capitol Hill (Congressional Management Foundation 2012).

which in turn shapes their behavior in Congress and the output of congressional policymaking and deliberation – what Grimmer (2013) calls collective representation. Examining the use of legislative resources is a glimpse inside the thought process of a legislator. By analyzing how these choices change – or do not change – over time, or within a district depending on who is elected, presents a useful method for analyzing legislator style.

What are some of the aspects that shape styles? A substantial qualitative literature finds that staff enable the entrepreneurial efforts of members, particularly in seeking out information on policy opportunities and how it can benefit the member's district (Fox and Hammond 1977, Malbin 1980, Price 1971). Staff also seek information on existing policy in order to inform the member's voting decisions (Curry 2015, Kingdon 1989, Whiteman 1995).[8] In general, staff are vital in shaping the policy agenda of an office through determining what information sources to pursue, what to pass on to their boss, and what policy areas the member will benefit from pursuing (Hall 1996). Hertel-Fernandez, Mildenberger and Stokes (2018) demonstrate a direct link between staffing and representational outcomes in policymaking. They show that when offices are more connected to special interests – and thus staff are using these interests as information sources for their bosses – the offices are more likely to misstate their constituents' views on policy. More broadly, scholars demonstrate that members rely on staff to serve as their proxy in constituent service and communication through taking important meetings and hiring staff that can relate

[8]Curry (2015) suggests that this has become an increasingly important role played by staff in modern Congresses, as members are often kept in the dark about legislation by leadership.

to their districts (Grose 2011, Whiteman 1995). Members, and as a result parties, benefit when legislators adeptly use their staff resources.

More recent research has found evidence that staff directly shape an office's policy behavior. Montgomery and Nyhan (2017) show that offices connected via sharing senior staff tend to behave more alike than otherwise expected, including making the office more effective (see also Crosson et al. 2018). The broad importance of staff in Congress has resulted in a strong demand for their skillsets (and connections) among private employers, especially lobbyists (Blanes i Vidal, Draca and Fons-Rosen 2012, Cain and Drutman 2014). The low pay relative to outside options combine with an increasingly difficult work environment to inflate the value of the congressional staff "credentialing experience" (Salisbury and Shepsle 1981).[9] In short, staff are strategic in what types of experience they seek out on Capitol Hill in order to maximize their future careers off the Hill. As has been established qualitatively (Bogardus and Leven 2011) and quantitatively (Cain and Drutman 2014, McCrain 2018) staff are most rewarded for positions of prestige and policy influence.

This discussion makes two features of staffing in Congress clear. First, staff are vital resources that, if used properly, enable members to succeed in the representational aspect of their jobs (both in policy and constituency service). Second, and as a result, staff are individually important, especially in the relatively small offices of the U.S. House where each staffer is typically tasked with multiple roles. This inflates their value to future employers – conditional on gaining valuable experience – either

[9]Additionally, staff do not benefit from civil service protections like many other federal employees, decreasing incentives for them to stay in an office and develop relationship-specific expertise (Gailmard and Patty 2007*a*)

in public service or the private sector. These individual considerations aggregate to a collective labor market where specific offices and/or districts that are more attractive places of employment can attract staff with more experience on the Hill – itself a valued commodity. I now turn to discussing how this labor market interacts with legislator resource allocation decisions, and how this ultimately produces important differences in how legislators and districts come to be represented in Congress.

2.2.2 Staff and Representational Resources

Given finite resources and time, legislators face decisions on what activities in which to invest. The classic conceptualization of dimensions of representation suggests four possibilities: policy, service, particularistic goods, and descriptive (Eulau and Karps 1977). The focus of this paper is on the policy and constituency service allocation decision.[10] I follow other empirical research and broadly define policy representation as the response to district preferences in the policy realm, including voting behavior, crafting and introducing policy, and position taking. The effects of staff, argued above, are important in policy representation through gaining information about policy and turning it into legislation and voting choices. Constituency service is defined as specific assistance provided to constituents or district groups as it pertains to government services or functions. In a congressional office, these typically manifest as casework regarding government programs and interactions with constituents in D.C. or the district office.[11]

[10]This is also, broadly, how newly elected members are told to approach allocating staff funds (see Cantor 2012).

[11]Importantly, it is possible that these tasks overlap. For instance, constituency service staff can provide policy information through interactions with constituents. However, it is uncommon for

The evidence suggests legislators believe they are better able to signal to voters their competence through constituency service rather than policy work, with constituency service a noisy but observable signal of ability (Butler, Karpowitz and Pope 2012, Cain, Ferejohn and Fiorina 1987, Cover 1980, Dropp and Peskowitz 2012, Peskowitz 2018). Ashworth and Bueno de Mesquita (2006) formalize this intuition and demonstrate that, in equilibrium, in more competitive districts legislators will invest more of their resources in constituency service and less in policy tasks. Legislators in both settings have a preference for policy impact per se, but they value re-election more. As a result, they show, legislators in competitive districts contribute less to the "global good" of policy.[12]

In addition to electoral vulnerability determining resource allocation, legislators respond to preferences for constituency service depending on the populations they represent. A common finding is that socio-economic status of a district is linked to demand for constituency service, with poorer populations more highly weighting a legislator's delivery of constituency service (Grose 2011, Harden 2013).[13] Griffin and Flavin (2011) finds that less educated and less wealthy constituents tend to prefer more casework whereas better informed, educated and wealthy constituents will place greater weight on policy outcomes. The mechanisms that provide the link

constituency service staff to possess substantive policy responsibility which would directly translate that information into legislation or position taking. In other words, policy staff will still be the filter for that information.

[12]Though not the focus of existing work, it is also possible vulnerable members are likely to be the focus of party leadership to ensure maintaining/gaining a majority and this affects allocation choices. Specifically, these members may already have their interests catered to by leadership and thus not need to invest in policy.

[13]In the appendix I demonstrate some correlational evidence for this idea, showing that wealthier and more urban districts correlate with lower amounts of government spending related to large programs such as social security.

between constituent preferences and legislator style are less clear, however. It is possible that legislators are responding to specific demands from constituents and this determines their focus. For instance, in districts with higher populations on government programs there is more need for constituency service due to demands on the office. Alternatively, the selection of legislators may be determined by the populations in the district. Policy-oriented legislators will come from populations with stronger policy preferences. Ultimately the specific mechanism is not the focus of this paper. I instead build off of the theoretical foundations and empirical regularities found in this research to examine if they hold in staffing allocations and, if they change, if there is a corresponding change to staffing.

A challenge in empirically testing these propositions is finding a credible measurement of constituency service and policy focus. A common measurement strategy is to use surveys to determine a legislator's focus on one area versus the other. However, and as discussed in greater detail in Dropp and Peskowitz (2012), a more desirable measurement would capture a less-fungible dimension of resource allocation – an actual measure of a legislator's revealed preferences. Staff, I argue, represent such a measure. Mishandling the use of staffing, such as through bad management or frequent re-allocations, may produce reputational consequences to the member in future hiring – word quickly gets around Capitol Hill about which offices to avoid.[14] The allocation of staffing is difficult to change drastically within an office due to the inflexibility and transaction costs associated with altering allocations once a particular allocation has been set. The resource pat-

[14]See, for instance, Strong (2011): "Congressional bosses from Hell."

terns suggested by previous work will also be present in examining staffing allocations.

Hypothesis 1: More electorally competitive districts will have more staffing resources allocated to constituency service than policy.

Hypothesis 2: Districts with populations that place more demand on offices for constituency service work will have more resources allocated to constituency service.

To summarize, legislators make resource allocation decisions that shape the representation of their constituents. Congressional staff, the most valuable of these resources to be allocated, are pivotal in fulfilling representational tasks. They seek out areas for policy entrepreneurship (Malbin 1980, Romzek and Utter 1997), filter information from both constituents and outside interests (Grose 2011, Hertel-Fernandez, Mildenberger and Stokes 2018, Whiteman 1995), and directly influence an office's production of policy (Montgomery and Nyhan 2017, Shepherd and You 2019). The importance of staff combines with a high demand for their skillsets, the credentialing value of Capitol Hill experience, and a competitive labor market for staff on the Hill, resulting in asymmetries not only in how staff are allocated by members but also in the human capital possessed by members' staff. The examination of staffing allocations and the mezzo-level staffing labor market sheds light onto *how* members represent their constituents in Washington and at home. As I show below, there are clear patterns in which districts and members win and lose from this institutional arrangement.

2.3 Data and Stylized Facts

2.3.1 Congressional Staff and Member of Congress Data

This paper uses a comprehensive dataset of congressional staffing employment histories from 2001-2014 acquired from the private firm Legistorm. Taking the Legistorm data, which is over 600,000 observations, I aggregate up from semesterly reports into yearly office- and staffer-year datasets. These data include over 75,000 unique staffers for over 250,000 staffer-year observations which were aggregated into office-level measures of staffing allocations and human capital. The data include job titles and salary information for the staffers.

I specifically focus on personal office staff. There are a number of theoretical and institutional reasons for this. These staff are directly responsive to the member herself, with little concern for principle-agent problems (see Kingdon 1989). One could imagine that committee staff subsidize efforts of rank-and-file members. Existing evidence in fact points to the opposite: members are skeptical of information they are provided by committee staff since they are agents of the committee chair and have little incentive to consider the idiosyncrasies of the district of rank-and-file members (see Curry 2015, Fox and Hammond 1977, Whiteman 1995).[15] Even when provided information from committee or party leadership, offices and staff verify its applicability to the member's idiosyncratic preferences. More generally, personal staff will be those who know the member's district the best and to whom the member will look

[15]Curry (2015) in particular notes the difficulty rank-and-file members have in gaining access to the policy expertise of committee staff even when they seek out. I address the concern about committee staff more in the empirics below.

for unbiased information about policy and district preferences.[16]

The primary measures used in the analyses that follow come from binning job titles into areas of responsibility – most broadly, policy staff and constituency service staff.[17] Job titles on Capitol Hill are largely homogenous across offices in terms of the responsibilities they are assigned. Policy staff job titles include common roles such as Chief of Staff, Legislative Director, Legislative Assistant, any policy specialist, and other relevant titles (the full list of which is available in the appendix). Constituency service titles also include titles commonly associated with district work, such as Caseworker, Field Director, or titles containing the word 'district'.[18]

For the measure of allocation, I construct office-year level salary totals for each category of job title. I argue this measure is preferable to other possible methods of observing staffing allocations because of the uniform fixed resource constraint among House offices. For instance, measuring total staffers allocated towards a role might result in systematic bias if each of the policy staffers in, for instance, poor/rural districts are low paid relative to constituency service staffers.[19] I do construct an additional measure using salaries, discussed in greater detail below, which is the ratio of salary allocated to each role since not all members use their total staffing allocation. This

[16]One could imagine a world where staffing is purely centralized and controlled by party leadership. If so, parties would have incentives to limit policy information passed on by staffers to only information that supports the party's preferred position. I discuss this more in the conclusion.

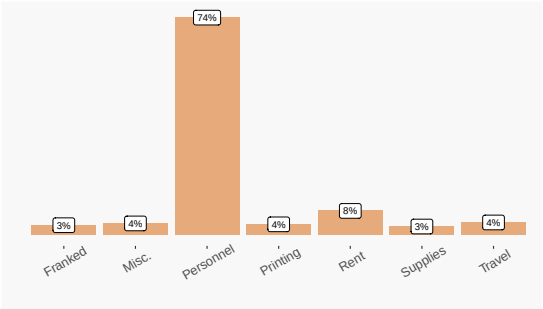
[17]The categories of job titles not included in the analyses below are communications staff, administrative staff, and junior staff.

[18]This coding process broadly follows the recommendations of Petersen (2011) and aligns with the recent conventions in the literature (e.g., McCrain 2018, Montgomery and Nyhan 2017, Shepherd and You 2019).

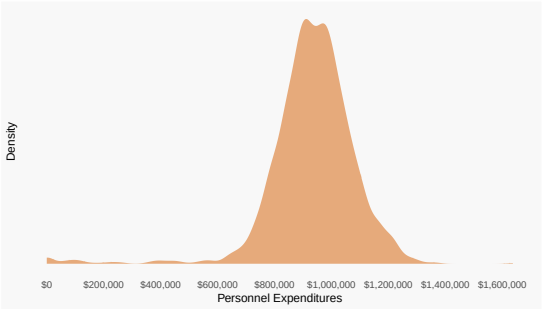
[19]There's also a data constraint that increases the likelihood of measurement error using total staff instead of salary. Since frequent turnover occurs on the Hill, it is likely the data would over count the number of staffers assigned to a role due to imprecision in the dates of employment. These dates are generally accurate within years, but the specific months and days of employment are less so. This is not a concern with Salary.

is done by first creating a staffer-year level dataset which calculates their total yearly salary, adjusting the yearly salary for inflation to 2016 dollars, and then aggregating salaries up to the office level by binned job title. I then merge in legislator- and district-level data from Foster-Molina (2017) and committee assignment data from Stewart III and Woon (2017).

Finally, I collect a unique dataset of congressional office expenditures, a mandated reporting as part of receiving the MRA. These data are released publicly every quarter by the House and Senate and include the individual staffers an office employs and their pay, as well as other features of an office: such as rent expenditures, franked mail expenditures, office supplies, travel, and other expenses allowed under the MRA. I use a cleaned version of these data from **?** and aggregate up to the member-year within each category of spending. These data are rarely used in congressional research (Peskowitz 2018, is a recent exception), and as far as I know they have not been used to explicitly analyze how legislators tradeoff their resources. I present additional findings using these data below, but as a first cut Figure 2.2 displays the top-line breakdowns of expenditures by category as well as the distribution of personnel expenditures within the data. As is obvious, the bulk of office expenditures fall under personnel. Figure 2.3 displays aggregate personnel expenditures overtime, as well as how it relates to the limits established for total MRA spending.



(c) MRA Usage



(d) Personnel Expenditures

Figure 2.2: Resource Expenditures

The left panel depicts the overall usage of MRAs among members in my data. The right figure plots the density of personnel expenditures.

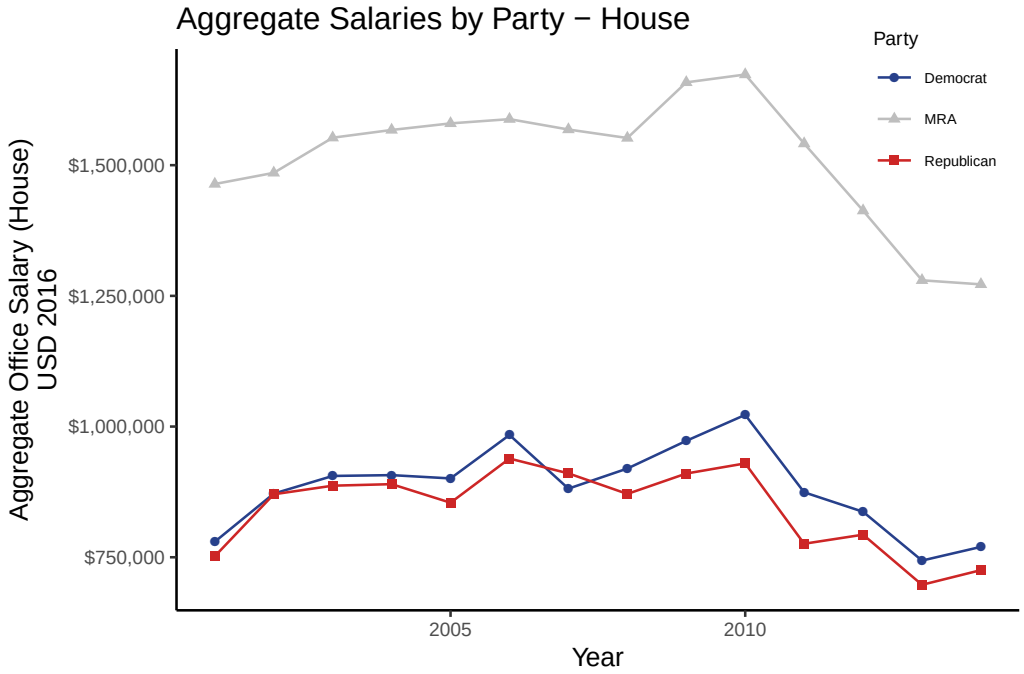


Figure 2.3: Aggregate Staff Spending and MRA Totals

This figure plots the average total salary spent on staffing per office over time as well as the total MRA allocation. Note that members are only permitted to spend a portion of their MRA on personnel.

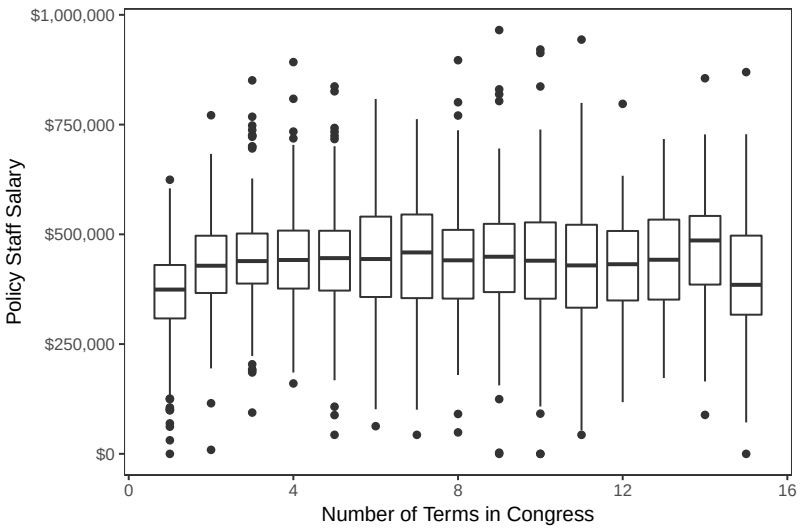


Figure 2.4: Policy Allocation and Congressional Tenure

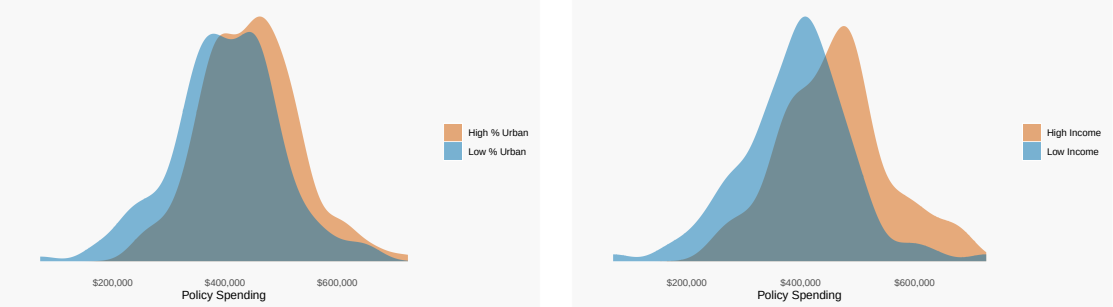
This figure plots the distribution of policy staff salary allocation (at the office level) by term in Congress.

2.3.2 Descriptives of Staffing Heterogeneity

Before moving onto models that examine the proposed relationships outlined above, I demonstrate that substantial heterogeneity exists in both staffing allocations and the human capital of member's staff across districts and members. I also show that there are clear differences in allocations in different types of districts. Establishing this heterogeneity is important to show that there are a variety of staffing arrangements that each member pursues, and that it is not purely predicted by, for instance, how many terms a member has served. Figure 2.4 shows similarity on average in salary spending towards policy, however with substantial variance within each term of tenure.

Are there clear differences in how members represent districts on average? To examine this I turn to two figures displaying the distribution of 'high' and 'low' policy districts relative to the urbanness and wealth of the district. I categorize

districts as high or low based on whether they are above (high) or below (low) one standard deviation from the mean in policy allocation (full summary statistics are in the appendix). Figure 2.5 displays these distributions, showing that more urban and wealthier districts tend to invest more in policy. I now move to multivariate examinations of these patterns.



(a) Policy Allocation - % Urban

(b) Policy Allocation - Income

Figure 2.5: Allocations and District Traits

Each panel plots the distribution of high and low policy districts, as determined by whether a district spends greater (less) than one standard deviation above (below) the mean in policy staffing. The left plot shows this distribution over the urbanness of a district and the right plot over the median income of the district.

2.4 Empirical Results

To examine in greater detail the trends from above I turn to a series of regressions with staff allocations and total staff as outcomes. After assessing the evidence for the hypotheses from above, I then disentangle whether it is the case that districts tend to display the same staffing patterns regardless of who represents them or, instead, it is wholly dependent on the specific member representing the district.

2.4.1 Staffing Allocation and Experience

The first independent variables of interest, derived from Census data, are `(log) Median Income` and `Percent Urban`. From above, districts that are wealthier tend to be represented by policy-minded legislators. The previous literature has identified that this is because of 1) less demand from these constituents for constituency service tasks (e.g., assistance with government programs) and 2) a greater preference for legislators with clear policy goals.[20]

The final independent variable of interest is the district competitiveness, with the theoretical expectation being more competitive districts should invest more in constituency service. I measure this through Cook PVI, an ex ante measure of district competitiveness.[21] Cook PVI takes the average of the presidential vote in the two most recent elections within a district and compares it to the national average in those same elections. For instance, if a district voted 60% for Trump in 2016, and the national average was 50% for the Republican candidate, that district would be an R+10 district. To construct the measure, if a member representing this district is a Republican they are assigned a score of 10. If there is a mismatch in representation and the member is a Democrat, they are assigned a score of -10.[22]

[20]As shown in the appendix, there is a strong positive correlation between district wealth and the urbanness of the district. However, it is also possible that there is an interaction between these two variables in particularly poor, urban districts that produce heterogeneity in the results. I show results with this interaction in the appendix that display the same trends as below. The primary difference is that particularly wealthy, rural districts spend much less on constituency service than wealthy urban districts.

[21]The main advantage of this measure is it is not directly manipulable by legislators as opposed to a legislator's voteshare (Peskowitz 2018)

[22]There are practical and theoretical reasons to suggest a non-monotonic relationship between competitiveness and allocations. For instance, Ashworth and Bueno de Mesquita (2006) suggest that at especially low levels of electoral security legislators may determine that no amount of constituency service will help their prospects. One could also imagine that particularly safe legislators can essentially free-ride on the activity of others and invest little in both categories. With no strong

For each outcome, I run two sets of models, one with only district traits and the other with district traits and member-level characteristics.[23] These models take the following form:

$$StaffOutcome_{it} = Income_{it} + Urban\%_{it} + CookPVI_{it} + CookPVI_{it}^2 + \gamma_{it} + \lambda_t + \epsilon_d$$

Where $StaffOutcome_{it}$ are allocations towards policy or constituency service, as measured by total salary allocated per year or total staff allocated to that position type. $Income_{it}$ is district median income, and $CookPVI_{it}$ and its square are the Cook-PVI for that member i in time t. All models include year fixed effects, λ_t. Most models also include member and district time-varying controls γ_{it} – however, district demographic traits are highly stationary within redistricting period since they are measured by the Census, so for models with district by redistricting period fixed effects I remove district-specific controls. Finally, ϵ_d are standard errors clustered at the district.

As for specific controls, previous literature has also noted differential demands for constituency service based on the demograhpic makeup of the population (e.g., Griffin and Flavin 2011, Grose 2011). To control for this I include `Percent White`. Additionally, the size of a district is a structural feature that may necessitate more spending on constituency service, so I also control for the `(log) Square Miles` of the district.

ex ante prior about the functional form of this non-monotonic relationship, in the appendix I show results that allow competitiveness a non-monotonic relationship.

[23]Table 2.4 in the appendix displays summary statistics for all measures and variables used.

To control for member traits that may also determine differences in allocation, I include `Tenure` for how long the member has been in Congress;[24] `Majority` to control for any differences related to whether members are in the minority versus majority; `Cmte. Chair` and `Cmte. Ranking Member` to separate out differences based on committee leadership status;[25] `Party Leader`, a dummy variable for whether the member holds a leadership position within the party; and `Ideological Extremity`, the absolute value of the first dimension of DW-NOMINATE since a large body of research suggests extreme members exhibit different legislative and representational behavior (e.g., Hitt, Volden and Wiseman 2017, Wawro 2001). These models also include year fixed effects to account for common time-based shocks.

Table 2.1 presents the results from this first set of regressions. These pooled regressions serve to describe the overall difference among districts based on their traits and the members who represent them. The evidence from this set of models is suggestive of allocation differences based on district demographics and socio-economic status. In some cases, such as with `Percent Urban`, there is a trade off between policy and constituency service. With others, as with district size and wealthy, the coefficients point the same direction. I explore this further below. A move from the 10th percentile to the 90th percentile in district wealth predicts a roughly 7% increase in policy spending and an 8% increase in collective staff experience relative to the sample average. The same move in the percent urbanness of a district predicts a 15%

[24]This is an especially important control for models using experience as the dependent variable since longer-serving members will have longer-serving staff, in evidence in Figure **??**.

[25]This is especially important given committee leaders' access to additional staffing resources; see Sinclair (2007), Curry (2015) and Madonna and Ostrander (N.d.).

increase in policy spending and a 10% decrease in constituency service spending.[26] Quantities are similar in magnitude when using total numbers of staff as outcomes. In support of hypothesis 2, *districts with traits associated with less demand for constituency service (wealthier, more urban) are predicted to invest less in constituency service staff and, in some instances, more in policy staff. These districts also attract more experienced staff.* This evidence, however, is qualified by the fact that some of these socio-economic indicators predict higher spending in both types of staff. Figure 2.6 plots the predicted values using the recovered coefficients on `Percent Urban` for both policy and constituency service spending, showing evidence of a tradeoff.

Hypothesis 1, built on research showing a tradeoff between constituency service in policy related to competitiveness, predicts more competitive districts will spend less on policy and more constituency service. I then extend that logic to argue that safer districts will also possess more experienced staff. The predicted results show that policy allocation is increasing in district safety; however, constituency service is also increasing in district safety (though with a smaller slope). These increases are substantively important, with a +10 district spending about as much more on policy salaries as about half a typical staffer's annual salary. This is coherent with the expectations from above – safer districts are spending more on policy – but they are not necessarily trading off constituency service.

[26] Since these models are cross-sectional, I am not suggesting that a particular district will undergo such a drastic shift in socio-economic status and concomitant change in staffing; these models are meant to illustrate the difference between, e.g., rural versus urban districts.

Table 2.1: Policy and Constituency Service Allocations

	Policy Staff Salary		Const. Service Staff Salary		Total Policy Staff		Total Const. Service Staff	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(log) Median Income	61,528.7***	43,960.9***	−11,832.9	6,046.1	0.7***	0.6***	−0.4**	0.3*
	(8,834.2)	(9,461.8)	(8,594.3)	(8,991.5)	(0.1)	(0.1)	(0.1)	(0.2)
Percent Urban	469.5***	1,057.3***	−503.4***	−584.3***	0.01***	0.01***	−0.01***	−0.02***
	(105.1)	(155.5)	(111.3)	(169.5)	(0.001)	(0.002)	(0.002)	(0.003)
Competitiveness	1,959.7***	1,928.3***	880.7**	2,110.2***	−0.001	0.005	−0.03***	−0.01
	(323.4)	(363.2)	(359.6)	(391.6)	(0.004)	(0.005)	(0.01)	(0.01)
Competitiveness Sqrd.	−40.4***	−31.2**	−31.4**	−57.9***	−0.0002	−0.0002	−0.0001	−0.0003
	(11.5)	(12.1)	(12.7)	(13.0)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
(log) Square Miles		4,410.5***		4,354.2***		0.02		0.1***
		(1,481.8)		(1,398.2)		(0.02)		(0.03)
Percent White		399.3***		−260.8**		0.004***		−0.01***
		(116.0)		(123.3)		(0.002)		(0.002)
Tenure		2,968.0***		−588.7		−0.004		−0.1***
		(514.1)		(475.7)		(0.01)		(0.01)
Majority		−3,561.6		−11,975.3***		0.1		−0.1*
		(3,722.9)		(3,948.5)		(0.1)		(0.1)
Cmte. Chair		−8,279.3		17,512.1*		−0.6***		0.1
		(10,608.8)		(10,150.7)		(0.1)		(0.2)
Cmte. Ranking Member		−28,683.1***		9,899.2		−0.6***		−0.04
		(11,067.4)		(10,996.9)		(0.1)		(0.2)
Party Leader		20,320.3		90,756.7***		−0.3		0.2
		(21,794.4)		(26,326.8)		(0.2)		(0.2)
Ideological Extremity		5,375.0		−74,299.7***		−0.3**		−1.2***
		(10,052.0)		(9,780.5)		(0.1)		(0.2)
N	6,095	6,077	6,095	6,077	6,095	6,077	6,095	6,077
R^2	0.05	0.1	0.02	0.04	0.03	0.04	0.04	0.1

*p < .1; **p < .05; ***p < .01

All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include Congress fixed-effects and report robust standard errors.

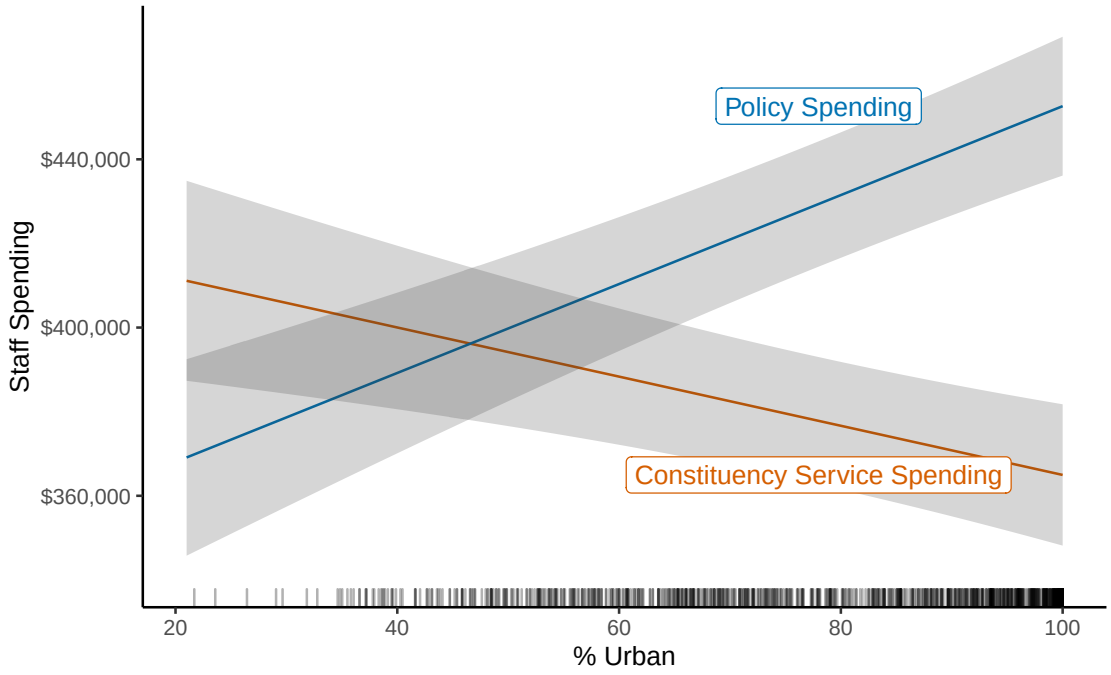


Figure 2.6: Allocation Trade-Off and Urban Districts

This figure plots the predicted values from the coefficient on Percent Urban from Table 2.1 across the range of values of Percent Urban in the data.

2.4.2 District or Legislator-Driven Staffing

The evidence above suggests substantial differences across members and districts in their allocation schemes and the human capital of their staffs. However, these cross-sectional results do not shed much light onto the larger question of whether these allocations are driven by idiosyncratic member choices or underlying demand from the district for policy versus constituency service. On average, do members who represent the same district choose similar allocations? Or, alternatively, do we see substantial variation *within* district depending on who is elected?

The logic from above dictates that certain features of districts shape allocations and staffing human capital and this should remain consistent within a district as long as the district also remains unchanged. A method to assess this empirically is

with district fixed effects. I construct these for each district by redistricting period, so each district will have a different fixed effect for the post-2000 redistricting cycle and the post-2010 redistricting cycle. Since the district socio-economic indicators are measured through the census, they remain constant from 2000-2010 and begin to vary by year post-2010 due to the American Community Survey. Since there is little variation within district, I exclude these from models with district fixed effects.[27]

I also run models with legislator fixed effects, a more demanding specification since fixed (time-invariant) district traits will be subsumed by these fixed effects. However, district socio-economic characteristics can and do vary within member through two sources. First, if a member represents a redistricted district these characteristics will change. Second, if a member is long-serving they will see their district change as well. Finally, there is substantial variation produced within a district and within a member through changes to the member's seniority, committee status, majority status, and district competitiveness. These changes will constitute the bulk of the variation in this set of models. The expectation outlined in the above hypotheses is that staffing allocations are largely "sticky" within a given legislator's tenure,[28] so it would be surprising to see substantial results in these specifications. Table 2.2 presents results with both sets of fixed effects.

As expected, most socio-economic coefficients become much less precisely estimated as they are largely absorbed by the fixed effects. Within district variation (models 1, 3, and 5) in competitiveness suggests that when districts become safer,

[27]Further, even if there is variation post-2010 there is likely substantial year to year measurement error since the ACS constructs these at the district level based on state estimates.

[28]Indeed, the appendix shows evidence that there is a high degree of path dependence in staffing based on the legislator's initial disposition of staff.

Table 2.2: Allocations - Fixed Effects Models

	Policy Staff Salary		Const. Service Staff Salary	
	(1)	(2)	(3)	(4)
Competitiveness	2,018.4**	1,931.5	1,648.2	2,556.4**
	(888.1)	(1,216.7)	(1,097.0)	(1,111.0)
Competitiveness Sqrd	−43.7	−11.5	−40.9	2.3
	(33.7)	(46.0)	(40.5)	(43.5)
Tenure	6,624.2***	54,065.4	−74.2	−3,182.0
	(1,316.2)	(44,586.8)	(1,148.9)	(23,635.0)
Majority	2,982.9	−196.0	−7,412.0	−6,718.0
	(5,562.1)	(4,797.6)	(5,368.5)	(4,420.9)
Cmte. Chair	−15,083.7	−5,152.3	1,501.9	37,243.8***
	(19,293.3)	(19,625.7)	(17,086.3)	(14,106.4)
Cmte. Ranking Member	−9,563.5	−4,624.4	45.1	28,913.2*
	(20,800.8)	(18,462.4)	(16,649.3)	(15,393.4)
Party Leader	−2,217.4	−56,517.0	28,089.9	40,713.5
	(51,272.4)	(40,458.5)	(40,028.9)	(36,004.3)
Ideological Extremity	57,370.8**	−132,744.0*	−35,460.9	−41,445.7
	(26,570.8)	(76,223.6)	(27,066.9)	(61,182.6)
(log) Median Income		15,253.4		45,716.8
		(50,941.3)		(40,571.9)
Percent Urban		−722.9		774.6*
		(616.1)		(413.4)
(log) Square Miles		−4,272.0		10,269.1*
		(5,310.8)		(5,777.0)
Percent White		204.5		−626.8
		(768.7)		(712.7)
Fixed Effects	District	Member	District	Member
N	6,136	6,077	6,136	6,077
R^2	0.4	0.5	0.6	0.7

*p < .1; **p < .05; ***p < .01

All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include year fixed-effects. Even numbered columns also include district by redistricting period fixed effects, odd numbered columns include member fixed effects. All models report robust standard errors clustered at either the district or member.

the members that represent them spend more on policy and constituency service. In the legislator fixed effects specification we see the same pattern. Similarly, when districts are represented by more senior members, those members spend more on policy and benefit from more experienced staff. The prediction from this set of results is that *constituents in safer districts benefit from more spending on policy and more spending on constituency service relative to competitive districts.* If a district is systematically competitive this has clear implications for which districts are represented in the collective policy output of Congress.

There is also some evidence of a policy/constituency service trade off. When districts become more urban there is a corresponding increase in constituency service allocation.[29] A similar pattern is suggested when districts are redistricted to become larger. A likely explanation for these results is that legislators must invest in getting to know new constituents – to re-establish their electoral constituency (Fenno 1978).

There is some additional evidence that speaks to the benefits of committee and party leadership positions. Committee chairs, ranking members, and party leaders tend to spend substantially less on policy but more on constituency service. In other words, they benefit from their access to committee and party resources by supplementing their personal offices resources to help secure their electoral fortunes. This is likely another way that leadership has consolidated control over policy (Curry 2015, Sinclair 2016). These patterns from the cross-sectional regressions maintain with the within-member models – when members gain positions of power they invest in

[29]This is not uncommon in the data. For instance, in the reverse direction, in the PA-7th, the district went from 99% urban to 87% urban following the 2010 redistricting which corresponded with Rep. Meehan divesting in constituency service

constituency service. It is possible, then, that constituents of these districts can benefit from policy representation through the member's position as a committee leader while simultaneously benefiting from greater spending on constituency service. This is likely due to substituting committee resources for personal staff resources.

The comparisons between the cross-sectional, within-district, within-member results illustrates a key point from the basic argument: the allocations members make do not drastically change throughout their careers and districts are largely represented the same way when new members come into office. Put differently, district characteristics determine resource allocations. The size of the cross-sectional results indicates that the biggest difference in representational patterns is across districts, and those that can offer more policy opportunity also benefit from more experienced staff. When certain traits change in the district, such as its urban versus rural split, or the member's status, such as the member's prestige or opportunity for policy impact, there is a corresponding change to staffing patterns.

Implications of legislator turnover and competitiveness

In the final set of analyses, I test an implication from the collective results above. As suggested by the above regressions, members with longer tenure lengths invest more of their resources in policy and less in constituency service. These trends hold when using district fixed-effects, also suggesting that *districts* that maintain more senior members see the benefits of these staffing patterns in their policy representation in Congress. A logical implication, then, is that districts with frequent turnover in legislators – even if they are safe for one party – stand at a disadvantage in staffing.

This follows from considering the staffing labor market, since such a district represents an insecure place of employment for ambitious staff.[30]

I code three new dummy variables: `New Member` indicating whether the district is in the first year of representation by a new member; `First Term Member` indicating whether the member is in the first term, since some members are redistricted into new districts; and `Member's Last Term` indicating if the member is in their last term, since staff may leave offices when they know a member is on their way out. These determinations are made within district-redistricting period, so all observations within the first year of these periods (2001 and 2011) are dropped. Additionally, I interact `New Member` and `First Term Member` to separate whether the district is represented by a freshman or a member who has been redistricted into the district. All models include Congress and district fixed effects so observed and unobserved time-invariant district traits are held constant, estimating the changes to allocation based on the member representing the district. Table 2.3 presents these results.

The evidence here shows that across the board new members in a district, regardless of their seniority, cut staffing allocations – however, senior members spend more on policy and less on constituency service relative to more junior members. Interestingly, there does not seem to be a significant interaction between whether the legislator newly representing a district is in their first term or more experienced – either way they decrease staffing allocations and the total staff assigned to both policy and constituency service roles. The same is true for members in their last term.

[30]Further, it takes time for newly elected members to fully staff up an office, often into the second year of a Congress.

Table 2.3: New Member in District

	Policy Staff Salary	Const. Service Staff Salary	Total Policy Staff	Total Const. Serv. Staff
	(1)	(2)	(3)	(4)
New Member	−52,366.2***	−20,128.6	−0.8***	−0.1
	(18,820.8)	(15,069.9)	(0.2)	(0.2)
First Term Member	−13,019.7	−25,114.3***	−0.1	−0.04
	(10,014.7)	(7,906.7)	(0.1)	(0.1)
New Member x First Term	−20,133.2	−8,364.8	−0.4	−0.5*
	(21,561.0)	(17,489.4)	(0.3)	(0.3)
Member's Last Term	−49,666.7***	−30,001.5***	−0.5***	−0.4***
	(11,089.0)	(10,844.0)	(0.1)	(0.2)
Tenure	3,800.8*	−2,423.0	−0.02	−0.1***
	(1,949.8)	(1,478.6)	(0.02)	(0.03)
Competitiveness	1,560.9*	−983.7	0.003	−0.03
	(934.4)	(1,027.0)	(0.01)	(0.02)
Competitiveness Sqrd	−10.1	40.4	−0.000	−0.000
	(38.1)	(44.8)	(0.000)	(0.001)
(log) Median Income	57,935.9	8,727.3	1.0**	−0.2
	(36,087.7)	(41,802.7)	(0.5)	(0.6)
Percent Urban	−1,721.6*	1,161.0*	−0.02	0.02
	(904.9)	(613.0)	(0.01)	(0.01)
N	4,324	4,324	4,324	4,324
R^2	0.5	0.7	0.5	0.7

*p < .1; **p < .05; ***p < .01

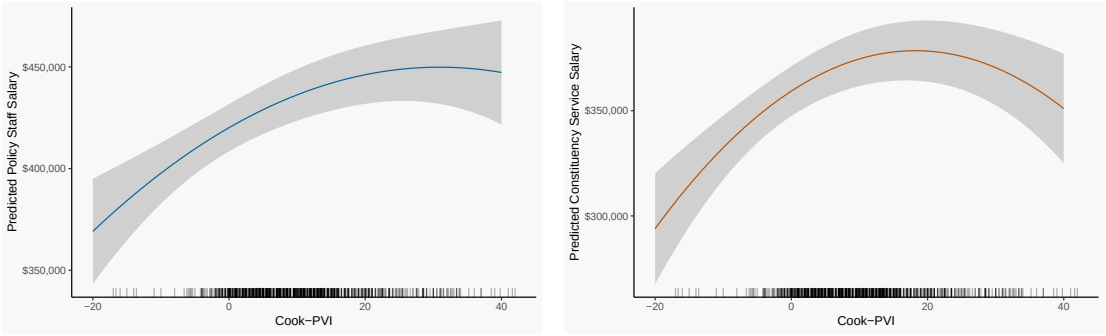
All variables are at the office-year level or district-year level. All models include year and district by redistricting period fixed effects. Robust standard errors are clustered by district. Observations in the first year of a redistricting cycle have been dropped.

Analyzing the use of resources

Finally, I turn to one additional set of analyses in attempt to clarify a puzzle from above. Taking the results of Table 2.1 it is clear that there is no evidence of a trade off in policy versus constituency service predicted by district competitiveness. This is somewhat puzzling since members have finite budgets, and these results paint a picture of increasing spending in both categories when the district is safe, as shown in Figure 2.7. One explanation is that members do not use their resources in personnel and instead use them elsewhere when faced with a more competitive electoral environment.

To analyze this explanation, I run models of the form in Table 2.1 but with the outcomes as total expenditures in franked mail and total expenditures in personnel. Figures 2.8(a) and 2.8(b) graphically display the results from these regressions, presented in full in the appendix, across the range of competitiveness and congressional tenure. They suggest a straightforward story: members in more competitive environments substitute franked mail spending for personnel spending.[31] Additionally, more senior members spending less on franked mail and more on staff. The appendix also shows that constituency service spending is itself a substitute for franked mail – the more salary allocated towards constituency service, the less is spent on franked mail.

[31]Peskowitz (2018) shows that members do in fact spend more on franked mail in competitive electoral environments; however, it has yet to be established that this is a substitute for personnel spending.



(a) Competitiveness and Policy Allocation

(b) Competitiveness and Constituency Service Allocation

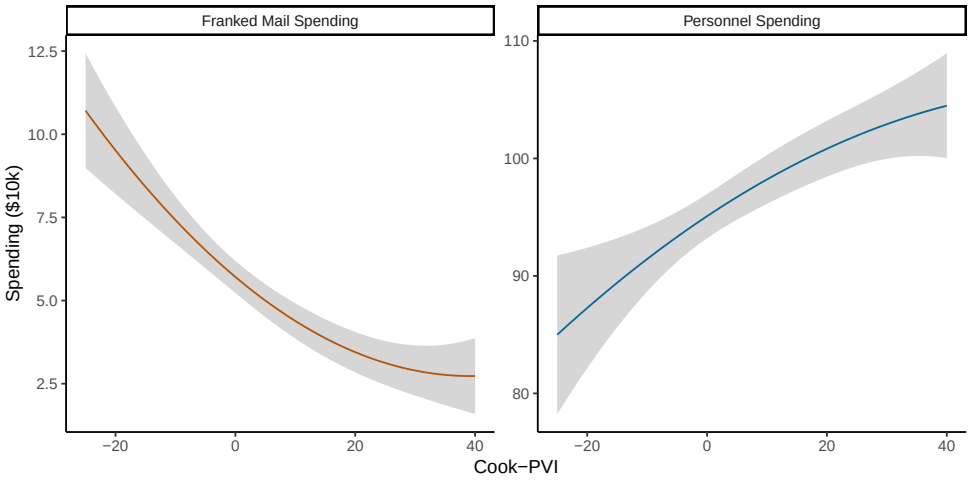
Figure 2.7: Competitiveness and Allocations

The figure on the left plots the predicted values from Table 2.1 with policy salary as the outcome, and the figure on the right with constituency service allocation as the outcome.

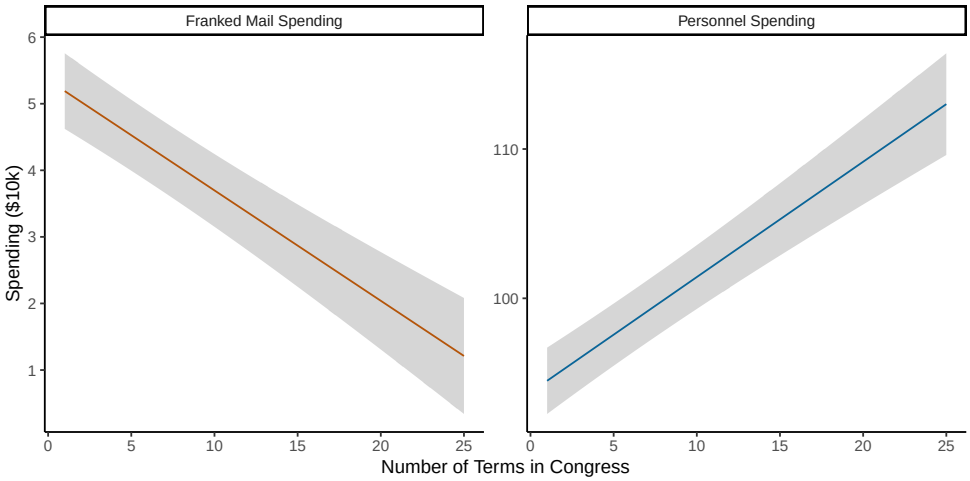
2.5 Discussion

Previous research clearly establishes the importance of staff in Congress and in legislative politics more broadly. More professional legislatures, a categorization which takes into account resources allocated to members for professional staff, are more productive (Squire and Hamm 2005), provide better checks against the executive branch (Bolton and Thrower 2016, Shair-Rosenfield and Stoyan 2017), and can affect a state's credit risk evaluation (Fortunato and Turner Forthcoming). In Congress, staff influence an office's effectiveness and policy agendas (Montgomery and Nyhan 2017), seek out and process information for entrepreneurial efforts (Hertel-Fernandez, Mildenberger and Stokes 2018, Malbin 1980, Whiteman 1995), and perform a bulk of the day-to-day representational activities of a congressional office (Hall 1996). Among available representational resources and sources of professionalization, staff are arguably the most important.

The results above demonstrate substantial heterogeneity in how legislators and dis-



(a) MRA Expenditures by Competitiveness



(b) MRA Expenditures by Tenure

Figure 2.8: MRA Expenditures

Each panel plots the distribution of high and low policy districts, as determined by whether a district spends greater (less) than one standard deviation above (below) the mean in policy staffing. The left plot shows this distribution over the urbanness of a district and the right plot over the median income of the district.

tricts use their staffing resource. In support of existing theories of legislator resource allocation I show that more electorally secure districts spend substantially more on policy – but they also spend more on constituency service. These districts can also attract more experienced policy staff. Using staff as a measure of a legislator's revealed preferences and priorities suggests important differences among electorally secure and competitive districts. In addition, I show that districts with frequent turnover of legislators are at an additional disadvantage due to the benefits of legislator seniority in the staffing market. In short, constituents from safe districts tend to be represented more in policymaking *and* constituency service, as measured by staffing allocations and human capital.

A feature unique to staffing and not other legislative resources, however, is the labor market and career concerns for staff. Districts and legislators that offer more opportunity for policy impact, through higher investment in policymaking, present better career building opportunities for staff. Thus, not only are these districts spending more in policymaking efforts, they may be at a significant disadvantage in their ability to attract experienced staff. Future work would benefit in examining how legislator styles and strategic choices in resource allocation affect their performance on the congressional labor market.

Finally, I find interesting and unexpected results related to legislators in positions of committee or party leadership. In contrast with expectations, districts represented by these leaders see a divestment in policy and a substantial increase in constituency service spending. The likely reason for this is that these legislators substitute committee and/or party resources for their personal staff. The implication from this result is

that constituents in districts represented by these legislators also benefit from greater representation in policy and increased spending in constituency service.

2.6 Conclusion

Decentralized legislatures allow legislators autonomy and flexibility in allocating resources in order to meet the demands from their constituents. In Congress, the implication from this institutional design has been diversity in legislator "styles" (Bernhard and Sulkin 2018, Fenno 1978). The collective impact of these styles, when aggregated to the entire legislature, is that some members asymmetrically impact collective representation from the legislative body as a whole (Grimmer 2013).

This paper has suggested another implication of a decentralized legislature that heavily invests in personal staff. Given the importance of staff, members carefully decide how to allocate these resources based on idiosyncratic considerations – as is the case with other legislative resources. Staff have career concerns which aggregate up to a competitive labor market which favors legislators that offer better career building opportunities for staff. These career building opportunities are not equally dispersed across legislators or districts; instead, they are concentrated among electorally safer, senior legislators from districts that can afford to focus more on policy (and less on constituency service). This creates an inequality through staffing which is unlikely to appear in other areas of legislative resources.

Though the supply and demand nature of office-level staffing is complicated – for example, the median voter in a given district might prefer certain staffing patterns

– the implications for collective policymaking maintain. In the aggregate, as shown above, wealthier urban districts have advantages in staffing. Given the importance of staff as a mechanism through which constituent preferences are converted to policy representation, these inequalities are important in shedding light onto why we see larger, systematic inequalities in the collective representation of Congress (Bartels 2018, Griffin and Flavin 2011, Miler 2018). Legislators that are in safe districts magnify their advantage by gaining more prestigious positions and attracting better staff. Constituents in these districts receive more policymaking representation. It is possible then that the "rich" members in Congress – those in secure seats, with policy-oriented districts and institutional power – get richer because of staffing, and rich constituents benefit from more policy tailored to their ideal points for the same reasons.

On the other hand, one might interpret many of these results as surprisingly small. For instance, shifts in competitiveness from -10 to +10 predict salary differences of less than half of what an average staffer makes per year. Are these findings attenuated by risk averse legislators attempting to maximize their probability of re-election and over-investing in campaign-related roles (e.g., Jacobson 2010)? How much, then, are legislators responding to specific district demands? Should we expect a higher degree of responsiveness in allocations based on district demographics? Examining specific district-based allocations, such as the locations of district offices, would shed light onto these questions. If parties could optimally control staffing at the member-level, how different would it look from the current arrangement?

A logical implication from this paper, and a fertile area for future research, is

directly examining staffing patterns and policy outcomes in Congress. Though previous research has clearly established staff matter in policymaking, little research has attempted to examine changes in staffing patterns on specific areas of legislator behavior. For instance, are legislators with more experienced staff better able to parse information, relying less on party-provided information, and thus behave in a more bipartisan manner? Do freshmen legislators with high visibility (e.g., Rep. Alexandra Ocasio-Cortez) attract different sorts of staff that then enable pursuits of different policy agendas? Recent research by Shepherd and You (2019) suggests one promising approach: examine the behavior of offices based on whether they send more or less staff into lobbying.

Though this paper does not exploit institutional variation because of the time frame studied (due to data availability), it does have implications for a broader comparative literature on legislative professionalism and institutional design. Congress is unique in the way it handles the allocation of resources to members relative to other advanced democracies. For instance, most European democracies allocate scarcely any resources to members for the purpose of policymaking (e.g., Hammond 1996, Pegan 2017). For those that do give money to members for staff oriented towards legislative activity, the resources are much lower than Congress and typically controlled explicitly by the party.[32] In Canada, the expansion of personal legislative staff has produced a debate over the appropriateness of individual MPs possessing too much independence from the party (Dickin 2016). Future research on legislative

[32]Additionally, some U.S. states allow parties the right to confirm staffing hiring decisions made by legislators (see Squire and Hamm 2005).

politics in the comparative literature and in the U.S. states will benefit from careful consideration of staffing schemes theoretically and empirically.

2.7 Appendix

2.7.1 Data Description and Job Titles

As discussed in the paper, the congressional staff employment history dataset was acquired from the firm Legistorm. However, the basis for this dataset are publicly available reports released twice yearly, then quarterly (post-2007) by the House and Senate.[33] Only recently have these data been released as CSVs, with the majority of the data in the 2000s released as PDFs. Legistorm first converted the raw data into text and then undertook a substantial amount of cleaning and manual processing of the data.

As an example, in the raw data there are frequently inconsistencies from report to report with regard to a person's name or job title. In one report their name may be "Joseph M Smith" and the next "Joe Smith"; or their job title may be "Leg. Dir" in one and "Legislative Director" in the next. Legistorm unified these when possible and also manually checks individuals' names against other online sources (such as LinkedIn) to verify the fidelity of the automatic processing.

Beyond the data processing just outlined, Legistorm maintains the original structure of the raw data which was semesterly reports prior to 2008 and then quarterly reports thereafter. To process this data and get into a legislator-year level dataset I did the following. First, I removed all staffers from the dataset that held temporary positions or were interns. I then aggregated up each staffer's yearly salary by sum-

[33]For example: https://www.house.gov/the-house-explained/open-government/statement-of-disbursements/archive

ming the total salary per calendar year as determined by the start and end date of the report (I then adjusted this for inflation to 2016 dollars). Next, I narrowed down the data to one observation per staffer per year, using the last report's information per staffer in a given year. For example, if there are four reports per staffer in one year, I take the information from the last report as that staffer's yearly information (with the exception of the already-aggregated salary). Finally, I coded the staffer's position title into bins as outlined below. The omitted category from the below tables is a consolidation of junior, administrative and constituent service staff.

This process resulted in a dataset where each staffer has one observation per year. I then aggregated this dataset to get the member-level staffer traits that are described in detail in the paper, including the member's policy staff allocation and experience levels. This produced a member-year level dataset which was then merged to various existing datasets of member-level traits (committee assignments, individual characteristics, etc.).

To accurately measure an individual staffer's experience, I subset to the universe of staffers who appear in the data in 2001 and who are at some point considered policy staff. Since my data begin in 2001, this was necessary to ensure that all staffers had accurate counts of their years of Hill experience. Taking this subset of the staffing data, I then began looking up each individual staffer's name in the Congressional Quarterly congressional staff directories that have been published yearly since the 1960s. For the longest serving staffers, I verified that the names were correct matches by searching for their names in the congressional record. The earliest serving staffer uncovered in my data began working in 1967. Summary statistics of the the variables

and measures used in the paper are in Table 2.4.

Table 2.4: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Policy Staff Salary	6,162	431,283	141,930	0	347,773	512,558	1,897,729
Constituency Service Staff Salary	6,162	334,260	142,160	0	247,520	419,859	1,262,334
Policy Staff Experience	6,162	31.7	15.4	0	21	40	152
Total Policy Staff	6,162	6	1.9	0	5	7	27
Constituency Service Salary Ratio	6,162	0.3	0.1	0.0	0.2	0.4	0.9
District Median Income	6,162	51,137	13,980	20,451	41,441	58,289	113,376
Percent Urban	6,103	79.7	19.7	21.2	65.0	98.6	100.0
(log) District Sq. Miles	6,162	7.4	2.0	−1.9	5.9	8.9	14.5
Percent White	6,162	65.4	23.0	2.2	52.6	83.8	97.1
Cook-PVI	6,154	10.0	9.9	−27.0	4.0	15.0	44.0
Tenure	6,162	5.8	4.3	1	2	8	30
Majority	6,162	0.5	0.5	0	0	1	1
Committee Chair	6,162	0.05	0.2	0	0	0	1
Committee Ranking Member	6,162	0.05	0.2	0	0	0	1
Party Leader	6,162	0.01	0.1	0	0	0	1
1st-dim. DW-NOM	6,144	0.1	0.5	−0.8	−0.4	0.6	1.4

Job Title Coding

The decisions on how to code staff positions in this paper are largely based on the processes described in Montgomery and Nyhan (2017), Cain and Drutman (2014) and Madonna and Ostrander (N.d.).[34] Fortunately, this process was made easier because of the extensive cleaning of the data done by Legistorm. For instance, in the raw data a Legislative Director may be: Legis. Director, Leg. Director, Leg. Dir. or any other possible variation. Legistorm cleans most possible variations and assigns them the proper title. Table 2.5 below detail the list of job titles which were combined to form the designation "policy staff" as employed in the paper. Table 2.6 and 2.7 list constituency service and district job titles, respectively, which were combined into the constituency service job title measure in the paper.

[34]This process is based on the delineation of job titles to tasks laid out by the Congressional Research Service (Petersen 2011). Petersen notes, however, there is some heterogeneity within an office based on the tasks staff are assigned as it relates to their job titles. This should produce noise in the estimates, and will be accounted for in models with member fixed effects.

Table 2.5: Policy Staff Position Titles

Chief of Staff*
Legislative Director
Legislative Correspondent
Legislative Assistant**
Legislative Aide**
Legislative Coordinator
Legislative Adviser
Policy Analyst
Policy Adviser**
Senior Adviser**
Policy Aide
Policy Director
Director of Policy
Policy Coordinator
Counsel
Policy Specialist
Research Assistant
Policy Analyst
Fellow**
Law Clerk
Research Director
Legislative Research Assistant
Legislative Clerk
Legislative Analyst
U.S. Senate Aide
National Security Adviser
Special Adviser
Appropriations Associate
Legislative Associate
Senior Legislative Associate
Legal Fellow
Transition Aide
Appropriations Director
Adviser
Legislative Liaison

*anything containing "Chief of Staff" and not "assistant to"
**anything containing

Table 2.6: Constituency Service Staff Positions

District**
Constituent**
Casework**
Mail**
State**
North / South / East / West**
Any state name**
Community**
Field Representative
Regional**
County**
Outreach Coordinator
Special Projects Coordinator
Field Director
Grants Coordinator
Director of Operations
Outreach Director
Projects Director
Field Deputy
Area Representative
Field Assistant
Staff Director Outreach Representative
Case Manager
Congressional Liaison
Director of Outreach
Deputy Director
Economic Development Director
Federal Liaison
Projects Specialist
Area Director
Director of Economic Development
Case Assistant
Project Director
Operations Director
Projects Coordinator
Economic Development Specialist
Special Projects
Project Manager
Field Coordinator
Field Office Manager
Director of Intergovernmental Affairs
Outreach Assistant
Project Coordinator
Military Liaison
Projects Manager
Senior Field Deputy
Economic Development Representative
Project Specialist
Veterans Liaison
Congressional Assistant

**anything containing

Table 2.7: District Staff Positions

Special Projects Coordinator
Field Director
Director of Operations
Outreach Director
Projects Director
Field Deputy**
Area Representative
Field Assistant**
Staff Director
Outreach Representative
Director of Outreach
Deputy Director
Projects Specialist
Area Director
Operations Director

**anything containing

2.7.2 Additional Descriptives and Results

This section visualizes bivariate correlations and other descriptive statistics relevant to the main results of the paper. Figure 2.3 shows the over time trends in aggregate office spending on personnel as well as the total MRA allocations given to members. In Figure 2.9 we see a positive correlation between mean district income and how much a given district spends on policy salary. This figure displays one observation per district, showing that within a district on average, there is a positive correlation across the sample between income and salary investment, regardless of who is representing the district. Figure 2.10 plots the correlation between district income and the urbanness of a district.

Finally, Figures 2.12 and 2.13 show the density of standard deviations of policy spending within an office. The left panel in Figure 2.12 shows the standard deviation of total amount of salary spent on policy and the right panel shows the ratio of total salaries allocated that go to policy. These standard deviations are fairly concentrated and relatively low, suggesting again that once offices make their initial allocation decisions they tend not to change much. Similarly, Figure 2.13 shows a very high correlation between an office's salary allocation in time t with time $t+1$ (in this case, years), again showing path dependence in allocation choices over time.

This regression suggests further evidence that staff with greater experience will select into offices that offer better opportunities for policy impact: specifically, those that invest less in constituency service. The coefficient on Const. Service Salary Ratio is negative, statistically, and substantively significant. These models also control for

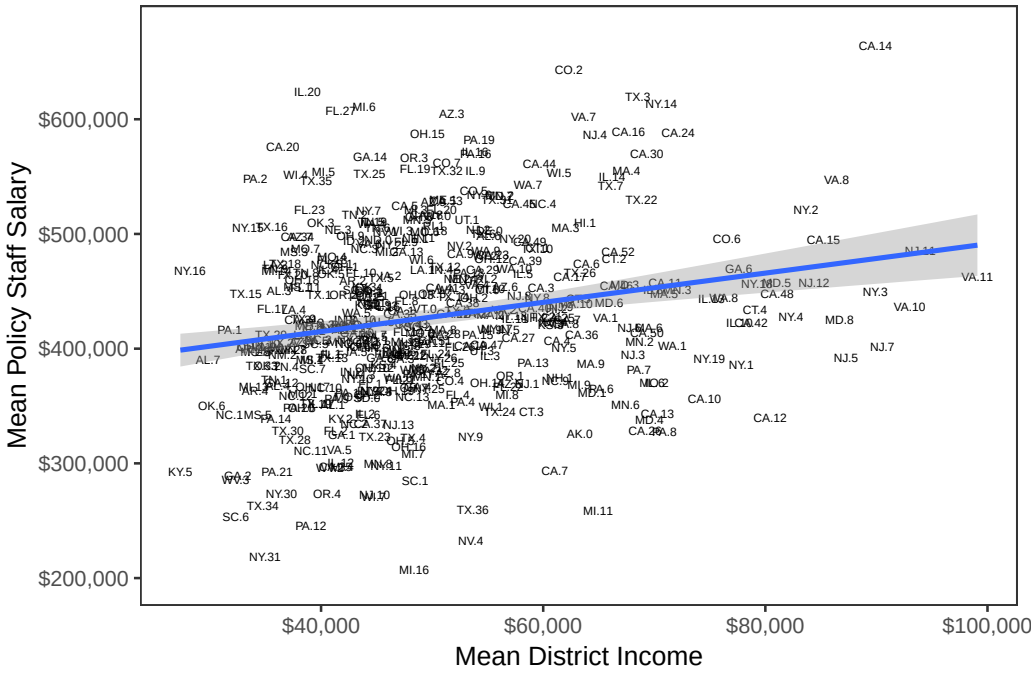


Figure 2.9: District Income and Policy Staff Allocation

This figure plots the mean district income (across the whole sample) against the mean policy staff allocation within the district, averaged across all members representing that district in the sample.

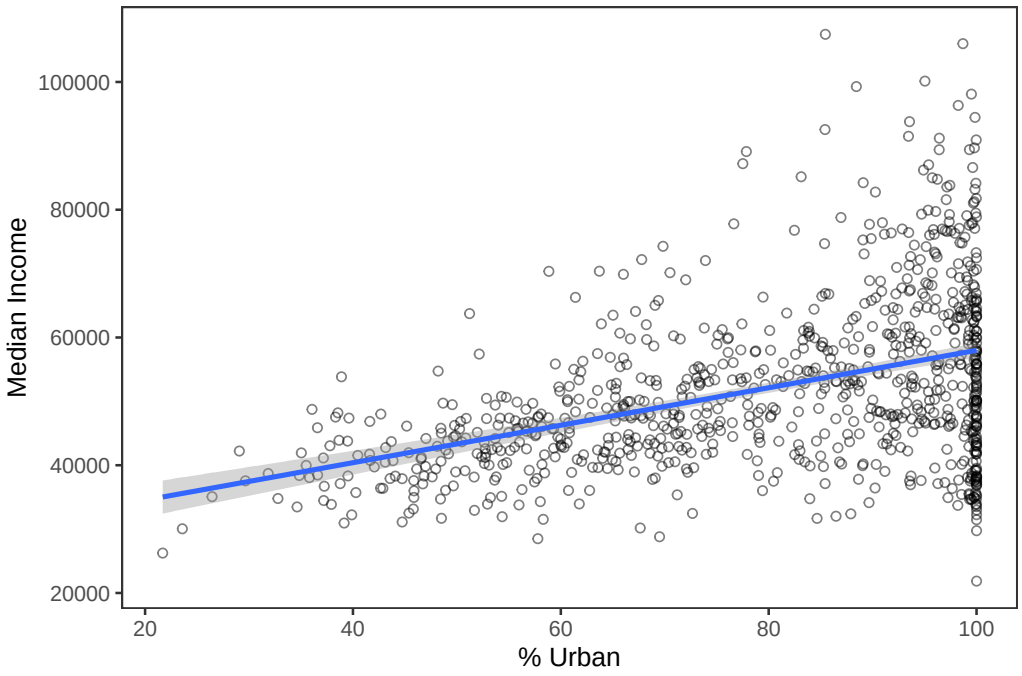


Figure 2.10: Urbanness and District Income

This figure plots the mean district income on the y axis and mean percent urban on the x axis.

Table 2.8: Use of MRA Resources

	Personnel Expenditures		Franked Mail Expenditures	
	(1)	(2)	(3)	(4)
(log) Median Income	4,032.6	34,272.3	14,824.5***	−18,134.9
	(14,736.7)	(51,877.7)	(3,981.3)	(11,769.4)
Percent Urban	182.0	1,105.7	202.5**	111.3
	(314.5)	(1,072.1)	(80.0)	(259.2)
(log) Square Miles	2,201.4	19,294.3**	−276.5	−519.8
	(2,849.9)	(9,289.9)	(628.1)	(1,989.4)
Percent White	475.2**	706.5	0.5	183.6
	(194.4)	(706.8)	(50.7)	(204.2)
Competitiveness	3,387.6***	5,853.4***	−1,517.2***	−683.2*
	(685.0)	(2,207.5)	(212.2)	(394.7)
Competitiveness Squared	−25.9	−80.3	19.3***	13.4
	(20.8)	(64.0)	(6.2)	(12.0)
Tenure	7,722.4***	9,370.1***	−1,657.7***	−1,697.2***
	(819.3)	(2,184.6)	(209.4)	(356.7)
Majority	−12,371.7	−15,823.0	11,161.5***	28,649.2***
	(8,469.7)	(47,130.1)	(2,345.1)	(6,811.4)
Cmte. Chair	16,977.3	21,654.1	−3,364.6	−5,443.5
	(19,639.4)	(32,776.9)	(3,537.9)	(7,555.0)
Cmte. Ranking Member	−19,292.4	−42,400.0	7,334.8**	4,614.5
	(16,956.9)	(39,813.2)	(3,671.6)	(7,531.3)
Party Leader	993.9	38,222.5	−15,643.6***	−9,562.9
	(14,849.1)	(95,406.9)	(3,916.4)	(9,697.2)
Ideological Extremity	−100,391.9***	−141,605.0	5,401.5	−11,660.5
	(18,291.1)	(94,669.3)	(5,323.3)	(14,275.2)
Fixed Effects:	Year	Year + District	Year	Year + District
N	2,193	2,193	2,193	2,193
R^2	0.2	0.6	0.3	0.8

*p < .1; **p < .05; ***p < .01

All variables are at the office-year. Some socio-economic indicators are only available every two years due to data avialability. All models include year fixed-effects and report robust standard errors.

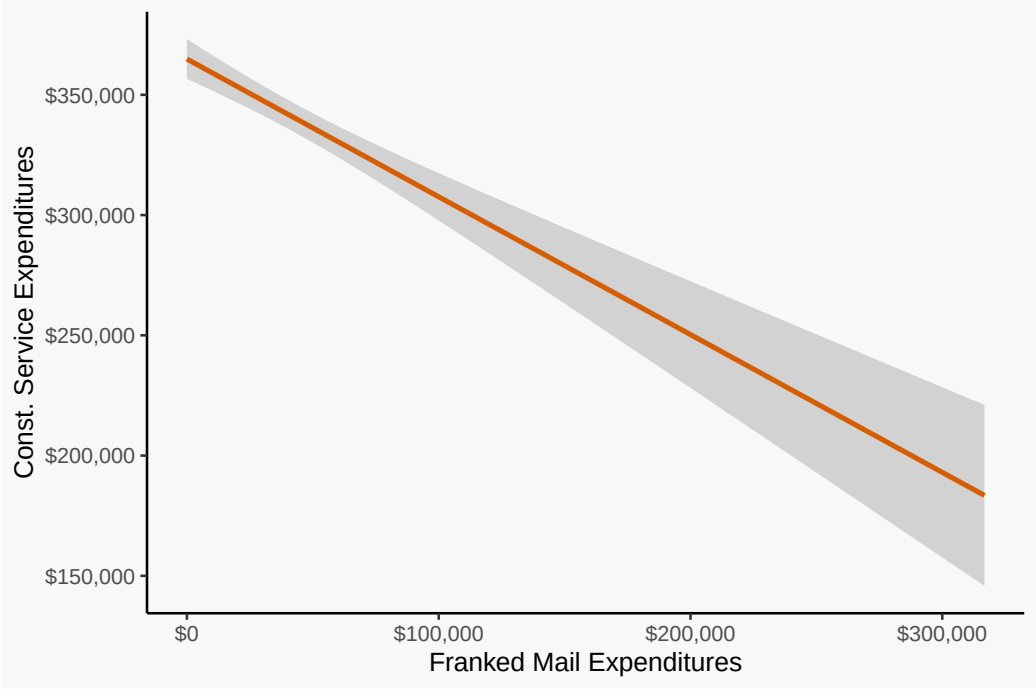


Figure 2.11: Franked Mail and Constituency Service

This figure plots the empirical correlation between franked mail expenditures and constituency service salary allocations.

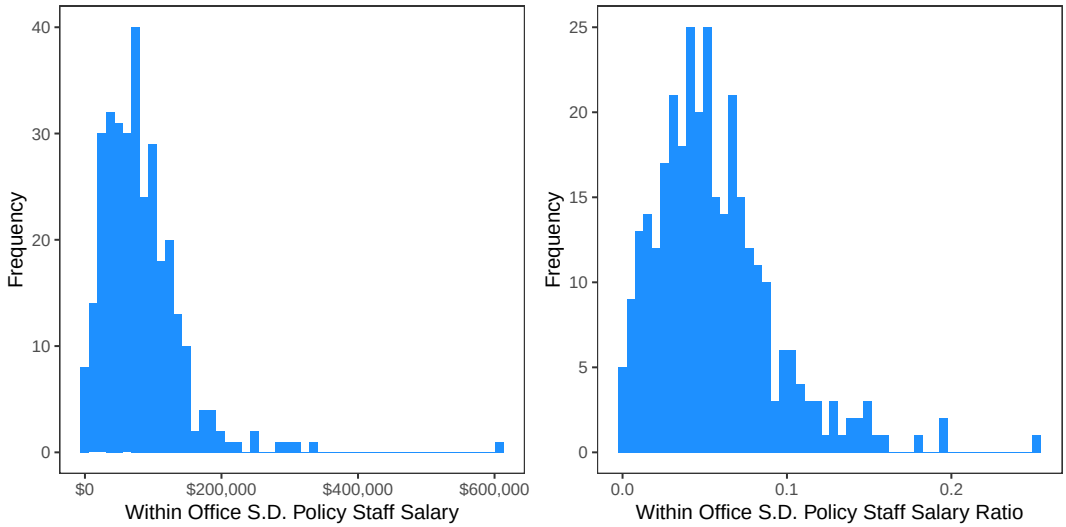


Figure 2.12: Within Office Standard Deviations in Allocation

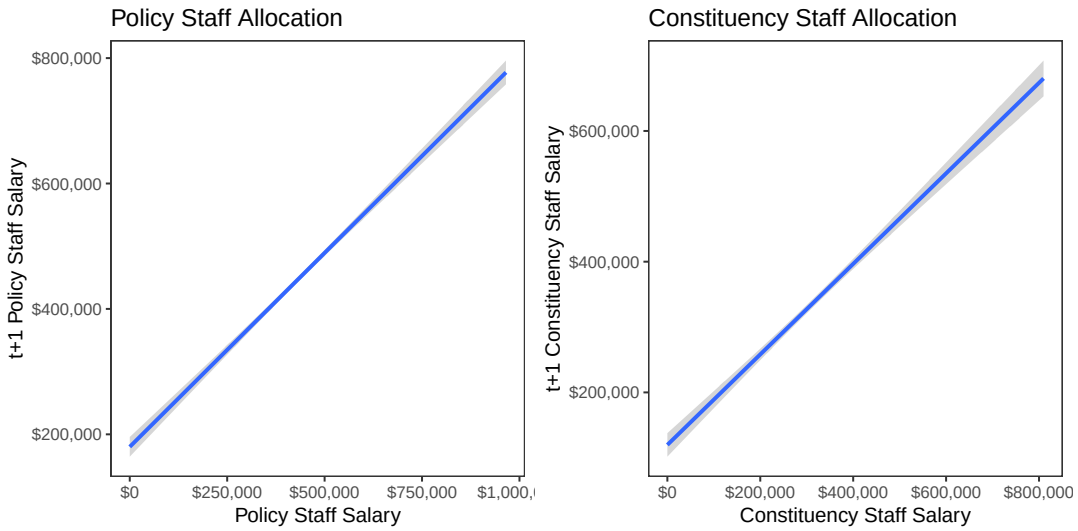


Figure 2.13: Allocation Correlations

how many policy staff a member employs, so that the collective experience is not strictly driven by hiring more policy staff. Table 2.10 plots results using policy staff ratios and constituency service staff ratios in the fixed effects specifications presented in the main paper. We see broadly the same patterns using ratios as overall salary expenditures, with the notable difference being district competitiveness. Importantly, though, these results show further evidence that within district and member, initial staffing allocations are unlikely to change.

Table 2.11 displays the same results as Table 2.1, however the functional form of district competitiveness is allowed to vary. Consistent with previous theoretical work, these results show different expenditure regimes depending on extremes in district competitiveness. However, the extremes should not be taken too literally given relatively few observations. Interestingly, there appears to be a non-monotonic relationship in policy and constituency service allocation in especially safe districts. Figure 2.14 plots the predicted values from these regressions.

Table 2.9: Constituency Service Salary Ratio Regressions

	Policy Staff Experience		
	(1)	(2)	(3)
(log) Median Income	0.9	−0.2	−3.0
	(1.8)	(2.8)	(3.6)
Percent Urban	0.003	0.01	0.02
	(0.03)	(0.04)	(0.04)
(log) Square Miles	0.2	0.7**	0.2
	(0.3)	(0.4)	(0.4)
Percent White	0.000	−0.03	−0.1
	(0.02)	(0.04)	(0.1)
Competitiveness	0.1	0.1	0.01
	(0.1)	(0.1)	(0.1)
Competitiveness Sqaured	−0.003	−0.002	0.001
	(0.002)	(0.002)	(0.003)
Tenure	1.4***	1.6***	8.0***
	(0.1)	(0.1)	(1.3)
Majority	−1.3***	−1.2***	−1.5***
	(0.4)	(0.4)	(0.3)
Cmte. Chair	−0.2	−2.4	−0.3
	(1.5)	(1.8)	(1.4)
Cmte. Ranking Member	−3.2**	−2.4*	−1.6
	(1.5)	(1.3)	(1.3)
Party Leader	−1.0	−2.0	−1.7
	(2.3)	(2.1)	(1.9)
Ideological Extremity	−0.5	2.2	−5.5
	(1.7)	(1.9)	(6.3)
Const. Service Salary Ratio	−2.2	−5.3**	−7.7***
	(3.0)	(2.2)	(2.5)
Total Policy Staff	4.4***	4.1***	4.2***
	(0.2)	(0.1)	(0.1)
Fixed Effects	Congress	Congress + District	Congress + Member
N	6,077	6,077	6,077
R^2	0.5	0.8	0.8

*p < .1; **p < .05; ***p < .01

All variables are at the office-year level or district-year level. All models include Congress fixed-effects and total number of policy staff fixed effects. All models report robust standard errors clustered at either the district or member.

Table 2.10: Salary Ratios - Fixed Effects Models

	Policy Staff Salary		Const. Service Staff Salary	
	(1)	(2)	(3)	(4)
Competitiveness	−0.001	−0.000	−0.001	0.001
	(0.000)	(0.001)	(0.001)	(0.001)
Tenure	−0.002*	0.04	−0.01***	−0.003
	(0.001)	(0.04)	(0.001)	(0.03)
Majority	−0.003	−0.01**	−0.01**	−0.01***
	(0.004)	(0.004)	(0.004)	(0.003)
Cmte. Chair	−0.1***	−0.1***	−0.03**	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Cmte. Ranking Member	−0.1***	−0.1***	−0.03**	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Party Leader	−0.04	−0.1*	0.001	0.02
	(0.03)	(0.03)	(0.03)	(0.02)
Ideological Extremity	0.1***	−0.1	−0.02	0.000
	(0.02)	(0.1)	(0.02)	(0.1)
(log) Median Income		0.02		0.04
		(0.04)		(0.03)
Percent Urban		−0.000		0.001*
		(0.000)		(0.000)
(log) Square Miles		−0.01		0.01
		(0.004)		(0.004)
Percent White		0.000		−0.000
		(0.001)		(0.001)
Fixed Effects	District	Member	District	Member
N	6,136	6,077	6,136	6,077
R^2	0.5	0.6	0.6	0.7

*p < .1; **p < .05; ***p < .01

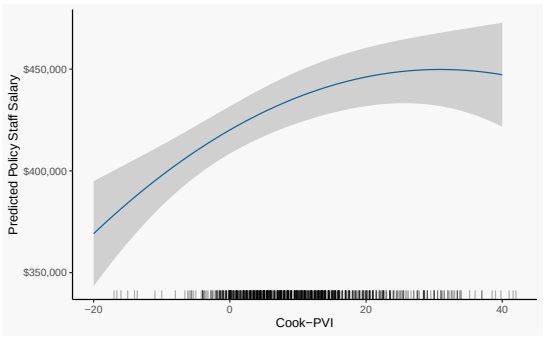
The outcome variable is the ratio of salary allocated towards policy or constituency service out of the total salary allocated. All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include Congress fixed-effects. Even numbered columns also include district by redistricting period fixed effects, odd numbered columns include member fixed effects. All models report robust standard errors clustered at either the district or member.

Table 2.11: Salary and Staff Experience Models - Competitiveness Robustness

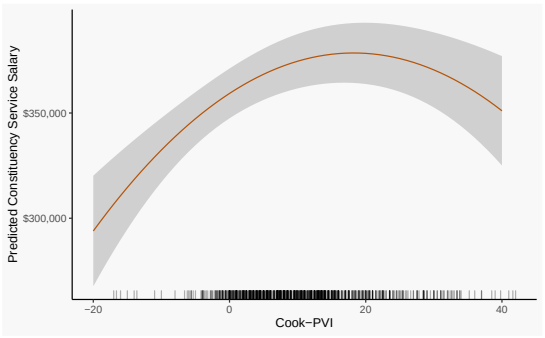
	Policy Staff Salary		Const. Service Staff Salary		Policy Staff Experience	
	(1)	(2)	(3)	(4)	(5)	(6)
(log) Median Income	48,097.4***	42,665.4***	3,030.3	3,126.7	3.9***	3.6***
	(9,553.0)	(9,467.6)	(9,217.5)	(9,014.8)	(1.0)	(0.9)
Percent Urban	1,011.3***	1,039.1***	−786.1***	−625.3***	0.04**	0.05***
	(159.5)	(155.4)	(176.8)	(170.3)	(0.02)	(0.02)
(log) Square Miles	3,304.5**	3,825.7**	829.5	3,036.5**	−0.1	0.3**
	(1,457.5)	(1,503.5)	(1,434.6)	(1,450.8)	(0.1)	(0.1)
Percent White	415.3***	401.1***	−500.4***	−256.6**	0.02*	0.02*
	(114.0)	(116.0)	(125.0)	(123.0)	(0.01)	(0.01)
Competitiveness	1,859.5***	1,801.6***	529.6	1,824.8***	0.1**	0.1***
	(316.5)	(358.1)	(367.4)	(393.8)	(0.04)	(0.04)
Competitveness Squared	16.2	17.3	80.2***	51.4*	−0.0000	−0.003
	(25.1)	(25.0)	(29.9)	(28.9)	(0.003)	(0.002)
Competitiveness Cubed	−1.2*	−1.4**	−3.3***	−3.1***	−0.0000	−0.0000
	(0.7)	(0.7)	(0.7)	(0.7)	(0.0001)	(0.0001)
Tenure		2,977.2***		−567.9		1.4***
		(514.1)		(473.9)		(0.1)
Majority		−3,248.0		−11,268.5***		−1.1***
		(3,726.1)		(3,942.4)		(0.4)
Cmte. Chair		−8,062.6		18,000.3*		−2.8**
		(10,611.3)		(10,159.6)		(1.1)
Cmte. Ranking Member		−29,205.6***		8,721.7		−5.9***
		(11,029.5)		(10,991.5)		(1.0)
Party Leader		20,613.5		91,417.6***		−2.3
		(21,793.5)		(26,547.2)		(1.9)
Ideological Extremity		5,974.7		−72,948.3***		−1.7*
		(10,036.2)		(9,798.1)		(1.0)
N	6,095	6,077	6,095	6,077	6,095	6,077
R^2	0.1	0.1	0.03	0.05	0.1	0.2

*p < .1; **p < .05; ***p < .01

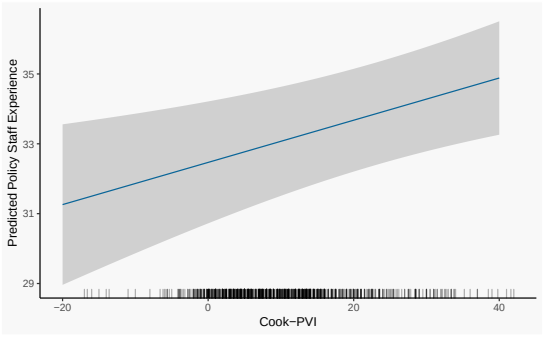
All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include Congress fixed-effects and report robust standard errors.



(a) Policy Allocation



(b) Constituency Service Allocation



(c) Policy Staff Experience

Figure 2.14: Policy and Constituency Service Allocation

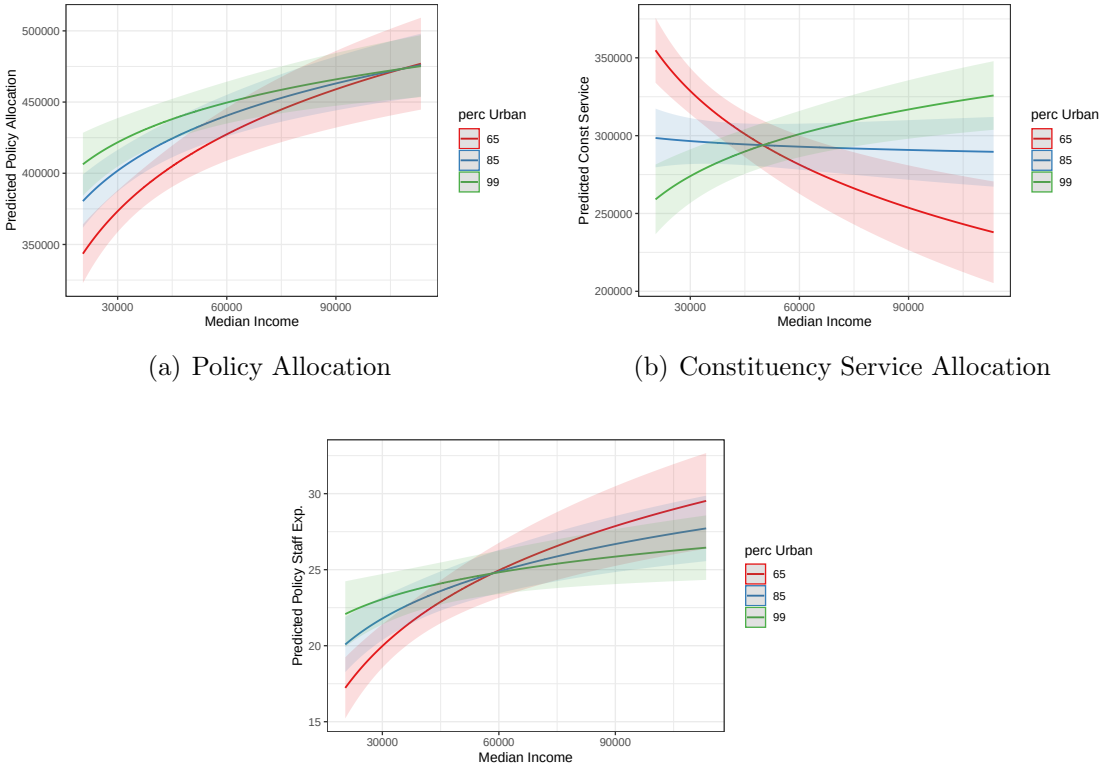
Each figure plots the predicted results from the coefficients on district competitiveness in Table 2.11.

Finally, in Table 2.12 I plot the same models as Table 2.1 but include an interaction between median income and percent urban. This accounts for the fact that, although there is a strong positive correlation between income and urbanness, some urban districts may be poor and drive heterogeneity in the results. To ease interpretation, Figure 2.15 plots the predictions from this interaction and the 33rd, 66th and 99th percentiles of district urbanness. Generally, the same relationship maintains from the results without the interaction. However, we do see in constituency service allocation that wealthier, rural districts allocate much less to constituency service relative to wealthier, urban districts.

Table 2.12: Salary and Staff Experience Models - Interaction

	Policy Staff Salary	Const. Service Staff Salary	Policy Staff Experience
	(1)	(2)	(3)
(log) Median Income	119,059.9***	−274,229.3***	15.4***
	(35,927.0)	(38,770.1)	(3.8)
Percent Urban	9,658.2**	−34,666.9***	1.4***
	(4,201.9)	(4,527.1)	(0.4)
Perc Urban × Income	4,730.7***	7,106.3***	0.3**
	(1,470.4)	(1,380.9)	(0.1)
(log) Square Miles	404.0***	−140.2	0.02*
	(116.1)	(120.8)	(0.01)
Percent White	1,132.3***	914.2***	0.02
	(232.8)	(232.5)	(0.02)
Competitiveness	2,984.2***	−833.4*	1.4***
	(513.3)	(478.5)	(0.1)
Tenure	−3,987.9	−13,069.0***	−1.1***
	(3,723.3)	(3,933.7)	(0.4)
Majority	−8,655.4	16,359.5	−2.8**
	(10,569.5)	(10,066.7)	(1.1)
Cmte. Chair	−29,070.2***	6,998.6	−5.9***
	(11,012.6)	(10,889.6)	(1.0)
Cmte. Ranking Member	19,111.1	93,008.8***	−2.4
	(21,736.2)	(25,823.8)	(1.9)
Party Leader	9,367.0	−57,368.7***	−1.4
	(9,758.8)	(9,590.9)	(0.9)
Ideological Extremity	−806.4**	3,215.3***	−0.1***
	(395.4)	(424.0)	(0.04)
N	6,077	6,077	6,077
R^2	0.1	0.05	0.2

*p < .1; **p < .05; ***p < .01
All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include Congress fixed-effects and report robust standard errors.



(a) Policy Allocation

(b) Constituency Service Allocation

(c) Policy Staff Experience

Figure 2.15: Interaction Plots

Each figure plots the predicted results from the coefficients on the interaction between district wealth and urbanness in Table 2.12.

Table 2.13: Salary Ratio Robustness

	Policy Salary Ratio		Const. Service Salary Ratio		Policy / Const. Service Salary	
	(1)	(2)	(3)	(4)	(5)	(6)
(log) Median Income	0.03^{***}	0.03^{***}	-0.002	0.01	0.01	-0.1
	(0.01)	(0.01)	(0.01)	(0.01)	(0.1)	(0.1)
Percent Urban	0.001^{***}	0.001^{***}	-0.001^{***}	-0.001^{***}	0.004^{**}	0.004^{**}
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.002)	(0.002)
(log) Square Miles	0.003^{***}	0.0005	0.002^{*}	0.002^{*}	-0.03^{**}	-0.03^{**}
	(0.001)	(0.001)	(0.001)	(0.001)	(0.01)	(0.01)
Percent White	0.0004^{***}	0.0003^{***}	-0.0003^{***}	-0.0002^{**}	0.004^{***}	0.003^{**}
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.001)	(0.001)
Competitiveness	-0.001^{***}	-0.001^{***}	-0.001^{***}	-0.001^{***}	0.01^{***}	0.002
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.002)	(0.002)
Tenure		-0.003^{***}		-0.01^{***}		0.1^{***}
		(0.0004)		(0.0004)		(0.01)
Majority		-0.005^{*}		-0.01^{***}		-0.04
		(0.003)		(0.003)		(0.04)
Cmte. Chair		-0.1^{***}		-0.03^{***}		-0.2^{**}
		(0.01)		(0.01)		(0.1)
Cmte. Ranking Member		-0.1^{***}		-0.02^{**}		-0.2
		(0.01)		(0.01)		(0.2)
Party Leader		-0.1^{***}		0.004		0.2
		(0.01)		(0.02)		(0.5)
Ideological Extremity		0.03^{***}		-0.04^{***}		0.5^{***}
		(0.01)		(0.01)		(0.1)
N	6,095	6,077	6,095	6,077	6,020	6,008
R^2	0.04	0.1	0.04	0.1	0.01	0.03

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

All variables are at the office-year level or district-year level. Some socio-economic indicators are only available every two years due to data avialability. All models include Congress fixed-effects and report district clustered standard errors.

Chapter 3

Human Capital on Capitol Hill

ABSTRACT

There are roughly 10,000 individuals working as personal staffers for members of the U.S. House of Representatives in a given year. These professional staffers are tasked with fulfilling the roles of policymaking, constituency service, and representation more broadly. Except for the well-known revolving door between Capitol Hill and lobbying, little is understood about the labor market for staff. Staff seek to use their time on Capitol Hill as underpaid and overworked public servants to bolster their prospects for future employment. Legislators, solely responsible for the hiring and retainment of their staff, are confronted with this labor market when using their resources. I argue that legislator and district characteristics, such as competitiveness and focus on policymaking, shape the desirability of offices as targets of employment and, as a result, the human capital of legislative offices. I find that competitive districts possess 28% less experienced staff and suffer from worse staff retention. Additionally, offices and districts that do not invest in policymaking see fewer staff selecting into their offices and have lower rates of human capital among their staff. On average, staff with higher human capital select into offices that offer more career-advancing opportunities. The implications for these results suggest some districts are systematically disadvantaged in the staffing labor market, with important implications for representation and congressional reformers.

3.1 Introduction

Political institutions, much like businesses, depend on their personnel to function properly. In legislatures, where elected officials are tasked with multiple competing responsibilities, staff perform vital roles in the day-to-day business of representation and shape legislative organization. In the U.S. Congress, the subject of this paper, legislators are provided more resources relative to their peers in other developed democracies for the use of personal staff. As the tasks confronting Congress have become more varied and complex, understanding how staff interact with congressional institutions and their broader environment outside of Congress is a fundamental question for policymakers and scholars of representation. This understanding is made more complex due to the increased importance of individual staffers in recent years, exacerbating the salary differential between public and private sectors and highlighting underlying tensions in how Congress manages its most valuable human resource. Yet, little systematic evidence exists describing the staffing labor market, how it affects individual staffers, and the implications it has on legislator behavior and representation.

Indeed, Congress itself has become increasingly focused on considering, analyzing, and reforming how staff fit into their institution. As trust in Congress hovers around 20% (Brenan 2019), and there are widespread stories of lobbyists' impact on the policymaking process and the revolving door, personnel have become a focus of congressional reformers. Putting things in stark relief, one recent headline in *Roll Call* reads "Staff Departures Undermine GOP Legislative Agenda" (Williams

2017). In an earnest attempt to address such concerns, the Select Committee on Modernization, begun in 2019, is "tasked to investigate, study, make findings, hold public hearings, and develop recommendations to make Congress more effective, efficient, and transparent on behalf of the American people."[1] This reform effort has received more attention that previous attempts within Congress. This is likely due to members such as Alexandria Ocasio-Cortez, who has brought attention to the low salaries, lack of childcare, and generally low levels of investment in congressional staff. Congress understands that its personnel, responsible for much of the policymaking, constituent service, and behind-the-scenes, thankless tasks of representation, have not seen adequate investment in recent years, with resources devoted to staff near a nadir relative to the highs of the early 1990s. Put differently, the conventional story is that Congress has outsourced its expertise to lobbyists and special interests. Characterizing the understudied supply side of policymaking, the congressional staff labor market, and tying it to legislator incentives and representation is an important contribution of this paper.

Ultimately the structure of staffing is up to Congress. While personnel are the subject of little attention in theories of congressional organization (they are not mentioned in, e.g. Cox, McCubbins et al. 2005, Krehbiel 1992), a large body of work characterizes staff as political professionals with substantial responsibility within the halls of Congress (Curry 2015, Fox and Hammond 1977, Hall 1996, Price 1971, Romzek and Utter 1997, Salisbury and Shepsle 1981). This work, largely built on interviews of staff and legislators, highlights the importance of the select committee's task. As I

[1] https://modernizecongress.house.gov/about/history

document later, pay for congressional staff has either stagnated or declined while cost of living in D.C. has increased – both of which are occurring in the shadow of increasingly outsized salaries in the lobbying industry for individuals with staff backgrounds (Cain and Drutman 2014, LaPira and Thomas 2017, McCrain 2018). Simultaneously, higher and higher numbers of staff are reporting dissatisfaction with the resources they are provided to fulfill their important responsibilities and state they are considering seeking employment outside of Capitol Hill (Congressional Management Foundation 2017, Montoya-Galvez 2018).

Recent research finds direct links between staff and legislator behavior and legislative productivity (Crosson et al. 2018, Hertel-Fernandez, Mildenberger and Stokes 2018, Montgomery and Nyhan 2017, Shepherd and You 2019). Backed by journalistic accounts and in depth qualitative research that finds substantial autonomy possessed by individual staffers (Malbin 1980, Whiteman 1995), this newer strand of work shows offices with higher human capital staff and more investment in staff with policymaking backgrounds tend to be more productive legislators. As in other institutions, the idea is that personnel affect policy and attracting and retaining personnel invested in policymaking per se can result in changes to the institution's output (Gailmard and Patty 2007*b*, 2012).

In Congress, there is substantial heterogeneity in the way members use their resources – staff included among them. However, a clear pattern emerges in respect to staff: those legislators who invest in policymaking, and attract and retain those staff with relevant experience, tend to be more effective policymakers. This paper uncovers systematic disparities in which districts and which legislators possess and retain

experienced legislative staff. These differences are largely driven by staffing-side labor market considerations, a factor left out of most examinations of congressional organization. I argue that staff have particular career incentives that do not necessarily or even frequently align with the goals of a legislator attempting to represent her constituents and secure re-election.

Specifically, I find large advantages for safe districts over competitive districts in the staff labor market. Members in competitive elections and districts with frequent turnover possess 28% less experienced staff relative to similar districts. At the individual staffer level, Hill careers are shaped by near electoral victories versus near electoral losses. Additionally, I build on theoretical and empirical work analyzing legislators' resource tradeoffs (or "styles", e.g. Ashworth and Bueno de Mesquita 2006, Bernhard and Sulkin 2018, Fenno 1978) and find legislators whose districts constrain them into higher focus on constituency service systematically attract and retain less experienced staff. I also show that these districts possess fewer staff with other types of relevant human capital, such as graduate degrees. Finally, I present iniital evidence that the traits of a member's staff shape behavior beyond legislative productivity, including propensity for bipartisan legislating, the types of legislation they introduce, and how many cosponsors their bills receive.

Endowing legislators with vast resources and autonomy in hiring their own highly professionalized staff is an institutional choice relatively uncommon in comparative contexts.[2] The culmination of the evidence in this paper, along with other recent

[2]Shifts towards this institutional structure have been controversial in, for instance, the Canadian and European parliaments (Högenauer and Neuhold 2015, Pegan 2017), even though these legislators are endowed with only a fraction of the resources given to members of Congress.

work, suggests an outcome from this institutional arrangement is an internal labor market within the legislature that produces inequalities across members and districts. A tradeoff in a highly decentralized Congress (Fenno 1978) may be the persistent disadvantage of certain offices due to the staff labor market. I show that those districts that are more competitive or have higher legislator turnover, and those that do not invest in the areas that ambitious, qualified staff value are consistently disadvantaged in the human capital of their staff.

Taken together, I argue that an examination of both the push and pull mechanisms of the staff labor market, and how members confront it, paint a more realistic picture of the modern Congress – one that aligns with how reformers are approaching the next generation of Congress. However, the problems are complex; as such, a secondary but no less important goal of this paper is to provide knowledge and description on how the labor market within Congress functions – a stated task of the resolution recently passed by the modernization committee.[3] I document, for instance, that on-average career tenure of staff has not changed much in recent years, but this may mask important heterogeneities such as certain offices and districts being systematically disadvantaged through the current staffing infrastructure.

Main takeaways. This paper conveys a wide array of evidence that staff select into offices based on straightforward observations about their career concerns. Staff try to build their careers in well-understood ways to position themselves for future

[3]Indeed, one of the most common conclusions in the committee's recent report is the need for more research on this problem. As an example, one conclusion reached in the passed resolution is "to prepare and submit a report examining the feasibility of [adjusting]...employee salaries and costs, including recommendations for necessary changes to the Members' Representational Allowance". https://www.congress.gov/bill/116th-congress/house-resolution/756/text

employment on and off Capitol Hill. Specifically, they seek out positions of policy influence and job security in order to build strong Capitol Hill resumes. I find that offices which offer these opportunities, captured through electoral security, member seniority, and the office's investment in policymaking, see more selection of staff with experience and other levels of human capital. I also show that staff with higher levels of human capital have more opportunities to move around Capitol Hill, such as when their boss loses or when a new job for a more senior member opens up. Taken together, these results imply that studies that examine staffs' impact on policymaking, such as through variation in staff human capital in an office, are in fact analyzing the selection effect of staff into already strong offices. Those offices that invest in policy, are electorally secure, or are in districts with low demand for constituency service have higher potential to impact policymaking due to the selection of high caliber staff into already strong offices.

3.2 The Congressional Labor Market

Policymaking in Congress is complex and only getting more difficult as members must increasingly rely on their own staff for technical aspects of legislating (e.g., Ehrenfreund 2017, Sinclair 2007). Additionally, recent research on Congress has found power becoming concentrated among congressional leadership, leaving rank-and-file members more reliant on their own offices to gather information about policy and voting (Curry 2015, Sinclair 2016). In other words, the ability of rank-and-file members to be productive legislators hinges largely on their own initiative and staff.

To understand staff's role in Congress as it relates to legislator behavior and entrepreneurship, it is first necessary to consider the demands placed on a congressional office. Beyond the constituent service tasks, such as casework, meeting with constituents, and managing correspondence, the office monitors legislative activity, prepares for committee hearings and markups, crafts new policy, and decides how to vote on complex legislation, often with little time for deliberation.[4] The member herself is not capable of performing a fraction of these tasks – especially with the demands of fundraising – and turns to her staff (Leal and Hess 2004, Whiteman 1995).[5]

A common view in congressional scholarship is that staff are political professionals who provide policy expertise and institutional memory while possessing "substantial but qualified" autonomy within Congress (Romzek and Utter 1997). Some research finds that because of members' dependence on staff, staff are able to exert a significant influence on the actions of their boss (e.g., Hall 1996, Price 1971, Whiteman 1995). Montgomery and Nyhan (2017) find evidence of the influence of staffers on their bosses' legislative activity through the networks created by senior and policy staff who move offices. Others have worried that staff have too much influence and agency (e.g., DeGregorio 1995, Malbin 1980).[6] DeGregorio (1995) finds through interviews

[4]Moreover, the complexity of the policy a legislator is asked to consider has increased significantly overtime. In the 80th Congress, bills averaged 2.5 pages. By the 109th Congress, the average length increased to more than 15 pages (Curry 2015). Similarly, Ornstein, Mann and Malbin (2009) reports that the *Federal Register* increased in length by more than 500 percent over the same period.

[5]Hall (1996, 23) quotes one representative: "I feel like I'm spread thin all the time. There's never any time to read or think and issue through."

[6]Malbin (1980) goes so far as calling staff "Unelected representatives." Kingdon (1989), however, finds little evidence that staff are individually capable of influencing legislator behavior, but does observe that members and staff typically have the same views on policy and concludes the status quo he observed in the 1970s was likely changing.

that because of the influence of staffers, members are hesitant to delegate important tasks to anyone but their most loyal staff. Curry (2015) argues that in modern Congresses reliance on staff has increased as the leadership provides less information about policy as it is being formed (they legislate "in the dark") and, as a result, time to consider legislation is shorter than ever.

In short, members of Congress rely heavily on their personal office staff. This is especially true in the House, where members are limited to 18 full-time equivalent staff on their payroll, but frequently employ fewer than the maximum number due to resource constraints (see Madonna and Ostrander N.d., McCrain N.d.). The importance of staff has increased their value to private-sector employers, especially the lobbying industry (LaPira and Thomas 2017, Shepherd and You 2019). Blanes i Vidal, Draca and Fons-Rosen (2012) and McCrain (2018) finds that staff-turned-lobbyists are differentially valuable in lobbying depending on their careers on Capitol Hill (see also Cain and Drutman 2014). Salisbury and Shepsle (1981) documented the strategic nature of a congressional career, calling it an important "credentialing" experience. However, the dynamics have changed since the 1980s as working conditions have worsened (Congressional Management Foundation 2012, Gale 2015) and salaries no longer compete with outside options (Bogardus and Leven 2011). Staff strategically orient themselves to best take advantage of their time on Capitol Hill, seeking out offices and positions that generate the most promising future career benefits.

3.2.1 Careers on Capitol Hill

The most obvious comparison to congressional staff from other American political institutions are bureaucrats. Staff, unlike bureaucrats, are not offered civil service protections and are provided few incentives to develop expertise particular to the office in which they work[7] While some bureaucrats' jobs are subject to the whims of elections, most do not have to worry about losing their post every two years as is the case in the House of Representatives. This complicates a staffer's career choices as they may be thrown into an ever-tightening labor market, competing with others for scarce desirable positions.

Further complicating staffers' careers are the management choices made by the member of Congress. Upon getting elected to the House, members are given a budget of nearly $1.5 million for "representational tasks" – the bulk of which is spent on personnel. Members are given little training on how to manage an office, and they are provided full autonomy in hiring and in other personnel decisions. Anecdotal evidence suggests some members in particular struggle in the management role, resulting in toxic workplaces.[8] This institutional structure follows the long tradition of a decentralized legislature as described by Fenno (1978). On the one hand, this decentralization provides flexibility to members in responding to idiosyncrasies of their district. On the other, it forces them to compete in an open labor market

[7]This is called "relationship specific expertise" by Gailmard and Patty (2007*b*). In their model, policy-interested bureaucrats will stay in civil service longer and develop expertise specific to their position if they are provided flexibility in policymaking and salaries competitive with outside options.

[8]For example, Representatives Sheila Jackson-Lee, Joe Sestak and most recently Tim Murphy (Bade, Sherman and Bresnahan 2017) were common subjects of journalistic accounts on terrible workplace environments.

while also balancing the other tasks of an elected official. Staff have ample agency in which offices they choose to work and those that are ambitious or possess high levels of human capital (experience, specific expertise, etc.), seek those opportunities that progress their career-based objectives. As described below, there is substantial churn on Capitol Hill as staff leave one office for the next opportunity.

What specific types of opportunities do staff value? Research on revolving door lobbying finds those staff with the most Hill experience, time spent in policy relevant roles, and the largest networks to other staff earning a premium once they become lobbyists (Cain and Drutman 2014, McCrain 2018).[9] Of course, in order to build a career on the Hill staff must deal with the constant threat of job loss due to their boss losing an election. Though little systematic evidence exists to date on staff career trajectories, it is logical that, ceteris paribus, safer offices are more attractive places of employment than those in more competitive electoral environments.

Staffer-side considerations abstract away from member preferences, however. In responding to their districts, members can allocate their resources in ways that they believe allows them to continue their careers (read: getting re-elected) while representing their constituents. A broad research agenda studies these choices (or "styles"), finding that members are faced with the strategic allocation of scarce resources and first place importance on re-election, typically through emphasizing constituency ser-

[9]The premise behind these findings is that staff primarily perform legislative subsidy lobbying (Hall and Deardorff 2006), and their process knowledge combines with personal networks to make them uniquely qualified for this task (Bertrand, Bombardini and Trebbi 2014). However, LaPira and Thomas (2017) argues they are uniquely valuable not necessarily because of their networks, but because of their in depth knowledge of how policymaking is done on the Hill, enabling them to provide insurance against negative policy outcomes to their clients.

vice (Ashworth and Bueno de Mesquita 2006).[10] Other features of districts can drive more allocation towards constituency service, such as larger populations that need assistance with government programs (Griffin and Flavin 2011, Harden 2013, McCrain N.d.). This emphasis on constituency service comes at the cost of allocation towards policy activity, which staff value in building out their resume for future employment.

I argue that these features of Congress – the autonomy of members in hiring their own staff, their flexibility in their use of resources, and the need to secure re-election – interact with individual staffer career concerns to produce straightforward testable empirical implications. This paper proceeds by examining the macro labor market for congressional staff, including trends in turnover and retention, salaries, and how these relate to member and district traits. I then examine how changes to a member or district produce changes in their staff human capital. Finally, I examine how variation in staffing human capital relates to legislator behavior. The results below are important beyond shedding light onto the little-understood internal congressional labor market; they also emphasize how certain offices from certain types of districts – those that are safer and invest more in policymaking activity – receive an additional advantage through their ability to attract higher human capital staff.

[10] Constituency service is broadly construed as individual-level assistance with government services or agencies (Eulau and Karps 1977). The idea is that legislators are better able to communicate their value to constituents, and thus increase probability of re-election, through constituency service provision. It is a less noisy signal of their type relative to policymaking, which has more diffuse outcomes.

3.3 Data

Data on congressional staff are publicly available and released by the House and Senate online (for the post-2000 era).[11] The data used in this paper are acquired from *Legistorm* (2018), a private firm that extensively cleans the raw data.[12] Legistorm first converts the raw data (much of which is available only in PDFs) into plain text and then rectifies a number of name inconsistencies in the data where staffers' names slightly vary from report to report. The data provided by Legistorm cover 2001-2018 and contain information on all paid staff during that period. Included in the data is which office the staffer worked for, their position title (which has also been cleaned), their salary, and the staffer's name. In the raw form the data are released quarterly, and Legistorm maintains this format. To create the staff experience measure discussed below, I collect additional data on staff employment from hard copy Congressional Quarterly congressional staff directories dating back to 1967.[13]

The dataset for the analysis that follows is the universe of staffers who worked in a member's personal office either in the House or Senate. I aggregate the data from the quarterly-staffer level up to the member-year level, assigning members their relevant covariates and staffing measures based on yearly totals. In the raw form, there are nearly 1.5 million quarter-level observations of 112,000 staffers. I aggregate this to staffer-year and office-year datasets which vary in size depending on the exact

[11] https://disbursements.house.gov/

[12] Examples of this cleaning are in the Online Appendix.

[13] This additional collection is necessary since I cannot observe in the primary dataset a staffer's employment history before 2000. Outlined in greater detail in the appendix, I solve this problem by finding the universe of staffers employed at the beginning of my dataset and manually look up and verify their names in the CQ almanacs. This provides an accurate accounting of a staffer's total years of experience.

model specification. I construct other measures and covariates, described below, from the Adler and Wilkerson (2006) Congressional Bills Project (CBP) data, Stewart III and Woon's (2017) committee assignment data, district-level data from Foster-Molina (2017), and bill cosponsorship data from GovTrack (2017). The outcomes used in the analysis cover the 107th through 113th Congresses. Summary statistics are presented in the appendix of key measures.

3.3.1 Careers

Before turning to empirical results, descriptive statistics are illustrative of the labor market features facing congressional staff. Two important concerns to the Select Committee on Modernization involve staff retention and salaries. Buttressed by a variety of journalistic accounts on the difficulty of maintaining a lengthy career as a staffer as well as survey data that demonstrates staffer's frustration with the current work environment, policymakers believe that retention and salaries have gotten worse in recent years.[14]

Table 3.1 displays statistics on the total number of staff, the total number of new staff, and staff retention disaggregated by party and year within the House of Representatives. This table shows a few interesting facts. First, there is substantial churn in the House, with on average 17% of all staff in a given year in their first year on Capitol Hill. There is also little evidence of declining retention, at least on

[14]For instance, a survey conducted by the Congressional Management Foundation (2012) found that a majority of staff cite salary as a reason for leaving their current office, and 45% cite compensation as a reason to leave the Hill entirely. More recently, staff have worried about having their health insurance cut by their own bosses Lesniewski (2017), and it has become increasingly difficult to secure childcare for working parents Montoya-Galvez (2018).

average, within either party. The rate of staff who remain in Congress greater than two and five years has remained largely constant. However, these rates are perhaps worryingly low. As a point of reference, 50% of career bureaucrats remain in in their posts for over 13 years (Office of Personnel Management 2017).[15] Figures 3.2(a) and 3.2(b) visualize this differently, displaying how career length varies by starting year in Congress and by whether the staffer's first office was in a competitive or safe district. Again, while there is some year-to-year variation, the overall retention rates are similar among starting years and starting office-types.

Table 3.1: Retention summary statistics by party in the U.S. House

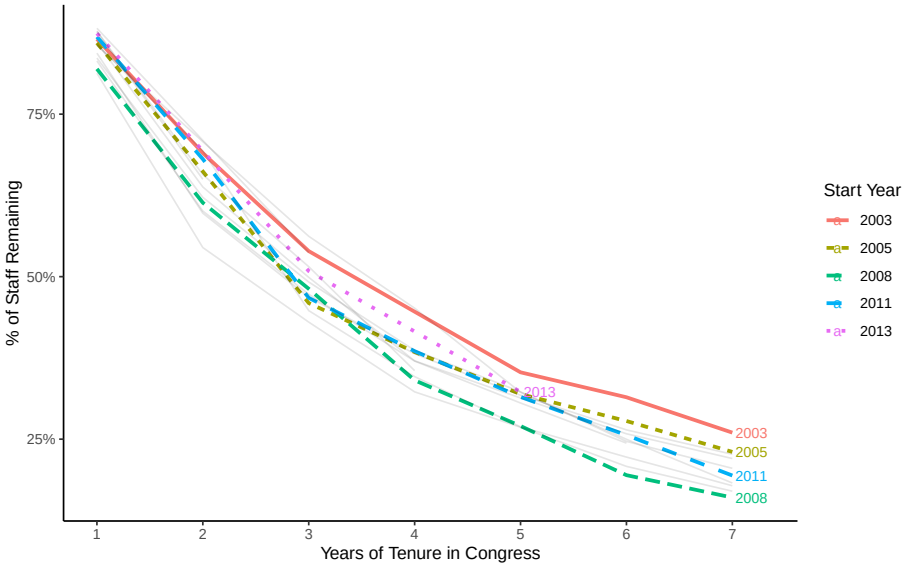
	Republican Offices				Democratic Offices			
Year	All Staff	New Staff	Career > 2 Yrs (%)	Career > 5 Yrs (%)	All Staff	New Staff	Career > 2 Yrs (%)	Career > 5 Yrs (%)
2002	4,339	710	54.2	25.2	4,389	774	45.2	24.5
2003	4,950	1,123	56.5	31.3	4,641	1,030	51.1	31.4
2004	4,654	655	50.5	23.6	4,445	743	49.4	27.7
2005	5,273	1,031	43	27	4,675	915	48.9	29.4
2006	5,015	691	45.9	28.2	4,396	623	48.3	24.9
2007	5,044	774	51.8	30	5,435	1,559	58.3	22.4
2008	4,244	519	47.4	23.1	5,233	801	49.1	17.2
2009	4,285	564	52.1	30.1	6,114	1,406	41.8	18.6
2010	3,892	425	51.1	25	5,968	765	39.3	19.6
2011	5,548	1,516	46.9	26.8	5,688	619	46.5	22.6
2012	5,318	603	48.8	26.5	4,362	454	44.9	21.6
2013	5,531	887	54.5		4,973	1,085	47.7	
2014	5,029	668	53.4		4,512	620	49.8	
2015	5,679	1,060	54.4		4,567	702	52.1	
Average	4,914	802	50.8	27	4,957	864	48	23.6

Note: This table displays summary statistics on staffing by year, disaggregated by party. The sample is all staff who work in a member of Congress' office in the House of Representatives. The shaded rows indicate years of Republican majority.

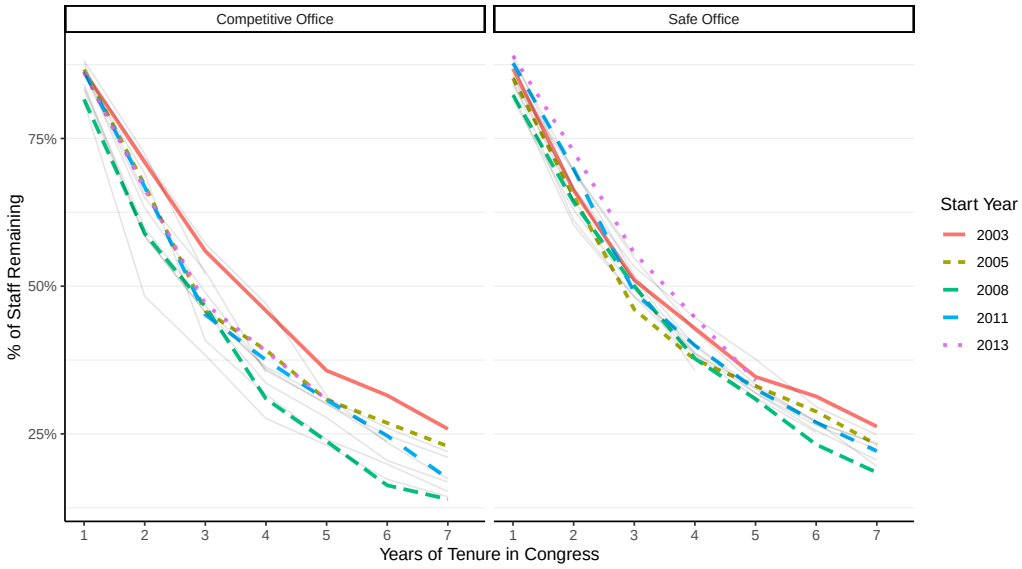
Finally, figure 3.2 depicts an important feature underlying recent concerns on congressional human capital: salaries. I have subset the data to the most common job titles in a member's D.C. office that are also in policy-adjacent roles. As is apparent, salaries (adjusted to 2018 dollars) have either stagnated or decreased overtime across all positions – despite the increasing importance of personal office staff as outlined

[15]Retention statistics are only calculated for staff for whom I can observe their first year in Congress, so staff who start their careers in 2002 or later.

Figure 3.1: Career lengths of congressional staff



(a) Tenure by first year of career



(b) Tenure by starting salary

Note: These figures plot the career length of staffers who began their career within my sample. The x axis is the years of tenure in Congress, and the y axis is the percent of staff remaining by year t. The top figure splits the staffers into categories based on which year they started their career. The bottom figure splits the sample based on the starting salary of the staffer.

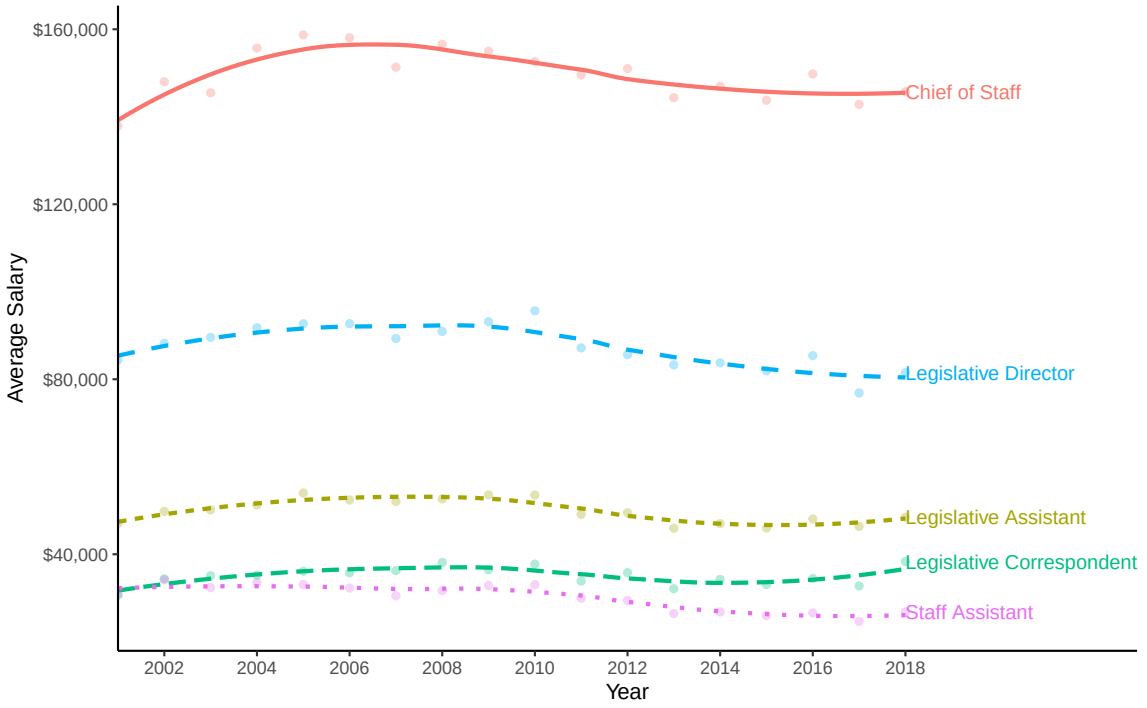


Figure 3.2: Staff salaries over time

Note: This figure plots the average salary within position title for House staff over time. These job titles are the most common titles associated with DC offices and policy work within the office. Amounts have been adjusted for inflation to 2018 dollars.

above (as well as increasing cost of living in D.C.).[16] Notably, only two policy-related positions within the typical D.C.-based house office make more than $50,000 a year. These figures taken together suggest that staff continue to suffer through worsening working conditions in order to benefit from the credentialing, resume-building experience of working on Capitol Hill. Yet, these figures mask important heterogeneities within staff careers such as how office-level characteristics alter careers or what types of individual staffer-level traits determine Capitol Hill career length. I now turn to a more detailed examination of these features of the congressional labor market.

[16]In the appendix, I show that these trends are similar for other job titles common for constituency service roles and that retention rates are unsurprisingly higher for better paid staff.

3.4 Staff retention and experience

An unavoidable feature of working in Congress under the current institutional arrangement, where staff are hired by and responsible to members of Congress – their jobs depend on the member for which they work – is that they frequently face losing their position due to election loss.[17] Gaining experience on Capitol Hill is valuable for staff's ability to move to new offices and in their future careers, especially in lobbying where more Hill experience conveys additional expertise and connections, both of which are valuable to lobbying employers (Bertrand, Bombardini and Trebbi 2014, Blanes i Vidal, Draca and Fons-Rosen 2012, McCrain 2018). Recent research has also shown an office's collective experience (in terms of years) predicts variation in legislative productivity and voting behavior (Crosson et al. 2018, Montgomery and Nyhan 2017).

I first estimate the effect of electoral competition on congressional staff careers through a regression discontinuity design. Taking a staffer-year panel in the House, I subset the data to staff who work in offices where the member runs for re-election. The regression discontinuity specification takes the following form:

$$\begin{aligned} Remain\ in\ Congress_{it+1l} = \alpha Won\ election_{itl} + \beta margin_{itl} + \\ \gamma[Won\ election_{itl} \times margin_{itl}] + X_{itl}\delta + \tau_l + \phi_t + \lambda_{it} + \epsilon_{itl} \end{aligned} \quad (3.1)$$

where $Remain\ in\ Congress_{it+1l}$ is set to one if the congressional staffer i from leg-

[17] This arrangement is not the only option; in many U.S. states members only have access to professional staff employed by the legislature itself. In European parliaments, MPs typically are assigned staff from the party.

islative office l remains in Congress during the following term $t+1$ and zero if they leave Capitol Hill. $Won\ election_{itl}$ takes the value of one if staffer i is in an office l that won her election in time t. $margin_{itl}$ is the margin of voteshare received by the legislator, taking negative values if they lost, and the linear effect of the victory margin varies flexibly on either side of the threshold through γ. X_{itl} includes the staffer's salary in time t, the legislator's tenure in Congress, the staffer's years of Hill experience, and the competitiveness of the district as measured by Cook-PVI. Time-invariant legislator effects (for instance, their management style or fixed district characteristics) are captured by τ_l, λ_{it} captures staffer position-type fixed effects, and common shocks by election year are absorbed by by ϕ_t. ϵ_{itl} is the error term with standard errors clustered by legislative office. α is the parameter of interest, the regression discontinuity estimate of the relationship between an offered additional term of experience in Congress and the propensity to remain on Capitol Hill. The sample is limited to elections that fall within Calonico et al. (2019)'s mean-squared-error optimal bandwidth estimated separately for each specification.

I also run this specification with different staffer traits interacted with the treatment variable of having won the election in order to assess moderators of the main effect. The expectation outlined above is that staff with higher salaries and likely a better quality of life in their jobs are more likely to remain on Capitol Hill even when subject to electorally-volatile working conditions. Higher salaries, correlated with more experience and other human capital that facilitates movement to new offices, make it easier to remain. I also interact the treatment with the staffer's years of experience. Here, the expectation could go either direction. On the one hand, as

with salaries, more experience may mean an easier ability to move jobs. On the other, once a staffer has met a given threshold of experience, they may decide to cash out in a different industry. Finally, I interact the treatment with the staffer's party to determine partisan effects.

Table 3.2 displays the results from these regression discontinuity specifications. In the baseline specification in model 1, there is a 42% increase in the probability of a staffer remaining in Congress if their member barely wins versus barely loses an election. Model 2 shows the moderating effect of salary, with the baseline effect being negative. However, for staff with sufficiently high salaries, the effect becomes positive. In model 3, there is no statistically significant effect related to a staffer's experience. If anything, there's a negative relationship perhaps suggesting enough experience causes staff to not want to risk another electoral defeat. Finally, there is some evidence of a partisan divide with staffers from Democratic offices less likely to remain after near-win elections. Figure 3.3 displays these results graphically.[18]

The population in this analysis is somewhat unique since it only accounts for staff who work in competitive congressional offices and offices in which the member runs for re-election as opposed to retiring or moving to a different elected office. Intuitively, the quantities uncovered here can be thought of as randomly assigning staff an *opportunity* of remaining in Congress for another year and endowing them with an additional year of (valuable) Hill experience. While the sample is unique, it also holds constant the fact that these staff work in competitive offices and still

[18]The appendix presents OLS models of a similar form showing statistically significant but slightly smaller effects.

uncovers substantively large and statistically significant effects. This is also the first analysis that determines the effect of electoral margins on staffer's careers. Gaining Hill experience is heterogeneous among staff, which I now investigate using different analytical strategies.

Table 3.2: Effect of election win on congressional tenure

	Probability of Remaining in Congress			
	(1)	(2)	(3)	(4)
Won Election	0.423***	−0.541**	0.377**	0.481***
	(0.137)	(0.228)	(0.180)	(0.061)
Salary	0.100***	0.045***	0.100***	0.100***
	(0.009)	(0.011)	(0.009)	(0.009)
Salary x Won		0.087***		
		(0.017)		
Years of Exp.	−0.006	−0.006	−0.015	−0.008*
	(0.007)	(0.007)	(0.024)	(0.005)
Years of Exp. x Won			0.010	
			(0.023)	
Democrat				0.092**
				(0.043)
Democrat x Won				−0.124**
				(0.055)
N	3,866	3,866	3,866	3,866
R^2	0.263	0.270	0.263	0.259

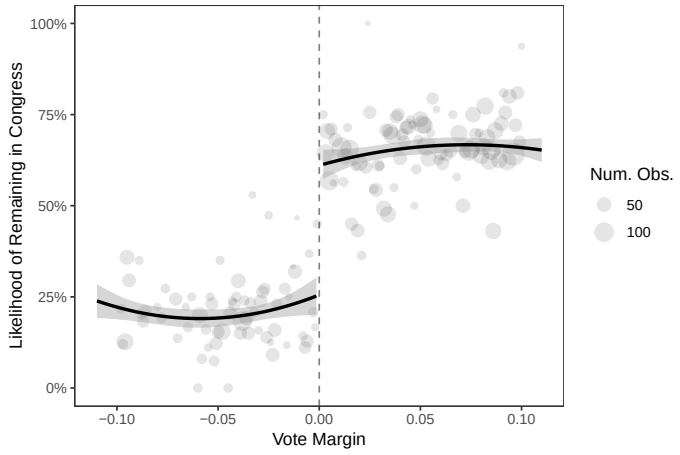
*p < .1; **p < .05; ***p < .01

Note: The dependent variable is equal to one if the staffer remains in Congress following the election loss and zero otherwise. The sample contains all staff who worked for a member of the House within the optimal bandwidth based on Calonico et al. (2019) algorithm. All regressions include member and year fixed effects, staffer position type fixed effects, a linear term in the election margin as well as its interaction with the indicator for having one, and a full set of office and individual-level controls. Estimations are triangular kernel-weighted. Standard errors clustered by member are reported in parentheses.

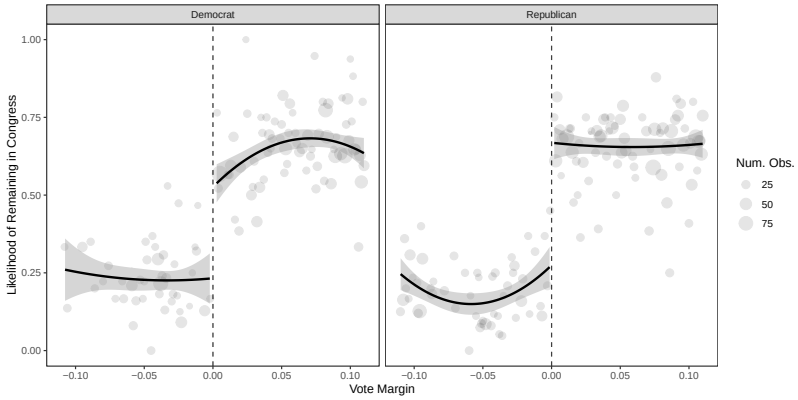
Predicting staff exit

To predict movement within the entire House staff labor market, I now turn to OLS two-way fixed effects models using the entire sample of staff from 2001-2018. These models include the staffer's salary (logged), their years of Hill experience, their district's competitiveness measured by Cook-PVI and its square, as well as controls for

Figure 3.3: Regression discontinuity plots



(a) RD plot



(b) RD by party

Note: These figures plot the effect of narrowly winning an election on a congressional staffer's career. The y axis is the probability the staffer remains in Congress during the next term. The x axis is the vote margin of their member's election. The sample is restricted to staff that work for members who run for re-election. The bandwidth is optimally chosen through the Calonico et al. (2019) algorithm.

whether it is the member's last term in Congress or if they were defeated in an election. I also control for member tenure in Congress and whether they are a committee chair. These models take the following form:

$$\mathbf{L}_{itl} = \beta_1 log\ Salary_{itl} + \beta_2 Years\ Exp_{itl} + \beta_3 Comp_{itl} + \beta_4 Comp^2_{itl} + X_{tl} + \tau_{l|i} + \phi_t + \epsilon_{itl} \quad (3.2)$$

Where the outcome $\mathbf{L}_{itl}$ for staffer i in office l during year t is set to one if they a) leave their current office at all or b) if they leave their current office for another office, depending on specification. Along with a vector of office-year controls X_{tl}, I include year fixed effects ϕ_t and either staffer or member fixed effects, τ. In additional specifications I include a vector of staffer-specific human capital traits which do not vary over time, so these models include member fixed effects. Specifically, using Legistorm's coding of staffers, I include whether the individual had previous government experience (i.e., in the White House or agencies) and whether they have a graduate degree. Finally, I construct a measure of the staffer's salary growth over time. The idea is that staff with faster salary growth (higher slopes) may be better types. In these models I also include starting-salary-decile fixed effects to compare similar staff to eachother.

Table 3.3 displays the results of these regressions. Unsurprisingly given the sample size most variables are statistically significant. However, the interpretation is also meaningful. Even within the staffer fixed effects models, which absorb time invariant traits of staff such as their ability, ambition, or willingness to move offices, there are

substantively important relationships predicted by their salary and experience levels. For instance, a one standard deviation increase over the median salary ($38,000 to $92,000) predicts a roughly 10% change in probability of leaving their current office and a 40% probability in leaving for another office relative to the sample means (31% and 8% respectively). Additionally, from models 3 and 6, there is a large positive relationship between staff human capital and their propensity to change offices, including from their rate of salary growth. Those with graduate degrees or previous experience in government are much more likely to move around the Hill.

These results are important for unmasking the heterogeneity hidden by the topline descriptives above. Turnover does vary by staffer and office level characteristics, and it seems to be driven by staff human capital, such as experience, and salaries. This is true even holding constant unobserved, time-invariant confounders at the member or individual level such as the legislator's management ability, district characteristics, and individual staffer ambition or ability. Table 3.4 provides additional insight into staff career trajectories. Where do House staff end up when they choose to go to another House office instead of leaving the Hill? This table shows that a) predominantly staff choose to go to a more senior member's office; and b) more senior staff (such as policy staff and senior staff) are more likely to end up in more senior offices. This suggests that staff with higher human capital and more Hill experience have more control over their careers, and if they select to stay on the Hill they are able to make positive upwards moves.

Figure 3.4 takes a different look at the mobility of staff based on positions. When staff choose to leave a House office, what is their destination? The vast majority of

staff end up leaving the Hill, especially among more junior positions and constituency service roles. However, policy staff and senior staff – those positions with the most responsibility in policymaking – are much more likely to move to other House offices or Senate offices. In the next section, I examine from a more macro approach how staff human capital changes within offices and districts. These implications are important as some districts may not be able to offer the types of career building opportunities staff desire.

Table 3.3: Predicting staff departures

	Prob. of Leaving Current Office			Prob. of Leaving for Other Office		
	(1)	(2)	(3)	(4)	(5)	(6)
log Salary	−0.022***	−0.016***	−0.023***	−0.019***	−0.014***	−0.020***
	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
Years of Hill Exp.	0.066***	0.0001	0.001***	0.065***	−0.0001	0.001***
	(0.004)	(0.0003)	(0.0003)	(0.004)	(0.0003)	(0.0003)
Competitiveness	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***
	(0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0003)	(0.0004)
Competitiveness Sqrd.	0.00004***	0.00002**	0.00003***	0.00004***	0.00002**	0.00003***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Member's Last Term	0.895***	0.846***	0.880***	−0.089***	−0.138***	−0.111***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Member Defeated	0.162***	0.111***	0.103***	0.162***	0.111***	0.106***
	(0.008)	(0.006)	(0.008)	(0.009)	(0.006)	(0.008)
Tenure	0.018***	0.003	0.009**	0.018***	0.003	0.009**
	(0.001)	(0.003)	(0.004)	(0.001)	(0.003)	(0.004)
Cmte. Chair	−0.004	−0.002	−0.012*	−0.004	−0.004	−0.011*
	(0.009)	(0.006)	(0.006)	(0.009)	(0.006)	(0.006)
Graduate Degree			0.042***			0.041***
			(0.003)			(0.003)
Previous Govt. Exp.			0.055***			0.055***
			(0.010)			(0.010)
Salary Slope			0.001***			0.001***
			(0.0001)			(0.0001)
Fixed Effects:	Staffer	Member	Member Salary	Staffer	Member	Member Salary
N	142,757	142,757	72,651	142,757	142,757	72,651
R^2	0.793	0.685	0.713	0.401	0.078	0.096

*p < .1; **p < .05; ***p < .01

Note: All variables are at the office-year level or staffer-year level. All models include year fixed effects. Outcomes are either one or zero and are at the staffer-year level. Robust standard errors are clustered by individual staffers. Sample size is smaller for models using salary slope since multiple years of experience are needed to calculate this measure.

Table 3.4: Departure destinations for House staff by position

Position	Total	Remain in House	Prop. Remain in House	More Senior Office	Prop. More Senior Office
Junior	12535	693	0.055	498	0.719
Const. Service	7588	935	0.123	781	0.835
Admin	10628	2354	0.221	2026	0.861
Policy	2948	640	0.217	566	0.884
Senior	2877	984	0.342	879	0.893
District	783	106	0.135	96	0.906

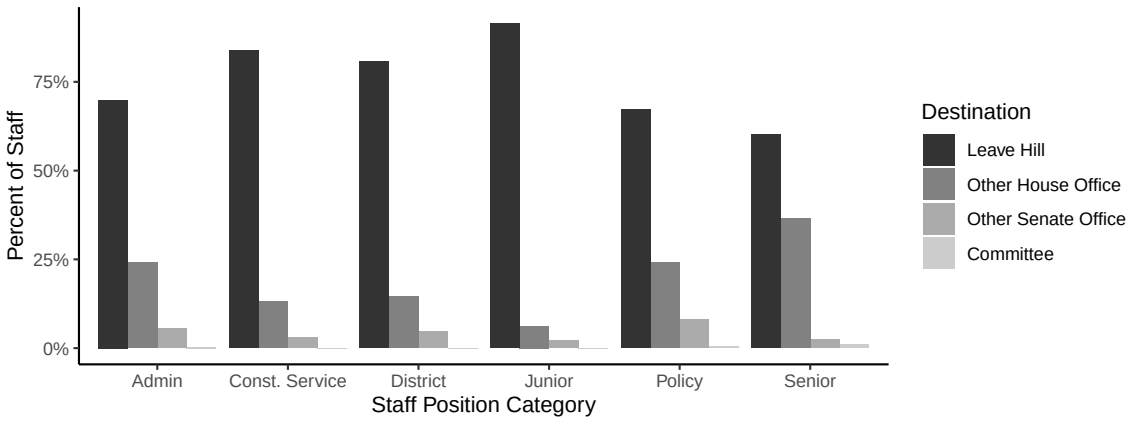


Figure 3.4: Where do House staff go?

Note: This plot depicts where House staff depart to when leaving their current office, disaggregated by position category.

3.4.1 Human Capital

The final set of analyses of interest relates to how member and district characteristics predict a) initial endowments of staffing human capital and b) changes to their collective staff's human capital over time. These analyses shed light onto a previously under-studied tension faced by members of Congress. As is well known that they face strategic tradeoffs in the use of their resources (Ashworth and Bueno de Mesquita 2006, Eulau and Karps 1977, Griffin and Flavin 2011, Peskowitz 2018), little research exists examining the interaction of resource use and the staffing labor market. As discussed in greater detail above, staff have preferences over which offices and positions they would prefer working based on how that position advances their careers. These preferences may not necessarily or even frequently match those of members in how they use their resources due to constraints placed on members by their districts, constituent preferences, or electoral concerns.

McCrain (N.d.) in particular finds that members representing districts with greater demand for constituency service, such as those from poorer and more urban areas, allocate fewer resources to policy staff and more resources towards constituency service. McCrain (N.d.) also finds that safer districts spend more of their finite resources on policy staff (see also Madonna and Ostrander N.d.). I argue that these districts will also attract staffers with more experience and higher levels of human capital, based on the idea that they offer more attractive places of employment for staff to build their resumes. I primarily measure human capital as years of staff experience, limited to policy staff. This measure has been used elsewhere, such as

by Crosson et al. (2018) who find that within-office level changes to human capital predict changes to legislative productivity.[19] In the appendix, I use other measures of human capital including staffers' networks, graduate degrees, and previous government experience and find similar patterns as those below.

District turnover

First, I assess how within-district changes to electoral representation predict differences in staff human capital. This analysis relates to the previous results on district competitiveness, as one way a district changes representatives is through electoral loss. However, this analysis also demonstrates that frequent district turnover, even among safe districts, results in different levels of staff human capital. I run OLS models using district-by-redistricting period fixed effects along with year fixed effects,[20] with the outcome as aggregate years of staff experience or the average years of staff experience, both among policy staff. Years immediately following redistrict are excluded. The independent variables of interest are whether the district has a new member, whether that member is new to Congress, and the interaction of those variables. The other independent variable is the ratio of an office's total salary spent on constituency service to total amount spent on policy staff. For instance, if an office spent $200,000 on constituency service staff and $100,000 on policy staff, this measure would take the value 2. This measure is meant to capture an office's relative focus towards (or away from) policymaking – an attractive feature of an office for staff. The

[19]Experience levels of staff in other positions are also of interest, however here I focus on policy staff since this directly relates to an office's ability to affect policymaking.

[20]The district-by-redistricting period fixed effects also serve to hold constant time-invariant district demand for policymaking, which would also affect allocations and staff experience.

expectation is that more spending on constituency service relative to policy predicts less policy staff experience.

Table 3.5 displays results from these models. Consistent with expectations, districts represented by new members, and especially those represented by newly-elected members, have a much less experienced policy staff. Those districts that spend more on constituency service relative to policy also see decreases in staff experience. Substantively, taking models 3 and 6, a district represented by a newly elected member expects to see a 28% decrease in staff experience in aggregate and a 21% decrease in average years of experience relative to the mean of the sample (17.1 and 3.9 respectively). Similarly, districts with higher constituency service spending ratios also have less experienced staff (again, holding constant time-invariant district traits such as demand for constituency service). A one standard deviation increase in this ratio from the mean ($\mu = 1.9$, $\sigma = 1.5$) predicts an 18% increase in aggregate experience and a 4% increase in average experience. Another way of interpreting these results is that districts stand at a disadvantage if they are competitive at least in part because of the labor market for staff.

Next, I use a regression discontinuity design, this time at the office level, to assess how near victories affect a member's staff endowment. This quantity is adjacent to that captured in Table 3.5, but has a slight difference in interpretation. Here, we can think of randomly assigning a *district* a 1) new member and 2) one from the other party and the effect this has on the district's staff human capital. The regression table is presented in the appendix, but Figure 3.5 displays it graphically. From the regression results, a narrow victory predicts an (statistically significant) increase

Table 3.5: Within district turnover and staff experience

	Years of Policy Staff Experience			Average Policy Staff Experience		
	(1)	(2)	(3)	(4)	(5)	(6)
New Member	4.605***	4.648***	4.722***	0.053	0.052	0.085
	(1.096)	(1.027)	(1.024)	(0.112)	(0.112)	(0.112)
New 1st Term Member	−4.466***	−4.275***	−1.558***	−0.838***	−0.831***	−0.357***
	(0.425)	(0.386)	(0.466)	(0.071)	(0.071)	(0.075)
New Member x 1st Term	−9.030***	−8.171***	−7.875***	−0.613***	−0.573***	−0.526***
	(1.181)	(1.102)	(1.079)	(0.133)	(0.135)	(0.133)
Member's Last Term	0.332	0.442	−0.385	0.080	0.083	−0.063
	(0.435)	(0.392)	(0.427)	(0.075)	(0.074)	(0.078)
Const. Service Ratio		−2.010***	−2.047***		−0.087***	−0.085***
		(0.329)	(0.332)		(0.022)	(0.022)
Tenure			0.759***			0.125***
			(0.118)			(0.018)
Competitiveness			0.065**			0.012**
			(0.032)			(0.006)
Competitiveness Sqrd.			−0.002			−0.0001
			(0.003)			(0.0005)
Vote Margin			1.354			0.318*
			(0.875)			(0.177)
Majority			−0.574*			−0.263***
			(0.334)			(0.064)
N	6,057	6,038	5,697	6,044	6,038	5,697
R^2	0.611	0.658	0.682	0.618	0.621	0.651

*p < .1; **p < .05; ***p < .01

Note: All variables are at the office-year level or district-year level. All models include year and district by redistricting period fixed effects. Robust standard errors are clustered by district. Observations in the first year of a redistricting cycle have been dropped.

in 9.6 years of staff experience for that district, again suggesting the disadvantage facing competitive districts with important implications for representation and policy outcomes.

Cross-sectional, within-district and within-office staff human capital

In the final set of analyses related to staff human capital, I examine how features of offices and districts predict levels of staff experience and the likelihood of staff departures. The argument is that staff value positions offering a) policy impact and b) job security through electoral security. In the previous results I have shown evidence for these propositions through within-district turnover and near electoral victories, holding constant selection into competitive offices and other district features.

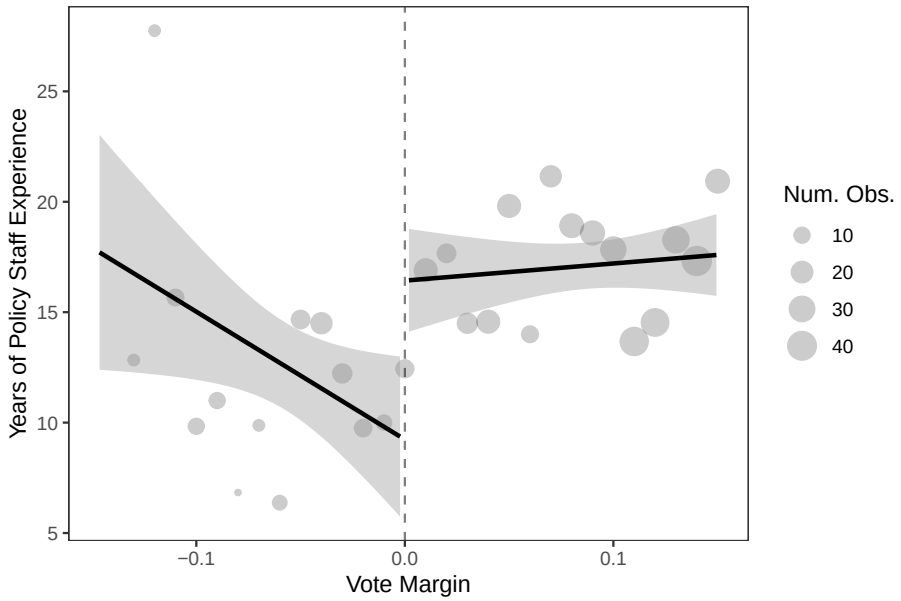


Figure 3.5: The effect of election victories on staff experience

Note: This figure plots the empirical regression discontinuity of near election victories on a district's total years of policy staff experience. The sample is limited to districts in which members ran for re-election and excludes elections in years immediately prior to redistricting. The regression results are presented in the appendix.

This set of models uses three specifications using the office-year as the unit of analysis: 1) cross-sectional, 2) member fixed effects and 3) district fixed effects. Each specification gives a different but relevant quantity of interest. In the cross-sectional models districts and offices are compared to each other, showing how a member who invests more in constituency service, or is more senior or in a safer district, compares to a member in a policy-heavy safer district, for instance. In the member fixed effects specification, the result is returned holding time-invariant district traits fixed with variation produced by changes to the district, the member's position within Congress, or shifts in resource allocation. In the district fixed effects models, variation comes through changes to the district itself, such as its competitiveness, or the member representing it.

Table 3.6 displays the results from this set of models on two outcomes of interest:

aggregate experience of an office's policy staff and the number of departures of policy staff within the office. These models show results consistent with expectations described above. Offices and districts that invest more in constituency service relative to policy see less experienced policy staff and a higher rate of departures among policy staff. Notably, these results hold both within member and within district. After holding constant time-invariant district or member traits, members that shift their spending towards constituency service and away from policymaking see a commensurate drop in policy staff and increases in staff departures. Additionally, safer districts also possess more experienced staff on average, though these results lose significance with member and district fixed effects, since competitiveness is largely stationary. Staff departures are also increasing in district competitiveness (negative values of `Competitiveness`).

Substantively, the results are meaningfully important as well. Figure 3.6 plots the predicted values from model 2 across the range of constituency service spending ratios in the data, showing significant decreases in aggregate policy staff experience. The within district and within member models results are similarly large, with a one standard deviation increase in the spending ratio predicting roughly a 6% decrease in experience and a 9% increase in policy staff departures. In the appendix, using the same specifications, I show similar results using the average amount of experience among policy staff and staff departures among all position types. I also show in Figure 3.7 that competitiveness and spending ratios predict other types of staff human capital: the number of staff with experience in the Senate, the number of staff with committee experience, and the number of staff with graduate degrees. Most results

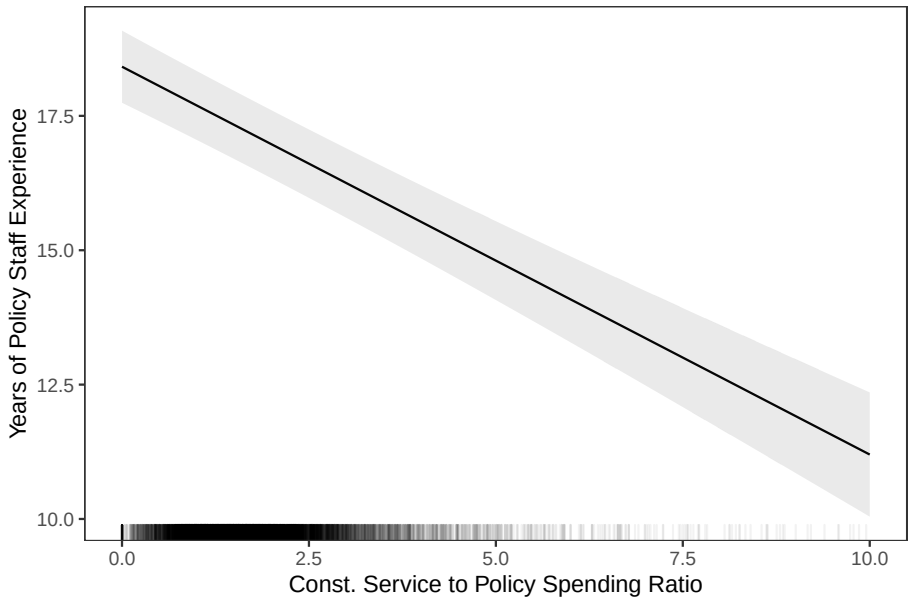


Figure 3.6: Experience and Office Spending

This figure plots the predicted values from model 2 in Table 3.6. The x axis displays the density of the constituency service spending ratio variable.

are statistically significant and substantively important and presented in full in the appendix.

3.4.2 Additional implications for legislator behavior

An implication of staff investment and human capital is that it shapes legislator behavior. This has been a frequent subject of qualitative research on congressional policymaking (Hall 1996, Malbin 1980, Price 1971) and a more recent subject of large N empirical work. Montgomery and Nyhan (2017) find that when one office hires a senior staff from another office, that office begins to behave more like the prior office. Crosson et al. (2018) find that within-office changes to the level of policy staff experience predict higher legislative effectiveness scores.

I suggest other avenues in which staff human capital relates to legislator behavior.

Table 3.6: Staff experience and departures within offices and districts

	Policy Staff Experience					Policy Staff Departures		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Const. Service Spending Ratio	-2.964^{***}	-0.722^{***}	-0.600^{***}	-0.576^{***}	-0.114^{***}	0.084^{***}	0.094^{***}	0.092^{***}
	(0.070)	(0.061)	(0.137)	(0.110)	(0.013)	(0.014)	(0.023)	(0.023)
Tenure		0.024^{**}	0.022	0.028		-0.024^{***}	-0.022^{***}	-0.030^{***}
		(0.012)	(0.040)	(0.021)		(0.003)	(0.008)	(0.006)
Cmte. Chair		-0.0001	0.0004	0.002		0.0004^{***}	0.001^{**}	0.001^{**}
		(0.0004)	(0.002)	(0.002)		(0.0001)	(0.0003)	(0.0003)
Competitiveness		0.635^{***}	0.044	0.791^{***}		-0.006	0.092	0.071^{***}
		(0.018)	(0.200)	(0.048)		(0.004)	(0.070)	(0.008)
Competitiveness Sqrd.		-0.948^{*}	-0.718	-1.091		-0.007	-0.065	-0.080
		(0.485)	(0.982)	(0.909)		(0.119)	(0.147)	(0.131)
Total Policy Staff		3.531^{***}	3.506^{***}	3.355^{***}		0.350^{***}	0.360^{***}	0.362^{***}
		(0.052)	(0.111)	(0.093)		(0.012)	(0.019)	(0.018)
Majority		-0.671^{***}	-1.074^{***}	-0.709^{***}		0.041	-0.092^{*}	-0.059
		(0.156)	(0.229)	(0.207)		(0.038)	(0.051)	(0.052)
Add'l Fixed Effects			Member	District			Member	District
N	7,807	7,707	7,707	7,707	6,926	6,826	6,826	6,826
R^2	0.257	0.590	0.787	0.780	0.113	0.216	0.381	0.345

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: All variables are at the office-year level or district-year level. All models include year fixed effects. Robust standard errors are clustered by district or member depending on specification.

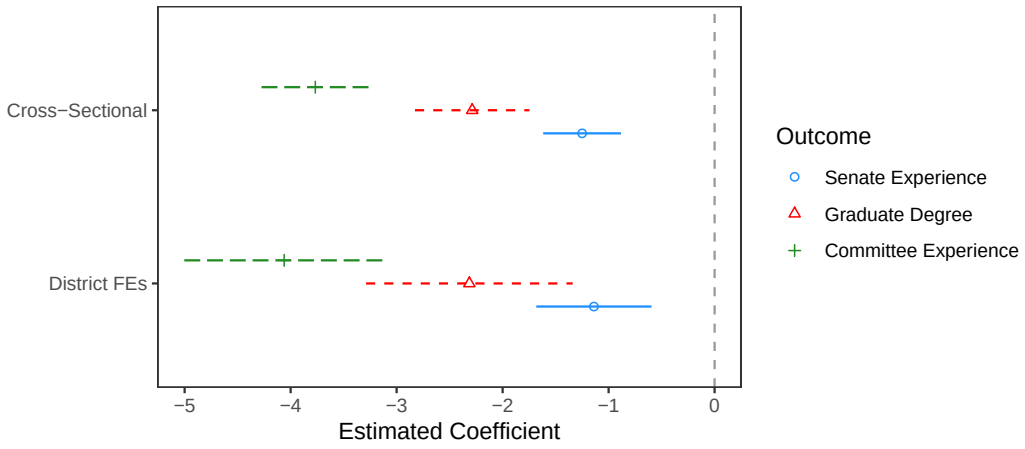


Figure 3.7: Human Capital and Office Spending

This figure plots the estimated coefficient on constituency service salary ratios across three outcomes and two specifications. Each outcome is a total number of staff, such as total number of staff with Senate experience. Results are presented in full in the appendix.

Staff are vital in providing information and policy expertise, especially in regards to what is going on across the Hill or within committees (Curry 2015, Whiteman 1995). They establish working connections with other offices and use their networks developed over years of experience to secure cosponsorships, a task that has been noted widely falls to the staff (Koger 2003). More experienced staff, then, should lead to additional cosponsorships on legislation members introduced. Additionally, staff with more experience, more connections, and more policy knowledge can assist members in securing bipartisan cosponsorships. These members are more likely to write high quality bills (Crosson et al. 2018) which are also more likely to secure bipartisan support (Hitt, Volden and Wiseman 2017). There should also be a relationship then between bipartisan policymaking and staff human capital. Finally, staff with experience add policy expertise to an office. Though members frequently only work within their committee portfolios, they also must respond to varied demands from constituents for policy activity. Staff with greater expertise, correlated with

experience, will be able to introduce bills in more issue areas.

I operationalize each of these measures from the Adler and Wilkerson (2006) Congressional Bills Project data. `Total Cosponsors` is simply the total number of cosponsors a member received in a given year; `Bipartisan Cosponsors` is the number of cosponsors received from members of the opposite party; and `Issue Areas` is the number of unique issue areas in which a member has sponsored a bill in a given year. I then run two-way fixed effects models with year and legislator fixed effects, holding constant time-invariant legislative expertise, bipartisan tendencies, or district traits related to policy demand. The independent variable of interest is (logged) years of policy staff experience, with a set of time-varying member and district controls. Figure 3.8 presents the estimated coefficient on years of policy experience. Each relationship is positive and most are statistically significant and substantively interesting. For instance, a one standard deviation increase over the mean of staff experience predicts roughly an additional 3 cosponsors, 1.5 bipartisan cosponsors, and 2 additional issue areas per year.

3.5 Discussion and Conclusion

Members of Congress are given vastly more resources for the use of representing their constituents relative to their peers in other democracies. In most House of Representative offices, the majority of these resources, which total on average up to $1.5m a year, is spent on personal staff. These staff are directly responsive to the member of Congress, who has sole autonomy in the hiring, firing, and management structure of

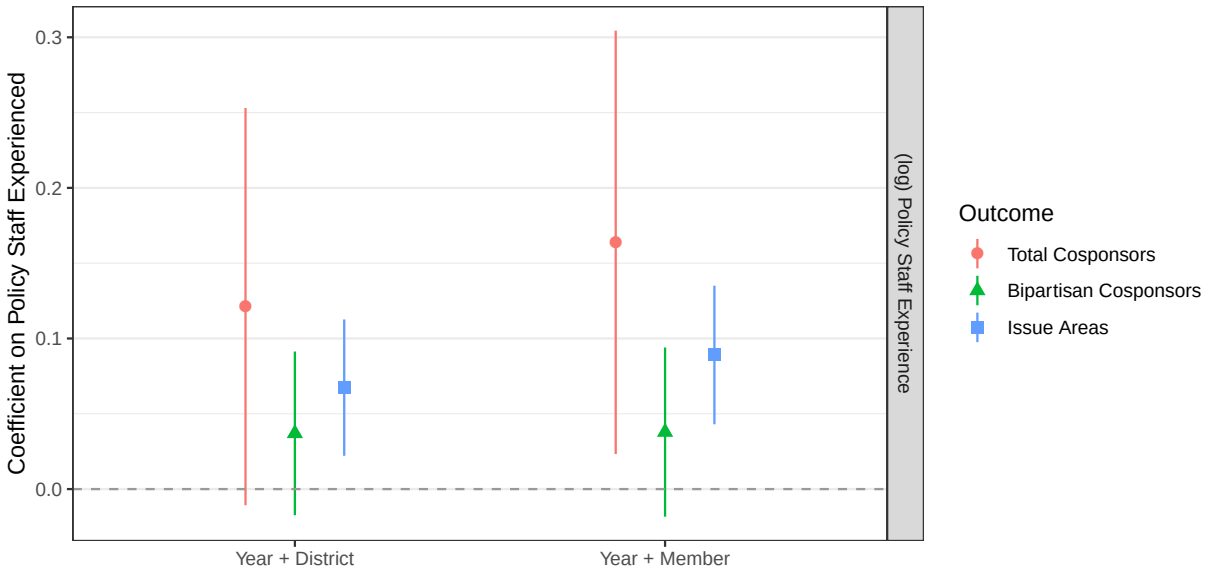


Figure 3.8: Policy Staff Experience and Legislator Behavior

The estimated coefficient on (logged) policy staff experience is plotted above across three outcomes. All models include year and member fixed effects. Full results are presented in the appendix.

the office. Despite these facts, the narrative out of Congress in recent years is one of a lack of capacity. Individual members do not have the expertise, resources, or personnel to adequately understand the policy on which they are expected to vote and which they are expected to write.

The driving force of this concern has been Congress' human capital – its staff. The well-known revolving door between Capitol Hill and K Street has become more pronounced as salaries stagnate within Congress, its staff are tasked with more and more important responsibilities, and the demand for their skills and experience continues to climb in the private sector. The job of a congressional staffer has gotten worse during this time thanks to well-documented sexual harassment allegations, lack of basic benefits, and exploitative labor practices of underpaid staff. As a result, even the most responsible members must make difficult decisions with their staffing bud-

get. Recent research has found that within-office management choices drive gender driven pay gaps and career advancement within Capitol Hill (McCrain and Palmer 2019, Ritchie and You 2019).

Alexandria Ocasio-Cortez received attention for highlighting these problems and stating she would pay all of her staff a living wage of $52,000 a year. Thanks to the flexibility afforded members in the use of these resources, she is able to do that. However, as a result of limited budgets, this necessitates that she either a) employs fewer staff than her colleagues that pay their junior staffers $25,000 salaries; or b) pays her senior staff much less than their peers, perhaps limiting her ability to retain the most qualified individuals. These individual anecdotes are illustrative of the macro-level labor market facing congressional staff, to which members must respond. Staff are strategic in building their careers, especially in an environment where the average position has become worse across multiple dimensions, and seek out the best opportunities for maximizing future payoffs. There is little incentive for staff to develop expertise specific to a given office, and the brain drain to special interests and the outsourcing of expertise to lobbyists is a real concern. These questions have have been the subject of substantial research within the federal bureaucracy, but scholars have yet to turn their attention to the congressional labor force (e.g. Bertelli and Lewis 2012, Bolton, De Figueiredo and Lewis 2016, Gailmard and Patty 2007*b*).

This paper has added needed detail and analysis to these discussions. Premised on arguments about staff career concerns and members' incentives on how to use resources, and using a comprehensive dataset of congressional staff employment histories, I find clear patterns in the staffing labor market that have remained mostly

constant in the past 18 years. Tenure of staff remains low on average, with fewer than 50% of staff remaining for three years or more in Congress. Moreover, individual staffers are greatly affected by the electoral security of their bosses. Despite very high churn of staff across offices, those that are affected by electoral defeat are much more likely to have shorter careers. This remains true when comparing similar offices to eachother, essentially randomizing the opportunity to continue to work in Congress. In other words, even if their member barely wins an election they are still likely to have shorter careers. However, those staff in more senior roles with higher salaries are more likely to remain, suggesting they are able to find new places of employment more easily.

I also show that certain offices and certain districts possess vastly different human capital within their staff. This is expected, as members must respond to the idiosyncratic demands of their districts. However, using research designs that hold fixed district traits and even analyze variation *within* specific member offices, I still show vast changes to their staff's human capital. Districts with frequent turnover, even if it is within the same party, are at a disadvantage in the staffing labor market. Further, as McCrain (N.d.) argues and shows evidence for, members strategically use their staffing resources based on district characteristics. I show that a key source of variability in the use of these resources, how much they spend on constituency service relative to policy, drives variation in staff years of experience. This is consistent with the argument that staff prefer working in offices that focus more on policy as a valuable career-building tool. I find similar trends using other measures of human capital, such as how many staff possess graduate degrees or have valuable experience

working in the Senate or in a committee.

These findings are more than academic curiosities; they hold real implications for the representation of constituents. Given the growing body of work that shows a relationship between staffing, staff human capital, and legislator behavior (Crosson et al. 2018, Hertel-Fernandez, Mildenberger and Stokes 2018, Montgomery and Nyhan 2017, Shepherd and You 2019), it is straightforward to think that those offices disadvantaged in the staff labor market are also less able to effectively represent their constituents in the policy realm. In the final section of results, I show some additional evidence of this, as staff human capital is correlated with cosponsorship data and the types of issue areas members work in. This is a fruitful area for future work, untangling more of the microfoundations of legislator behavior as it relates to their resource use and their management style.

Importantly, though, it is members from certain districts that seem to be at a more systematic disadvantage than others. Those from more competitive districts, constantly facing re-election threats, spend more on constituency service, as do those in poorer, more rural districts (McCrain N.d.). Here I show those districts also possess less experienced staff and see lower rates of retention; those districts will also possess less junior members of Congress. Taken together, there is a link to greater inequality in Congress producing, potentially, greater inequality in policymaking as rich, safe districts "win" in the staffing labor market. This is an important contribution to the growing literature on disparities in representation for poor Americans (e.g. Miler 2018). The rich may be getting richer inside and outside of Congress. More research examining how legislative institutions and organization potentially produce

these inequalities is needed.

Finally, these findings are timely given the rare progress made by the Select Committee on the Modernization. This committee has decided, likely correctly, that its human resources are a major factor driving decreases in capacity. However, one of the pivotal conclusions they landed on is that salaries need to be higher. This is likely true, but it also overlooks potential institutionally-driven deficiencies of the staffing labor market. As members are responsible for hiring and attracting their own staff, the best will continue to be drawn to offices and districts that provide good career advancing opportunities. If safe districts are given more money, it is likely they will continue to increase their advantage over their poorer, more insecure colleagues through the staffing structure in Congress. Perhaps a more holistic solution that considers greater career protections, similar to civil servants, as well as a more comprehensive benefits package would mitigate this difference.

3.6 Appendix

Table 3.7: Staffing expenditures and human capital summary statistics

All offices		
Mean Policy Staff Experience	16.8	
Mean Spending on Policy	$229,101	
Mean Policy Salary	$52,374	
Mean Ratio of Policy Staff	0.31	
Mean Turnover	4.3	
Mean Staff with Grad Degree	4.1	
Mean # of Staff Connections	68.4	
By party		
	Republicans	**Democrats**
Mean Policy Staff Experience	16.3	17.3
Mean Spending on Policy	$221,343	$237,375
Mean Policy Salary	$51,897	$52,884
Mean Ratio of Policy Staff	0.31	0.31
Mean Turnover	4.2	4.3
Mean Staff with Grad Degree	4.9	3.4
Mean # of Staff Connections	75.1	61.3
By district competitiveness		
	Safe	**Competitive**
Mean Policy Staff Experience	17.6	15.9
Mean Spending on Policy	$237,464	$220,807
Mean Policy Salary	$53,668	$51,090
Mean Ratio of Policy Staff	0.31	0.31
Mean Turnover	4.3	4.2
Mean Staff with Grad Degree	4.6	3.7
Mean # of Staff Connections	69.7	67.0

Note: This table provides basic summary statistics on how congressional offices allocate their staffing resources and detail on the human capital of their staff. Construction of specific measures is discussed in greater detail above. Safe offices are coded as such if they have a Cook-PVI of 10 or greater.

Table 3.8: Departure destinations

Specific destinations

Year	% Registered Lobbyist	% Federal Government	% Non-Profit	% Campaign	% Lobbying Organization	% Govt Relations
2011	4.1	2.8	1	0.9	20.8	1
2012	3.7	2.2	0.8	1.7	19.2	1.4
2013	2.8	2.2	1	0.9	24.1	1.4
2014	3.1	3.1	1.2	1.5	22.5	1.9
2015	2.5	3.2	0.8	1	24.5	1.1
2016	1.8	3.1	1.1	1.4	19.7	1.4
2017	1.8	6.7	0.6	0.9	17.7	1

Govt. relations vs. Other positions

Year	All Departures	All Lobbyists	Other Positions	% Lobbying or Govt. Relations	% Other
2011	2,921	756	2,165	25.9	74.1
2012	2,657	644	2,013	24.2	75.8
2013	2,561	726	1,835	28.3	71.7
2014	2,114	582	1,532	27.5	72.5
2015	2,065	580	1,485	28.1	71.9
2016	1,736	399	1,337	23	77
2017	1,942	397	1,545	20.4	79.6

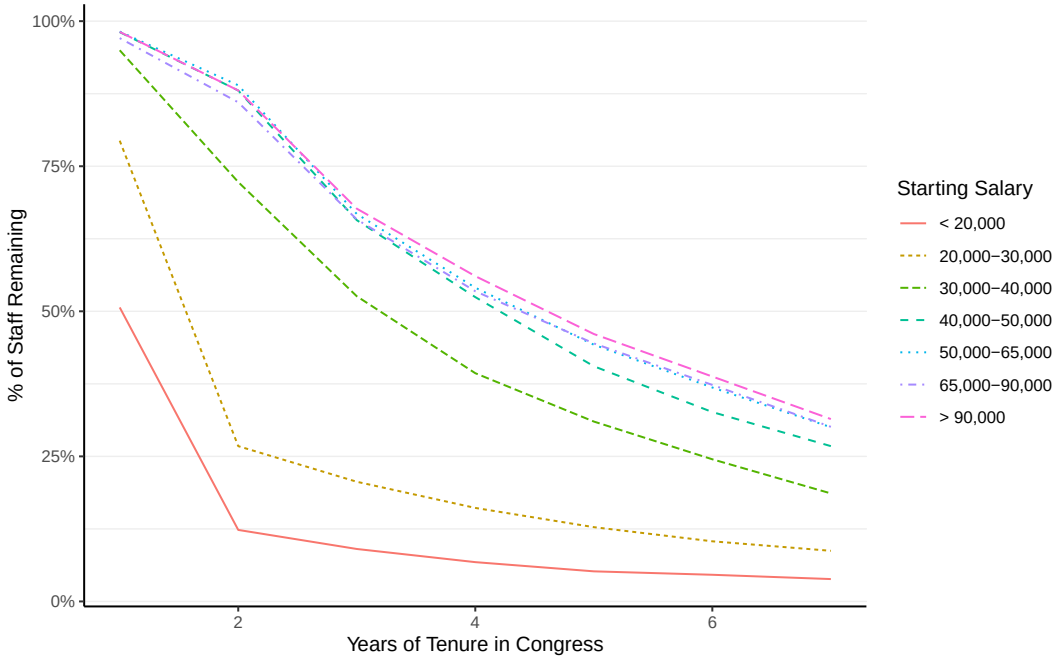


Figure 3.9: Starting Salary and Congressional Careers

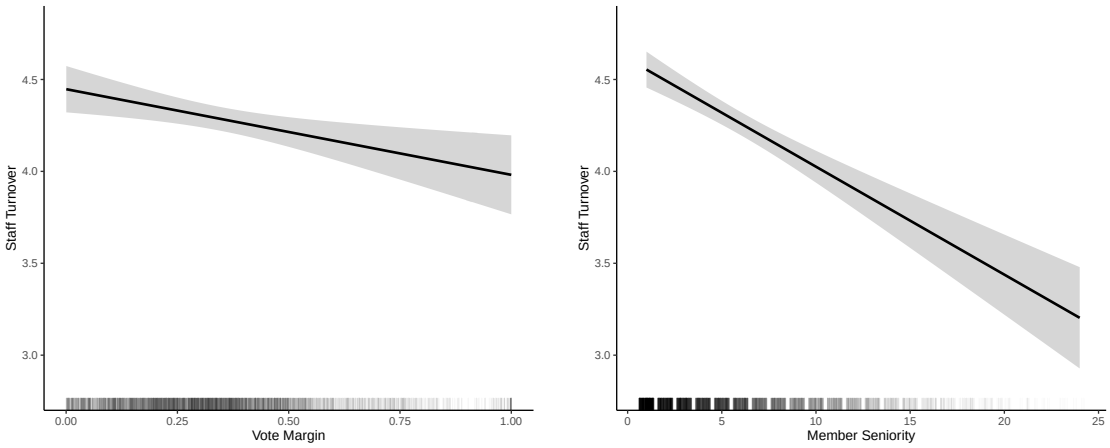
Table 3.9: Effect of election win on congressional tenure - OLS

	Probability of Remaining in Congress			
	(1)	(2)	(3)	(4)
Election Margin	0.221***	0.221***	0.221***	0.246***
	(0.027)	(0.026)	(0.035)	(0.037)
PVI		−0.001		−0.002*
		(0.001)		(0.001)
Years of Hill Exp.		−0.001		−0.001
		(0.001)		(0.001)
log Salary		0.138***		0.114***
		(0.002)		(0.006)
Member Tenure		−0.013		−0.008***
		(0.009)		(0.002)
Const. Service		−0.005		
		(0.009)		
District		0.035*		
		(0.019)		
Junior		−0.004		
		(0.010)		
Other		−0.015		
		(0.010)		
Policy		−0.026**		
		(0.013)		
Press		−0.003		
		(0.016)		
Senior		−0.007		
		(0.013)		
Rank within Party		−0.0004		0.001
		(0.001)		(0.001)
Fixed Effects:	Member	Member	Staffer	Staffer
N	58,725	58,027	58,725	58,027
R^2	0.072	0.155	0.667	0.682

*p < .1; **p < .05; ***p < .01

Note: The dependent variable is equal to one if the staffer remains in Congress following the election loss and zero otherwise. The sample contains all staff who worked for a member of the House that ran for re-election. All models include year fixed-effects. Models 1 and 3 also include member fixed effects, and models 2 and 4 include staffer fixed effects. In model 4, the reference category is administrative staff. Standard errors are clustered by member.

Figure 3.10: Turnover correlations



(a) Turnover by vote margin

(b) Turnover by member seniority

Note:

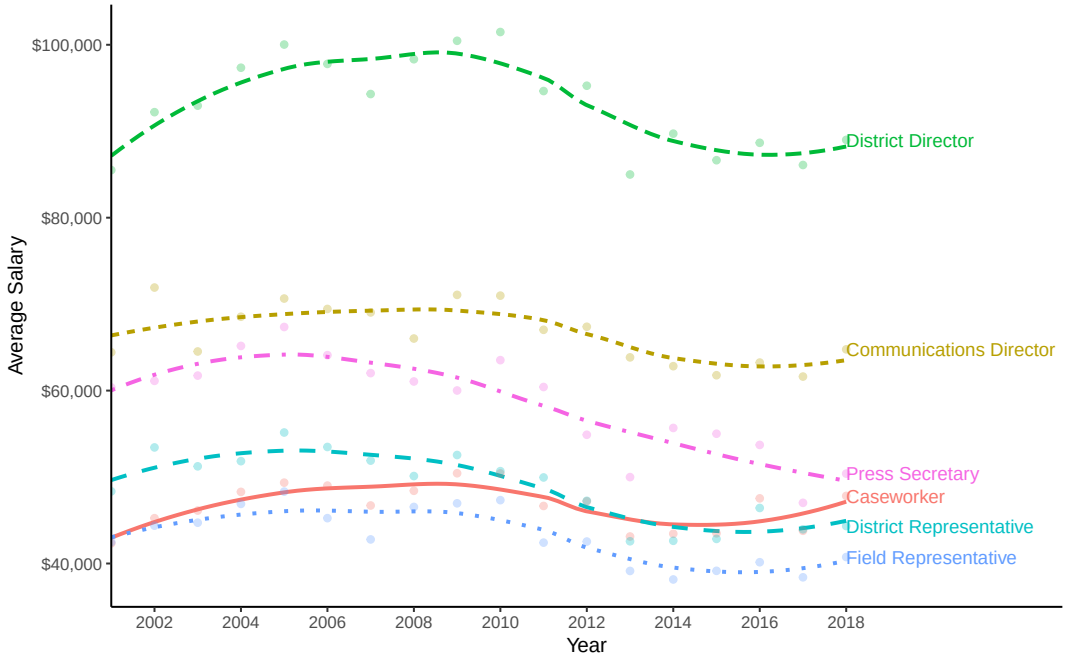


Figure 3.11: Staff salaries over time - District staff

Note: This figure plots the average salary within position title for House staff over time. These job titles are the most common associated with district or constituency service work. Amounts have been adjusted for inflation to 2018 dollars.

Table 3.10: Other human capital outcomes

	Staff with Grad Degrees			Staff with Senate Experience			Staff with Committee Experience		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Const. Service Spending Ratio	−2.287***	−2.501***	−2.314***	−1.250***	−1.060***	−1.139***	−3.767***	−3.161***	−4.061***
	(0.276)	(0.673)	(0.497)	(0.187)	(0.306)	(0.277)	(0.259)	(0.603)	(0.481)
Tenure	−0.015***	−0.013	−0.040***	−0.057***	−0.064	−0.049***	0.088***	0.022	0.105***
	(0.006)	(0.096)	(0.013)	(0.004)	(0.054)	(0.007)	(0.005)	(0.066)	(0.013)
Cmte. Chair	−0.333**	−0.139	0.005	0.148	0.052	0.257**	1.030***	0.609***	0.701***
	(0.155)	(0.205)	(0.151)	(0.106)	(0.142)	(0.118)	(0.146)	(0.220)	(0.205)
Competitiveness	0.030***	0.016**	0.022***	0.007***	−0.003	0.0001	0.033***	0.003	0.027***
	(0.004)	(0.008)	(0.007)	(0.003)	(0.005)	(0.005)	(0.004)	(0.007)	(0.008)
Competitiveness Sqrd.	0.0004***	−0.0002	−0.00005	−0.0002**	0.0002	0.0003	−0.001***	−0.0001	0.0002
	(0.0001)	(0.0003)	(0.0005)	(0.0001)	(0.0002)	(0.0003)	(0.0001)	(0.0003)	(0.0004)
Total Policy Staff	0.287***	0.183***	0.214***	0.082***	0.092***	0.109***	0.111***	0.112***	0.146***
	(0.014)	(0.021)	(0.020)	(0.010)	(0.019)	(0.022)	(0.014)	(0.025)	(0.025)
Majority	−1.037***	−0.155**	−0.124*	0.212***	0.131**	0.044	0.165***	−0.065	−0.110*
	(0.050)	(0.076)	(0.069)	(0.034)	(0.052)	(0.046)	(0.047)	(0.066)	(0.064)
Fixed Effects		Member	District		Member	District		Member	District
N	7,732	7,732	7,732	7,732	7,732	7,732	7,732	7,732	7,732
R^2	0.328	0.737	0.690	0.171	0.626	0.563	0.217	0.666	0.620

*p < .1; **p < .05; ***p < .01

Note: All variables are at the office-year level or district-year level. All models include year fixed effects. Robust standard errors are clustered by district or member depending on specification.

Table 3.11: Within district turnover and network outcomes

	Total Staff Connections	Eigenvector Centrality	Member Connections
	(1)	(2)	(3)
New Member	−0.058	0.032**	−0.213
	(0.044)	(0.014)	(0.486)
New 1st Term Member	−0.072**	−0.0005	−1.047**
	(0.033)	(0.009)	(0.414)
New Member x 1st Term	−0.143***	−0.062***	−2.611***
	(0.049)	(0.016)	(0.586)
Member's Last Term	−0.064**	0.010	0.664
	(0.031)	(0.009)	(0.431)
Tenure	−0.007	−0.0005	−0.128**
	(0.006)	(0.001)	(0.062)
Competitiveness	0.008**	0.002***	0.079***
	(0.003)	(0.001)	(0.027)
Competitiveness Sqrd.	−0.0001	−0.00004	−0.001
	(0.0001)	(0.0001)	(0.002)
Const. Service Spending Ratio	−0.017**	−0.002	−0.121*
	(0.008)	(0.002)	(0.068)
Vote Margin	0.038	0.048**	0.839
	(0.066)	(0.020)	(0.714)
Majority	−0.108***	−0.037***	−0.105
	(0.028)	(0.007)	(0.262)
N	5,697	5,697	5,697
R^2	0.987	0.379	0.515

*p < .1; **p < .05; ***p < .01

Note: All variables are at the office-year level or district-year level. All models include year and district by redistricting period fixed effects. Robust standard errors are clustered by district. Observations in the first year of a redistricting cycle have been dropped.

Table 3.12: Effect of election win on staff human capital

	Years of Policy Staff Experience	
	(1)	(2)
Won Election	9.551***	445.540*
	(3.251)	(254.759)
N	90	134
R^2	0.274	0.427

*p < .1; **p < .05; ***p < .01

Note: The dependent variable is the years of policy staff experience within an office during Congress $t + 1$ for model 1. For model 2 the dependent variable is the aggregate number of connections to staff in other offices possessed by the member's staff. The sample are all congressional offices in which members ran for reelection and that fall within the optimal bandwidth based on Calonico et al. (2019) algorithm. Elections falling directly before redistricting are excluded. All regressions include party and year fixed effects and a linear term in the election margin as well as its interaction with the indicator for having won. Estimations are triangular kernel-weighted. Standard errors clustered by district are reported in parentheses.

Table 3.13: Bill outcomes

	Total Cosponsors			Bipartisan Cosponsors			Total Issue Areas		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
log Policy Staff Experience	−0.154**	0.121*	0.164**	−0.021	0.037	0.038	−0.023	0.067***	0.089***
	(0.077)	(0.067)	(0.072)	(0.040)	(0.028)	(0.029)	(0.026)	(0.023)	(0.023)
Tenure	0.014	0.001	−0.001	0.004	−0.003	−0.081***	0.003	0.001	−0.021*
	(0.009)	(0.008)	(0.046)	(0.005)	(0.004)	(0.024)	(0.003)	(0.003)	(0.012)
Total Policy Staff	0.082***	0.009	−0.014	0.014	0.001	0.002	0.024***	0.003	−0.006
	(0.021)	(0.019)	(0.019)	(0.012)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)
Const. Service Salary Ratio	−0.036*	0.017	0.022	−0.008	0.001	−0.002	−0.023***	−0.001	0.00000
	(0.019)	(0.019)	(0.019)	(0.012)	(0.010)	(0.010)	(0.008)	(0.006)	(0.007)
Competitiveness	0.009*	−0.002	0.0004	−0.019***	−0.013***	−0.001	−0.002	−0.003*	0.001
	(0.005)	(0.004)	(0.006)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Competitiveness Sqrd	0.0001	0.0002	0.0002	0.0003***	0.0003*	0.00001	0.0001*	0.00001	0.0001
	(0.0002)	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Majority	0.228***	0.431***	0.411***	−1.239***	−1.129***	−1.114***	0.062***	0.133***	0.130***
	(0.046)	(0.043)	(0.044)	(0.023)	(0.019)	(0.018)	(0.015)	(0.015)	(0.014)
Fixed Effects		Member	District		Member	District		Member	District
N	6,282	6,282	6,282	6,260	6,260	6,260	6,048	6,048	6,048
R^2	0.201	0.509	0.526	0.587	0.832	0.859	0.217	0.547	0.570

*p < .1; **p < .05; ***p < .01

Note: All variables are at the office-year level or district-year level. All models include year fixed effects. Robust standard errors are clustered by member. All outcome variables are logged

Chapter 4

Revolving Door Lobbyists and the Value of Congressional Staff Connections

[1]

[1]I thank Scott Ainsworth, Tom Clark, James Curry, Jeff Lazarus, Amy McKay, Pablo Montagnes, John Patty, Jeff Staton and participants at MPSA, SPSA, the 2016 Political Networks Conference, and the Emory American politics working group for helpful comments and suggestions. I am especially grateful to Alex Bolton for advice and support throughout this project. I also thank four anonymous reviewers for their feedback.

ABSTRACT

Building on previous work on lobbying and relationships in Congress, I propose a theory of staff-to-staff connections as a human capital asset for Capitol Hill staff and revolving door lobbyists. Employing lobbying disclosure data matched to congressional staff employment histories, I find that the connections these lobbyists maintain to their former Hill coworkers primarily drive their higher relative value as lobbyists. Specifically, a one standard deviation increase in staff connections predicts an 18% increase in revenue attributed to the lobbyist during her first year. I also find that the indirect connections lobbyists maintain to legislators through knowing a staffer in a legislative office are of potential greater value than a direct connection to a Senator given a large enough number of connections. This paper sheds additional light onto the political economy of the lobbying industry, making an important contribution to the literature on lobbying and the revolving door phenomenon.

4.1 Introduction

A fact of life in Washington D.C. is the regular transition of Capitol Hill staffers into high paying lobbying jobs on K Street – often for salaries orders of magnitude more than what they earned on the Hill. The so-called "revolving door" creates, at the very least, the perception of perverse incentives for Hill staffers and their bosses. With trust in Congress as an institution near all time lows,[2] the study of lobbying and the political economy of the revolving door gains renewed importance.

Anecdotal evidence suggests Americans have reason to be worried about the revolving door. The lobbying industry – a $3 billion industry in 2016 – capitalizes on congressional staffers' persistent awareness of valuable outside options. The infamous Jack Abramoff, who stated "almost 90 percent" of staff want to work on K Street, would remind staffers in meetings that they could work at his firm once they left the Hill. After that, he said, "they were already working for me" (Abramoff 2011, 94-95). Journalistic accounts suggest that privately-paid lobbyists[3] are frequently and explicitly performing the jobs of the staff of our elected officials (e.g., Williams 2017).

Recent empirical work provides evidence that lobbying firms reward congressional staff-turned-lobbyists with higher salaries than their colleagues without Hill experience (Blanes i Vidal, Draca and Fons-Rosen 2012). Similarly, others have found links between diminishing congressional capacity and the increase in demand for lobbyists with government experience, as lobbyists fill in for missing expertise on Capitol Hill

[2]Just 12% of Americans report either "quite a lot" or a "great deal" of trust in Congress in 2017 (Gallup 2017).

[3]Who are reported to earn up to seven-figure salaries their first year off the Hill – almost 10 times what the staffer made as a Capitol Hill employee, where most senior staff earn around $100,000 a year (Bogardus and Leven 2011).

(**?**). In essence, if staff are not explicitly "auditioning" for high-dollar jobs once they have the attention of firms, their incentives for doing so are clear. The evidence indicates a competitive market for forward-looking congressional staff, suggesting a substantial monetary premium for a staffer with optimal Capitol Hill experience.

This paper establishes a story of revolving door lobbying that suggests staffers who become lobbyists benefit from connections to their staff colleagues, a unique human capital asset they can bring to the private sector. Employing a comprehensive dataset of lobbying disclosure reports matched to congressional staff employment histories from 2000-2016, I bring new data to bear on the study of revolving door lobbying. The empirical results support the theory, finding that with one or two years of the "right" kind of additional experience on Capitol Hill – the type of experience that increases the number of ties to other staffers – the staffer can increase her expected revenue by 18% in her first year as a lobbyist.[4]

I build upon previous findings, presenting evidence that connections to legislators *and* their staff are of value to revolving door lobbyists. Based on the importance of staff in the policymaking process, when lobbyists maintain connections to legislative offices purely through their staff networks, a one standard deviation in the number of this type of connections predicts $60,000 in additional yearly revenue over the predicted value of a direct connection to a Senator. Lobbyists benefit from extensive ties to congressional staff on top of their relationships with legislators.

These findings serve to advance the literature on the political economy of lobbying. Further, this paper represents a needed first step in empirically determining

[4]As detailed further below, this figure represents *lobbying revenue*, not the lobbyist's salary.

whether the public's concerns about the revolving door are warranted based on the labor market for public employees. The evidence indicates lobbying firms and their clients reward those lobbyists with the most connections to other staffers with larger contracts and more revenue. I show a clear and substantial monetary premium associated with larger staff-to-staff networks. I also demonstrate these results are robust to a battery of robustness checks, including attempts at partialing out the skill level of the lobbyist from the distinct value of connections, a classic omitted variable and threat to validity in analyses of lobbying (e.g., De Figueiredo and Richter 2013). Through shedding new light onto the determinants of monetary value in the lobbying industry, this paper suggests access to key legislative actors (congressional staffers) is of importance to high-paying private interests.

Lobbying, Congressional Staff and Personal Connections

Though the empirical work on revolving door lobbying is still relatively new, extant political science theories on lobbying provide a solid foundation from which to build a theory of revolving door lobbying. This section motivates a theory of personal connections as a valuable human capital asset for revolving door lobbyists by first considering what previous literature theorizes lobbyists do and then by applying this framework to revolving door lobbyists in particular.

Lobbying and the Importance of Who You Know in Congress

Political science literature on the role of lobbyists has a rich theoretical tradition. A substantial body of work focuses on the the informational role of lobbying, arguing that lobbyists utilize their expertise and resources to provide information to resource-constrained legislators (e.g., Ainsworth 1993, 1997, Austen-Smith and Wright 1992, 1994, Cotton 2015, Hall and Deardorff 2006, Schnakenberg 2016). A key tenet of these theories is that lobbyists must first gain access to legislators in order for legislators to trust their information and adequately lower transaction costs – conceptually, they must establish a relationship (see also Hirsch and Montagnes 2015, on the importance of trust in lobbying). Many scholars conceptualize a quid pro quo arrangement with donations as how lobbyists gain access and build trust (e.g., Chin, Bond and Geva 2000, Cotton 2009, Wright 1989), though empirically identifying the effect of donations is difficult due to issues with endogeneity and homophily (e.g., Ansolabehere, De Figueiredo and Snyder 2003, Baumgartner and Leech 1998, Hojnacki and Kimball 1998, 1999). Hall and Deardorff (2006) note that lobbyists primarily target their legislative allies with their efforts, since these legislators have the lowest 'cost' of attaining access, and develop a theory of legislative subsidy. In essence, "lobbyists serve as 'service bureaus' or 'adjuncts to staff"'(Hall and Deardorff 2006, p.76).

Taken together, this research suggests that lobbyists primarily target their legislative allies – though not always (e.g., Holyoke 2003, Kelleher and Yackee 2009) – and those who are best capable of providing expertise to resource-constrained congressional offices and staff are likely to be the most effective lobbyists. Connections

are valuable because they lower the transaction costs for legislators to validate the information provided by the lobbyists (they are more likely to trust a former staffer than a stranger because of shared preferences and experiences) while simultaneously facilitating the job of a lobbyist gaining access to an office in the first place. In the words of John Boehner, "absent our personal, long-standing relationships" with lobbyists, it is impossible for lawmakers to know who to trust (2006).

The value of revolving door lobbyists becomes evident in this context; they have personal connections through previous employment and thoroughly understand the legislative process. In theories of informational and legislative subsidy lobbying, these traits are imperative for an effective lobbyist to possess. Moreover, existing work employing social network analysis provides evidence that personal relationships affect policy outcomes and legislative activity in Congress (e.g., Canen and Trebbi (2016), Koger, Masket and Noel (2009), Ringe, Victor and Carman (2013); see also Victor and Koger (2016) which examines networks lobbyists create with legislators through donations). Who you know in Congress matters, and lobbyists benefit from having connections to key actors within the legislative process in order to cheaply (in terms of transaction costs) build relationships with members and offices. Given the empirical importance of relationships and the demands placed on congressional offices and their staff (discussed more below), lobbyists with experience as congressional staffers are best able to provide this service and will be the most valuable to firms and their clients. These empirical regularities support theories of informational and legislative subsidy lobbying.

Congressional Staff as Revolving Door Lobbyists

Extant scholarship on congressional staff emphasizes their importance as political actors possessing substantial agency and policymaking influence within Congress (e.g., DeGregorio 1988, Fox and Hammond 1977, Hall 1996, Malbin 1980, Montgomery and Nyhan 2017, Salisbury and Shepsle 1981). There is also evidence that lawmakers are significantly constrained in their resources and time (e.g., Grim and Siddiqui 2013), leaving the vast majority of the day-to-day legislative work to their staff. Congressional staff, according to research and journalistic accounts, are the "invisible force" behind the scenes on Capitol Hill (Fox and Hammond 1977). But what makes a former staffer a valuable lobbyist?

One argument is that staffers-turned-lobbyists benefit from their congressional staff experience by developing connections directly to legislators. Theorizing that their time as staffers generates valuable ties with their former employers (members of Congress) that they can then utilize for access as private sector employees, existing work finds substantial premia associated with legislator ties. Blanes i Vidal, Draca and Fons-Rosen (2012) demonstrate that when former Senate staffers lose a connection to the senator for whom they previously worked, they suffer a 24% drop in revenue, which equates to about $182,000 a year. Measuring connections as donations from lobbyists to lawmakers, Bertrand, Bombardini and Trebbi (2014) show that lobbyists benefit from their connections to a lawmaker (compared to those who do not have connections) and that lobbyists tend to work in the same policy areas as the lawmakers to whom they are connected.

Evidence from previous research also indicates that revolving door lobbyists are unique among the larger population of their peers in terms of the types of issues they work on and in the types of contracts they receive from firms and clients (LaPira and Thomas 2014, LaPira, Thomas and Baumgartner 2014, Lazarus and McKay N.d.). LaPira and Thomas (2017), in the most extensive examination of revolving door lobbying to date, argue that lobbyists primarily assist their clients in hedging against political uncertainty. Revolving door lobbyists in particular excel at providing primarily strategic and/or informational services to their clients because of their previous government experience. The particular aspects of the congressional staff experience that makes these lobbyists more effective *and* valuable is understudied, however. I argue that focusing on these traits – human capital assets – sheds light onto why ex-staffers are idiosyncratic in the lobbying industry.

Staffers develop unique expertise and relationships while working on the Hill which aid them when they begin to seek employment in the lobbying industry. I argue the attribute that makes staffers both effective and valuable lobbyists is the relationships they build on Captiol Hill. For instance, a relevant trait of successful staffers and lobbyists is proactivity. For staff, this entails seeking out legislative opportunities for their boss and knowing what is going on in Capitol Hill before everyone else does. Praising two staffers-turned-lobbyists, Rep. Patrick McHenry said the former chiefs of staff "had an uncanny ability to read the pulse of the chambers and think three steps ahead on any given situation" (Wilson 2014). Building a network to other staffers and offices is one of the best methods to cultivate this trait.

But how do staff build their professional networks on Capitol Hill? Two common

and observable paths include extended tenure in one office or moving around the Hill to gain experience in various offices. The first option is potentially problematic for some. Working your way up as a junior staffer relies on people above you leaving (offices have difficulty in creating new openings since there is a fixed allocation for staff salaries) and your boss may lose an election. Without turnover in a desired position, it is possible an otherwise qualified staffer may wait years for such a position. You can build a reputation and relationships in one office, but an ambitious staffer may choose the second option.

Moving to a new office can speed up the likelihood of landing a key assignment, increase salaries, and build a professional network more quickly. However, the ability to leave one congressional office for another is also a function of your existing connections. The more people you know, the more likely you are to hear about new openings and move your name up the list. Building connections in Congress represents a positive feedback loop: the more people you know, the easier it will be to increase your connections.[5]

For lobbyists, their relationships on the Hill – that they cultivated during their time as staffers – facilitate their new responsibilities. In the language of informational lobbying, relationships lower the transaction costs of working with legislators and their staff, which is beneficial for both parties (e.g., Ainsworth 1997). Legislators – and by extension their staff – who have a personal relationship with a lobbyist find it "cheaper" to work with the lobbyist. Once lobbyists have established their bona fides with an office and its staff, they can proceed to effectively subsidize the

[5]I address this further in the analysis.

office, in a Hall and Deardorff (2006) sense. The more connections lobbyists have to staff *and* legislators, the easier it is for lobbyists to work with offices. Thus, an extensive network of connections across the Hill is a vital human capital asset for a staffer-turned-lobbyist.

From the perspective of the firm seeking to hire a lobbyist and the client who pays the contract, they will want to ensure the lobbyist they hire has access to key legislators working on their respective issues (e.g. Bryner 2017). The firm who employs the lobbyists knows the best avenue for access is through relationships of former staffers to current staffers. Firms are deeply knowledgeable about the legislative process and understand that the bulk of work is done by the unseen staffers. Therefore when considering who to place on a valuable account, the firm wants the lobbyist with the most connections to key offices, and those connections come through staff-to-former staff connections. In turn, lobbyists advertise their connections to the firms seeking to hire them and firms are also aware of the relationships of staffers through their own networks. When legislators begin to consider new policy, the client's perspectives and recommendations will get recognition at the initial stages – through former staff (now lobbyists) influencing the current staff writing the policy (providing a legislative subsidy).[6]

In sum, revolving door lobbyists' connections to their former staff coworkers are vital for the task of lobbying. Staff are influential in the policymaking process, and access to the key staffer for a policy initiative is an ideal way to get your client's

[6]Or, as LaPira and Thomas (2017) argue, lobbyists gain inside information about policy proposals to hedge against "uncertainty...and ambiguity" (p. 203).

concerns heard. In the words of Rep. John Boehner's former chief of staff, "the most effective lobbyists are the people that have actually been in the position of the people they're lobbying" (Wilson 2014). This makes sense in light of theories of informational lobbying: personal relationships the lobbyist maintains with their former coworkers lowers the transaction costs of working with an office, and the more connections the lobbyist has the more likely they will know the right person in the right office. A lobbyist with more extensive ties to staffers earns the marginal dollar over less-connected lobbyists because they can establish these relationships with more offices.

Hypothesis 1: *Revolving door lobbyists with more connections to congressional staffers will earn more revenue as lobbyists.*

Additionally, the specific type of staff connection may matter. In the previous example, the most valuable point of access for complex regulatory policy may be at the committee level. Some research suggests lobbyists are particularly interested in targeting committees (e.g., Bertrand, Bombardini and Trebbi 2014, Hall and Deardorff 2006, Hojnacki and Kimball 1998). Cain and Drutman (2014) find that the demand for lobbyists with committee experience increased after new regulations made it harder for lobbying firms to hire senior congressional staff. To date, though, no work has analyzed the value of committee connections for lobbyists. This leads to an additional testable hypothesis:

Hypothesis 1a: *Revolving door lobbyists with more connections to committee staffers will earn more revenue as lobbyists.*

Finally, why might connections to legislators be of particular value? The above discussion emphasizes the importance and agency of staff in the policymaking process in the context of resource and time constrained elected lawmakers. Since the revolving door lobbyists themselves were once congressional staff their most extensive relationships will be with the staff with whom they previously worked, not necessarily with the member herself. Lobbyists, who have gained access to the office through their personal relationships, work with the *staff* first and foremost. Framed in this way, the value of direct ties to legislators becomes less clear. If lobbyists rely on their connections for access to offices, then their most extensive connections – those they have with their former coworkers – should be the most valuable.

However, a legislator connection has value for potentially two reasons. First, some staff will have genuinely personal relationships with their former boss, particularly if they built a career in one office. If they are able to sell this connection as an asset when seeking lobbying jobs then it is feasible firms and clients would also be interested in securing close, personal access to certain legislators and pay more for that connection. Second, firms themselves can advertise legislator connections to clients. For instance, a firm hires a well-known senator's chief of staff. It can then sell to clients that they deserve the contract over a competitor because of this new asset.

Nevertheless, I argue for the prominence of staff connections in driving lobbyist value. While a firm may be able to advertise a legislator connection, it also knows when hiring a lobbyist and placing her on a contract that she will still have to perform as a lobbyist. And as previously detailed, the task of lobbying requires extensive ties at the staff level and the marginal dollar will be rewarded to the lobbyist with the

most staff connections – the legislator connection is an added benefit. Because staff connections facilitate the task of informational/subsidy lobbying these connections serve as access to information and the policy process for the lobbyist. A lobbyist will benefit from both types of connections, though staff relationships should be the more valuable asset. This leads to the final hypothesis:

Hypothesis 2: *A large congressional staff network will be more valuable than a direct legislator connection for a lobbyist.*

Staffers build relationships to catalyze their careers on Capitol Hill which optimizes their likelihood of landing high-dollar lobbying jobs. Extensive networks drive the primary variation in lobbyist value as personal connections are the key human capital asset for revolving door lobbyists. Personal relationships with congressional offices enable lobbyists to perform the informational and subsidy tasks of lobbying. Lobbying firms, who deeply understand the workings of Congress, appreciate the value of connections for staff, hiring the best-connected lobbyists and placing them on the highest-value contracts.

4.2 Data and Empirical Strategy

To identify the value of congressional staff connections for revolving door lobbyists, I employ data covering lobbying revenue and employment and congressional staff employment history. Ideally we would have data on lobbyists' salaries, but beyond a handful of journalistic accounts these data are not available. Fortunately, though, the 1995 Lobbying Disclosure Act (LDA) mandated that lobbying firms report their

lobbying activity, including the names of individual lobbyists and the revenue that clients pay firms for lobbying activity. The raw data includes over 4.5 million observations. This section details the use of the available data, the key dependent and independent variables, and the identification strategy.

4.2.1 Data Overview

The analyses in this paper use a comprehensive dataset from 2000-2016 of congressional staff employment records matched to the database of lobbying reports released under the LDA. These data are publicly available; the congressional employment records come from quarterly disbursements released by the House and Senate, and the LDA data is available online also via the House and Senate websites. However, this dataset was matched and cleaned by *Legistorm* (2018) in order to clear up the numerous discrepancies and inconsistencies in the raw data. Legistorm, among other tasks, individually checks all congressional staffers' names (and the numerous variations of their names) against names in the LDA data[7]. Because of the extensive manual matching done by Legistorm and the 2000-2016 time period, this is the most comprehensive dataset used in the literature to date. In the online appendix, Tables 1B and 2B disaggregate key summary statistics of the lobbyists in the data.

My analysis focuses on revolving door lobbyists who work for lobbying firms. I exclude in-house lobbyists from this analysis since revenue for these lobbyists is not reported in LDA disclosures.[8] I also only include the ex-staffer's first stint as a lob-

[7]Examples of name inconsistencies and related robustness checks are in the online appendix.

[8]In-house lobbyists are lobbyists employed by a company to work solely for that company – see Online Appendix B for more information and example LDA reports.

byist, since a few revolvers do go back and forth from the Hill to K Street (in other words, each lobbyist is in the data once). This limits the impact of omitted variables such as connections gained through previous lobbying experience. The revenue attributed to firm lobbyists has a meaningful interpretation as reflecting some level of personal worth of the lobbyist's individual production. An interesting question for future work is if certain characteristics of a congressional staffer predict whether they become a firm lobbyist or an in-house lobbyist.

4.2.2 Key Dependent Variable

The LDA data merits additional discussion. The dependent variable comes directly from the LDA reports and is composed of revenue attributed to individual lobbyists aggregated up to semester-level periods. Lobbyists registered under the LDA must report information about their lobbying activities, including revenue for firms lobbying on behalf of a client. The revenue is attributed to each lobbyist who works on a specific contract on each report filed. For example, if five lobbyists are on one report that states $50,000 in revenue, each lobbyist has an observation in the data for that report and $50,000 is associated with their name. Following the convention in other empirical work (e.g., Bertrand, Bombardini and Trebbi 2014, Blanes i Vidal, Draca and Fons-Rosen 2012), I attribute the total amount of revenue for the report to each lobbyist.[9] In this example, that means each lobbyist will be associated with $50,000 from that report. In Table 1C in the online appendix, I test the version of this vari-

[9]The total amount of revenue depends on the number and size of contracts. Lobbyists receive more revenue by gaining bigger and/or more contracts.

able where, in this example, each lobbyist is assigned $10,000 instead of $50,000 (i.e., $50,000 divided by 5). The results are unchanged.

I also believe this is an appropriate, if not ideal, way to measure lobbyist value. While salary information would be optimal (and would allow me to extend this analysis to a larger population of lobbyists), this measure captures something close and theoretically interesting. As argued previously, clients know what they want in terms of outcomes and pay firms differentially based on their ability to deliver. Firms place their "best" lobbyists – as I argue, those with the most staff connections – on their most lucrative accounts with the largest contracts. Therefore, contract value is an appropriate proxy for lobbyist value.

To operationalize the dependent variable, I focus on the staffer's first year as a lobbyist. This facilitates a clearer substantive interpretation of the results, since this is when their value will be most tied to their Capitol Hill experience. Basing the analysis on the first year as a lobbyist isolates their Capitol Hill experience as the trait driving the most variation in their revenue. This also supports the idea that congressional staff are in a sense auditioning for these jobs, so they will advertise their Hill background to potential employers as their most recent and valuable experience. Thus, the revenue totals for the first year lobbying are most reflective of the lobbyist's individual Hill background. To create this variable, I take the highest log dollar amount (adjusted for inflation) of revenue per individual lobbyist among their first two periods in the lobbying data after leaving Capitol Hill.[10]

[10]I pick the highest revenue among the first two periods to mitigate measurement error. For instance, a lobbyist might join a firm halfway through one period while another may be present for the entire period, artificially increasing the latter's revenue. Further details on this variable are included in Online Appendix B and robustness checks are reported in Table 1C.

4.2.3 Key Independent Variables

The primary independent variable used to test Hypotheses 1 and 2, congressional staff connections (`Number of Connections`), is a logged count of a lobbyist's network size.[11] I calculate network size by first determining all (unique) staffers with whom the lobbyist shared an office with as a congressional staffer. I then determine which of these staffers are still on Capitol Hill during the ex-staffer's first year as a lobbyist. For example, a congressional staffer leaves Capitol Hill to become a lobbyist after a long career and 100 of her former coworkers are still congressional staffers in her first year as a lobbyist. The number of staff connections for this lobbyist takes on the (logged) value of 100.[12] Note that one is added to independent variable (before taking the log) because of the presence of some zeros in the data.[13] Figure 3B in the online appendix plots the bivariate correlation of this variable with lobbying revenue, showing a positive relationship.

There is a possibility of measurement error in this independent variable. Since my data start in 2000, I do not have employment history of those prior to this period and cannot accurately count connections for congressional staff with employment history prior to 2000. I mitigate this possibility by subsetting my sample from the

[11]Since the data are right-skewed, I log this variable to account for skewed residuals (discussed more in the results). Table 1C in the online appendix includes robustness checks which remove outliers and all results maintain.

[12]So if a lobbyist takes a 10 year break before lobbying after leaving Capitol Hill, they will have fewer connections than someone who does not take a break. Variation in this variable comes through a variety of mechanisms, including tenure on the Hill, wave elections that see a large number of members from one party losing, or the number of offices the staffer works in, to name a few.

[13]There are very few zeroes and, after examination, the lobbyists with zero connections are lobbyists who have a substantial gap between their last year as a staffer and their first year as a lobbyist. Figure 1B in the online appendix displays a density plot of this variable and Table 1C in the online appendix reports robustness checks removing these observations.

nearly 3,500 revolving door firm lobbyists to a smaller set for which I can reasonably assume I have full coverage of their congressional staffer careers (i.e., those staffers who only show up in the data after 2000). If this still misses some staffers – which it undoubtedly does – it would mean I am under-counting connections for certain lobbyists. Fortunately, this would bias my results in a downward direction.

Additionally, one could be concerned that this count of connections systematically misses the actual size of staffers' relevant networks. For example, perhaps committee staff are systematically under-counted because of the nature of working on a committee introduces them to more staffers, whereas the House and Senate staff counts are more accurate. I do not believe this to be the case. For instance, we see that, on average, staffers with House experience know fewer staffers (51.6) than those with Senate experience (88.2) and those with committee experience (109.7; full summary statistics are in the online appendix, Table 2B). Senate staffers and committee staffers should possess more staff connections given the relatively larger size of their offices, which is the case in these data. I also account for these different offices in the models that follow, so it is possible to predict the variation in lobbyist revenue as a function of network size given these concerns. In sum, this measure has reasonable face validity.

In an alternative specification of the initial models, I substitute the staff connections independent variable for a count of the unique *legislative offices* (`Staff-Office Connections`) the lobbyist is connected to *only through staff* – I call these "indirect" connections compared to "direct" connections which come from having worked directly for a legislator.[14] Similarly to the staff network variable, this is constructed

[14]Figure 2B in the online appendix plots the distribution of this variable.

based on all unique legislative offices within which a staffer in the lobbyist's network works during the lobbyist's first year. For example, a legislative assistant in the office the staffer currently works takes a job in a newly-elected member's office. This staffer has now gained an indirect connection to this office, as measured by this variable. This count does not include offices that the lobbyist herself worked in. The inclusion of this variable identifies the predicted value of a legislator connection that exists only because the lobbyist knows a staffer in the office. This is comparable to existing measures of connections (e.g., Blanes i Vidal, Draca and Fons-Rosen 2012), but follows directly from the logic of value in staff ties.

Finally, I include count variables for the number of connections lobbyists maintain to legislators (`House Connection` and `Senate Connection`), as determined by whether a legislator for whom they worked is in office during their first year as a lobbyist. As previous work suggests substantial value for legislator connections (Blanes i Vidal, Draca and Fons-Rosen 2012, find a connection to a Senator predicts $182,000 in additional revenue for the lobbyist in a year), the inclusion of this measure allows me to assess the value of a legislator connection when also accounting for the lobbyist's larger professional network. It is also possible that the number of connections is primarily driven by the years of experience a staffer has on Capitol Hill and accounting for Hill tenure will wash away the significance of connections. Though I think this unlikely, as I outlined in the second section, it is necessary to control for Hill seniority beyond the position title. To do this, I include `Years of Hill Experience` (and its square) in the first set of models.[15]

[15] And I report additional related robustness checks in Online Appendix Table 4C.

4.2.4 Empirical Strategy

The empirical strategy I employ is straightforward. The purpose of these models is to test if the number of connections a revolving door congressional staffer has to other currently serving congressional staffers predicts the revenue they earn in their first year as a lobbyist. Significant positive results on the coefficient estimate for the connections variable would support Hypothesis 1, that lobbyists with more extensive ties to staffers are of higher value to lobbying firms. The baseline model is as follows:

$$\log \mathbf{R}_i = \beta \cdot \log \mathbf{N}_i + \mathbf{X}_i' \cdot \theta + \gamma_t + \epsilon_i \tag{4.1}$$

In this OLS model, $\boldsymbol{R}_i$ is the outcome variable of interest, the highest (log) first year lobbying revenue. The key independent variable, $\mathbf{N_i}$, is the logged number of staff connections and the vector $\mathbf{X}_i'$ captures individual level covariates. The γ_t and ϵ_i variables represent year fixed-effects and a vector of individual specific, mean zero residuals, respectively. I also report models included lobbying firm fixed-effects, last-office fixed effects, and number of unique offices fixed-effects, all of which are explained in further detail below. In a similar set of models, I rerun this regression employing committee connections as the independent variable to test the second part of Hypothesis 1.

The largest threat to validity for this identification strategy is the unobserved skill level of the lobbyist, creating an omitted variable problem since this would be correlated with both revenue and connections (e.g., De Figueiredo and Richter 2013). Fortunately, the richness of the data available presents me with a number of options to rigorously address this concern – though ultimately ability/skill remain unobservable.

The alternative explanations section after the initial results and the online appendix present a variety of different tests interrogating this potential issue.

Turning to the covariates, `Republican` is a dummy variable set to one if the lobbyist, as a staffer, ever worked for a Republican. This allows me to delineate different partisanship preferences in the lobbying industry. I also include a dummy variable set to one if the staffer has experience working on a committee (`Ever Committee Staff`) since previous literature has found a higher demand for committee staff as lobbyists (Cain and Drutman 2014), and a broad literature has established the institutional importance of committees in Congress (e.g., Berry and Fowler 2015, Lazarus 2010, Shepsle 1978). Committee offices are also larger on average, so this adjusts for the larger networks of committee staff. I also present a model in the main analysis and additional models in the appendix that includes fixed-effects for the importance of the offices in which a lobbyist worked while on the Hill. The possible categories are: a member on a power committee (majority or minority), a member chairing a power committee, a member who was a committee chair, a committee staffer, a power committee staffer, or majority/minority rank and file members.[16]

An additional variable (`Ever Senate Staff`) accounts for the chamber the lobbyist worked in as a staffer, which is set to one if they worked in the Senate. This is also important since Senate staff generally have higher numbers of connections, and I will be able to assess the difference in chamber preferences in the lobbying industry. Finally, I take the title of the last job the lobbyist held as a Hill staffer and bin them

[16]Power committees are defined by the House Ways & Means Committee, the House Appropriations Committee, the Senate Budget Committee, and the Senate Finance Committee. More information on these variables is available in Online Appendix C.

based on broad categories of seniority and responsibility.[17]. Without these controls, it would be impossible to make inferences about the value of connections since certain job titles and experience (e.g., legislative staff or senior staff) could account for the bulk of the variation in lobbying revenue. This is also a substantive contribution of this paper, since previous work does not have detailed information about the lobbyist's background as a Hill staffer.

I run an additional set of models to identify the additional value of legislator connections for these lobbyists, testing Hypothesis 3. These models involve the same covariates as equation 1 but now include an additional count variable for House and Senate connections, respectively. Formally:

$$\log \mathbf{R}_i = \beta_1 \cdot \log \mathbf{N}_i + \beta_2 \mathbf{HC}_i + \beta_3 \mathbf{SC}_i + \mathbf{X}_i' \cdot \theta + \gamma_t + \epsilon_i \tag{4.2}$$

This model includes count variables for House and Senate connections ($\mathbf{HC}_i$ and $\mathbf{SC}_i$) along with the staff network size variable and the covariates from Equation 1.

4.3 Results

This section presents results from three sets of models. Table 4.1 shows the results from regressions in the form of equation 1 that includes the number of total connections, and then the number of committee connections, as the independent variable and a number of covariates. Table 4.2 includes legislator connections and legislative office connections. I then account for some possible alternative explanations of these results and present robustness checks.

[17]This process is very similar to the one described in Montgomery and Nyhan (2017) and Madonna and Ostrander (N.d.) Further detail is in Online Appendix A.

4.3.1 The Value of Congressional Connections

The motivating argument in this paper is that lobbyists benefit from extensive ties to their former congressional staff colleagues. The more of these ties, the more valuable they should be as lobbyists. Table 4.1 shows the results from the first series of models with total congressional staff connections as the independent variable in Models 1-3, directly assessing the first hypothesis. In Model 4, I change the independent variable to a count of committee staff connections (`Num. Cmte. Connections`). The second part of Hypothesis 1 argues that connections to committee staff should also be valuable, given the importance of committees and their staff in Congress. Model 4 tests this by isolating committee staff connections for lobbyists and including this (logged) count as the independent variable. The results show strong support for both elements of the first hypothesis.

The models show statistically and substantively significant results. Since the dependent and independent variables are logged, the coefficients on `Number of Connections` and `Num. Cmte. Connections` can roughly be interpreted as the percentage increase in revenue given a one percent increase in connections.[18] Since the dependent variable here is only one six month period, the revenue totals would be doubled to approximate total yearly revenue. Figure 4.1 presents these results more intuitively. When holding all variables other than the staff connections count at their mean, an increase in staff connections by one standard deviation (58.2) over the

[18]For example, a 10% increase is roughly a 2.7% increase in revenue. However, elasticities are useful only as a first order approximation and becomes less accurate the further the percentage is from 0. Also note that in these examples fixed-effects are held at their means, as well as categorical and binary variables (unless otherwise specified). Substantive interpretations of the results change little if the variables are held at their modes.

Table 4.1: Total Connections and Lobbying Revenue

	(log) Highest First Year Lobbying Revenue					
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Connections	0.274***	0.395***	0.339***	0.270***		0.275***
	(0.029)	(0.037)	(0.036)	(0.040)		(0.043)
Num. Cmte. Connections					0.217***	
					(0.053)	
Ever Committee Staff		−0.309***	−0.259***	−0.257***	−0.950***	−0.272***
		(0.069)	(0.067)	(0.068)	(0.227)	(0.081)
Republican		−0.042	−0.116**	−0.132**	−0.119**	−0.123**
		(0.057)	(0.056)	(0.056)	(0.057)	(0.060)
Ever Senate Staff		−0.216***	−0.188***	−0.175***	−0.043	−0.172***
		(0.060)	(0.059)	(0.059)	(0.055)	(0.063)
Legislative Staff			0.356***	0.304***	0.319***	0.319***
			(0.065)	(0.067)	(0.068)	(0.069)
Senior Staff			0.730***	0.605***	0.634***	0.614***
			(0.080)	(0.087)	(0.089)	(0.091)
Press Staff			−0.226	−0.262*	−0.288*	−0.227
			(0.156)	(0.157)	(0.160)	(0.156)
Years of Hill Experience				0.069*	0.131***	0.075**
				(0.036)	(0.035)	(0.036)
Years of Hill Exp. (squared)				−0.002	−0.005*	−0.002
				(0.003)	(0.003)	(0.003)
Cmte. Chair						−0.053
						(0.118)
Committee Staff						−0.048
						(0.133)
Power Cmte. Chair						−0.164
						(0.190)
Power Cmte. Staff						0.364**
						(0.169)
Majority Power Cmte.						0.058
						(0.116)
Minority Power Cmte.						0.076
						(0.132)
Majority Rank & File						−0.014
						(0.110)
N	2,524	2,524	2,524	2,524	2,524	2,484
R^2	0.073	0.085	0.120	0.125	0.116	0.129
Adjusted R^2	0.067	0.078	0.112	0.117	0.108	0.118

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. The Number of Connections and Num. Cmte. Connections variables are a logged count of total connections and committee connections, respectively. Model 6 includes fixed-effects for the highest importance office in which the lobbyist worked as a staffer, with the omitted category as Minority Rank & File. There are fewer observations in Model 6 because a few staffers worked in administrative offices (e.g., the House Clerk) and are not included.

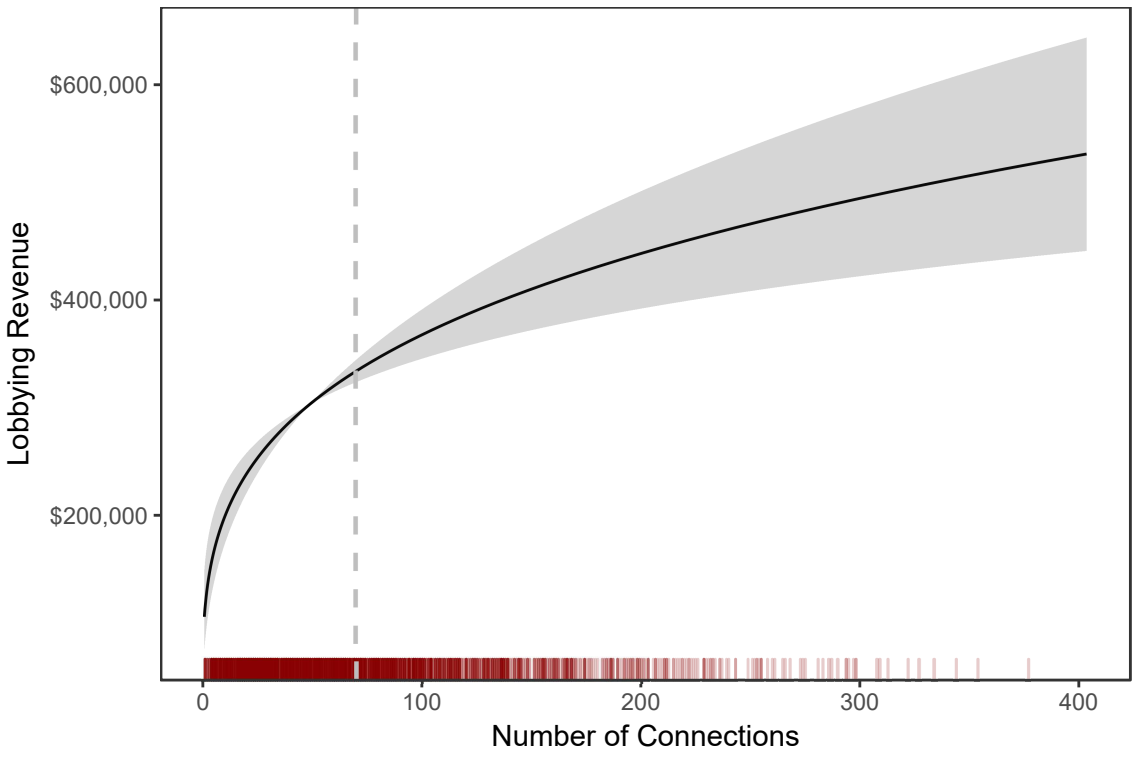


Figure 4.1: Total Connections and Lobbying Revenue

This figure plots results from Model 4 in Table 4.1, holding all variables other than the connections count at their mean. The distribution of connections is plotted along the x-axis. The mean of the independent variable is marked by the dashed line. Note: there are two observations with connections counts greater than 400. I censored this figure at 400 for aesthetic purposes.

mean number of connections (70.3) predicts over $118,000 in additional revenue in the lobbyist's first year. However, for lobbyists with certain backgrounds (i.e., some of the coefficients are now zero instead of at their mean) this difference is more pronounced. For a lobbyist who worked in a Democrat's personal office on the House side as a senior staffer, a one standard deviation increase over the mean predicts roughly $215,000 in additional yearly revenue (an 18% increase over the mean).

Model 5 shows value in committee staff connections as well. An interesting result from Models 1-5 is that experience as committee staffer is consistently negative. In Model 6, I include fixed-effects for the importance of the office in which a staffer worked as a lobbyist, as described previously. By desegregating committee staffers

based on the importance of the committee in which they worked, we see that experience on a powerful committee is positive and significant in predicting revenue, and washes out the negative coefficient from Ever Committee Staff. The other fixed-effects are not statistically significant and their inclusion does not change the interpretation of staff connections.[19]

Table 4.2: Staff Connections, Legislator Connections, and Lobbying Revenue

	(log) Highest First Year Lobbying Revenue				
	(1)	(2)	(3)	(4)	(5)
log(Number of Connections)		0.264***	0.338***	0.316***	
		(0.031)	(0.041)	(0.040)	
Staff-Office Connections					0.025***
					(0.006)
House Connection	0.187***	0.191***	0.119**	0.027	0.032
	(0.046)	(0.046)	(0.051)	(0.051)	(0.055)
Senate Connection	0.281***	0.125**	0.160**	0.087	0.192***
	(0.051)	(0.054)	(0.071)	(0.071)	(0.069)
Ever Committee Staff			−0.197**	−0.214***	0.170***
			(0.078)	(0.077)	(0.064)
Republican			−0.083	−0.130**	−0.191***
			(0.057)	(0.057)	(0.057)
Ever Senate Staff			−0.222***	−0.222***	−0.180**
			(0.080)	(0.079)	(0.081)
Legislative Staff				0.348***	0.360***
				(0.065)	(0.067)
Senior Staff				0.710***	0.672***
				(0.084)	(0.086)
Press Staff				−0.233	−0.270*
				(0.156)	(0.160)
N	2,524	2,524	2,524	2,524	2,524
R^2	0.057	0.083	0.089	0.120	0.104
Adjusted R^2	0.051	0.076	0.081	0.112	0.096

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. The House and Senate connections variables are counts of the total number of Representatives/Senators still in Congress, section the lobbyist worked for, during their first period as a lobbyist. Staff-Office Connections is a count of the number of legislative offices a lobbyist is connected to via their staff network (and not the last office the staffer worked in).

Table 4.2 presents models which include counts for a connection to a legislator and indirect connections to legislative offices via the lobbyist's staff relationships, allowing me to test my second hypothesis about the relative value of a connection to legislators. The coefficient on the number of total connections remains close to

[19]More robustness checks with these fixed-effects are presented in Online Appendix C. All results maintain with their inclusion.

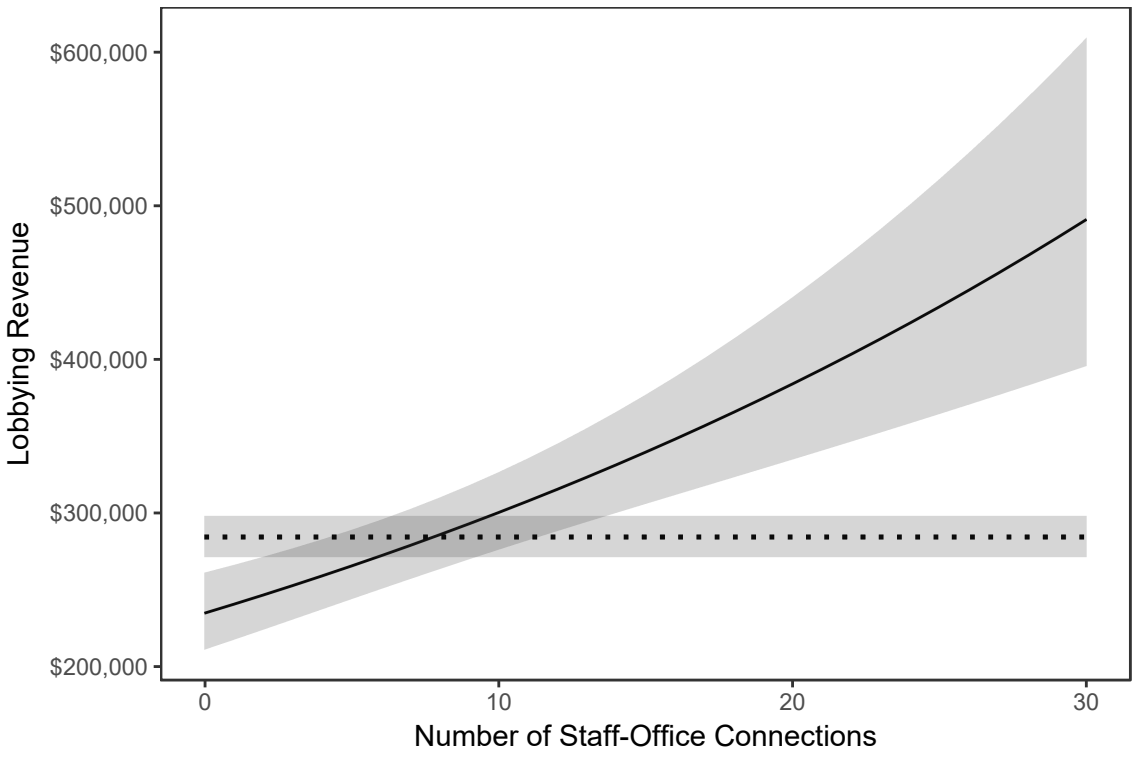


Figure 4.2: Legislator Connections via Staff and Lobbying Revenue

This figure plots the predicted value of a connection to a legislative office section lobbyists maintain via their congressional staff network (as previously described). The dotted line is the predicted value of possessing a connection to a Senator, holding the staff-office connections at zero (i.e., you are only connected to your previous employer and no other offices). The mean value of staff-office connections in the data is roughly 6, and a standard deviation is also 6.

the Table 4.1 models. In Models 1 and 2 we see what existing work would predict (Bertrand, Bombardini and Trebbi 2014, Blanes i Vidal, Draca and Fons-Rosen 2012) – a legislator connection predicts an increase in revenue and Senate connections are the most valuable. Models 2 through 4 show that the number of staffers a lobbyist knows is significantly predictive of higher lobbying revenue. Model 5 introduces the `Staff-Office Connections` variable to assess the value of indirect legislator connections. Figure 4.2 plots of the results from Model 5 as predicted revenue compared to a direct Senator

Once I include controls for the highest position the staffer worked on Capitol Hill, the predicted value of legislator connections drops and is no longer statistically differ-

ent form zero. These individual-level covariates were not included in previous studies, and the results here indicate that they were important omitted variables. Lobbyists who worked as senior staffers on the Hill no longer benefit from direct connections to Senators. However, the size of their staff network is still substantially predictive of higher revenue, providing further evidence of the importance of maintaining congressional staff connections.

Model 5 in Table 4.2 employs a different independent variable (`Staff-Office Connections`). As previously noted, this measures the number of unique legislators lobbyists are indirectly connected to by knowing a staff member in the office. The estimated coefficient on this variable is that for each additional staff-office connection gained the predicted revenue increases by roughly 2.5%. At 8 indirect connections (the mean is 6) the predicted revenue is roughly the same as possessing a Senator connection, so indirect legislator connections are about 12.5% of the value of one direct Senator connection. Further, a one standard deviation (6) increase over the mean of this variable (also 6) predicts roughly $85,000 in additional yearly revenue. A substantive interpretation of this finding, however, is to compare the value of staff-office connections to a Senator connection (plotted as the dotted line in Figure 4.2). At 12 *indirect* legislator connections (a one standard deviation increase over the mean), the predicted yearly revenue is over $60,000 greater than maintaining a *direct* Senator connection. In other words, the lobbyist is relatively better off gaining more staff connections compared to gaining a Senate connection. The staffer faced with a) leaving the Hill while their boss is still in office or b) staying on the Hill for another year or two to gain additional connections even if their boss is leaving office (or might

lose an election) is better off choosing the second option.

4.3.2 Alternative Explanations

There are a few alternative explanations and threats to inference for the findings presented above. The most prominent of which is that the value of connections is purely endogenous to the staffer's ability and what I am really measuring through connections is skill. Although in this paper I am interested in the value of connections for lobbyists, as De Figueiredo and Richter (2013) correctly note, studies of lobbying often cannot account for the overall "ability" of the lobbyist, an omitted variable that can bias results. So it is possible that when I control for aspects of ability the variation in revenue driven by connections diminishes. Unfortunately measuring lobbying ability is difficult at best.

Given the available data, I conduct a battery of tests that, to some degree, should capture whether a person may have improved "ability" as a staffer or higher expertise as a lobbyist. In this section I attempt the following: first, I present models that incorporate whether the lobbyist is a "specialist" (`Specialist`) and the rate of increase of their salary during their time on Capitol Hill (`Hill Salary Slope`). The specialist variable (constructed as described in Bertrand, Bombardini and Trebbi (2014)) captures the degree to which the lobbyist is an "expert" in a given policy area, determined by whether the lobbyist spends a quarter or more of their efforts (based on lobbying revenue) in one issue area. This should correlate with ability in that it captures distinct expertise that the lobbyist brings from their Capitol Hill experience

in certain policy areas. The Hill salary variable, constructed from congressional salary disbursement data, measures the rate of change of the lobbyist's salary during their time on Capitol Hill. Here the idea is that the larger the slope, the more competent the person was as a staffer due to their ability to increase their salary conditional on their starting salary. This should also correlate with overall competence as a staffer and, more importantly, helps address the concern that connections is a proxy for skill as a staffer. Models 1 and 2 demonstrate that the inclusion of these controls do not affect the results.[20]

Next, I include dummy variables for possessing a graduate degree (`Graduate Degree`) and whether the lobbyist had previous executive branch work experience (e.g., in the White House or an agency, delineated `Previous Govt. Exper.`).[21] Possessing a graduate degree may benefit the lobbyist by giving them additional, specific knowledge in certain policy areas (for example, a Master of Public Health degree may add additional value to the lobbyist due to their expertise in health policy). Similarly, having previous experience in the federal government may endow the lobbyist with difficult to obtain, agency-specific policy information and would facilitate the job of informational lobbying, increasing their ability especially in their first year as a lobbyist. Models 3 and 4 show that the inclusion of these variables do not change the results and that connections remain significant in predicting revenue.

I also include fixed-effects for the total number of offices in which the staffer worked on Capitol Hill. High-ability staffers are able to more easily move offices and create

[20]The construction of these variables is outlined in Online Appendix B.
[21]Note that education information is only available for a subset of the sample.

for themselves larger networks, in which case if connections are purely a proxy for skill the fixed-effects should attenuate the value of connections. Models 5 and 6 show that even within different numbers of offices worked, the results remain unchanged and connections still significantly predict higher lobbying revenue.

In the online appendix (section C) I report the results from three more tests to this end. First, I turn the data into panel data and to conduct a time series analysis including the years in which the staffer is a lobbyist (in a similar fashion to Blanes i Vidal, Draca and Fons-Rosen 2012), which includes lobbyist, time and experience fixed-effects and standard errors clustered at the lobbyist level. The benefit of this approach is the inclusion of lobbyist fixed-effects, which hold constant the lobbyist's initial skill level while varying the number of connections. The results (Table 6C in the online appendix), while slightly less precise, are substantively the same magnitude as those presented previously (the coefficient on connections is 0.225 at $p = 0.11$). It is not surprising to see a decrease in precision in this analysis due to collinearity between the number of connections – which necessarily decrease over time, and the lobbying experience variable – resulting in an increase in the standard errors. I am also unable to measure *time-varying* traits of the lobbyist, such as connections that lobbyists inevitably gain, increasing variability in the estimate.[22] Nonetheless, it is heartening that with the inclusion of lobbyist fixed-effects the results remain substantively unchanged.

Finally, the online appendix presents results that include the lobbyist's eigenvector

[22]However, when I take cross-sectional results at different levels of lobbying experience, I find statistical significance in the value of connections persists through the first 10 years of experience Figure 7B in the online appendix. This is further support for the the value of staff connections for revolving door lobbyists.

centrality as well as their number of raw connections (this process is outlined in Online Appendix C). Eigenvector centrality is a measure that takes into account the lobbyist's status in their network based on the importance of their other connections. While the raw connections count used in the initial analyses capture how widely the lobbyist is connected – a concept of theoretical importance because lobbyists benefit from relationships (and thus access) to many offices – eigenvector centrality is distinct in that it captures the importance of who the lobbyist knows. This analysis further isolates connections from a staffer's ability since the lobbyist's eigenvector centrality in her staff network would be more difficult to engineer as it depends on the actions of others within the network. As a result, endogeneity with the lobbyist's skill should be less of a concern.[23] I show that the results hold once centrality is accounted for and that centrality itself also predicts increased lobbying revenue – more evidence for the importance of who you know as well as how many you know.

Additional robustness checks are presented in Online Appendix C, including firm-level fixed-effects (and firm-clustered standard errors) which accounts for the possibility that certain firms are accounting for a bulk of the variation in lobbying revenue; the removal of outliers since there is some right-skew in the independent variable; alternate specifications of the revenue dependent variable (due to considerations outlined in the Data Description section); the inclusion of last-office fixed-effects (including fixed-effects for the importance of the last office, such as the committee membership of the member, majority status, etc.), to account for the possibility that only certain offices are sending staffers to be valuable lobbyists; and additional tests with

[23] I thank an anonymous reviewer for this suggestion.

Table 4.3: Alternative Explanations for Predicting Lobbying Revenue

	(log) Highest First Year Lobbying Revenue					
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Connections	0.284***	0.263***	0.240***	0.214***	0.307***	0.301***
	(0.041)	(0.044)	(0.049)	(0.053)	(0.037)	(0.040)
House Connection		−0.045		−0.029		−0.035
		(0.047)		(0.052)		(0.060)
Senate Connection		0.118*		0.133*		0.036
		(0.067)		(0.073)		(0.075)
Ever Committee Staff	−0.241***	−0.213***	−0.214***	−0.180**	−0.271***	−0.272***
	(0.067)	(0.076)	(0.079)	(0.088)	(0.068)	(0.083)
Republican	−0.177***	−0.185***	−0.130**	−0.142**	−0.152***	−0.155***
	(0.055)	(0.055)	(0.065)	(0.065)	(0.058)	(0.058)
Ever Senate Staff	−0.223***	−0.335***	−0.206***	−0.316***	−0.177***	−0.226***
	(0.060)	(0.079)	(0.070)	(0.088)	(0.059)	(0.080)
Legislative Staff	0.341***	0.339***	0.287***	0.285***	0.344***	0.344***
	(0.071)	(0.072)	(0.091)	(0.092)	(0.066)	(0.066)
Senior Staff	0.614***	0.617***	0.532***	0.528***	0.682***	0.685***
	(0.084)	(0.086)	(0.102)	(0.105)	(0.084)	(0.085)
Press Staff	0.082	0.081	0.040	0.041	−0.235	−0.237
	(0.146)	(0.146)	(0.188)	(0.188)	(0.157)	(0.158)
Graduate Degree			0.013	0.014		
			(0.064)	(0.064)		
Previous Govt. Exper.			0.071	0.073		
			(0.092)	(0.092)		
Specialist	−1.515***	−1.522***	−1.535***	−1.535***		
	(0.067)	(0.067)	(0.083)	(0.082)		
Hill Salary Slope	0.028	0.029	0.057	0.059		
	(0.078)	(0.078)	(0.100)	(0.100)		
Fixed Effects?	Year	Year	Year	Year	Offices Year	Offices Year
N	2,073	2,073	1,456	1,456	2,524	2,524
R^2	0.307	0.309	0.328	0.330	0.126	0.126
Adjusted R^2	0.299	0.300	0.315	0.317	0.115	0.114

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. The independent variable is the number of connections a lobbyist has to congressional staffers. Models 1 and 2 are ran on the subset of data for which the slope of the lobbyist's Hill salary could be calculated (more information on this is in the online appendix). Models 3 and 4 are ran on a subset of the larger data for which exists education information. Models 5 and 6 include fixed-effects for the number of offices in which a lobbyist worked on the Hill.

Staff-Office connections as the independent variable. The results maintain across all models.

Across all alternative specifications presented here and in the appendix, the primary results remain significant and of a similar magnitude. Across numerous tests attempting to account for lobbying ability as an omitted variable, the results remain substantively similar and almost entirely statistically significant. Further, the inclusion of lobbyist fixed-effects and network centrality lend additional credibility to these findings.

4.4 Discussion and Conclusion

This paper has argued that revolving door lobbyists primarily work in an informational role through providing a legislative subsidy. As the theory suggests, lowering the transaction costs associated with establishing relationships to congressional offices facilitates the job of a lobbyist. Revolving door lobbyists are specifically well suited for this task given the key role of congressional staff in the legislative process and their previous background as staffers. These lobbyists benefit from personal relationships with their former colleagues on Capitol Hill – a specific type of human capital unique to revolving door lobbyists – that translates into higher value for firms and lobbying clients.

The empirical results support this story of revolving door lobbying, showing evidence through lobbying revenue that staff connections are highly valued in the lobbying industry. I find that, on average, a one standard deviation increase over the

mean number of staff connections predicts $118,000 in additional revenue in the lobbyist's first year off the Hill. For some lobbyists – for example, a Democratic staffer without Senate or committee experience – this figure increases to $215,000 (an 18% increase over the mean). These sums are substantial. While I am cautious to tie these numbers directly to salary, it is not a stretch to imagine such a large gap in revenue translates into higher personal income in a direct way.

Further, this analysis builds on findings from previous work (e.g., Bertrand, Bombardini and Trebbi 2014, Blanes i Vidal, Draca and Fons-Rosen 2012) which demonstrate value in connections directly to legislators. Extending the logic of valuable staff connections, I find that *indirect* connections to legislators through their staff is predicted to be worth $60,000 more than a direct link to a Senator. Finally, the results persist across a number of specifications which attempt to address the threat to inference caused by the difficulty in measuring lobbying skill and ability. While this paper has not sought to solve the connections versus expertise debate in the lobbying literature, these analyses presents some suggestive evidence that connections are highly desirable by lobbying firms and their clients. In short, the lobbying industry places a high price tag on lobbyists that are well-connected to congressional staff.

This study advances our understanding of the political economy of public sector careers – a vital first step towards answering some of the larger questions in studies of lobbying and private influence in public policy. Among these questions are: how and why are connections valuable in lobbying? How do lobbyists influence the policy-making process? What inferences do we draw from the substantially large monetary value of connections for revolving door lobbyists?

The large premium associated with connections to congressional staffers suggests that gaining access to the legislative process and its key actors is what firms and their clients value. The high revenue attributed to former congressional staffers who become lobbyists, which increases even further based on their Capitol Hill connections, supports the theory of lobbying as a legislative subsidy. This finding has increased salience in an era of low congressional capacity, where anecdotal evidence points to lobbyists filling in for staffers (see for example Williams 2017).

Finally, what insights can we gain from the political economy of the careers of congressional staffers on how lobbying influences public policy? Should Americans' distrust of Congress be affected by the revolving door phenomenon? On the one hand, attractive outside options could induce staffers to work harder for their boss (and the public interest) in order to convince future employers of their ability (e.g., Kedia et al. 2015). The draw of lucrative private employment could induce staffers to place higher importance on private concerns over the public interest. Absent substantial reform, the sheer value of the outside option for underpaid staff will create, at the least, the perception of perverse incentives for them to "audition" for lucrative private-sector jobs while on the public payroll. The asymmetry in salaries and salary growth available to Hill staffers when compared to the private sector, combined with the increasing cost of living in Washington, D.C., exacerbate these incentives. While building expertise could be a net social good, Congress needs to bolster its resources to incentivize these public employees to keep their abilities on Capitol Hill. In sum, this prima facie evidence is strongly suggestive of the influence of privately-funded interests in public policymaking and ascertaining what firms and their clients value

in the lobbyists they hire is a promising method for more systematic analyses of these questions.

This study contributes to existing questions within the lobbying literature, though many remain fertile areas for future research. For instance, little work currently exists on individual-specific human capital of congressional staffers or lobbyists. Adding more granular measures of these attributes would provide greater insight into who is driven to lobbying and who is successful once there. Similarly, building on research by (LaPira and Thomas 2017), what career paths as congressional staffers translate into the type of lobbyist they become once they leave public service? Do certain types of experience lead to higher desirability for small firms versus large firms? Who is more likely to become a strategic versus informational lobbyist? This is a promising area for future research.

Though taken up briefly in this analysis, a relevant question is how revolving door lobbyists continue to rely on connections once they become established lobbyists? Alternatively, do they develop an additional sort of human capital over time while working in the lobbying industry? What other ways do connections between lobbyists and legislators and their staff impact policy? Careful panel and social network analaysis designs would shed light on this question. Finally, what is the relationship between the draw of the outside option – the revolving door – and congressional capacity? Does the regular turnover of staff to higher paying, private sector jobs affect Congress' ability to do its job? Ultimately, the sheer magnitude of the dollar figures associated with walking through the revolving door demonstrate the importance of further research on revolving door lobbying. Analyses such as the one in this paper

help us eventually shed light onto these questions by understanding the labor market and the incentives to which public employees respond.

4.5 Appendix

4.5.1 Job Titles

The decisions on how to code staff positions in this paper are largely based on the processes described in Montgomery and Nyhan (2017), Cain and Drutman (2014) and Madonna and Ostrander (N.d.). Fortunately, this process was made easier because of the extensive cleaning of the data done by Legistorm. For instance, in the raw data a Legislative Director may be: Legis. Director, Leg. Director, Leg. Dir. or any other possible variation. Legistorm cleans most possible variations and assigns them the proper title. The tables below detail the list of job titles for each category of position.

Table 4.4: Senior Staff Position Titles

Chief of Staff*
Legislative Director

*anything containing "Chief of Staff" and not "assistant to"

Table 4.5: Legislative Staff Position Titles

Legislative Correspondent
Legislative Assistant*
Legislative Aide*
Legislative Coordinator
Legislative Adviser
Policy Analyst
Legislative Fellow
Policy Adviser*
Senior Adviser*
Policy Aide
Policy Director
Director of Policy
Policy Coordinator
Counsel
Policy Specialist
Research Assistant
Policy Analyst
Fellow*
Law Clerk
Research Director
Legislative Research Assistant
Legislative Clerk
Legislative Analyst
U.S. Senate Aide
National Security Adviser
Special Adviser
Appropriations Associate
Legislative Associate
Senior Legislative Associate
Legal Fellow
Transition Aide
Appropriations Director
Adviser
Legislative Liaison

*anything containing

Table 4.6: Press Staff Position Titles

Press*
Media*
Communications*
Speechwriter
Public Affairs*
Writer

*anything containing

4.5.2 Data Description and Coding Decisions

The data employed in this paper comes from the firm Legistorm. Legistorm takes the raw, publicly available lobbying disclosure data from the House and Senate and cleans then matches it to separate data, also from the House and Senate, detailing congressional staff disbursements. The staff disbursement data includes office, job title and salary information about individual staffers.

Cleaning the lobbying and staff disbursement data is important for this analysis. For instance, the same staffer in one disbursement might be Joe M. Smith but in another may be Joseph Michael Smith. This problem is exacerbated in the LDA reports because of the large number of observations and even larger heterogeneity in how names are reported from report to report. Legistorm unifies these to be the same person (when it is in fact the same person) and assigns them a unique identifier which is present across lobbying reports and congressional employment records. However, it is still possible section Legistorm misses unifying some staffers' names, especially female staffers due to name changes because of marriage. To check for the possibility section this coding issue biases results, I include a robustness check in the next session which filters the data to only male staffers.

Additionally, the data are available beginning in 1998, but I begin my analysis in 2000. Legistorm and the Congressional Research Service have suggested section there may be systematic problems in which individual records made it online, since the initial recordings were done on paper and then manually entered online in the early 2000s by federal employees. These years are excluded from my analysis.

Table 4.7 displays detailed summary statistics of the lobbyists in the data broken apart by different kinds of congressional staff experience, listing the average number of connections. Table 4.8 shows descriptive statistics on the dependent variable, the independent variables, and the covariates employed in the analysis. The data displayed in Table 4.8 (which is the dataset used in the analysis) are filtered to exclude lobbyists for whom there is not a complete history of congressional staff employment, determined by removing lobbyists whose first congressional staff record was in the year 2000 – the first year in the dataset – since employment prior to 2000 is unobservable in the data (i.e., the data are left-censored). However, connections are still observable if, for instance, a lobbyist first begins in 2001, since employment data exists for the year 2000. As a result, there are also no lobbyist observations for the year 2000. Lobbying revenue was adjusted for inflation to 2016 dollars. Note section education information is available for about 65% of the sample. A density plot of the staff connections variable and a histogram of the staff-office connections variable are included in Figures 4.3 and 4.4, respectively.

Figure 4.5 plots the bivariate correlation between staff connections and logged lobbying revenue, broken apart by quartiles of staff connections. The figure shows section, even before controlling for anything, there is a positive correlation between the two variables.

Table 4.7: Connections Summary Statistics - Revolving Door Lobbyists

Revolving Door Lobbyists	
Total lobbyists	2,524
Fraction with Senate experience	.60
Mean Staff-Office connections	6.3
Most common first lobby year	2007
Lobbyists with Legislator Connections	
Total Lobbyists	1,796
Fraction with a legislator connection	.71
Mean staff connections	69.1
Fraction with House connections	.36
Mean staff connections	51.6
Fraction with > 1 House connections	.08
Mean staff connections	66
Fraction with Senate connections	.41
Mean staff connections	88.2
Fraction with > 1 Senate connections	.04
Mean staff connections	127.2
Lobbyists without Legislator Connections	
Fraction without a legislator connection	.29
Mean staff connections	73.4
Lobbyists with Committee Experience	
Total Lobbyists	950
Fraction with Cmte. experience	.38
Mean staff connections	109.7
Fraction with Cmte. and Member experience	.18
Mean staff connections	126.1

The fractions presented in this table represent fractions of the whole (2,524) lobbyist sample. Staff-Office connections are the connections lobbyists maintain to legislative offices purely via their staff network.

Table 4.8: Summary Statistics - Revolving Door Lobbyists

Statistic	Mean	St. Dev.	Min	Median	Max
Inflation Adjusted Lobbying Revenue	731,675	1,152,915	5,145	329,975	17,714,418
(log) Lobbying Revenue	12.6	1.4	8.6	12.7	16.7
Total Connections	70.3	58.2	1	56	568
Committee Staff Connections	35.1	57.2	1	1	369
Staff-Office Connections	6.3	5.9	0	5	49
Committee Staffer Dummy Variable	0.38	0.48	0	0	1
Republican	0.41	0.49	0	0	1
Legislative Staff	0.48	0.50	0	0	1
Senior Staff	0.21	0.41	0	0	1
Press Staff	0.04	0.19	0	0	1
Graduate Degree	0.55	0.50	0	1	1
Previous Govt. Experience	0.09	0.28	0	0	1
Staff Salary Slope	0.005	0.346	-2.621	0.043	2.203

Note: 2,524 Observations.

This represents the subset of revolving door lobbyists who work for firms, as opposed to in-house lobbyists.

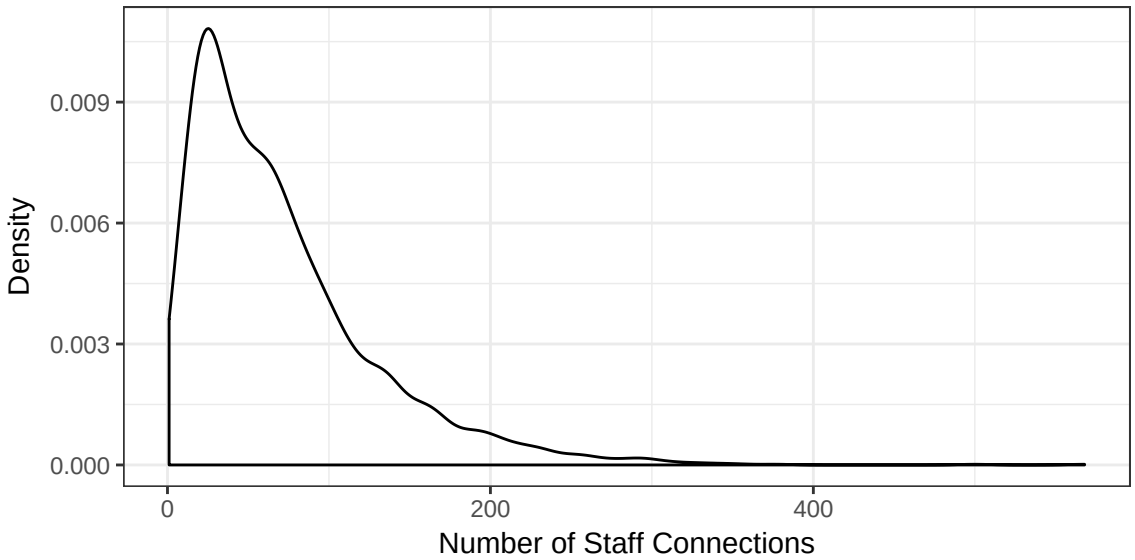


Figure 4.3: Density of Congressional Staff Connections

This is the untransformed density of the congressional staff connections independent variable.

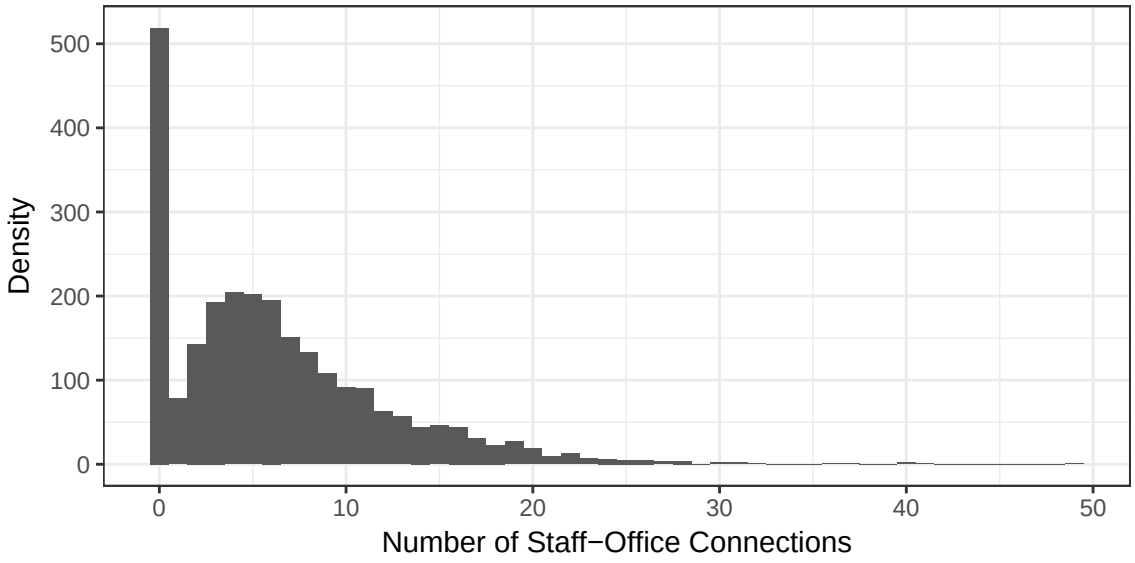


Figure 4.4: Density of Staff-Office Connections

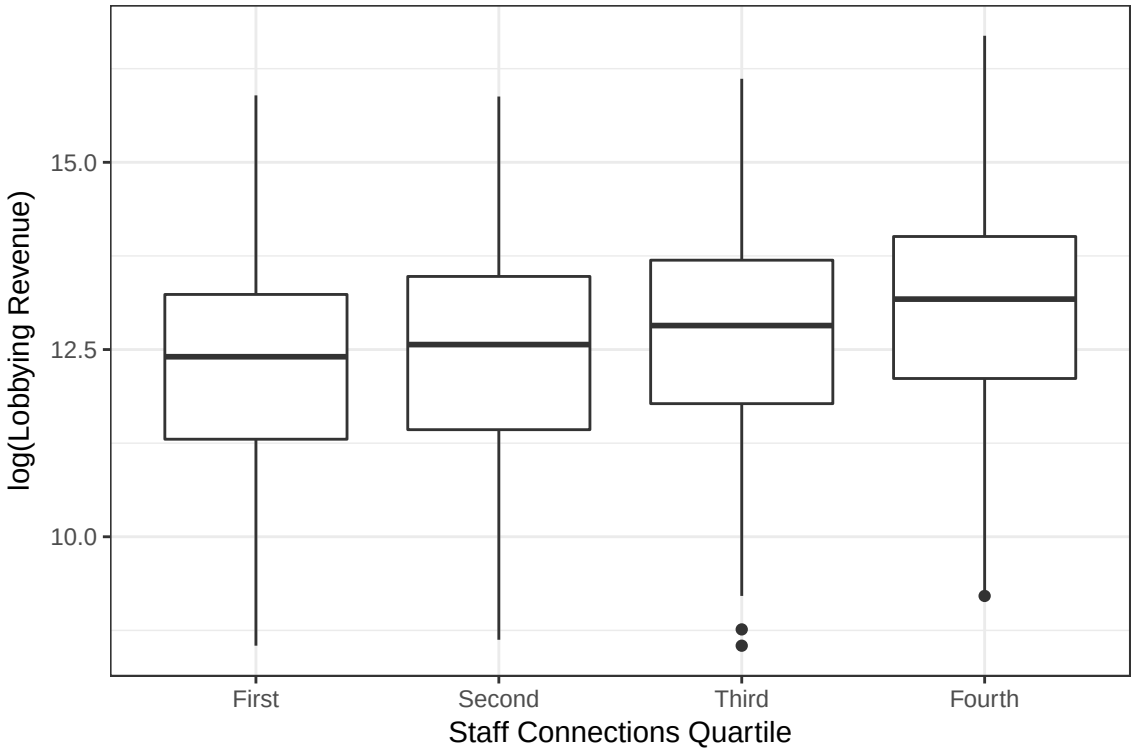


Figure 4.5: Staff Connections Quartiles and Lobbying Revenue

Coding Decisions & Data Description

This analysis focuses solely on firm lobbyists because of the relevance of the revenue figure reported in LDA filings. In other words, it excludes in-house lobbyists because of how the law mandates these lobbyists report income. As an example of an in-house lobbyist, GM may keep lobbyists on its staff and pay them internally, but it may also hire firms for specific lobbying efforts. These lobbyists are excluded from this analysis because the revenue reported on the LDA forms includes expenses such as office overhead and other elements section do not capture the individual value of the lobbyist.

Legistorm created the dataset used in this paper from the same raw data employed by Blanes i Vidal, Draca and Fons-Rosen (2012) and in some of the analysis of Bertrand, Bombardini and Trebbi (2014). Additionally, other studies use a cleaned version of this data published by OpenSecrets.org. However, this dataset is more comprehensive than those employed previously because a) it captures a longer timeframe, from 2000-2016 and b) contains detailed backgrounds of revolving door lobbyists (i.e., specific offices in which they worked, their job titles, education, etc.).

I chose to operationalize the outcome variable as the highest (six month) period of lobbying revenue during the lobbyist's first year because it avoids possible measurement error related to idiosyncrasies in how revenue is reported. For instance, a lobbyist may have zero revenue in their first period because they are not yet attributed to contracts due to joining the firm late in the quarter/semester. In robustness checks, reported in Table 4.9, I ran the same models using aggregate first year lobbying totals and the results do not substantively change. Nonetheless, I believe the

dependent variable I employ here is the most accurate and substantively interesting. The lobbying report example below depicts the revenue figure used in this analysis.

To code which staff shared offices with other staff to create the staff networks independent variable I largely relied on the data as it is structured. However, I made two important decisions. First, I chose to include staff who work in leadership offices with staff who work in section member's personal office. For instance, staff who work for Speaker Paul Ryan are also coded to have worked in his personal office (for the time period he served as Speaker). Second, I found a common accounting method used for Senate staff section places them in an "office" which does not actually exist. The office is called the "Senate Resolution and Reorganization Reserve." This is done purely for accounting reasons while Senators staff up after elections but before taking office (or after sudden death of the Senator in order to keep the staff on payroll). I removed observations with this office title from the data so as not to over count the size of these staffers' networks.

Previous government work experience is coded as having worked for any executive branch office, including agencies or the White House. The full list of workplaces includes a string section contained any of the following: "U.S. Office of Personnel Management", "U.S. Securities and Exchange Commission", "U.S. Environmental Protection Agency", "U.S. Chamber of Commerce", "U.S. Embassy", "U.S. Attorney", "White House", "U.S. Department", "Centers for Medicare and Medicaid", "Congressional Budget Office", "Congressional Research Service", "Federal Reserve System", "Office of Management and Budget", "Office of the Secretary of Defense", "Office of the U.S. Attorney General", "Office of the U.S. Trade Representative",

"Office of the Vice President", "Social Security Administration", "U.S. General Services Administration", "U.S. Government Accountability Office", "U.S. Immigration and Customs Enforcement", "U.S. International Trade Commission", "U.S. Small Business Administration".

I manually checked the entire list of previous work experience for the lobbyists in the data. The office titles listed here include people who work in sub-agencies within the larger agency. For instance, if somebody worked for the International Trade Commission it would show up in the data as having worked for the U.S. Department of Commerce.

Capitol Hill Staff Salary Slope

In the alternative explanations section of the paper, I include a variable `Hill Staff Salary Slope` as an additional control for skill/ability. The idea is section lobbyists who had faster salary growth during their time as staffers are likely better 'types' – this should correlate with overall competence and address concerns section connections are purely a proxy for skill, since skilled staffers may be better able to move around to more offices. To create this measure I did the following using the congressional staff disbursement data. First, I filter out yearly salary totals less than one standard deviation below the mean (the mean salary is $51,783 and one standard deviation is $42,232). These low salaries exist for two primary reasons: either the staffer left mid-year or it is for a temporary employee (such as an intern). Next, I remove staffers who only had one year of experience on the Hill since it would be impossible to calculate the slope for these individuals.[24]

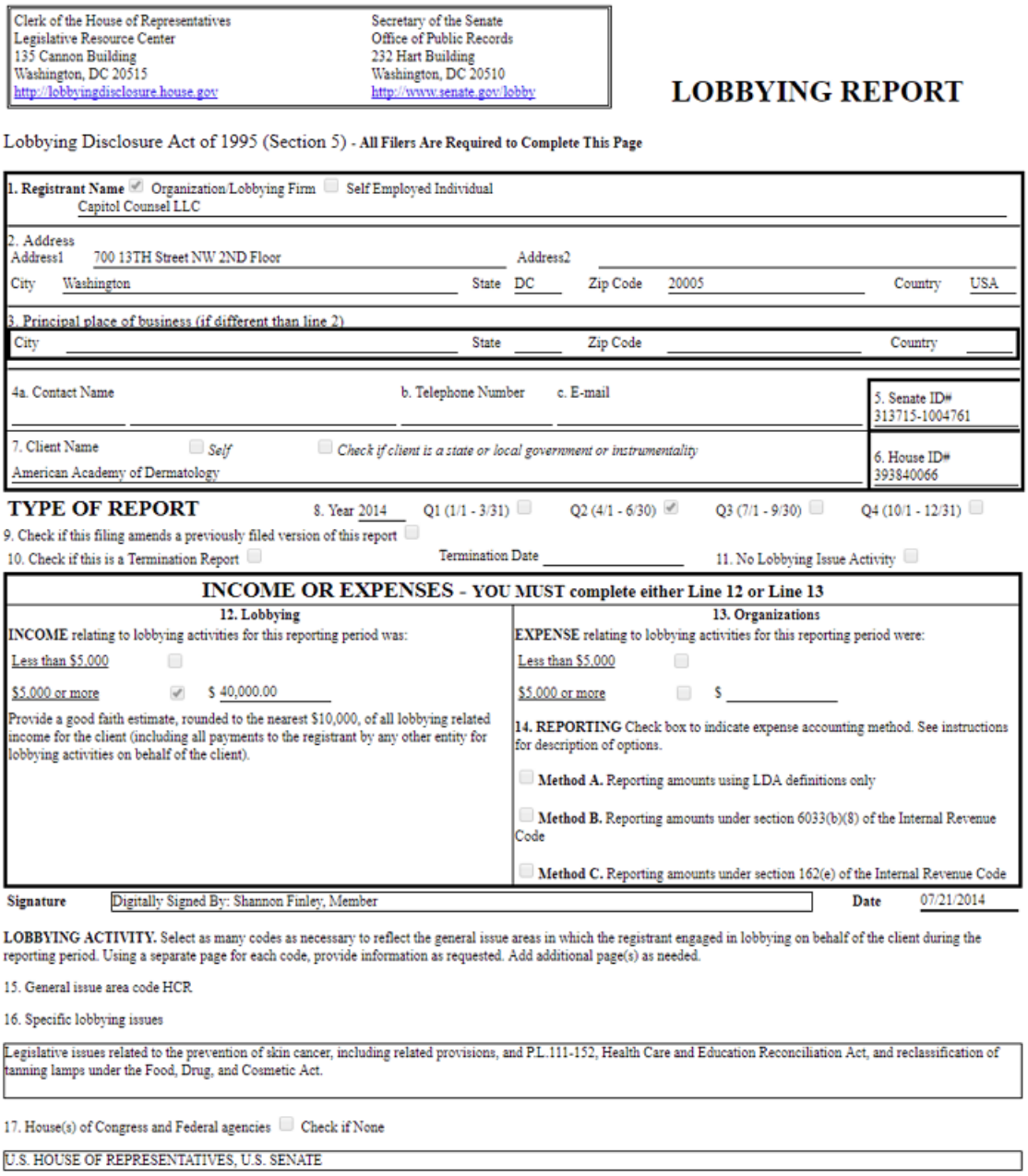
[24]This is why there are fewer lobbyists in those models.

Then I calculate the decile of the remaining staffers' starting salary. This is used as the fixed-effect in the regression, so I estimate the predicted impact of the slope variable within starting salary deciles.[25] Finally, for each staffer I arrange their salaries by their experience year sequentially and perform a bivariate regression of logged salary on experience (which is simply the slope of the line) and report this as the covariate used in the regression.

Specialist Variable

Also in the alternative explanations section of the paper I include a variable called `Specialist` based on the lobbyist's first year as a lobbyist. This is constructed identically to the process outlined in Bertrand, Bombardini and Trebbi (2014, p. 3896). This variable takes the value of one if the lobbyist spends (as measured by revenue) at least one quarter of their time on one issue area. This is possible to create because (most) lobbying filings report the issue area as one of 72 categories (or more than one). Lobbyists who are specialists, especially in their first year of lobbying, likely have expertise in certain policy areas based on their Hill background or other experience. As a result, this variable captures some degree of a lobbyist's specific skill and alleviate some concern about endogeneity in revenue and lobbying ability. In the sample lobbying report below it is possible to see the issue area code of the report.

[25]This is important because I avoid comparing salary slopes of individuals who start at high salaries, and thus have less room for growth, to individuals who start at the bottom and have much more room for growth.



Clerk of the House of Representatives
Legislative Resource Center
135 Cannon Building
Washington, DC 20515
http://lobbyingdisclosure.house.gov

Secretary of the Senate
Office of Public Records
232 Hart Building
Washington, DC 20510
http://www.senate.gov/lobby

LOBBYING REPORT

Lobbying Disclosure Act of 1995 (Section 5) - **All Filers Are Required to Complete This Page**

1. Registrant Name ☑ Organization/Lobbying Firm ☐ Self Employed Individual
Capitol Counsel LLC

2. Address
Address1 700 13TH Street NW 2ND Floor Address2
City Washington State DC Zip Code 20005 Country USA

3. Principal place of business (if different than line 2)
City State Zip Code Country

4a. Contact Name b. Telephone Number c. E-mail

5. Senate ID# 313715-1004761

7. Client Name ☐ *Self* ☐ *Check if client is a state or local government or instrumentality*
American Academy of Dermatology

6. House ID# 393840066

TYPE OF REPORT 8. Year 2014 Q1 (1/1 - 3/31) ☐ Q2 (4/1 - 6/30) ☑ Q3 (7/1 - 9/30) ☐ Q4 (10/1 - 12/31) ☐

9. Check if this filing amends a previously filed version of this report ☐

10. Check if this is a Termination Report ☐ Termination Date 11. No Lobbying Issue Activity ☐

INCOME OR EXPENSES - YOU MUST complete either Line 12 or Line 13

12. Lobbying
INCOME relating to lobbying activities for this reporting period was:
Less than $5,000 ☐
$5,000 or more ☑ $ 40,000.00
Provide a good faith estimate, rounded to the nearest $10,000, of all lobbying related income for the client (including all payments to the registrant by any other entity for lobbying activities on behalf of the client).

13. Organizations
EXPENSE relating to lobbying activities for this reporting period were:
Less than $5,000 ☐
$5,000 or more ☐ $

14. REPORTING Check box to indicate expense accounting method. See instructions for description of options.

☐ **Method A.** Reporting amounts using LDA definitions only

☐ **Method B.** Reporting amounts under section 6033(b)(8) of the Internal Revenue Code

☐ **Method C.** Reporting amounts under section 162(e) of the Internal Revenue Code

Signature Digitally Signed By: Shannon Finley, Member **Date** 07/21/2014

LOBBYING ACTIVITY. Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Add additional page(s) as needed.

15. General issue area code HCR

16. Specific lobbying issues

Legislative issues related to the prevention of skin cancer, including related provisions, and P.L.111-152, Health Care and Education Reconciliation Act, and reclassification of tanning lamps under the Food, Drug, and Cosmetic Act.

17. House(s) of Congress and Federal agencies ☐ Check if None

U.S. HOUSE OF REPRESENTATIVES, U.S. SENATE

Figure 4.6: Lobbying Disclosure Report

18. Name of each individual who acted as a lobbyist in this issue area

First Name	Last Name	Suffix	Covered Official Position (if applicable)	New
Shannon	Finley			
Denise	Henry Morrisey			
John D.	Raffaelli			
Sara	Franko			
Dena	Battle			
Drew	Goesl			
Aaron	Cohen			
Kyle	Nevins			

19. Interest of each foreign entity in the specific issues listed on line 16 above ☑ Check if None

LOBBYING ACTIVITY. Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Add additional page(s) as needed.

15. General issue area code TAX

16. Specific lobbying issues

Cosmetic procedures and tax on indoor tanning services.

17. House(s) of Congress and Federal agencies ☐ Check if None

U.S. HOUSE OF REPRESENTATIVES, U.S. SENATE

18. Name of each individual who acted as a lobbyist in this issue area

First Name	Last Name	Suffix	Covered Official Position (if applicable)	New
Shannon	Finley			
John D.	Raffaelli			
Dena	Battle			
Denise	Henry Morrisey			
Drew	Goesl			
John	O'Neill			
Kyle	Nevins			

19. Interest of each foreign entity in the specific issues listed on line 16 above ☑ Check if None

LOBBYING ACTIVITY. Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Add additional page(s) as needed.

15. General issue area code MMM

16. Specific lobbying issues

Update for Medicare payments for physicians and Medicare Part B reimbursement for prescription drugs; and In-office Ancillary Services.

17. House(s) of Congress and Federal agencies ☐ Check if None

U.S. HOUSE OF REPRESENTATIVES, U.S. SENATE

18. Name of each individual who acted as a lobbyist in this issue area

First Name	Last Name	Suffix	Covered Official Position (if applicable)	New
Shannon	Finley			
Denise	Henry Morrisey			
John D.	Raffaelli			
Sara	Franko			
Drew	Goesl			
Dena	Battle			
Aaron	Cohen			
Kyle	Nevins			

Figure 4.7: Lobbying Disclosure Report

4.5.3 Additional Robustness Checks

Table 4.9 accounts for three possible threats to the results presented previously. In Models 1 and 2, I remove outliers as defined by observations with staff connection counts above three standard deviations over the mean (which equals 275). Since there are 40 observations with abnormally high connection counts, it is possible section they may be skewing the results. These models show section the results maintain. Models 3 and 4 remove lobbyists with zero staff connections, in case these lobbyists are skewing the estimates, which does not change the results. In Models 5 and 6, which include the full data, I change the operationalization of the dependent variable. Instead of using the highest first year lobbying revenue, which takes the highest amount of revenue reported in one of the two six month periods of the lobbyist's first year, I aggregate both periods together. The results are unchanged by using this version of the dependent variable. In Models 7 and 8 I report results modeling a different version of the dependent variable. The D.V. in these models accounts for lobbying revenue by dividing the total revenue on a lobbying filing by the number of lobbyists in the filing. For example, if the filing reports $50,000 in revenue and 5 lobbyists on the filing, the individual lobbyist's revenue is now $50,000 divided by 5, or $10,000 (where in the other D.V.s it would be $50,000 per lobbyist). The results do not substantively change with this D.V.

In Table 4.10 I include last office fixed-effects. These fixed-effects are measured as dummy variables for the last office each lobbyist in the data worked for on Capitol Hill (e.g., each member office, committee office, etc.). These fixed-effects account for

Table 4.9: Removing Outliers and Alternative Dependent Variable

	(log) Highest First Year Lobbying Rev.				(log) Total First Year Lobbying Rev.		(log) Highest First Year Lobbying Rev. Alternate	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of Connections	0.340***	0.316***	0.359***	0.336***	0.343***	0.316***	0.264***	0.256***
	(0.037)	(0.042)	(0.038)	(0.042)	(0.037)	(0.041)	(0.032)	(0.036)
House Connection		0.021		0.029		0.036		−0.021
		(0.051)		(0.051)		(0.051)		(0.042)
Senate Connection		0.091		0.085		0.098		0.050
		(0.073)		(0.071)		(0.073)		(0.060)
Staff-Office Connections	−0.261***	−0.217***	−0.274***	−0.229***	−0.276***	−0.224***	−0.134**	−0.122*
	(0.068)	(0.078)	(0.068)	(0.078)	(0.069)	(0.079)	(0.060)	(0.068)
Ever Committee Staff	−0.121**	−0.134**	−0.125**	−0.138**	−0.094	−0.110*	−0.047	−0.051
	(0.057)	(0.057)	(0.056)	(0.057)	(0.058)	(0.058)	(0.050)	(0.050)
Republican	−0.193***	−0.233***	−0.200***	−0.231***	−0.196***	−0.229***	−0.135***	−0.182***
	(0.060)	(0.080)	(0.059)	(0.080)	(0.061)	(0.081)	(0.052)	(0.070)
Ever Senate Staff	0.355***	0.348***	0.356***	0.348***	0.341***	0.330***	0.290***	0.290***
	(0.065)	(0.066)	(0.065)	(0.065)	(0.066)	(0.066)	(0.058)	(0.058)
Legislative Staff	0.733***	0.716***	0.722***	0.702***	0.723***	0.699***	0.627***	0.630***
	(0.081)	(0.084)	(0.080)	(0.084)	(0.082)	(0.086)	(0.070)	(0.073)
Senior Staff	−0.226	−0.231	−0.220	−0.227	−0.287*	−0.294*	−0.291**	−0.292**
	(0.156)	(0.157)	(0.156)	(0.156)	(0.165)	(0.166)	(0.136)	(0.137)
N	2,484	2,484	2,515	2,515	2,524	2,524	2,524	2,524
R^2	0.120	0.120	0.120	0.121	0.120	0.121	0.135	0.135
Adjusted R^2	0.112	0.112	0.113	0.113	0.112	0.112	0.127	0.127

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. Models 1 and 2 remove outliers as defined by observations possessing more than three times the standard deviation above the mean number of staff connections. Models 3 and 4 remove lobbyists with a network size of 0. Models 5 and 6 report an alternative specification of the dependent variable, measured as the total first year lobbying revenue instead of the six month period within their first year section reports the highest revenue. Models 7 and 8 report another alternative specification of the dependent variable as outlined in Appendix C.

the possibility section only a handful of offices were sending their staff into lucrative lobbying jobs, driving much of the variation in lobbying revenue. Including these fixed effects does not appreciably change the results. This table also includes results for models section include the "importance" of the last office in which the lobbyist worked (based on data from **?**).[26] These categories include, if the lobbyist last worked for a member, if the member was a: committee chair, power committee chair[27], in the majority and on a power committee, in the minority and on a power committee, or whether they were a rank and file member in the majority or minority. For committee staffers, the categories include: non-power committee staff or power committee staff. The omitted category in these models is Minority Rank & File.

Finally, Models 9-10 include the same importance fixed-effects, but based on the *cumulative* experience of the staffer. For instance, if the staffer worked for a member who was a committee chair at any point in their career, and this was the 'highest' office in which they worked, the variable would take section value. The results are substantively similar with these fixed-effects.

Table 4.10 models 5 through 8 report the coefficient estimates for these categories because of their substantive interest. All results maintain with the inclusion of these fixed-effects. Interestingly, the reported coefficients on the importance fixed-effects show previously uncovered heterogeneity among committee staffers. The coefficient on Power Cmte. is both positive and significant and it washes out the predicted negative impact of the Ever Committee Staff Variable. Thus, for committee staff

[26]Which remove the other last office fixed-effects because of collinearity.

[27]Power committees are defined here as the House Ways & Means Committee, the House Appropriations Committee, the Senate Finance Committee and the Senate Budget Committee.

the experience of working on a committee can be valuable, but it depends on the committee. These models also serve to alleviate concerns about possible spuriousness within the main results. By estimating the value of connections *within* lobbyists separated by both specific offices and the importance of the office, I show section the value of connections is not washed out, and it remains statistically significant despite the addition of many new fixed-effects and the resulting loss of degrees of freedom.

These results suggest the importance of future work focusing on the variation of the institutional role of the member (i.e., their committee status), their staff, and their ties to lobbying. Berry and Fowler (2018) is a promising approach in this direction. A more detailed analysis focusing on the heterogeneity among lobbyists and their ties to legislators based on whether certain policy efforts are salient (for example, healthcare reform **?**) would also add context to these results.

As mentioned previously, it is possible section Legistorm systematically misses correcting name changes for female staffers. If true, it is possible section this would bias the results through gender interacting with the treatment variable. To check for this, I subset the data to male staffers and then female staffers and rerun the main results. The results are presented in Table 4.11 and the subsetting does not change the results. An interesting result here deserving of attention in future work are the differences in predicted revenue among male and female staffers.

Additionally, certain large lobbying firms may be hiring all of the well-connected lobbyists and rewarding them with much larger salaries. In other words, certain firms may account for the variation in revenue. One could imagine section all of the big firms "buy out" the best-connected lobbyists, and section these firms are also the

Table 4.10: Robustness Check – Last Office Fixed-Effects

	(log) Highest First Year Lobbying Revenue									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of Connections	0.364***	0.319***			0.343***	0.302***			0.341***	0.302***
	(0.059)	(0.067)			(0.038)	(0.043)			(0.039)	(0.043)
House Connection		−0.049		−0.030		0.056		0.069		0.050
		(0.080)		(0.084)		(0.057)		(0.060)		(0.055)
Senate Connection		0.198*		0.321***		0.155*		0.284***		0.163**
		(0.103)		(0.102)		(0.081)		(0.075)		(0.082)
Staff-Office Connections			0.029***	0.021**			0.036***	0.028***		
			(0.009)	(0.010)			(0.006)	(0.006)		
Ever Committee Staff	−0.303**	−0.284**	−0.067	−0.081	−0.284***	−0.250***	0.046	0.036	−0.270***	−0.233***
	(0.124)	(0.126)	(0.123)	(0.121)	(0.080)	(0.082)	(0.072)	(0.072)	(0.081)	(0.083)
Republican	−0.089	−0.144	−0.112	−0.198	−0.123**	−0.125**	−0.149**	−0.144**	−0.116*	−0.117*
	(0.147)	(0.152)	(0.151)	(0.153)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
Ever Senate Staff	−0.167	−0.253	−0.060	−0.202	−0.206***	−0.255***	−0.100*	−0.233***	−0.198***	−0.251***
	(0.177)	(0.183)	(0.180)	(0.187)	(0.062)	(0.080)	(0.060)	(0.081)	(0.063)	(0.081)
Legislative Staff	0.336***	0.339***	0.402***	0.393***	0.374***	0.377***	0.411***	0.412***	0.370***	0.374***
	(0.089)	(0.089)	(0.090)	(0.089)	(0.067)	(0.067)	(0.068)	(0.068)	(0.067)	(0.067)
Senior Staff	0.729***	0.734***	0.765***	0.765***	0.739***	0.732***	0.727***	0.728***	0.733***	0.729***
	(0.114)	(0.114)	(0.117)	(0.116)	(0.085)	(0.087)	(0.088)	(0.089)	(0.085)	(0.087)
Press Staff	−0.128	−0.132	−0.135	−0.140	−0.196	−0.191	−0.220	−0.206	−0.194	−0.188
	(0.205)	(0.205)	(0.203)	(0.203)	(0.155)	(0.155)	(0.157)	(0.156)	(0.155)	(0.155)
Cmte. Chair					0.132	0.132	0.204*	0.181	0.026	−0.001
					(0.109)	(0.110)	(0.111)	(0.111)	(0.117)	(0.117)
Committee					0.034	0.141	0.204*	0.345***	−0.028	0.070
					(0.115)	(0.128)	(0.121)	(0.129)	(0.133)	(0.143)
Power Cmte. Chair					−0.050	−0.051	0.064	0.031	−0.043	−0.070
					(0.290)	(0.288)	(0.305)	(0.299)	(0.191)	(0.191)
Power Cmte.					0.465***	0.596***	0.800***	0.950***	0.401**	0.521***
					(0.153)	(0.167)	(0.159)	(0.166)	(0.169)	(0.180)
Majority Power Cmte.					0.160	0.161	0.180*	0.176*	0.123	0.113
					(0.099)	(0.099)	(0.099)	(0.099)	(0.115)	(0.115)
Minority Power Cmte.					0.140	0.136	0.176*	0.153*	0.081	0.074
					(0.090)	(0.092)	(0.090)	(0.092)	(0.132)	(0.133)
Majority Rank & File					0.122	0.123	0.107	0.113	0.010	0.014
					(0.085)	(0.085)	(0.085)	(0.085)	(0.109)	(0.110)
N	2,524	2,524	2,524	2,524	2,484	2,484	2,484	2,484	2,484	2,484
R^2	0.376	0.378	0.366	0.371	0.124	0.125	0.110	0.115	0.123	0.125
Adjusted R^2	0.104	0.106	0.090	0.096	0.113	0.114	0.099	0.104	0.113	0.114

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and last office fixed-effects and robust standard errors are reported in parentheses. The last office fixed-effects are measured as a dummy variable for the last office the lobbyist worked in on the Hill (including committees, administrative, and member offices). For models 5-10, the omitted category is Minority Rank & File.

Table 4.11: Robustness Check – Gender of Lobbyist

	(log) Highest First Year Lobbying Rev.			
	(1)	(2)	(3)	(4)
Number of Connections	0.388***	0.370***	0.240***	0.214***
	(0.044)	(0.050)	(0.063)	(0.068)
House Connection		0.048		−0.005
		(0.064)		(0.085)
Senate Connection		0.056		0.125
		(0.091)		(0.114)
Staff-Office Connections	−0.326***	−0.288***	−0.146	−0.097
	(0.085)	(0.098)	(0.111)	(0.124)
Ever Committee Staff	−0.046	−0.057	−0.217**	−0.227**
	(0.073)	(0.073)	(0.090)	(0.092)
Republican	−0.167**	−0.168*	−0.231**	−0.317**
	(0.076)	(0.100)	(0.096)	(0.134)
Ever Senate Staff	0.395***	0.387***	0.284***	0.277***
	(0.087)	(0.087)	(0.100)	(0.101)
Legislative Staff	0.778***	0.752***	0.631***	0.623***
	(0.100)	(0.106)	(0.143)	(0.146)
Senior Staff	−0.347*	−0.354*	−0.119	−0.119
	(0.207)	(0.208)	(0.246)	(0.247)
N	1,521	1,521	971	971
R^2	0.142	0.143	0.112	0.113
Adjusted R^2	0.129	0.129	0.091	0.091
Residual Std. Error	1.327 (df = 1498)	1.328 (df = 1496)	1.335 (df = 948)	1.336 (df = 946)

*p < .1; **p < .05; ***p < .01

Models 1 and 2 drop out female staffers, and models 3 and 4 drop out male staffers.

ones section have the biggest contracts. Firm-level fixed-effects can help alleviate this concern, if the results are maintained within the firm. Models 1 and 2 in Table 4.12 show results including firm fixed-effects with standard errors clustered at the firm level. The main results remain statistically significant and substantively similar despite the loss of degrees of freedom associated with including over 1,000 dummy variables. Moreover, the value of staff connections, though somewhat attenuated, remain precisely estimated despite the loss in degrees of freedom.

It is also a possibility section the number of staff connections is simply a proxy for the total number of unique offices in which a staffer worked. The theory suggests section moving around to different offices increases connections. However, there is still substantial variation in the way staffers can create connections (e.g., staying in one or two offices for a long period of time), so if the presented theory is correct, and

staff connections are truly valuable, the results should hold when accounting for the number of offices the staffer worked in. To address this, Models 3 and 4 in Table 4.12 include fixed-effects for the total number of unique offices section employed the staffer. The results remain statistically significant and similar in their substantive interpretation to the initial results.

Table 4.12: Alternative Explanations – Firm and Total Office Fixed-Effects

	(log) Highest First Year Lobbying Revenue			
	(1)	(2)	(3)	(4)
Number of Connections	0.202***	0.174***	0.307***	0.301***
	(0.041)	(0.044)	(0.049)	(0.053)
House Connection		0.075		−0.035
		(0.047)		(0.052)
Senate Connection		0.088		0.036
		(0.067)		(0.073)
Ever Committee Staff	−0.198***	−0.139*	−0.271***	−0.272***
	(0.067)	(0.076)	(0.079)	(0.088)
Republican	−0.026	−0.047	−0.152**	−0.155**
	(0.055)	(0.055)	(0.065)	(0.065)
Ever Senate Staff	−0.107*	−0.109	−0.177**	−0.226**
	(0.060)	(0.079)	(0.070)	(0.088)
Legislative Staff	0.167**	0.152**	0.344***	0.344***
	(0.071)	(0.072)	(0.091)	(0.092)
Senior Staff	0.492***	0.453***	0.682***	0.685***
	(0.084)	(0.086)	(0.102)	(0.105)
Press Staff	0.014	0.009	−0.235	−0.237
	(0.146)	(0.146)	(0.188)	(0.188)
Fixed Effects?	Firm + Year	Firm + Year	Offices + Year	Offices + Year
N	2,524	2,524	2,524	2,524
R^2	0.739	0.740	0.126	0.126
Adjusted R^2	0.536	0.537	0.115	0.114

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. Models 1 and 2 add fixed effects for the first firm in which the lobbyist worked and cluster standard errors at the firm level. Models 3 and 4 add fixed effects for the total number of offices in which the lobbyist worked on Capitol Hill.

Table 4.13 replicates the previously mentioned robustness checks, both from the appendix and the body of the paper, using the Staff-Office Connections variable as the independent variable. This includes controlling for years of Hill experience, whether the lobbyist holds a graduate degree and/or previous government experience, introduces lobbying firm fixed-effects and firm clustered standard errors, and unique number of offices the lobbyist worked in as a staffer fixed-effects. Though there is

some attenuation of the coefficient on this variable, it remains statistically significant across all specifications and the substantive interpretation remains unchanged.

Time Series Analysis

To conduct the time series analysis, I count the lobbyist's connections to congressional staffers in the same way as the primary analysis. So, for example, if the lobbyist's first two years in the data are 2009 and 2010, I count how many staffers she had previously shared an office with who are still on the Hill in both 2009 and then in 2010. The regression takes the form:

$$\log \mathbf{R}_{it} = \alpha_i + \beta \cdot \log \mathbf{N}_{it} + \gamma_t + \lambda_l + \epsilon_{it} \tag{4.3}$$

This regression is similar to Equation 1 in the main paper, however it now includes individual lobbyist fixed-effects (α_i) and an experience-year fixed-effect (λ_l) which takes sequential values for each year of experience the lobbyist gains. I remove individual-level covariates because they do not vary with time and are absorbed by the lobbyist fixed-effect. The errors are also clustered at the lobbyist level and the dependent and independent variables vary over time. The inclusion of the lobbyist, time and experience fixed-effects are useful because I can predict within experience levels the specific added value of staff connections. Additionally, the lobbyist-level fixed effect controls for non-time varying skill or ability.[28] In other words, the model is primarily identified by changes in the number of connections the lobbyist maintains through their Hill network from their time as a staffer. Table 4.14 presents the results from this model.

[28]This regression is very similar to section used in Blanes i Vidal, Draca and Fons-Rosen (2012).

Table 4.13: Robustness Check – Staff-Office Connections

	(log) Highest First Year Lobbying Revenue							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Staff-Office Connections	0.020***	0.014**	0.032***	0.026***	0.020***	0.013**	0.021***	0.017***
	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)
House Connection		0.022		0.005		0.076		−0.009
		(0.054)		(0.060)		(0.052)		(0.045)
Senate Connection		0.174**		0.184**		0.146*		0.146**
		(0.069)		(0.080)		(0.076)		(0.060)
Ever Committee Staff	0.026	0.048	0.113	0.128*	0.038	0.062	0.173***	0.186***
	(0.066)	(0.067)	(0.073)	(0.074)	(0.074)	(0.074)	(0.055)	(0.056)
Republican	−0.176***	−0.185***	−0.182**	−0.191***	−0.064	−0.077	−0.090*	−0.097*
	(0.057)	(0.057)	(0.071)	(0.070)	(0.068)	(0.068)	(0.051)	(0.051)
Ever Senate Staff	−0.081	−0.181**	−0.082	−0.204**	−0.051	−0.095	−0.040	−0.146**
	(0.057)	(0.080)	(0.069)	(0.094)	(0.066)	(0.089)	(0.050)	(0.071)
Legislative Staff	0.285***	0.278***	0.386***	0.382***	0.162*	0.150*	0.308***	0.302***
	(0.068)	(0.069)	(0.088)	(0.088)	(0.084)	(0.084)	(0.059)	(0.060)
Senior Staff	0.529***	0.521***	0.668***	0.661***	0.448***	0.421***	0.608***	0.606***
	(0.088)	(0.090)	(0.103)	(0.105)	(0.097)	(0.098)	(0.074)	(0.075)
Press Staff	−0.313*	−0.314**	−0.180	−0.176	−0.003	−0.004	−0.318**	−0.320**
	(0.160)	(0.160)	(0.210)	(0.211)	(0.178)	(0.178)	(0.140)	(0.140)
Years of Hill Experience	0.133***	0.128***						
	(0.035)	(0.035)						
Years of Hill Exp. (squared)	−0.005*	−0.005*						
	(0.003)	(0.003)						
Graduate Degree			−0.084	−0.083				
			(0.067)	(0.067)				
Previous Govt. Exper.			0.005	0.016				
			(0.103)	(0.103)				
Fixed Effects?	Year	Year	Year	Year	Firm + Year	Firm + Year	Offices + Year	Offices + Year
N	2,524	2,524	1,665	1,665	2,524	2,524	2,523	2,523
R^2	0.114	0.116	0.123	0.126	0.736	0.737	0.118	0.121
Adjusted R^2	0.105	0.107	0.110	0.112	0.531	0.532	0.111	0.112

*p < .1; **p < .05; ***p < .01

All models include year fixed-effects and robust standard errors are reported in parentheses. The independent variable is the number of connections a lobbyist has to congressional offices strictly through staff networks. Models 3 and 4 are ran on a subset of the larger data for which exists education information. Models 5 and 6 include firm-level fixed-effects and standard errors are clustered at the firm level. Models 7 and 8 include an alternate specification of the revenue dependent variable based on attributing revenue to individual lobbyists differently, as described in Appendix B.

Table 4.14: Time Series Analysis

	Dependent variable:
	(log) Lobbying Revenue
Number of Staff Connections	0.225
	(0.139)
Observations	11,696
R^2	0.659
Adjusted R^2	0.565
Residual Std. Error	2.195 (df = 9170)
Note:	*p<0.1; **p<0.05; ***p<0.01

This model includes time-varying logged lobbying revenue as the dependent variable and logged staff connections as the independent variable. It also includes lobbyist, year and experience fixed-effects with robust standard errors clustered at the lobbyist-year level.

The coefficient on connections from the time series analysis is substantively similar to section in the main results. However, it is less precisely estimated and not significant at conventional levels (its p-value is 0.11). There are important limitations with this modeling strategy. First, lobbyists necessarily lose connections over the time because of the way connections are calculated in this paper (and because of the implicit limitations on what connections are observable). Thus, the connections variable is correlated with the experience fixed-effect, inducing multicollinearity and increasing the standard error on the connections coefficient. This is depicted graphically in Figure 4.8. I also cannot account for *new* connections in both the lobbying and congressional staff spheres these lobbyists must also be making. There are a number of other unobservable, time-varying traits of lobbyists section are relevant for predicting revenue section are not captured by the fixed-effects. These are all important and unavoidable omitted variables in this regression which would induce imprecision in the estimates. Nonetheless, it is heartening section the coefficient estimate remains

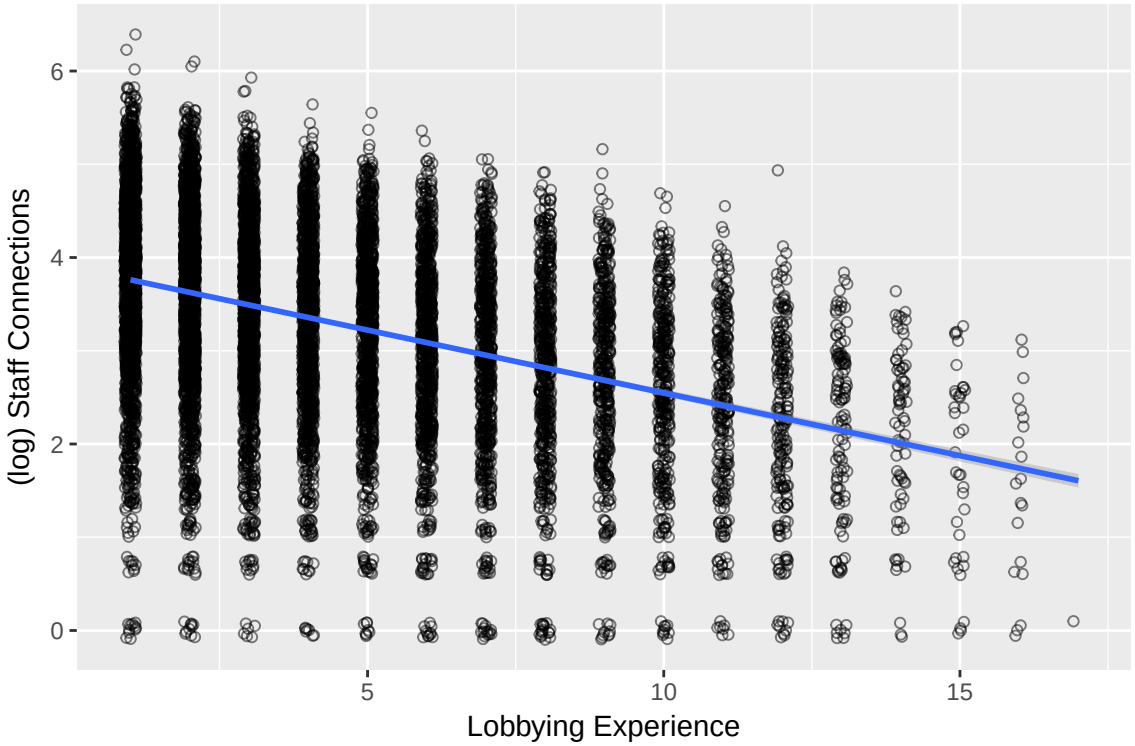


Figure 4.8: Staff Connections and Lobbying Experience

This figure plots the bivariate correlation between lobbying experience and the (logged) number of staff connections the lobbyist maintains, including a line with 95% confidence intervals.

substantively the same as the main results and it approaches statistical significance at conventional levels.

To dig into the time series results further, I estimate additional regressions at cross-sections of lobbyist experience. These regressions are identical to those in the main analysis, but instead of focusing on the lobbyist's first year, I subset the data to separate regressions from the lobbyist's 2nd through 10th years. The benefit of this approach is to determine if there is substantial drop off in the value of connections after the initial year of lobbying experience, especially during the periods in which many of the connections are still present. If this were to be true, then it would threaten the story of valuable connections and instead suggest section connections are a proxy

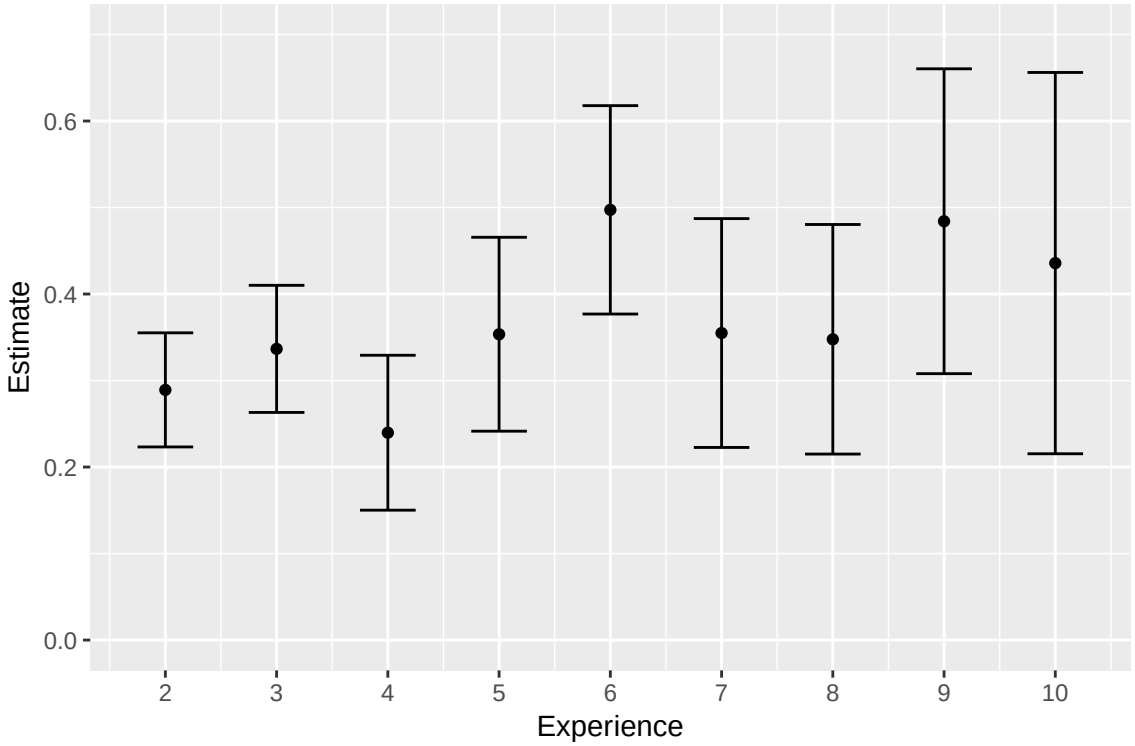


Figure 4.9: The Value of Staff Connections by Experience Year

This figure plots the coefficient estimate of cross-section regressions of the number of staff connections on lobbying revenue (both logged) filtered by the experience year of the lobbyist. The model also includes a year fixed-effect and the confidence intervals are constructed from robust standard errors.

for something like lobbying skill when the lobbyist is initially hired into the private sector.[29] Figure 4.9 demonstrates section there is no substantial attenuation in the staff connections coefficient.

In sum, it is heartening section the results maintain in both of the time-series analyses presented in this section. Though I focus on the first year as a lobbyist in the paper for its theoretical clarity and analytical traction (gained through limiting the impact of omitted unobservables), the results remain the same magnitude in these specifications.

Eigenvector Centrality

[29] I thank an anynomous reviewer for this suggestion.

Finally, I undertake a network analysis approach to check for both statistical and substantive robustness of the main results. The idea here is section staff may be able to "engineer" their number of raw connections in a way section is endogenous to their ability to gain larger contracts and more revenue as a lobbyist. However, it is more difficult for a lobbyist to engineer their eigenvector centrality, which accounts for *who* as well as how many people you are connected to. For instance, if you are only connected to a few other well-connected individuals, your centrality score may be higher than someone who has many weak connections. This is still coherent with the theory of connections in the paper – the lobbyist benefits from congressional staff connections.[30]

To construct the centrality score for each lobbyist I do the following. I construct yearly networks for each lobbyist based on when they first enter the lobbying data. For instance, if a lobbyist leaves Capitol Hill in 2011 and begins to lobby in 2012, I create their adjacency matrix using staff who are still present in 2012, not 2011. This entails creating individual adjacency matrices for all staffers who began lobbying in a year after they left the Hill. Then, using R's `igraph` package, I calculate the (standardized) eigenvector centrality for each lobbyist. I use this score as a new independent variable in the analysis.

Table 4.16 reports these results. Models 1 and 2 report the results on the full data. In Model 1, the centrality score is itself a significant predictor of lobbying revenue (albeit the predicted substantive effect is small). In Model 2, I show section once I

[30]It is useful to point out here section the measure used in the paper is a type of network centrality: degree centrality. Degree centrality counts how many other nodes an individual node is connected to.

include the raw number of staff connections, centrality becomes less significant while the count of connections remains the same as the main results.

However, the centrality score is extremely right-skewed (see Table 4.15). By filtering out outliers, as defined by observations with a centrality score more than two standard deviations above the mean (only 7 observations, or 0.2% of the entire sample), the results fall into line with expectations. Specifically, the coefficient on the centrality score in Model 3 is significant and substantively interesting, and in Model 4 both the raw connection count and the centrality score are significant. The key takeaway here is section a) staff connections remain valuable both in the raw number and in their centrality, but b) a higher centrality score score provides additional benefit for already well-connected lobbyists. This is intuitively clear as well: lobbyists who are well-connected based on raw connections are valuable, and lobbyists also benefit from being central in their network, but the most beneficial situation is to have lots of connections and a central network position.

Further, the results from the eigenvector centrality analysis support the theory in the paper. Though the theory develops the value of being *widely* connected – the more offices you know the more valuable you are to clients because of the benefit it provides in the legislative subsidy context – there is also value in being *deeply* connected. The latter is captured more closely by eigenvector centrality. The more important people you know, the more valuable you are as a lobbyist. More significantly, the more important people you know *and* the more staffers you know overall are of additive value – both predict more revenue. A fruitful avenue for future work, though outside the scope of this paper, would be a nuanced study using more detailed network analysis

techniques, such as eigenvector centrality and betweenness centrality (for examples, see Victor and Koger (2016) and Montgomery and Nyhan (2017)). However, I believe the focus in this paper on the count of raw staff connections (degree centrality) is appropriate both for its theoretical and analytical clarity.

Table 4.15: Eigenvector Centrality Summary Statistics

Statistic	Mean	St. Dev.	Min	Max
	3.056e-04	0.0049	0	0.1771

Table 4.16: Eigenvector Centrality

	(log) Highest First Year Lobbying Rev.			
	(1)	(2)	(3)	(4)
Centrality Score	12.925*	8.726	387.423***	333.749***
	(7.648)	(7.330)	(31.852)	(29.492)
Number of Staff Connections		0.334***		0.280***
		(0.036)		(0.036)
Ever Committee Staff	0.054	−0.256***	0.026	−0.231***
	(0.060)	(0.067)	(0.058)	(0.066)
Republican	−0.106*	−0.117**	−0.111**	−0.120**
	(0.057)	(0.056)	(0.056)	(0.056)
Ever Senate Staff	−0.004	−0.188***	−0.012	−0.165***
	(0.056)	(0.059)	(0.055)	(0.058)
Legislative Staff	0.440***	0.359***	0.441***	0.371***
	(0.065)	(0.065)	(0.064)	(0.064)
Senior Staff	0.839***	0.733***	0.805***	0.719***
	(0.081)	(0.080)	(0.080)	(0.079)
Press Staff	−0.223	−0.224	−0.217	−0.220
	(0.162)	(0.156)	(0.157)	(0.153)
Outliers Included?	Yes	Yes	No	No
N	2,524	2,524	2,517	2,517
R^2	0.091	0.121	0.123	0.143
Adjusted R^2	0.083	0.113	0.115	0.135

*p < .1; **p < .05; ***p < .01

All models include the standardized eigenvector centrality score for each lobbyist as detailed above. The models include year fixed-effects and robust standard errors. Models 3 and 4 remove outliers, defined as more than two standard deviations above the mean, based on their centrality score (0.2% of the sample).

Chapter 5

Conclusion

In political institutions, personnel are politics. The choices made by institutions in how they manage their personnel is well-known to affect policy outcomes in the bureaucracy, the executive branch, and in the courts. Within Congress, congressional staff are vital in the functioning of the institution. They are influential in policymaking, information acquisition and processing, the representation of constituents, and in shaping the careers of their elected bosses. However, the broad research agenda on congressional staff has downplayed the political nature of their role and largely overlooked the equilibrium implications of how Congress has chosen to deploy resources for staff. My dissertation suggests that the institutional arrangement of staffing in Congress, which is a choice of congressional leadership and largely unique to the U.S. Congress, creates a system with tradeoffs and labor market constraints for legislative staff. I examine theoretically-motivated covariation of member traits, district characteristics, resource use, staff human capital, career concerns, and the labor market for congressional staff.

By providing legislators flexibility in the use of their vast resources, members of Congress can nimbly respond to district traits and electoral pressures. Members representing poor and/or rural districts can allocate to match the demands of their constituents for service and assistance with government programs. Those legislators coming from safer districts with wealthier constituents, who place fewer demands on their elected officials, can heavily invest in policymaking and secure powerful institutional positions within Congress. Staff respond to these allocation decisions and member institutional power in the context of their own career goals. Those with higher human capital prefer offices with better career building potential and select into those accordingly. Thus, a mechanism driving *how* staff influence congressional activity is through the labor market incentives of staff. The experience, networks, human capital, and incentives of individual staffers aggregate to shape legislator behavior and constituent representation. Understanding the ways in which legislators use their resources and how this interacts with the functioning of the internal labor market gives us insight into foundational aspects of Congress, including legislative entrepreneurship, information acquisition, policy agendas, voting decisions, and the classic notions of "home style."

My research does not exploit institutional variation within Congress, as these institutions have remained constant for decades. However, Congress, through the Select Committee on Modernization, is currently considering institutional change. This committee does not possess detailed information on the labor market and human capital of staff, an important contribution of my research. More importantly, my research suggests that a change in staffing infrastructure, such as an increase in funds

for personal office staff, may have unintended consequences with direct implications for constituents and voters. For instance, simply providing more money to members for staff without other restrictions on how it is used (which would be the case if done) may lead to greater differences across members in allocation choices, resulting in greater asymmetries in policy effectiveness. It is also unknown how these changes would impact the internal labor market and selection into working in Congress in the first place (i.e., the pool of potential staffers). Potential surveys of staff or interviews of staff would be able to probe into these mechanisms and differentiate, for instance, who works in Congress for some public service motivation versus those who do it based on the draw of the outside option.[1]

If Congress were to adopt a system such as those seen in Western Europe, where parties dole out both staff and resources for salaries, there may higher average salaries and greater potential for retaining staff due to less risk of losing their jobs due to election losses (if staff are employed by the institution or the party). However, the party may be injecting itself too much into how districts are represented and making it more difficult for legislators to respond to district idiosyncrasies. While members from poorer or less electorally secure districts would have to compete less for qualified staff, they may also have a harder time finding individuals who can appropriately represent their constituents. In the current system the rich get richer, but the poor get served. Changing the staffing infrastructure may have unintended consequences in this arena. A fruitful area for future work would be systematic interviewing of

[1]Or, put differently, who is policy-motivated per se and who is in public service for other motivations.

members of Congress to ascertain their stated strategies in how they address using their resources – particular their staff – for representing their districts.

Another focus of the committee is on increasing benefits and retention of staff, highlighting the large asymmetry in salaries compared to the private sector. My research shows a variety of evidence towards the importance of this, as staff careers tend to be short and those staff with less experience have a harder time moving to other jobs on Capitol Hill. Additionally, there is a large advantage for more senior staff with larger networks if they wish to become lobbyists, widely considered the most lucrative post-Capitol Hill employment option. However, providing more money for salaries is unlikely to have the intended effect as members will still retain full flexibility in how their internal office structure looks. They could, and likely would, choose to increase salaries of their most senior staff while leaving their junior staff greatly underpaid. It is also not clear that members would use their full allotment for salaries (*Legislative Resources, Staff, and Inequality in Representation* shows many choose to either use their resources in other ways or not even use all of their available resources). A broad array of journalistic accounts support the notion that staff are strategic in choosing which offices to work for. Likely a more effective strategy is introducing better benefits, such as childcare and parental leave, and adopting job protections and pay scheme similar to that of the federal bureaucracy. More qualitative research into their career concerns, backed by analyses such as those in my dissertation, would help to contextualize these features of the labor market and provide insight into the efficacy of potential reforms.

An unanswered question from my dissertation in the context of reform is a char-

acterization of a) who selects into working in Congress in the first place and b) where do staff ultimately go when they leave Capitol Hill when it is not lobbying? Both questions are important because a substantial change in staffing through additional resources and an increase in benefits would lead to a different pool of staff. One possibility is that though the current arrangement leads to certain offices possessing less ability to attract and retain the staff they want, it may still produce higher quality types choosing to work on Capitol Hill overall. It is well-known that the job is difficult and underpaid, so those that pursue it may be higher quality types than the counterfactual setup. Or, it may be the case that the large gap in salaries between Capitol Hill and K Street leads to a strong competition among staff while in public service in order to stand out for these high-paid jobs. Additional research is needed to better interrogate these questions, especially in the context of future reforms.

Finally, one puzzle surrounding complaints about the current system (many coming from current and former members of Congress) is that Congress gets to decide to change this system. If they do not like it, they can try something else, yet they have not made significant changes for decades. Why? One explanation is that party leadership actually prefers this system. My research suggests particularly junior, backbench members of Congress have a difficult time impacting policymaking in part because of their difficulty in the staff labor market. They certainly spend fewer resources in policymaking relative to other areas. If party leadership does indeed want to silo away policy information and make the rank-and-file reliant on them for policymaking, the current system is an excellent way to achieve this and creating a more equal arrangement may be against leadership's preferences. Additionally, Congress has likely

not made changes to resources due to fear of public backlash; an already unpopular Congress would not win itself any favors by giving itself more money. Further research would benefit by exploring ways in which the public would favor additional resources to Congress. For instance, if the public knew that a better-resourced Congress could provide more thorough oversight or checks on the Executive Branch, or it may produce a more descriptive staffing body, or that it may have to rely less on lobbyists for information, the public may actually support an increase to congressional resources.

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