Center for
Effective Lawmaking

Expertise Acquisition in Congress

Christian Fong* Kenneth Lowande† Adam Rauh‡

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Abstract

According to many, the U.S. Congress desperately needs reform because its capacity to govern has declined. Congressional capacity cannot be understood without examining how the expertise available to members is fostered or discouraged. We present a theory of expertise acquisition and apply it to the problem of overseeing the Executive. We use this theory to organize a dataset of congressional staff employment merged with new records of invitations, applications, and attendance at training sessions produced by three non-profit organizations in Washington, D.C. We find that staffers are more likely to acquire expertise when their jobs are more secure and there are more opportunities to use their expertise in careers outside of Congress—most notably, when their party takes control of the presidency. Our analysis suggests that oversight expertise is generally not sufficiently valuable outside of Congress to entice many staffers to acquire it without subsidies.

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*Assistant Professor, Department of Political Science, University of Michigan. Contact: cjfong@umich.edu

†Assistant Professor, Department of Political Science, University of Michigan. Contact: lowande@umich.edu

‡Ph.D. student, Department of Political Science, University of Michigan. Contact: amrauh@umich.edu

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Dissatisfaction with Congress is a national pastime. Congress' approval rating is rarely a significant minority and occasionally touches single digits. Journalists report a regular stream of anecdotes highlighting partisan combat, legislative inertia, or outright incompetence. The consensus diagnosis among recent scholarship is that there has been a dramatic decline in the Congress' capacity to govern. According to LaPira, Drutman and Kosar (2020), "Congress is overwhelmed [...] it has allowed its own capacity to atrophy [...] the Congress of today is grossly underperforming."

Congress requires expertise to perform well. Because of the incredible breadth and complexity of problems Congress must solve and the intense demands on members' time, most of that expertise resides in congressional staff. According to recent scholarship, one root of Congress's underachievement is the thousands of the staff who support congressional functions, but who are young, inexperienced, underpaid, and unrepresentative of the nation as a whole (e.g., McCrain 2018; Furnas et al. 2020; Crosson et al. 2021; Ritchie and You 2021). Calls for internal reform have followed, the most visible of which come from the Select Committee on the Modernization of Congress.

But spending taxpayer dollars on Congress' internal functions is unpopular, and may even conflict with the political interests of party leaders. This means most efforts to increase congressional capacity are designed and executed by non-profit organizations. The same organizations who advocate rule changes and legislation to build Congress' capacity also attempt to fill perceived gaps by providing seminars, training, and other services. Almost nothing is known about how these efforts work, or what they can teach us about expertise acquisition in Congress.

We provide a theoretical framework for thinking about these questions and leverage new data on staff training to evaluate it. Expertise development among unelected personnel has been central to understanding presidential and executive politics (e.g., Callander 2008; Gailmard and Patty 2013), but is largely absent from research on the analogous legislative context. Following models in labor economics, we view expertise as a form of human capital that

makes staffers more productive and therefore more valuable to members of Congress.[1] Under what conditions will staffers be willing to put in the hard work necessary to become experts? That depends on the kind of human capital they are acquiring. Is the expertise *firm-specific* human capital that makes congressional staffers better at their current job, but does less to make them better at jobs outside of Congress, or is it *general* human capital that makes congressional staffers more productive in many jobs? The answer determines whether staffers will happily acquire expertise on their own or require some subsidy or prodding from their employer.[2]

Thus, to understand congressional capacity and design effective interventions to improve it, we must identify which kinds of expertise are firm-specific and which are general. If the expertise is firm-specific, then the shortage stems from members' unwillingness to pay their staffers to acquire it, and reformers should focus on making that expertise cheaper and more rewarding for members to train their staff. If it is general, then the shortage stems either from staffers' inability to pay for training or Congress' inability to compensate experts enough to convince them to stay, and reformers should focus on making it cheaper for staffers to get training and helping legislators retain their experts.

We take up this question by studying staffers' decisions to acquire one particular kind of expertise: knowledge about how to conduct oversight of the Executive Branch. Since staff perform numerous functions, this is not the only form of expertise. But it is a crucially important one that attracts substantial attention, and our analysis of it provides a blueprint that can be used to study whether other kinds of expertise. Most notably, as legislative productivity has declined, congressional oversight becomes a more substantial proportion of Congress' workload. In addition, as we describe later, examining this kind of expertise allows us to

[1] We are not the first to adopt a human capital framework to study this topic. See Parker (2008) and LaPira and Thomas (2017).

[2] Throughout, by "firm-specific," we mean specific to Congress as a whole. We expect that most forms of human capital are transferable across congressional offices. Whether Congress's internal market for human capital is sufficiently robust to induce staffers to acquire expertise on their own is an empirical question.

evaluate additional implications of our theory.

We leverage new data, combining records of staff employment with applications and attendance at training bootcamps and seminars from 2011 and 2021. These bipartisan, voluntary events are meant to build capacity by teaching staff practical skills in overseeing the executive branch. They are funded and organized by the Project on Government Oversight (POGO), the Levin Center, and the Lugar Center, and taught by current and former congressional staffers with decades of experience. There is no formal training required of congressional staff. Research on congressional capacity typically studies staff tenure, turnover, and pay. To our knowledge, this is the first attempt to observe and analyze skill acquisition within-career.

As a preliminary, we establish that the departure of a member from Congress induces significant career uncertainty for their staff. In offices where the member loses or retires, only 30% still work in Congress by the end of the next year—compared to 68% for staffers for winning members. We exploit this variation in career prospects to test whether oversight is firm-specific or general. If it is firm-specific, the potential departure of legislators ought to make their staffs less likely to attend training, because it has a good chance of becoming irrelevant to their work. If it is general, the prospect of members' departure ought to make their staffs more likely to attend training, because it will help them get better jobs after their bosses leave.

Our data provides consistent evidence that suggests oversight expertise is firm-specific human capital. Staffers are far less likely to attend training or seminars during their member's final term in office. We present a more sophisticated design later, but a rough calculation highlights the magnitude of the difference: offices where the member will stay in office into the next congress send 36% more staffers to oversight training than offices where the member is in his or her final term. Training sessions scheduled for times when it is inexpensive for members to release staffers for training—when the chamber is on break—attract more attendees, at least from the perpetually busy House. This suggests offices bear at least some of the cost of training, which only happens for firm-specific forms of human capital. Staffers who

receive training stay in the institution substantially longer than those who do not, which is consistent with the notion that the training increases their value to Congress more than it does to prospective employers outside of Congress. Finally, we find that in circumstances where oversight expertise is more general, staffers are less sensitive to career uncertainty. That is, when a staffer's party controls the presidency—and thus, when attractive executive branch positions that value oversight expertise are potentially available—the effect of career uncertainty on expertise acquisition is diminished.

Our findings have important implications for the study of congressional capacity. If oversight expertise were general, non-profit organizations could improve congressional capacity by appealing directly to staffers. Our analysis, however, suggests that this is not the case. Many staffers will hesitate to put in the hard work to become experts in oversight because they will not be the ones who benefit. The members of Congress for whom they work will, so legislators must absorb the costs their staffers incur to become experts. This implies that those who want to enhance congressional capacity for conducting oversight must either focus on increasing the value of oversight expertise to legislators or find ways to make it more general so that staffers become more likely to pursue it on their own.

Congressional Capacity and Expertise

LaPira, Drutman and Kosar (2020) define "congressional capacity" as the "organizational resources, knowledge, expertise, time, space, and technology that are necessary for Congress to perform its Constitutional role (1)." The definition makes clear that congressional capacity is complicated, multi-dimensional, and difficult to measure. Scholars have worked to identify capacity and the factors that affect it. To that end, a long line of research has noted that Congressional offices are complicated enterprises and have the difficult task of making policy on a huge range of subjects, building on foundational work by Salisbury and Shepsle (1981). Additionally, the capacity of a congressional office is subject to many different competing interests, influences, and constraints (Hall and Deardorff 2006; Lee 2016; LaPira, Drutman and

Kosar 2020). For instance, offices must balance policy and re-election concerns and supplement their constrained capacity with support from interest groups or lobbyists, which has potentially troubling implications.

In practice, much of the work on congressional capacity has focused on the role and institutional support of congressional staffers. Staffers are a critical aspect of congressional capacity, having important roles creating and passing policy, providing information, and influencing the behavior of legislators (DeGregorio 1994; Montgomery and Nyhan 2017). Additionally, the network of congressional staffers, their experience, and the resources they are allocated affect the productivity of the institution (McCrain 2018; Burgat 2020).

Recent work focuses on the decline of congressional capacity by investigating trends related to funding and personnel.Since the 1990's, funding levels for personal offices have stagnated and member salaries have decreased, despite increasing workloads and responsibilities (Reynolds 2020). Salaries and the amount of allocated resources for substantive legislative and committee staff have declined, with legislators instead prioritizing communications and constituency service staff (Jensen 2011; Crosson et al. 2021). Non-partisan agencies which offer expert information to legislators like the Congressional Budget Office, the Government Accountability Office, and the Congressional Research Service have all been subjected to budget reductions and declines in numbers of personnel to varying degrees (Reynolds 2020; Fagan and McGee 2022).

Despite the large empirical focus on experience and pay, most research sees congressional capacity as a function of the expertise of members, staff, and support organizations. Lewallen, Theriault and Jones (2016), for example, argue that staff expertise (especially as manifested in committees) is critical to explaining the decline in problem solving. LaPira, Drutman and Kosar (2020) see "the level of specialized knowledge and the ability of Congress to tackle complex problems" as the critical resource that contributes to Congress' ability to be representative, responsive, deliberative, and to serve as a watchdog on the executive branch (19). Not surprisingly, there is also evidence that this kind of expertise matters for policymaking outputs. Crosson et al. (2020) find staff tenure may be one underlying explanation. Most perti-

nent for our purposes, their findings highlight the importance of the quality, not the quantity, of staff—again, suggesting expertise as an underlying mechanism for capacity.

While scholars agree on the importance of expertise in Congress, studies about the development of expertise have mostly concentrated on executives and the bureaucracy (e.g., Gailmard and Patty 2013). It adopts a principal-agent framework applicable to congressional staff. But congressional staff serve at the pleasure of their member, and even staff in good standing might lose their job after the next election cycle. The disparity in both compensation and lifestyle between working in Congress and outside options is stark—likely even greater than the disparity between executive offices and private employers. In short, the appropriate question might be why congressional staffers develop expertise at all. This is a starting point, then, both for those interested in reform and further investigation.

What Motivates Expertise Acquisition

We follow labor economists in defining expertise as a form of human capital—an attribute that makes a worker more valuable to their employer. Expertise includes the ability to craft more appealing policy proposals, which is how formal theorists have traditionally modeled expertise (e.g., Gilligan and Krehbiel 1987; Hitt, Volden and Wiseman 2017), but it also encompasses a broader set of attributes that could help the staffer's member of Congress, such as the ability to extract valuable information from the executive branch, skill in attracting favorable attention from the media, and an extensive professional network that can be leveraged to advance the member's interests.

However, staffers must incur costs to acquire expertise. The more time they spend researching policy, acquiring skills, and making professional connections, the less time they have left to complete their short-term work, spend time with family and friends, pursue their hobbies, perform household labor, and earn outside income.

Given the costs, there are two reasons why a staffer might nevertheless acquire expertise. First, the expertise might allow them to secure better compensation. Money is one kind of

compensation that staffers might value, but they could also be compensated with greater influence over policy, greater access to their member, more flexibility in their work hours, or more interesting responsibilities. Since we are modeling Congress as a single employer, if expertise helps staffers get jobs in more attractive offices, such as jobs on the staffs of more senior legislators, committees, or party leadership, that would also qualify as better compensation. If the long-run value of that extra compensation exceeds the short-term cost of the training, the staffer will attend the training and bear the cost on their own. Second, their employer might cover the cost of the training directly, perhaps by scheduling it during work hours in lieu of the staffer's regular responsibilities or perhaps by giving the staffer a one-time, up-front bonus for the training. This shifts the cost of the training from the staffer to their employer.

General vs. Firm-Specific Human Capital

Under what conditions does the staffer bear the cost of acquiring expertise, and under what conditions does their employer cover the cost? Becker (1962) shows that it depends on how the training affects her ability to find a better job at a different firm. If a staffer could easily find an attractive job that uses the training at another firm, then her current employer must increase her compensation to prevent her from leaving. Since the training will increase her compensation over the long run (either in the form of a raise from her current employer or a better job with a different employer), the staffer will incur the cost of the training on her own without any further inducements from her employer. Becker calls this general human capital, because it generalizes to many prospective employers.

If there are so few firms that value workers with the training that it is time-consuming, difficult, or simply unlikely for the staffer to find an attractive job that would use it, then her employer doesn't need to compensate her much to prevent her from leaving. In fact, it can expropriate the productivity gains associated with her expertise. This deters the staffer from acquiring expertise in the first place, so the employer must help cover the costs of the training. Becker calls this firm-specific human capital, because, although it makes the worker

more productive at her current firm, it is hard to find another job that makes use of it.

Which kinds expertise are general, and which kinds are specific to Congress? The answer to this question has important practical implications for reformers. For general expertise, interventions that appeal to the members will not work well. Even if the members appreciate the benefits of having experts on staff, they will correctly anticipate that they would need to compensate those experts more generously to keep them from leaving. The cost of that extra compensation would counterbalance the gains from expertise. On the other hand, the more firm-specific expertise is, the less effective interventions that target staffers will be. They will correctly anticipate that their employers would expropriate much of the productivity gains from additional expertise, which makes them less inclined to incur costs for the training.

Of course, general and firm-specific are in reality two poles on a continuum, and most kinds of human capital fall somewhere between the two. Acemoglu and Pischke (1999), for example, model human capital on a continuum from equally useful to all employers to useful for only the worker's current employer, and they find that the key predictions from the dichotomous theory carry over to the continuous case. As the human capital becomes more useful for finding a good job with another employer, it gradually behaves less like perfectly firm-specific human capital and more like perfectly general human capital. To clarify this point, Appendix A provides a simple formal theory based on Acemoglu and Pischke (1999) that allows human capital to vary continuously between perfectly firm-specific and perfectly general. It shows that the empirical predictions from the dichotomous case are robust to this extension.

Accordingly, for our main analysis, we use the dichotomous distinction between general and firm-specific as a shorthand. When we ask whether expertise is general or firm-specific, we are really asking whether it is far enough on the general side of the spectrum for workers and employers to treat it as if it were perfectly general human capital, or whether it is firm-specific enough for them to treat it as if it were perfectly firm-specific.

Sometimes, the answer is obvious ex-ante. Typing, management, interpersonal skills, business writing, and media production are all valuable to many employers for many jobs and

therefore fall on the general side of the spectrum. Knowledge of congressional ethics rules and a healthy relationship with the Office of Legislative Counsel have narrower value outside of Congress and are likely on the firm-specific end. Many of the kinds of human capital that are relevant to congressional capacity, such as expertise in policy, oversight, and legislative procedure, fall somewhere in between, and it is not obvious ex-ante whether they are closer to general or firm-specific. They are not useful for many jobs, but there are some attractive jobs in lobbying firms, think tanks, and elsewhere for which they are relevant.[3] If these jobs are so scarce relative to the number of staffers who want them that Congress can hold on to most of its experts without offering them much additional compensation, then these forms of expertise are effectively firm-specific human capital. If these jobs are sufficiently plentiful (or if they are so extremely attractive that staffers are willing to invest in training for the slim chance of securing one), then these forms of expertise are effectively general human capital. Whether these forms of expertise are more general or firm-specific is something to discover from data.

Empirical Implications

Theoretical research from labor economics offers a series of tests that researchers can use to characterize whether a particular kind of human capital is closer to general or firm-specific. These tests do not rely on measuring which firms want to hire Congress' experts.[4] Instead, the theory of human capital encourages us to infer whether a particular kind of expertise is more firm-specific or general based on the behavior of the staffers: which staffers attend training, how the contextual factors influences their decisions to attend, and how long staffers stay

[3] LaPira and Thomas (2017), for example, show that that lobbying firms assign different values to staffers based on past experiences, suggesting they are somewhat sensitive to the kind of experience staffers acquire while working in Congress.

[4] Even if we could solve the difficult measurement problem of identifying all job openings in the economy that would leverage staffers' expertise, we would not have a natural benchmark to say whether those openings were numerous, attractive, or accessible enough to make the expertise general.

employed in Congress.

First, we exploit the fact that the effect of career uncertainty on expertise acquisition depends on whether expertise is general or firm-specific human capital. The more likely a staffer is to lose their job in the near future, the more likely they are to acquire general human capital, because general human capital makes them more likely to get an attractive job if they must enter the labor market. The more likely a staffer is to lose their job in the near future, the less likely they are to acquire firm-specific human capital. From the staffer's perspective, there is a good chance they will have to leave congressional employment whether they want to or not, and their firm-specific human capital will not help them much if they have to find a job outside of Congress. This makes them less inclined to incur costs to become experts than they would otherwise be. From their employer's perspective, the firm will have little time to reap productivity gains from the firm-specific human capital, which makes it less willing to pay the worker to acquire that human capital in the first place. Therefore, if expertise is general, then career uncertainty ought to be positively associated with the acquisition of expertise, and if it is firm-specific, then career uncertainty ought to be negatively associated with the acquisition of expertise.

However, the labor market changes over time, and expertise may move from firm-specific to general as job opportunities come and go. As more job opportunities that leverage expertise arise outside of Congress, it becomes more general, and staffers' decisions about whether to acquire expertise will become less sensitive to career uncertainty.

Furthermore, if expertise is firm-specific, then staffers will not acquire it unless their employer defrays some of the cost. The employer will be more inclined to bear that cost when they reap greater rewards from having experts on their staffs and the cost the employer incurs to release the worker for training is low. However, if expertise is general, then staffers will bear the entire cost of the training and pursue it on their own time. They may be more willing to bear that cost when the value of the expertise to their current employer is high, but the cost the employer would incur to release the worker for training will be irrelevant.

Finally, staffers who acquire firm-specific human capital will tend to stay in Congress

longer than staffers who do not. Since they are more productive, their members will be less likely to lay them off. If, for some reason exogenous to their training, they do get an attractive outside offer, their employers will also be willing to pay more to retain them. Staffers who acquire general human capital, on the other hand, are less likely to stay in Congress, because it gives them more attractive outside options. At best, Congress will match those outside options; otherwise, they will leave Congress. Accordingly, if expertise is firm-specific, acquiring it decreases staffers' attrition, and if it is general, acquiring it increases staffers' attrition.

Alternative Implications for Congress:

> **General Expertise.** *Career uncertainty increases the likelihood staff acquire expertise, and the effect of career uncertainty strengthens as there are more jobs outside of Congress that use expertise. Staff are neither more nor less likely to attend training as the cost their employer would incur to send them decreases. Staff who acquire expertise leave congressional employment at a higher rate.*
>
> **Firm-Specific Expertise.** *Career uncertainty decreases the likelihood staff acquire expertise, and the effect of career uncertainty attenuates as there are more jobs outside of Congress that use expertise. Staff are more likely to acquire expertise as the cost their employer incurs to send them to training decreases. Staff who acquire expertise leave congressional employment at a lower rate.*

Oversight Expertise

Members of Congress and their staff perform numerous tasks that require different kinds of expertise. Our theory and research design generalize to any form of expertise, but, for our empirical tests, we focus on one particular kind of expertise: knowledge of how to conduct oversight of the executive branch.

First and foremost, whether this kind of expertise is a form of general or firm-specific human capital is up for debate. Oversight expertise is potentially useful to Congress itself, in-

terest groups that play an auxiliary role in oversight as government watchdogs, investigative journalism, and the executive branch. Perhaps the non-congressional demanders of oversight expertise are numerous enough to form a strong outside option for well-trained congressional staffers, or perhaps they are so few as to be negligible. Even if they are too few to matter, expertise in oversight might also provide a foundation that readily generalizes to private sector jobs in law and auditing.

Second, there is an extensive literature on congressional oversight that demonstrates partisan patterns in oversight, which provide measurement leverage we later use to examine our theory. With few exceptions, studies repeatedly demonstrate that divided government leads to more frequent and more vigorous public oversight (e.g., Kriner and Schickler 2014). We discuss the potential implications for whether this expertise is general and firm-specific in a subsequent section.

Data and Approach

We acquired data from non-profit organizations that provide remarkably fine-grained measurement of offices' investments in oversight expertise. Our outcome measures are application and attendance records of two types of training events which took place in 2011-2021. The first events are monthly seminars that typically last 1-1.5 hours. Each features a different lecturer who typically presents, then answers questions. They are similar in format and time-commitment to research seminar presentations in higher education, but the material is more practically oriented. Example seminar topics include "Working with Whistleblowers" (June 2017), "How to Hold an Oversight Hearing" (March 2018), and "How To Write a Request Letter" (April 2021). Overall attendance at each seminar is fairly wide-ranging, from a few dozen to over one-hundred. Attendance is not capped.

The second events are biannual bootcamps that typically amount to twelve hours over a two-day period. These bootcamps are accurately described by organizers as "an intensive two-day, bipartisan training." The curriculum for these events consists of hundreds of pages

of information on conducting investigations, planning hearings, constructing witness lists, interviewing witnesses, along with writing questions, press releases, and committee reports. Their pedagogical approach involves a mixture of lecturing, open discussion, group projects, and role-playing. Attendance at bootcamps is typically capped to maintain the benefits of a smaller cohort. This means attendance ranged between 18 and 32, while applications might be over 100.

For this reason, we expect bootcamp applications to be the best indicator of interest in training, with attendance at seminars second. In addition, attendance at the events themselves is likely to be complicated by considerations less relevant to expertise acquisition. In the records we obtained, there were at least two documented cases of staffers applying but being prevented from attending by their Chief of Staff. The organizers work hard to maintain a reputation for bipartisanship. Of POGO, the Levin Center, and the Lugar Center, the latter two are legacy projects from members of both parties. However, it is possible that bipartisanship may be less appealing for some staff leadership. Note also that all events are free and voluntary. By chamber rules, staff cannot be given any form of compensation for the training. Even the food and drink provided at these events must be sufficiently sparse to avoid being deemed a gift "meal."For this reason, we do not expect participation to be driven by considerations that are unrelated to the desire to learn about oversight.

Another important question is whether the events that take place during these sessions suggest whether oversight expertise is general or firm-specific. There are indications of both. For instance, each might involve networking benefits. Attendees at the bootcamps, for example, are placed in small, bipartisan groups of other staff they have never met, and who may even work in a different chamber. At a bootcamp one author attended, these small groups exchanged business cards. In addition, the instructors occasionally include people who have been the *target* of oversight, and many participants have law degrees. This might make the training valuable for employers who specialize in defending targets of congressional inquiry.This suggests the benefits of the training are somewhat general, in that they may increase connections to others and make staffers more valuable to outside employers.

On the other hand, the course materials and content also point to institutional (i.e., firm-specific) knowledge. Course evaluations almost exclusively mention the practical advice regarding oversight, and almost never mention networking opportunities. For one bootcamp, we surveyed the participants before and after, along with another sample of untrained staff who had expressed interest in the training. We found some evidence that the training increased their knowledge of basic oversight procedures. We describe this evidence in more detail in Appendix D of the Supporting Information (SI). The effectiveness of the training is a separate question outside the scope of the present study, however, we take this as evidence that the training events are meant to develop expertise valuable *within Congress*.

We supplement this data with employment records for the population of Congressional staffers over the same period. Both the Senate and House of Representatives are required to regularly publish reports with detailed, time-stamped, itemized lists of expenditures by 2 U.S.C. 104(a). Critically, these reports include all payments to employees made by Congressional offices.

We built a dataset containing the names of staffers, the offices for which they worked and the dates for which they worked there, and their pay, formatted cleanly and complete with universal office, legislator, and staffer identifiers from 2011 to 2022. Constructing this data set involved considerable challenges. Names of staffers and offices are not standardized or consistent, so there are no ways to universally identify employees or employers over time. Additionally, the frequency and format of the data varied across chambers. [5] We developed a series of algorithms and procedures to solve these problems. Ultimately, we were able to develop a mostly automated pipeline for parsing, standardizing, and aggregating the data. We detail our approach in Appendix B.

Similar data sets are available through services like *LegiStorm*. Our approach offers a few distinct advantages. First, our data is largely constructed using automated scripts and procedures. This means that our cleaning and aggregation procedures are transparent and reproducible. Our method gives researchers the ability to modify various aspects of the cleaning

[5] `https://projects.propublica.org/represent/expenditures`

and aggregation procedures to suit their needs. Second and most importantly, our data is free and publicly available.

Findings

To investigate alternative implications of expertise type, we examine the effect of member departure on staff turnover, the effect of career uncertainty on expertise acquisition conditional on party control of the presidency, and finally, the effect of expertise seeking on career longevity.

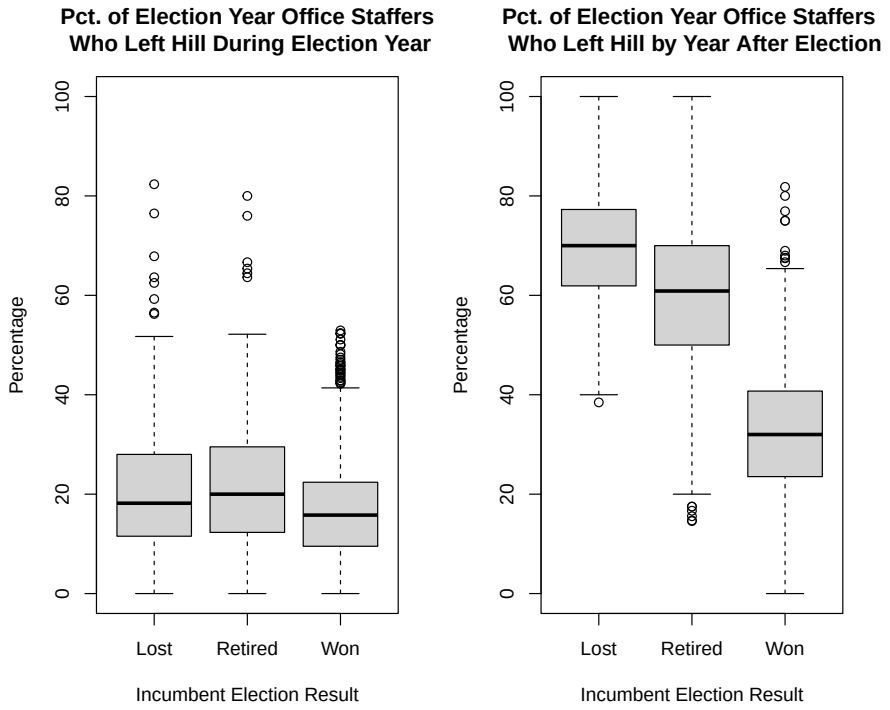
Member Turnover and Staffer Career Uncertainty

We first develop and justify a way of measuring variation in job security among congressional staffers. We focus on one important and readily observable determinant of the staffer's job security: whether the member they work for stays in office. When a staffer's member leaves office, the staffer has to find a new job. They might be able to find a job elsewhere in Congress, but there is no guarantee.

In fact, Figure 1 shows that staffers working for legislators who lost re-election or retire leave Congress at higher rates than staffers working for legislators who stay in office. Legislators who won, lost, or retired experienced similar levels of staff retention during the election year: the median office in each group retained 84.2%, 81.8% and 80.0% of their staff, respectively. But staffers were often unable to find new employment in Congress after their members left office. For the median office of a successfully re-elected legislator, 68.0% of election year staffers were still working in Congress by the end of the year after the election. In contrast, just 30.0% of election year staffers who worked for defeated legislators and 39.1% of election year staffers for legislators who retired were still working in Congress by the end of the year after the election.

To supplement this descriptive analysis we adopt a widely utilized regression discontinuity design (RDD) based on the results of close elections to show that member turnover actually

Figure 1 – Elections introduce career uncertainty. Plots turnover rates by office across different electoral outcomes, for every Congressional election from 2010 to 2018.



causes staff turnover (e.g., Gerber and Hopkins 2011).[6] These RDD specifications represent a conservative estimate of such effects. Staffers working for members who retire or are unlikely to win re-election will generally know this information well in advance of the general election. This enables staffers to secure jobs outside of Congress and thus raise turnover rates via mechanisms in addition to the actual election loss itself.

We specify two regression discontinuity models utilizing narrowly decided election results from the 2014, 2016, and 2018 elections. We focus on the offices of incumbents who received between 45% and 55% of votes cast for the top 2 vote receiving candidates in their respective elections. Both analyses are at the staffer level. One model is designed to test for anticipation effects in close elections and uses an indicator for whether or not staffers left Congress in the year of the election as the outcome variable. The other model uses an indicator for

[6]McCrain (2021) uses a very similar regression discontinuity design with the personnel records from Legistorm with a wider timespan. He arrives at the same substantive conclusion.

whether or not staffers left Congress the year **after** the election. We use a binary "treatment" variable indicating whether or not the staffer worked for a legislator who lost their reelection campaign.

To adjust for the possibility that some offices always have higher turnover than others, we control the relevant office's turnover rate two years before the election. Some literature suggests that a staffer's gender influences their opportunities and role in the Congressional workforce (Ritchie and You 2021). Accordingly, we include the gender of staffers in our models. We also account for the party affiliation of staffers.

Key results are shown in Table 1. Our results suggests that, in close elections, there are minimal anticipation effects by staffers. Staffers working for a member who ultimately lost reelection do not leave Congress during election years at statistically significantly higher rates than those that do not. Critically, however, find that member turnover causes staffer turnover. Specifically, staffers working for members involved in narrow election losses have about 56% higher odds of leaving Congress the following year, relative to staffers who work for successfully re-elected members. This stylized fact alone, in our view, justifies using elections as a proxy for career uncertainty, as we do in the next section to assess our theory.

Career Uncertainty and Training

Since member turnover makes that member's staffers less likely to stay in the congressional workforce, we can use it to test whether expertise is a general or firm-specific. If expertise is firm-specific, then member turnover decreases the staffer's incentive to attend training and the member's incentive to bear the cost of the training. Oversight expertise loses much of its value if the staffer leaves Congress, so the shorter their expected tenure, the less likely they are to acquire the expertise.

To test for this possibility, we analyze attendance at bootcamps and seminars. The unit of analysis is a legislator-training session dyad. The outcome is how many staffers that legislator's office sent to that particular seminar or bootcamp. We regress this outcome on whether that particular training session took place during the legislator's final term in office, as this

Table 1 – Member turnover results in staff turnover. Reports coefficients from a regression discontinuity design predicting the likelihood staff left during or after the election. The forcing variable window is 45-55% voteshare.

	Dependent variable:	
	Leaves in election year	Leaves year after election
	(1)	(2)
Member lost re-election	0.136	0.444**
	(0.194)	(0.192)
Lagged Turnover	2.135***	0.770*
	(0.442)	(0.445)
Republican	0.234**	−0.319***
	(0.094)	(0.085)
Male	0.081	−0.002
	(0.080)	(0.076)
Election Year FE	✓	✓
Observations	4,566	3,855
Note:		*p<0.1; **p<0.05; ***p<0.01

represents a period of increased career uncertainty for staffers. Furthermore, we include legislator and training session fixed effects. The legislator fixed effects make the analysis a within-legislator comparison and thereby accounts for the possibility that higher quality legislators are both more likely to send staffers to training and less likely to lose office. Holding the number of staffers a member sends to trainings over the span of the data constant, do fewer staffers attend trainings held during that member's last term in office? The training fixed effects account for the fact that bootcamps have fewer attendees than seminars, that the popularity of the program may fluctuate over time, and that some sessions might be held at more convenient times of the year than others. We cluster standard errors at the legislator level.

This analysis assumes that staffers anticipate that their member might leave office at the end of the term. Because these contingencies affect whether the staffer needs to look for other work, staffers have strong incentives to figure out if their member faces a threatening primary or a difficult general election, suffers from health issues, or otherwise does not wish to remain in office.

Table 2 shows that staffers are less likely to attend trainings during their member's last

Table 2 – Career uncertainty reduces expertise acquisition. Reports regression coefficients and standard errors clustered by legislator. Outcomes are indicators of participation in training sessions.

	House and Senate		Only Senate	
	Staffers Attending	Hours of Training	Staffers Attending	Hours of Training
Final Term in Chamber	-0.015^{***}	-0.020^{**}		
	(0.005)	(0.008)		
Seat Up for Reelection			−0.017	−0.024
			(0.013)	(0.030)
Senator	0.064^{***}	0.124^{**}		
	(0.021)	(0.049)		
Training FE	✓	✓	✓	✓
Member FE	✓	✓	✓	✓
Observations	43,940	43,940	8,503	8,503
R^2	0.099	0.050	0.103	0.062
Note:				*p<0.1; **p<0.05; ***p<0.01

term in office. The first column looks at the number of staffers from that office attend each training and the second column looks at the number of hours staffers from that office spend at that training, which reflects that bootcamps take twelve times as long as seminars. The average office sends 0.025 staffers to each event and log an average of 0.036 hours of training per event, so the final term effects of 0.015 fewer staffers and 0.020 fewer hours of training per event is a substantively significant, relative effect.

The third and fourth columns offer a robustness check that does not depend on the assumption that staffers can anticipate if their member is about to leave. It restricts the analysis to the Senate and makes the main independent variable whether senators who are up for reelection that cycle. Members who are up for reelection could lose in either the general or the primary, but that cycle is also a particularly attractive time to retire because it maximizes the amount of time the legislator is in office while avoiding a costly reelection campaign. 27.7% of senators who are up for reelection leave by the beginning of the next congress, compared to only 4.1% who are not up for reelection that cycle.

The third and fourth columns of Table 2 finds similar results to the baseline analysis, albeit

with much less precision. The point estimates are about the same, but the standard errors are much wider, which is also understandable because being up for reelection is a noisy proxy for whether the senator will actually leave office and because restricting the analysis to senators discards over 80% of the data. Nevertheless, the fact that an analysis which discard so much data and uses a coarser but conceptually related version of our main independent variable yields such similar results serves to bolster our main results.

Expertise Acquisition and the Separation of Powers

We next examine how the separation of powers moderates the impact of career uncertainty. If staffers hesitate to acquire expertise on their own because it is a form of firm-specific human capital that is difficult to transfer to other careers, then staffers ought to be more likely to acquire expertise when there are more job opportunities where that particular form of human capital would be valuable. We test this additional implication of the theory using a major shock to the congressional labor market: changing the party of the President.

The President and his administration control a massive number of appointed positions in the Executive Branch, and they give virtually all of these positions to members of their own party. The Executive Branch is one of the few places outside of Congress where expertise in oversight would be useful, because the Executive Branch is the target of congressional oversight. Not surprisingly, numerous "alumni" of the oversight training we examine go on to work in federal agencies.

Accordingly, congressional staffers should be less responsive to career uncertainty if their party controls the presidency. In Congress, their oversight expertise will be valuable for helping provide a counterpoint to the opposition party in hearings. In executive branch positions, that expertise should be valuable for defending the targets of oversight from the inside. Thus, we expect the importance of career uncertainty for the in-party to diminish, relative to the opposition.

To test this hypothesis, we replicate the main analysis in Table 2 with an interaction for whether the staffer's member of Congress is from the opposite party as the President. The

theory predicts that the interaction of the Final Term in Chamber and Seat Up for Reelection variables with Opposite Party of the President should be negative.

Table 3 – Presidential Co-partisanship moderates the effect of career uncertainty on expertise acquisition. Replicates Table 2 with an interaction for opposite party of the president.

	House and Senate		Only Senate	
	Staffers Attending	Hours of Training	Staffers Attending	Hours of Training
Opposite Party of President	0.007	0.012**	0.028*	0.055*
	(0.004)	(0.008)	(0.016)	(0.033)
Final Term in Chamber	−0.007	−0.006		
	(0.007)	(0.010)		
Final Term in Chamber × Opposite Party of President	−0.015	−0.028*		
	(0.010)	(0.014)		
Senator	0.064***	0.124**		
	(0.021)	(0.049)		
Seat Up for Reelection			−0.007	−0.002
			(0.025)	(0.030)
Seat Up for Reelection × Opposite Party of President			−0.025	−0.059
			(0.026)	(0.047)
Training FE	✓	✓	✓	✓
Member FE	✓	✓	✓	✓
Observations	43,940	43,940	8,503	8,503
R^2	0.099	0.050	0.104	0.063
Note:			*p<0.1; **p<0.05; ***p<0.01	

This is what Table 3 shows. The first-order effect of being from the opposition is positive. This is not surprising. Members from the opposite party of the President have more to gain from oversight, so members might encourage their staff to attend these trainings. More importantly for our theory, the interaction between being from the opposition and both measures of career uncertainty is negative. Staffers are more sensitive to career uncertainty in Congress when their party does not control the presidency. The coefficient is only statistically significant in conventional levels in one of the models, but it nearly attains statistical significance in the other specification that uses both House and Senate data ($p = 0.14$). As Table 2 showed, the baseline analysis suggests that the Senate-only specifications are underpowered even without the interaction term, so it is not surprising that the interaction terms are not

precisely estimated.

Taken together, this analysis suggests that the technical knowledge about how to conduct oversight is firm-specific human capital. If a staffer works for a member who is about to leave office, then they are less likely to attend, unless their party controls the presidency gives them an attractive outside option. These substantive findings are also robust to other specifications that include different factors affecting the Congressional labor market. For instance, we might be concerned that legislators' final term in office may be positively correlated with changes in majority status. We show in Appendix G that our findings about the relationship between career uncertainty and expertise acquisition are robust when majority status is treated as a moderating variable.

Cost to the Employer and Training

If expertise in oversight is firm-specific human capital, then the employer must bear at least part of the cost of training. This implies that the lower the cost to the legislator, the more likely the legislator's staffers are to acquire training. Even though there is no tuition for the bootcamps or seminars, attendance still requires a sacrifice from the staffers' offices: staffers' time. Seminars were held on Fridays and 84.6% of the bootcamps (all but four) were held entirely on weekdays. Any time staffers spend at these events is time they did not spend on other work.

While staffers' time is always valuable to their members, sometimes it is slightly less valuable. The House and Senate occasionally take extended breaks from legislative session, such as for major holidays, district work periods, and the August recess. Staffers in Washington are still expected to work during these breaks, but they have fewer responsibilities. Consequently, offices give up less by sending staffers to training when their chamber is on a break and ought to be more inclined to send staffers during break than while the chamber is in session.

Accordingly, Table 4 conducts a training-level analysis of how many staffers from each chamber attended as a function of whether the relevant chamber was on a break. A chamber

Table 4 – In the House, reducing the cost of attendance to employer increases cohort size. Reports coefficients and standard errors for models that predict the number of staff attendees at 82 unique training sessions.

	Dependent variable:		
	Number of Attendees		
	House and Senate	House	Senate
	(1)	(2)	(3)
Chamber On Break	0.570	2.026*	−0.865
	(0.710)	(1.067)	(0.889)
Seminar	6.553***	9.106***	4.034***
	(0.969)	(1.460)	(1.211)
Senate	−3.051***		
	(0.680)		
Constant	2.718**	−0.176	2.435*
	(1.093)	(1.568)	(1.268)
Observations	164	82	82
R^2	0.298	0.330	0.160
Note:			*p<0.1; **p<0.05; ***p<0.01

is on a break if, on the day the training was held, it has not held a roll call vote in the previous five days or if it will not hold a roll call vote in the next five days.

Table 4 shows that, at least in the House, more staffers attend the training if it is held during a break. This stronger effect relative to the Senate and the pooled sample, likely reflects the greater demands on the House's time. House offices have smaller staffs than Senate offices and the House generally considers more legislation than the Senate does. These compounding pressures make staffers' time more valuable in the House, so House offices are particularly sensitive to opportunities to train their staffers. While we believe we would also observe this pattern in the Senate if we could find a measure of the costliness of the training to the legislator that senators felt more acutely, Table 4 offers only provisional support that increasing the cost of the training to the legislator decreases the amount of expertise staffers acquire.

Expertise and Career Longevity

Finally, we examine the downstream implications of expertise acquisition on time spent working in Congress. If expertise is firm-specific, then staffers interested who acquire expertise will stay in Congress for longer than those who do not. First, staffers who have firm-specific expertise are more valuable to their employers, so they are less likely to be laid off. Second, although it is difficult for staffers to convert firm-specific expertise into better-compensated outside options, if a staffer does get an attractive outside offer, the legislator they work for will be willing to increase the staffer's compensation in order to retain them. This makes staffers with oversight expertise less likely to quit. Suppose, for example, the staffer has a J.D. with a focus in securities law. If a bull market creates sudden demand for lawyers who know securities law, the staffer might want to quit Congress to return to the legal profession. However, if she also has expertise in oversight, her employer might be willing to increase her compensation by enough to prevent her from leaving.

Unfortunately, our data does not tell us which staffers have expertise in oversight. It tells us which staffers attended a particular set of trainings. This rules out what would otherwise be an attractive research design: comparing staffers who attended oversight training to those who applied for oversight training but did not attend. Those staffers who did not get to attend might get oversight training elsewhere. There are other opportunities to acquire training while working in Congress, offered through Congressional Staff Academy, the Brookings Institution, and the Congressional Research Service, to name a few. The presence of other trainings would attenuate the measurable effect of attending one of the trainings we observe. Consistent with this possibility, our analysis in the Appendix (see Table E2) finds no evidence that attending training increases how long staffers stay in Congress, compared to those who just express interest.

Instead, we test whether staffers who express interest in the training stay in Congress longer than those who do not. We utilize a number of staffer-level statistical tests conducted with Cox proportional hazards models with fixed and time dependent covariates. The outcome is the number of days a staffer remained in Congress after the first training session that

he or she could have attended. [7] Thus, the outcome variable in all tests is the number of days between the date of this training session and either the last date the staffer was employed by Congress or the latest date available in our Congressional staff data (March 31, 2022). A staffer is considered to have expressed interest in training if they appear anywhere in the records.

We argue that interest in the training sessions is an expression of some general, inherent motivation to acquire expertise. Thus, staffers with this predisposition may pursue expertise acquisition in a variety of ways aside from bootcamp or seminar attendance, make decisions to actively improve their performance, and be generally incentivized by the development of specialized skills and knowledge. If expertise in Congress is firm-specific, then we predict staffers interested in training will have longer careers on the Hill. Conversely, if expertise is general, then we would expect interested staffers to have shorter Congressional careers.

Table 5 – Staff who express interest in expertise have longer subsequent careers. Reports coefficients and standard errors from Cox proportional hazard models predicting departure from Congress.

	Dependent variable:	
	Rate at which Staffers Leave Congress	
	Bootcamps	*Seminars*
	(1)	(2)
Interested in/Acquired Training	-0.350^{***}	-0.376^{***}
	(0.059)	(0.030)
Senate	0.165^{***}	0.150^{***}
	(0.017)	(0.013)
Earnings	-0.0001^{***}	-0.0001^{***}
	(0.00000)	(0.00000)
Senior	0.776^{***}	0.788^{***}
	(0.027)	(0.022)
Policy	-0.097^{***}	-0.043^{***}
	(0.018)	(0.014)
Committee	0.787^{***}	0.773^{***}
	(0.022)	(0.017)
Observations	153,167	253,294
Note:		*p<0.1; **p<0.05; ***p<0.01

[7] This is defined as the first bootcamp or seminar that occurred after the staffer began working for Congress (or after they first appear in available Congressional disbursement records).

This analysis also controls for a number of important time-varying covariates that may affect career length: staffer's earnings, dummy variables for whether or not they worked in the Senate, held a policy-focused position, held a senior staff position, or worked for a committee. The SI describes these job categorizations and provides summary statistics about attendees with respect to these categorizations in greater detail in sections I and F respectively.

Table 5 shows that staffers who express interest in training stay in Congress for longer (have a lower hazard rate) than those who do not. We do not mean to suggest that merely expressing interest in attending a bootcamp or seminar *causes* staffers to have longer careers. Rather, staffers who express an interest in training are more likely to get oversight expertise somewhere, that this firm-specific human capital makes them more valuable to the legislators they serve, and hence these legislators work to retain staffers who would otherwise leave.

Another possibility is that the results follow from selection bias: only staffers who seek out training are those who intend to stay in Congress for a long time. However, this alternative mechanism would lead to the same substantive conclusion as our original interpretation: oversight expertise is firm-specific. If it were general, then even staffers who did not intend to stay in Congress would want it. Another objection is that this test follows from our first test. Table 2 has already shown that staffers are less likely to attend training during their member's final term in office, so perhaps the effect in Table 4 is mechanical: some staffers do not express interest because they anticipate their member will soon leave office and that member's staff will then be forced out of the congressional workforce.

To account for this possibility, Table E3 in the SI replicates our analysis using only staffers who either left Congress before their member did, committee staffers, and staffers who were still working in Congress at the end of the study period. This restricted sample excludes all staffers who had to leave Congress because their member was not reelected. The results in Table E3 are consistent with the results in Table 4, which shows that the effect cannot be attributed to forced exit due to member turnover and that the results in Table 5 provide a distinct and informative test about whether oversight expertise is general or firm-specific.

The theory explains that the reason that the staffers who acquire oversight expertise stay

longer is that Congress compensates these staffers more generously to prevent them from quitting. Compensation can take many forms, but we focus on just one: getting promoted to a better job. To support the theory's predicted mechanism for our findings on staffers' longevity, we show in Appendix H that staffers with oversight expertise are more rapidly promoted to policy-oriented positions and to senior staff than staffers who do not express interest in the training.

Discussion

Congress needs expertise to perform its constitutional duties, but it has struggled to attract, train, and retain a large workforce of expert staffers. In response to broad beliefs that congressional performance has declined, non-profits have stepped in to assist Congress in training its workforce, but very little is known about these efforts. Their effectiveness is, in part, a function of the individual incentives of congressional staffers. This study investigates these incentives using novel records of training conducted in Congress for one particular kind of expertise: congressional oversight.

Taken together, our tests suggest that expertise in oversight is a form of firm-specific human capital. One implication relevant for contemporary debates about congressional capacity is that, for this form of expertise, staffers' compensation does not increase in proportion to the value of their expertise. There are practical implications for this insight. Non-profits may be able train more staffers by making participation cheaper for employers—scheduling training during recesses and the lame duck session. However, scheduling the trainings on nights or weekends could backfire, since that would shift the cost from employers to staffers.

Our analysis also yields important insights for the study of Congressional capacity. High turnover among legislators impedes the acquisition of firm-specific expertise from two directions. First, it makes legislators less inclined to send their staff to training, since legislators who will soon leave office gain less from investments in expertise. Second, it makes staffers less inclined to acquire expertise, since there is a better than even chance that they will leave

Congress if their boss does, and expertise in oversight does not do much to help them find a better job after they leave. As a result, anything that induces legislators to stay in office for longer—like more input into the legislative agenda, higher salaries, or fewer fundraising obligations—would also increase the staff's expertise in oversight. Institutions that approximated civil service protections, such as expanded committee staffs with some degree of job security across successive committee leaders, would likewise encourage the development of firm-specific expertise. Conversely, reforms that would *decrease* the typical tenure of a staffer—such as legislative term limits—would reduce their motivation to become experts in the particular functions of Congress. This point is somewhat counter-intuitive, as opponents of legislative term limits sometimes argue they empower staff. Short time horizons may discourage both legislators and staff from specializing.

The same may not be true of other forms of expertise. Although oversight expertise is firm-specific, other kinds of expertise, such as substantive policy expertise, might be general. Getting staff to develop general human capital is much easier. Since getting it increases their compensation, staffers seek out training on their own, without any prodding or subsidies from their employers. Turnover among the legislators themselves would not deter these staffers; in fact, knowing that they might need to find a new job soon could actually spur them to seek out training. But developing general human capital poses its own unique challenges; it replaces the problem of incentivizing staffers to acquire expertise with the problem of retaining them once they have it. The scarce financial resources and unpredictable work schedules on Capitol Hill could make it difficult for Congress to keep its best staffers in the face of outside competition.

This implies discussions about congressional capacity should disaggregate capacity into its constituent parts. Some elements of capacity require firm-specific expertise, and others probably require general expertise. Reforms that would help cultivate firm-specific kinds of expertise could backfire if applied to cultivate general expertise, and vice versa.

Fortunately, there are several possible paths to further investigating these questions. We examined a single type of training. But there are many more, offered by different institutional

partners, and some may be more or less firm-specific. In addition, recent rules changes in the House mean that congressional staffers will have greater access to subsidies for outside trainings. These smaller scale reforms, limited to one chamber, represent another opportunity to analyze this labor pool using the framework we have applied.

Our analysis also suggests new questions for political science. We found that the negative effect of career uncertainty on a staffer's willingness to acquire firm-specific expertise diminishes when their party controls the presidency. Presumably, opportunities in the executive branch may also siphon experts off of the congressional staff. What is the net effect of these two countervailing forces on the level of different kinds of expertise on the congressional staff? Additionally, our analysis treats Congress as one giant firm because it is a useful starting point for understanding human capital in the legislative process. In fact, Congress is more like a cartel composed of many semi-autonomous offices and committees. Our empirical results suggest that this internal market for expertise is not large or robust enough to make Congress-specific expertise effectively general, so our treatment of Congress as one giant firm is accurate to a first approximation. Nevertheless, future research could develop a more complete understanding of the obstacles to expertise on the congressional staff by studying competition between congressional offices.

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Supporting Information (Online)

Expertise Acquisition in Congress

Christian Fong, Kenneth Lowande, and Adam Rauh

A A Model of Human Capital Acquisition

Following Becker (1962), the main text divides human capital into general and firm-specific human capital. In practice, many of the most interesting kinds of human capital fall somewhere between the two. We test whether the key predictions from the dichotomous theory generalize if we allow the specificity of human capital to fall on a continuous spectrum.

The key parameter that represents specificity in our model is Δ. The existing theoretical literature offers two interpretations of Δ. First, Δ can represent how valuable the training is to Congress compared to outside employers. Alternatively, as in Acemoglu and Pischke (1999), Δ can represent search costs. The higher Δ is, the more time and effort a staffer to find a job that uses the training. Either way, $\Delta = 1$ represents training that is perfectly firm-specific and $\Delta = 0$ represents training that is perfectly general. Intermediate values of Δ are also possible, and the goal of the model is to show that Congress and the staffer both behave as if the training were perfectly firm-specific as long as Δ is large enough and below which they behave as if it were perfectly general as long as Δ is small enough. In other words, none of the key predictions of the theory are knife's edge predictions that rely on the training being either perfectly general or perfectly firm-specific.

Game Sequence

The model is a sequential game between two players, Congress (C) and a staffer (S). The staffer decides whether to attend a training, which increases her productivity but is costly. To encourage the staffer to attend training, Congress can offer her a rebate that defrays the cost of the training. Once the staffer has decided whether to attend training, Congress decides how much it is willing to compensate the staffer if she stays. The staffer sees this offer and decides whether to stay or quit for another job.

There are two exogenous shocks that intervene in this process. First, the staffer's member might retire or lose office, and the staffer might not be able to find another job in the institution. In this case, the staffer will be forced to find another job, even if both she would like to stay. Second, there is some randomness in the health of the job market outside of Capitol Hill. Congress knows how strong the job market is when it decides how much compensation to offer and the staffer knows when she decides whether to stay, but this does create the possibility that the Congress might offer a generous rebate for training only to find the staffer lured away by unexpectedly lucrative outside opportunities.

To be more precise, the game proceeds as follows:

1. Congress offers a rebate for the cost of the training, $r \geq 0$
2. The staffer decides whether to attend the training, $t \in \{0, 1\}$
3. The staffer gets laid off with exogenous probability ℓ. This represents the possibility that the staffer's member leaves office and the staffer is not able to find another job in Congress. If the member leaves, the game ends and no further actions are taken.
4. There is an exogenous shock to the external demand for the staffer, $\epsilon \sim \text{Unif}(0, \overline{\epsilon})$. ϵ represents the possibility that there is a burgeoning private sector that lures staffers out of public service.

5. Congress offers compensation $w \leq \overline{w}$. $\overline{w}$ is a wage ceiling which represents how Congress sometimes lacks the resources to compete with the private sector, even though it would like to retain its employees.

6. The staffer decides whether to quit or stay in Congress

Assume $\overline{w} < 1$ and $\overline{\epsilon} > \overline{w} - 1 + \Delta$, which together guarantee that trained staffers at least occasionally leave Congress for more remunerative private sector employment.

Congress's payoff, u_C, is given by

$$u_C(w) = \begin{cases} -krt & \text{if the staffer quits or gets laid off} \\ (1-kr)t - w & \text{if the staffer stays} \end{cases}$$

The training increases the staffer's productivity by 1, so, if the staffer stays, Congress's payoff increases by 1, less any wages it paid to the staffer.

The term krt reflects the cost of the rebate. Congress only has to pay the rebate if the staffer attends the training ($t = 1$). Larger rebates are more expensive (hence the r), and k parameterizes how costly it is for Congress to provide larger rebates. If the rebate takes the form of Congress giving the staffer time off from work, then k represents the opportunity cost of the staffer's time.

The staffer's payoff, u_S, is given by

$$u_S(t) = \begin{cases} [(1-\Delta) - (c-r)]t + \epsilon - i & \text{if the staffer quits or gets laid off} \\ w - (c-r)t & \text{if the staffer stays} \end{cases}$$

The term $(c-r)t$ reflects the cost of the training. The staffer only incurs this cost if she attends ($t = 1$). c parameterizes the costliness of the training, and it may be partially or fully offset by the rebate Congress offers (r).

If the staffer stays, she gets whatever compensation Congress offered (w). If she leaves, her value to an outside employer has two components. The first is ϵ, which reflects the demand for workers of all kinds, whether they are trained or not. The second is $(1-\Delta)t$, which reflects how much the training increases her value to outside employers. The larger Δ is, the more specific the training is to Congress, and the less she gets for the training if she leaves. $i > 0$ reflects the inconvenience associated with leaving her job and finding a new one regardless of her training (i for inconvenience).

Equilibrium

This game can be solved via backward induction. The staffer stays if the compensation offered by Congress exceeds what she could command in outside employment, less the inconvenience of finding her new job. Mathematically, this is $w \geq (1-\Delta)t + \epsilon - i$.

Congress generally wants to retain the staffer at this minimum possible price, but with two caveats. It can't afford to keep the staffer if this requires compensation exceeds the cap, $(1-\Delta)t + \epsilon - i > \overline{w}$. Congress is unwilling to pay what it would take to keep the staffer if $t - (1-\Delta)t - \epsilon + i < 0$, which is true if $\epsilon > \Delta t + i$. Thus, Congress pays the lowest wage that retains the staffer if $\epsilon \leq \min\{\overline{w} - (1-\Delta)t + i, \Delta t + i\}$, which is just $\epsilon \leq \overline{w} - (1-\Delta)t + i$ by the assumption that $\overline{w} < 1$.

It does not matter what compensation Congress offers when $\epsilon > \overline{w} - (1-\Delta)t + i$ because the staffer will reject all of them, and it does not matter what compensation Congress offers if $\epsilon > \Delta t$ as long as it is low enough to ensure the staffer doesn't take it. For realism, we assume that Congress breaks these ties by offering the wage cap when the cap is binding and the staffer's marginal product to Congress when the staffer is too expensive to be worth retaining. The optimal wage is then given by

$$w^*(t,\epsilon) = \begin{cases} (1-\Delta)t + \epsilon - i & \text{if } \epsilon \leq \overline{w} - (1-\Delta)t + i \\ \min\{\overline{w}, t\} & \text{otherwise} \end{cases}$$

The staffer's utility is always the value of her outside option less the cost of training. Therefore, the staffer attends the training if

$$\begin{aligned} (1-\Delta) - (c-r) &\geq 0 \\ r &\geq c + \Delta - 1 \end{aligned}$$

The member subsidizes the training up to this level if the staffer will not get training on her own and if the expected benefit of the training exceeds the cost of the subsidy. This is true if $c > 1 - \Delta$ and

$$\begin{aligned} (1-\ell)\int_0^{\overline{w}-(1-\Delta)+i} (1 - w^*(t,\epsilon))d\epsilon &\geq k(c-1+\Delta) \\ (1-\ell)\frac{(\Delta+i)^2}{2(c-1+\Delta)} &\geq k \end{aligned}$$

Analysis

All that remains is to show that the key empirical implications from the main paper hold even in this continuous model. The first empirical implication is that staffers are more likely to get trained if their member is likely to leave if the training is firm-specific and less likely if it is general. Moreover, when the staffer's party controls the executive branch, the human capital is more general, which ought to attenuate the effect of career uncertainty. In the model, the likelihood that the member leaves is represented by ℓ, so the goal is to show that if Δ is sufficiently small, the staffer gets trained if and only if ℓ is small enough, but that the relationship reverses if Δ is sufficiently large. As Δ shrinks, the effect of ℓ should attenuate.

Proposition 1. *If $\Delta \geq 1 - c$, the staffer does not get the training if ℓ is too large. If $\Delta < 1 - c$, the staffer gets training regardless of the value of ℓ.*

Proof. If $\Delta \geq 1 - c$, the staffer does not get training unless the member offers a sufficiently large rebate. The member offers a sufficiently large rebate if $k \leq (1-\ell)\frac{(\Delta+i)^2}{2(c-1+\Delta)}$. The right hand side is monotonically decreasing in ℓ and is 0 at $\ell = 1$, so the staffer does not get training if ℓ is too large. If $\Delta < 1 - c$, the staffer gets training on her own even if the member does not provide a rebate. Since ℓ enters into training only through the member's subsidy, this makes ℓ unrelated to t. □

There is some slippage between the result here and the argument in the main text. The main text asserts that if the training is general, then staffers are *more* likely to get the training

if there is a high probability their member leaves. This result shows that there is no relationship between the probability their member leaves and their probability of attending the training. This is an artifact of a simplifying assumption in our model - namely, that Congress can prevent the staffer with a take-it-or-leave-it compensation offer. Kessler and Lülfesmann (2006) present a model with a more general bargaining environment. Their results suggest greater career uncertainty would induce more general training, because as long as staffers have at least some specific training, their employer takes some of the surplus generated by general training. Since deriving this result in our model would require a far more complicated bargaining protocol, our model eschews it in the interests of clarity.

Next, as the cost of the training to Congress (and specifically the staffer's member) rises, staffers should be less likely to get training if the training is sufficiently specific. If the training is sufficiently general, it should make no difference. In the model, this is a pair of predictions about the relationship between Δ and k.

Proposition 2. *If $\Delta \geq 1 - c$, the staffer does not get training if k is too large. If $\Delta \leq 1 - c$ is small enough, whether the staffer gets trained does not depend on k.*

Proof. If $\Delta \geq 1 - c$, the staffer does not get training unless the member offers a sufficiently large rebate. The member offers a sufficiently large rebate if $k \leq (1 - \ell)\frac{(\Delta+i)^2}{2(c-1+\Delta)}$, which requires k to be small. If $\Delta < 1 - c$, the staffer gets training on her own even if the member does not provide a rebate. Since k enters into training only through the member's subsidy, this makes k unrelated to t. □

Finally, the staffer should be less likely to quit after receiving training if the training is sufficiently specific and more likely to quit if the training is sufficiently general. The quit probability in the model is given by the probability that ϵ is so large that either Congress cannot retain the staffer (due to the wage cap) or does not want to.

Proposition 3. *If $\Delta < 1 - \overline{w}$, trained workers are more likely to quit than untrained workers. If $\Delta > 1 - \overline{w}$, untrained workers are more likely to quit than trained workers.*

Proof. $Pr(\text{Staffer Quits}|t = 0) = Pr(\epsilon > i) = \frac{\overline{\epsilon}-i}{\overline{\epsilon}}$. $Pr(\text{Staffer Quits}|t = 1) = Pr(\epsilon > \overline{\Delta} + \overline{w} - 1 + i) = \frac{\overline{\epsilon}-\Delta-\overline{w}+1-i}{\overline{\epsilon}}$. Therefore, $Pr(\text{Staffer Quits}|t = 1) - Pr(\text{Staffer Quits}|t = 0) = \frac{-\Delta-\overline{w}+1}{\overline{\epsilon}}$, which is strictly positive if $\Delta < 1 - \overline{w}$ and negative if $\Delta > 1 - \overline{w}$. □

Thus, all of the key results follow in this continuous specificity model. If $\Delta > \max\{1 - c, 1 - \overline{w}\}$, then the behavior of Congress and the staffer is substantively indistinguishable from how they would behave if the training were perfectly firm-specific, and if $\Delta < \min\{1 - c, 1 - \overline{w}$, then they behave as if the training were perfectly general. At intermediate values, some of the predictions will hold but not others. Our analysis finds consistent evidence that Δ for oversight training is close enough to 1 to mimic firm-specific human capital.

B Staff Employment from Disbursement Records

Using a variety of sources and techniques, we create a standardized data set of payment records with unique identifiers for Congressional staffers. In addition to cleaning and formatting the data, the primary task of this process is determining how to aggregate observations

in our data, based on the available staffer level characteristics. After some pre-processing and cleaning, the raw records are staffer-payment level, meaning each observation corresponds to an instance of a staffer getting paid. We must utilize the available information about each observation in order to aggregate appropriately and assign unique staffer identifiers to each observation.

B.1 Data Collection and Availability

B.1.1 House of Representatives

The House of Representatives publishes statements of disbursement every quarter, covering the periods January–March, April–June, July–September and October–December. These reports detail all expenditures made by House offices during those periods. This includes the personal offices of legislators, committees, and party and administrative offices. While containing details about all expenditures (e.g., costs associated with travel or office supplies), we focus on those classified as "personnel compensation," which are salary payments made to staffers.

These expenditure reports are published originally in PDF format and publicly available for download from the House of Representatives here. ProPublica processes these files to create machine-readable versions in CSV format. A description of ProPublica's procedures, as well as links to the processed data are available here. At the time of writing, this data is available from the third quarter of 2009 through the first quarter of 2022. These files contain the raw data related to House expenses and staffers that we will process in following stages. After filtering down these files to just include staff payment records, each observation has the the following characteristics: staffer name, a pay period start and end date, the amount paid to the staffer over that period, the staffer's office of employment, the staffer's job title.

B.1.2 Senate

As far as we know, Senate disbursement records are only publicly available in PDF format from the Report of the Secretary of the Senate, available here. In contrast to the reports published by the House of Representatives, these Senate reports are published only twice a year, covering the periods April to September and October to March. These reports cover the period from April 1, 2011 to March 31, 2022. After downloading these files, we employ a series of R scripts in order to extract data relevant to the employment and payment records of staffers.

We use the R package `pdftools`[8] to extract the text from each PDF and load it into R. The package has functions that enable users to parse the PDF files into lists, with each PDF being mapped to a list. Each element in the lists is a parsed PDF page containing the text and formatting characters of the original pages. It is worth noting some of the challenges introduced by this step. While the PDFs and pages are often consistently formatted, there are sometimes inconsistencies due to unpredictable reasons. For instance, the introduction of extra spaces, tabs, or even invisible characters within the PDFs may generate errors or anomalies that must be accounted for as best as possible.

We then use our own code to extract and format all data relevant to employee's work and payment records. First, the code identifies pages containing information about staffers

[8] `https://cran.r-project.org/package=pdftools`

working in either personal offices or for committees by searching for a number of different text and formatting patterns. This step largely involves looking for office identifying keywords, like "Senator" or "Small Business," in particular locations of each page. Once the appropriate pages are identified, the process of extracting the relevant data from the parsed results proceeds similarly. Information about a staffer's name, position, and salary payments are organized in consistent ways on the relevant pages: we take advantage of this structure to parse out out the staffer information. For instance, the data is generally formatted as 3 columns, separated by spaces.

In contrast to the House reports, which have relatively granular pay periods, Senate data can often only be mapped to the 6 month periods corresponding to the start and end date of the reports. Sometimes, information about job start or end dates is present, next to the string of text describing the staffer's position. The code extracts and formats this information as a proper date. Finally, there are some cleaning procedures to remove rows that were inappropriately included as a result of the relatively noisy PDF parsing procedures. After all of these procedures, the code produces CSV files that contain roughly the same information as the House files: staffer names, job titles, offices, salaries, and a date range of employment.

B.1.3 Integrating Raw Senate and House Data

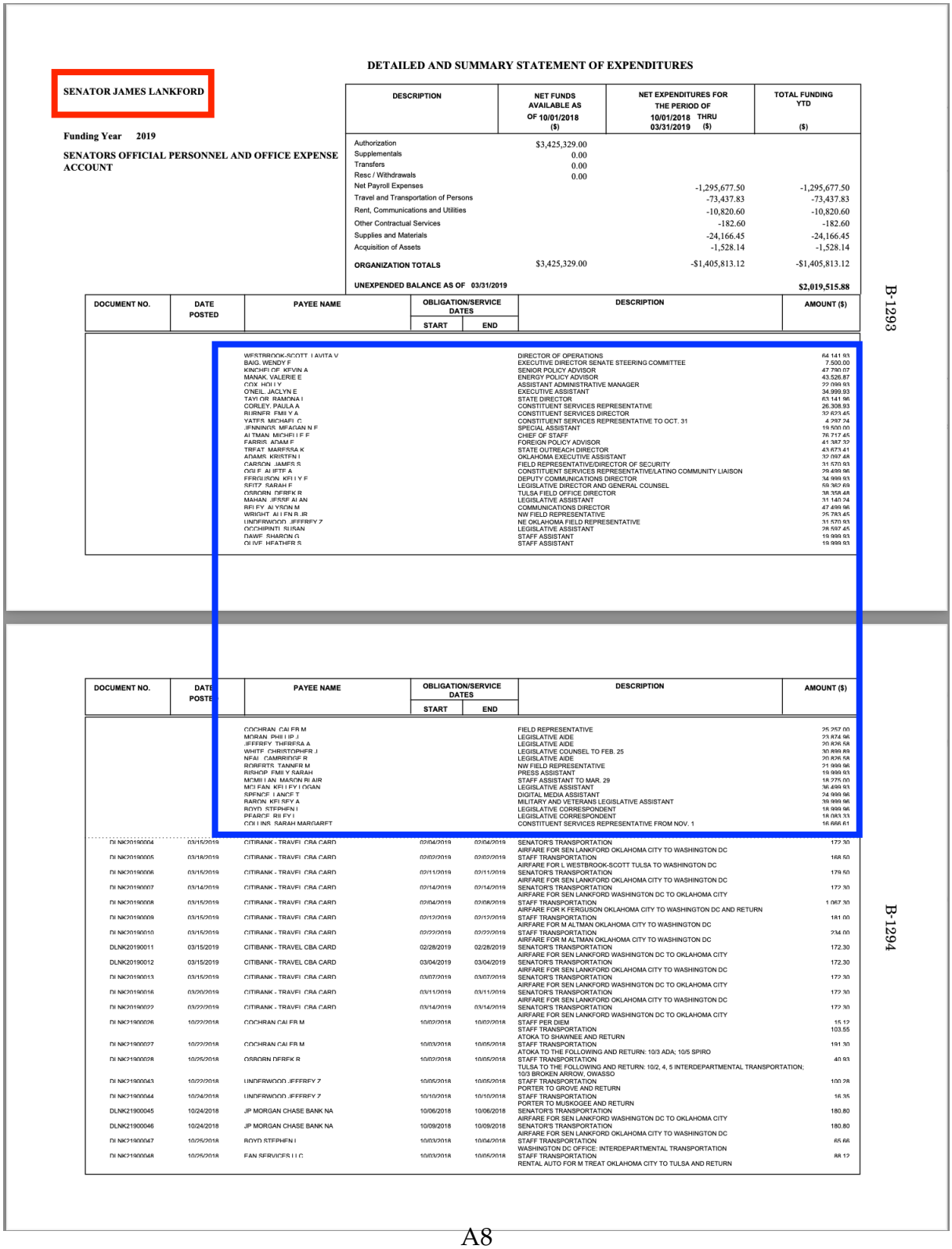
After downloading and/or processing the necessary files as described previously, data about both House and Senate staffers is formatted to be consistent across chambers. At this stage, staffer identities are still not standardized across observations. The same staffer's name may appear in slightly different variations across the data. To solve this problem, we apply a series of cleaning and aggregation algorithms to assign unique staffer identifiers to the observations in our data.

B.2 Aggregation and Unique Identifiers

Once the raw data is assembled, we use another set of procedures to assign unqiue identifiers to the staffers in our data. Substantively, this process largely about aggregation: it involves examining our data and making determinations about whether or not observations associated with slightly different first, middle, and last staffer names in the data actually correspond to the same individuals. For instance, do the observations associated with a "Kenneth Acuna," "Kenneth S. Acuna," or "Kenneth Acuna, Jr." actually refer to the same person? Once these decisions have been made, we assign unique identifiers corresponding to all aggregated observations. After some additional pre-processing and cleaning of the raw data, there is a three stage pipeline for aggregating staffer data and assigning identifiers.

The first stage handles the most straightforward cases for aggregation and identifier assignment. First, for each observation in the data, a string containing standardized and cleaned staffer name data is created: punctuation marks, spaces, and suffixes are removed from names, then staffers' last, first, and middle names/initials (if they exist) are concatenated together. We call this the "nameid" for short. The first stage aggregates observations that 1) have exactly matching nameids and 2) have nameids not similar to any other nameid in the data. Specifically, the nameid in question does not have a similarity score less than 1 and higher than .8 to any other nameid in the data, based on the Optimal String Alignment

Figure B1 – Parsing Senate Data Example. Parsing Senate data requires extracting information from PDF files formatted like the one shown below. Note that the information indicating the office, highlighted in red, is not present on all pages containing staff data. Text highlighted by the blue box contains information about staffers' names, their jobs, and the amount paid to them. This is extracted and formatted by our algorithms. Note also the occasional inclusion of dates in the text describing staffers' jobs.



DETAILED AND SUMMARY STATEMENT OF EXPENDITURES

SENATOR JAMES LANKFORD

Funding Year 2019

SENATORS OFFICIAL PERSONNEL AND OFFICE EXPENSE ACCOUNT

DESCRIPTION	NET FUNDS AVAILABLE AS OF 10/01/2018 ($)	NET EXPENDITURES FOR THE PERIOD OF 10/01/2018 THRU 03/31/2019 ($)	TOTAL FUNDING YTD ($)
Authorization	$3,425,329.00		
Supplementals	0.00		
Transfers	0.00		
Resc / Withdrawals	0.00		
Net Payroll Expenses		-1,295,677.50	-1,295,677.50
Travel and Transportation of Persons		-73,437.83	-73,437.83
Rent, Communications and Utilities		-10,820.60	-10,820.60
Other Contractual Services		-182.60	-182.60
Supplies and Materials		-24,166.45	-24,166.45
Acquisition of Assets		-1,528.14	-1,528.14
ORGANIZATION TOTALS	$3,425,329.00	-$1,405,813.12	-$1,405,813.12
UNEXPENDED BALANCE AS OF 03/31/2019			$2,019,515.88

B-1293

DOCUMENT NO.	DATE POSTED	PAYEE NAME	OBLIGATION/SERVICE DATES START	OBLIGATION/SERVICE DATES END	DESCRIPTION	AMOUNT ($)
		WESTBROOK-SCOTT, LAVITA V			DIRECTOR OF OPERATIONS	64,141.93
		BAIG, WENDY F			EXECUTIVE DIRECTOR SENATE STEERING COMMITTEE	7,500.00
		KINCHELOE, KEVIN A			SENIOR POLICY ADVISOR	47,780.07
		MANAK, VALERIE E			ENERGY POLICY ADVISOR	43,526.87
		COX, HOLLY			ASSISTANT ADMINISTRATIVE MANAGER	22,099.93
		O'NEIL, JACLYN E			EXECUTIVE ASSISTANT	34,999.93
		TAYLOR, RAMONA I			STATE DIRECTOR	63,141.96
		CORLEY, PAULA A			CONSTITUENT SERVICES REPRESENTATIVE	26,308.93
		RUBNER, EMILY A			CONSTITUENT SERVICES DIRECTOR	39,823.45
		YATES, MICHAEL C			CONSTITUENT SERVICES REPRESENTATIVE TO OCT. 31	4,297.74
		JENNINGS, MEAGAN N F			SPECIAL ASSISTANT	18,500.00
		ALTMAN, MICHELLE F			CHIEF OF STAFF	76,717.45
		FARRIS, ADAM F			FOREIGN POLICY ADVISOR	41,387.32
		TREAT, MARISSA K			STATE OUTREACH DIRECTOR	43,673.41
		ADAMS, KRISTEN I			OKLAHOMA EXECUTIVE ASSISTANT	39,097.48
		CARSON, JAMES R			FIELD REPRESENTATIVE/DIRECTOR OF SECURITY	31,570.93
		OGLE, ALIETE A			CONSTITUENT SERVICES REPRESENTATIVE/LATINO COMMUNITY LIAISON	29,499.96
		FERGUSON, KELLY F			DEPUTY COMMUNICATIONS DIRECTOR	34,999.93
		SEITZ, SARAH F			LEGISLATIVE DIRECTOR AND GENERAL COUNSEL	59,362.69
		OSBORN, DEREK R			TULSA FIELD OFFICE DIRECTOR	38,358.48
		MAHAN, JESSE ALAN			LEGISLATIVE ASSISTANT	31,140.24
		REILLY, ALYSON M			COMMUNICATIONS DIRECTOR	47,499.96
		WRIGHT, ALLEN R JR			NW FIELD REPRESENTATIVE	25,783.45
		UNDERWOOD, JEFFREY Z			NE OKLAHOMA FIELD REPRESENTATIVE	31,570.93
		OCCHIPINTI, SUSAN			LEGISLATIVE ASSISTANT	28,597.45
		DAWE, SHARON G			STAFF ASSISTANT	19,999.93
		OLIVE, HEATHER R			STAFF ASSISTANT	19,999.93

B-1294

DOCUMENT NO.	DATE POSTED	PAYEE NAME	OBLIGATION/SERVICE DATES START	OBLIGATION/SERVICE DATES END	DESCRIPTION	AMOUNT ($)
		COCHRAN, CALEB M			FIELD REPRESENTATIVE	25,257.00
		MORAN, PHILLIP J			LEGISLATIVE AIDE	23,874.96
		JEFFREY, THERESA A			LEGISLATIVE AIDE	20,826.58
		WHITE, CHRISTOPHER J			LEGISLATIVE COUNSEL TO FEB. 25	30,899.89
		NEAL, CAMBRIDGE R			LEGISLATIVE AIDE	20,826.58
		ROBERTS, TANNER M			NW FIELD REPRESENTATIVE	21,999.96
		BISHOP, EMILY SARAH			PRESS ASSISTANT	19,999.93
		MCMILLAN, MASON BLAIR			STAFF ASSISTANT TO MAR. 29	18,275.00
		MCFAN, KELLEY LOGAN			LEGISLATIVE ASSISTANT	36,499.93
		SPENCE, LANCE T			DIGITAL MEDIA ASSISTANT	24,999.96
		BARON, KELSEY A			MILITARY AND VETERANS LEGISLATIVE ASSISTANT	39,999.96
		BOYD, STEPHEN I			LEGISLATIVE CORRESPONDENT	18,999.96
		PEARCE, BRIDGY L			LEGISLATIVE CORRESPONDENT	18,083.33
		COLLINS, SARAH MARGARET			CONSTITUENT SERVICES REPRESENTATIVE FROM NOV. 1	16,666.61
DLNK20190004	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/04/2019	02/04/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD OKLAHOMA CITY TO WASHINGTON DC	172.30
DLNK20190005	03/18/2019	CITIBANK - TRAVEL CBA CARD	02/02/2019	02/02/2019	STAFF TRANSPORTATION AIRFARE FOR L WESTBROOK-SCOTT TULSA TO WASHINGTON DC	168.50
DLNK20190006	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/11/2019	02/11/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD OKLAHOMA CITY TO WASHINGTON DC	179.50
DLNK20190007	03/14/2019	CITIBANK - TRAVEL CBA CARD	02/14/2019	02/14/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD WASHINGTON DC TO OKLAHOMA CITY	172.30
DLNK20190008	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/04/2019	02/08/2019	STAFF TRANSPORTATION AIRFARE FOR K FERGUSON OKLAHOMA CITY TO WASHINGTON DC AND RETURN	1,067.30
DLNK20190009	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/13/2019	02/13/2019	STAFF TRANSPORTATION AIRFARE FOR M ALTMAN OKLAHOMA CITY TO WASHINGTON DC	181.00
DLNK20190010	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/22/2019	02/22/2019	STAFF TRANSPORTATION AIRFARE FOR M ALTMAN OKLAHOMA CITY TO WASHINGTON DC	214.00
DLNK20190011	03/15/2019	CITIBANK - TRAVEL CBA CARD	02/28/2019	02/28/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD WASHINGTON DC TO OKLAHOMA CITY	172.30
DLNK20190012	03/15/2019	CITIBANK - TRAVEL CBA CARD	03/04/2019	03/04/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD OKLAHOMA CITY TO WASHINGTON DC	172.30
DLNK20190013	03/15/2019	CITIBANK - TRAVEL CBA CARD	03/07/2019	03/07/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD WASHINGTON DC TO OKLAHOMA CITY	172.30
DLNK20190016	03/20/2019	CITIBANK - TRAVEL CBA CARD	03/11/2019	03/11/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD OKLAHOMA CITY TO WASHINGTON DC	172.30
DLNK20190022	03/22/2019	CITIBANK - TRAVEL CBA CARD	03/14/2019	03/14/2019	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD WASHINGTON DC TO OKLAHOMA CITY	172.30
DLNK21900026	10/22/2018	COCHRAN, CALEB M	10/02/2018	10/02/2018	STAFF PER DIEM STAFF TRANSPORTATION ATOKA TO SHAWNEE AND RETURN	15.12 103.55
DLNK21900027	10/22/2018	COCHRAN, CALEB M	10/03/2018	10/05/2018	STAFF TRANSPORTATION ATOKA TO THE FOLLOWING AND RETURN: 10/3 ADA; 10/5 SPIRO	191.30
DLNK21900028	10/25/2018	OSBORN, DEREK R	10/02/2018	10/05/2018	STAFF TRANSPORTATION TULSA TO THE FOLLOWING AND RETURN: 10/2, 4, 5 INTERDEPARTMENTAL TRANSPORTATION; 10/3 BROKEN ARROW, OWASSO	40.93
DLNK21900043	10/22/2018	UNDERWOOD, JEFFREY Z	10/05/2018	10/05/2018	STAFF TRANSPORTATION PORTER TO GROVE AND RETURN	100.28
DLNK21900044	10/24/2018	UNDERWOOD, JEFFREY Z	10/10/2018	10/10/2018	STAFF TRANSPORTATION PORTER TO MUSKOGEE AND RETURN	16.35
DLNK21900045	10/24/2018	JP MORGAN CHASE BANK NA	10/06/2018	10/06/2018	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD WASHINGTON DC TO OKLAHOMA CITY	180.80
DLNK21900046	10/24/2018	JP MORGAN CHASE BANK NA	10/09/2018	10/09/2018	SENATOR'S TRANSPORTATION AIRFARE FOR SEN LANKFORD OKLAHOMA CITY TO WASHINGTON DC	180.80
DLNK21900047	10/25/2018	BOYD, STEPHEN I	10/03/2018	10/04/2018	STAFF TRANSPORTATION WASHINGTON DC OFFICE: INTERDEPARTMENTAL TRANSPORTATION	65.66
DLNK21900048	10/25/2018	FAN SERVICES LLC	10/03/2018	10/05/2018	STAFF TRANSPORTATION RENTAL AUTO FOR M TREAT OKLAHOMA CITY TO TULSA AND RETURN	88.12

Figure B2 – Example of Simple Aggregation. In this abbreviated example, there are minor differences in the staffer's name across two observations. Our aggregation procedures can catch this automatically and assign a common unique identifier, as indicated by the `uid` column.

staffer.name	office	start.date	end.date	position	amount	uid
DYKEMA, RICHARD T	HON. DANA ROHRABACHER	2016-07-01	2016-09-30	CHIEF OF STAFF	42102.75	18385
DYKEMA RICHARD T.	HON. DANA ROHRABACHER	2016-10-01	2016-12-31	CHIEF OF STAFF	42102.75	18385

distance, calculated by the `stringsim()` function in the `stringdist` R package.[9] If both requirements are met, unique identifiers are assigned to the aggregated observations. If this second requirement is not met, we tag the observations as ambiguous and deal with them in later stages. The similarity threshold in the second condition is a parameter that could be adjusted. For example, lowering the similarity threshold would result in even more conservative aggregation.

The second stage calculates additional information to make more automatically-handled aggregations. For a given observation associated with a staffer, the code identifies possible aliases by finding all observations with matching first and last names. In other words, for a given staffer, the code identifies many possible pairs of staffer names to be aggregated together under the same unique identifier by finding a pool of candidates with matching first and last names. Then, the following logic is applied for each candidate in consideration:

- If the current staffer has middle name information that can be extracted, remove any candidates that have middle name information and explicitly do not match.
- Remove any candidates that would imply the staffer received a job demotion.
- If there is no explicit mismatch of middle name information and both observations under consideration have an uncommon last name, aggregate them together and assign a common unique identifier.
  - The classification of "uncommon" and "common" last names is based on a frequency calculation using the pool of staffer last names extracted from the data. Raw counts are used to calculate a standardized measure of last name frequency. The threshold under which to merge entries together can be controlled by a user-specified parameter. The current parameter choice was determined by us, based on the quality of our manual checks, desire for conservative automated aggregation, and ability/time to do manual aggregation at later stages.

This process further aggregates observations together, assigning additional unique identifiers. As this logic proceeds, when observations can be confidently classified as corresponding to different staffers, we assign unique identifiers accordingly.

After these first two automated stages, we are left with a pool of observations that are challenging to aggregate. At this point, staffer names in this set of observations have high similarity to other potential staffer names or a common last name. In practice, most of the observations in this category are staffers with common first and last names that may be aggregated with other observations that differ by missing middle name/initial information. For

[9] `https://cran.r-project.org/package=stringdist`

instance, the observation under consideration may be for a staffer named John Smith, and we must determine if the observations corresponding to the staffer John J. Smith should be aggregated to the same staffer.

Our code generates candidates for aggregation that could not be automatically handled. We then manually determined whether or not observations should be aggregated based on job titles, employment duration and timing, and the names of the offices associated with each observation. The results of this process were integrated into the rest of our data, and we assign unique identifiers to them. After these aggregation procedures, the result is a large, rectangular data set at the staffer-payment level with unique staffer identifiers assigned to every observation in our data. At the time of writing, our data has 976,525 such observations, with payments made to 82,426 unique staffers across a variety of offices and positions. Note that this includes many staffers who are never used in our analyses, such as janitorial, operational, or IT employees.

B.2.1 Aggregation Notes and Possible Objections

Given these procedures, one may raise concerns about aggregating entries with exactly matching nameid variables, as this may lead to overaggregation for observations involving common names. However, we are able to extract middle name data for 79.5% of observations. This means that aggregation is largely only occurring on instances with exactly matching first, middle, and last name information, which is less likely to lead to over-aggregation. Additionally, this also implies that nearly all decisions about possible aggregations between such observations will be made in the third, manual stage. Additionally, the described processes will be unable to catch instances of a staffer's name transforming substantially. For instance, if a staffer is named Rosalind McDonald when she starts working for Congress but gets married and changes her name to Rosalind Johnson, our algorithm is unable to aggregate information about this staffer appropriately. Given the high rate of staff turnover and age of most staffers, we believe the error induced by this potential problem is minimal. We are excited about the potential for future refinements to this data creation pipeline and welcome additional suggestions.

C Staff Training Records

Staff training records were provided an author as part of a data use agreement between the [redacted] and the Project on Government Oversight. These were "invitation, application, and attendance records for oversight-related events" which contain "names, employer, and contact information" for staff. Use of these records for the purpose of the present study was deemed exempt from IRB review.

As part of this agreement, we were provided data on two kinds of events. The first are referred to by the provider as "bootcamps." These were 13 separate events beginning Fall 2015 and ending Fall 2021. The table below provides basic descriptives. In general, several dozen attend, while many more apply. Also, the program tended to be more popular among Democratic staffs.

We were also provided data on weekly seminars. These were 73 separate, hour long events which took place around lunch time, on a monthly basis while Congress was in session. Initially, their appear to have been either light refreshments or lunch served. Eventually, rules

Table C1 – Oversight Training Programs in the U.S. Congress

Session	Applicants	Accepted	Attended	% Democrat
August 2015	33	30	18	66%
February 2016	83	40	25	56%
July 2016	–	29	26	–
February 2017	52	35	20	60%
May 2017	44	30	19	52%
August 2017	42	30	19	52%
February 2018	43	32	20	60%
August 2018	103	45	23	52%
February 2019	76	30	26	50%
October 2019	102	40	24	63%
February 2020	93	39	29	55%
February 2021 (online)	115	22	18	66%
August 2021 (online)	127	43	27	48%

Note: Compiled by the authors based on records from the Project on Government Oversight. "–" indicates records not kept or lost. Democrat percentage refers to those who attended.

changes may have prevented even this expense. A complete list of seminar topics is available upon request.

D Evidence on the Effectiveness of Staff Training Bootcamps

In February 2020, we surveyed a sample of 195 staffers who either did not apply, applied, and would attend this training. The authors invited the 56 staffers who completed the first survey to complete a similar, follow up survey. Staffers were asked about their opinions of legislative oversight and how they spend their time. They were also quizzed about rules and strategies for performing legislative oversight, which the bootcamps themselves cover.

One author attended the February 2020 bootcamp. The training itself is intensive and involves two full days of lectures, open discussion, group work, and role-playing. Bootcamp descriptions and materials can be found on the Levin Center webpage.[10] The vast majority of participants do not know each other before the training. Very few participants leave early (1-3) either day, while more than half arrived late on the second day. The participants leave with over 100 pages of reference material.

Almost all staffers surveyed at least somewhat agreed that oversight was an essential function of Congress and that it was better to conduct it in a bipartisan fashion, including those that did not attend the training.[11] Fewer staffers, however, said that bipartisan oversight was feasible—in both waves, only about 68% at least somewhat agreed that bipartisan oversight was "feasible in the contemporary Congress."

There is some evidence of opinion change about the feasibility of bipartisanship after attending the training. Those who did and did not attend had somewhat different baseline opinion in the first survey, with those who attended agreeing bipartisanship was feasible somewhat more often. However, this gap was larger in the second wave. The simple dif-

[10] https://law.wayne.edu/levin-center/oversightbootcamps

[11] A smaller proportion of those who did not attend the bootcamp strongly agreed with the statement about the effectiveness of bipartisan oversight, but this numerical difference is too small to be considered reliable.

ference across those who did and did not attend was about one point on the 6-point agreement scale ($p = 0.11$, one-tailed test). When both surveys were leveraged in a difference-in-differences (DiD) design estimated by an ordered probit, the estimated difference was also about one point on the agreement scale (($p = 0.01$, two-tailed test).[12] Caution is warranted, however, as it is possible that this underlying opinion is associated with the likelihood of responding to the second survey. However, this can be taken as preliminary evidence that those who attended thought bipartisanship was more feasible after attending.

Most staffers reported spending between 50-60% of their own time on oversight, with similar figures for the office or committee they work in. There were no differences across time and between those who did and did not attend the bootcamp. There was however, some evidence that self-reported time on oversight changing from the first to second wave across staffers that worked for Democrats or Republicans, as well as across chambers. In the first wave, Republicans and Democrats each reported an average of 58% of their time on oversight. By July, Democrats' average was 63%, while Republicans' average was 52%. In the first wave, Senate staffers reported spending 53% of their time on oversight, whereas House staffers reported 64%. By July, this difference was reversed.

Overall, 62% of staffers said they had participated in a long term oversight investigation lasting 6-8 weeks that included a written report or a hearing. The number of staffers who indicated they had participated in a long term investigation was higher in the second survey, but the differences across the surveys were not statistically distinguishable from zero by convention. Staffers were also asked how often they involved the other side when conducting oversight and given the choices "Never", "Sometimes", "About half the time", "Most of the time", and "Always." The most common response was "Sometimes", and it is notable that the only "Never" responses (4) were received in July.

Staffers who attended the training tended to get more oversight knowledge questions correct in the second survey. Four questions relating to oversight were asked—three with one correct answer, and one with two correct answers and 4 incorrect ones. If these are placed on a simple additive scale that penalizes incorrect answers, there is some evidence attendees got about one additional correct answer after the bootcamp, relative to those who did not receive the training ($p = 0.11$). The evidence of these differences are stronger if the least discriminating questions (which related to FOIA exemptions and whistleblower confidentiality) are excluded.

The COVID-19 pandemic began shortly after the completion of the training, around the time the original six week follow-up survey was planned. The author was advised to terminate plans for this follow up for ethical and practical reasons. (An ill-timed follow-up survey might damage the reputation of the nonprofit partners and risk a high attrition rate.) For this reason, the follow-up survey was delayed until the end of July 2020.

For these reasons, we regard the survey data as descriptive and preliminary. The small number of staffers who completed both surveys ($n = 34$), the attrition between surveys, and the intervening COVID-19 pandemic all limit the conclusions that one can draw from these data. However, we regard it as more informative than evidence-free claims about the effectiveness of the training. Further surveys of future bootcamp cohorts and comparable untrained staffers are needed. Nonetheless, there is also no pattern present in these data that—if

[12]The linear model for this regression was $feasibility_{t+1} = \beta_0 + \beta_1 attended + beta_2 feasibility_t$, with β_1 as the DiD estimate.

present in subsequent surveys—would limit the reliability of the evidence. A final important methodological note is that the attendee surveys were administered in person for the first wave, but online for the second—while those who did not attend only took the surveys online. Survey medium has sometimes been shown to impact responses, but in this case, there is no reason to suspect this was the case.

E The Effect of Attending Training versus Expressing Interest

Table E2 uses the same statistical model as the analysis of Table C1, but with different treatment and control groups. The treatment group consists of legislators who attended one of the training events in our sample. The control group consists of legislators who applied for one of the training events in our sample but did not actually attend any of the events. This analysis isolates the effect of attending training on the population of staffers who expressed interest in them. Table E2 shows that staffers who actually attended did not stay in Congress longer than those who merely expressed interest. In fact, those who attended bootcamps left Congress faster than those who merely expressed interest. We suspect these anomalous results are attributable to staffers in the control group pursuing other routes of expertise acquisition in lieu of the trainings, such as seminars hosted by the Congressional Research Service or partisan interest groups.

Table E2 – Attendance and Career Longevity

	Dependent variable:	
	Rate at which Staffers Leave Congress	
	Bootcamps	Seminars
	(1)	(2)
Attended Session	0.214*	−0.069
	(0.120)	(0.058)
Senate	0.139	0.291***
	(0.126)	(0.060)
Earnings	−0.0001***	−0.0001***
	(0.00000)	(0.00000)
Senior	0.351*	0.415***
	(0.187)	(0.078)
Policy	−0.130	−0.241***
	(0.131)	(0.060)
Committee	0.737***	0.736***
	(0.125)	(0.061)
Observations	4,211	18,040
Note:		*p<0.1; **p<0.05; ***p<0.01

Table E3 – Interest and Career Longevity Robustness Check

	Dependent variable:	
	Rate at which Staffers Leave Congress	
	Bootcamps	Seminars
	(1)	(2)
Interested in/Acquired Training	-0.348^{***}	-0.377^{***}
	(0.062)	(0.032)
Senate	0.185^{***}	0.130^{***}
	(0.018)	(0.014)
Earnings	-0.0001^{***}	-0.0001^{***}
	(0.00000)	(0.00000)
Senior	0.784^{***}	0.791^{***}
	(0.031)	(0.025)
Policy	-0.070^{***}	-0.032^{**}
	(0.020)	(0.016)
Committee	0.927^{***}	0.890^{***}
	(0.023)	(0.018)
Observations	138,431	217,762
Note:		*p<0.1; **p<0.05; ***p<0.01

F Attendee Summary Statistics

Tables F4 and F5 show summary statistics about staffers who attended bootcamp and seminar training sessions, including calculations using the indicator variables found in various analyses. A number of staffers present in the attendance records could not be matched to staffers in the disbursement data for a variety of reasons. For instance, some were interns or visiting fellows. Additionally, given the time-dependent nature of job descriptions, the calculations are based on the type of job that staffers held at the time of attending the session, as determined to the best of our ability.

Table F4 – Summary Statistics About Bootcamp Attendees

Total Attendees	259
Number of Unique Attendees	258
Has Senior Position	8.9%
Has Policy Position	79.5%
Has Senate Position	43.6%
Has Committee Position	83.0%

Table F5 – Summary Statistics About Seminar Attendees

Total Attendees	1,919
Number of Unique Attendees	964
Has Senior Position	8.2%
Has Policy Position	73.5%
Has Senate Position	45.7%
Has Committee Position	47.1%

G Career Uncertainty and Changes in Majority Status

Changes in majority status could confound the relationship between career uncertainty and firm-specific training. Whether a legislator is in her final term is correlated with whether her party is entering the majority. She is more likely to be in her final term if her party is exiting the majority, because change in majority status necessarily involves a disproportionate share of members of the majority party leaving office. Whether a staffer attends training could also be correlated with changes in majority status. Perhaps lobbyists demand more staffers from the majority party, which could reduce investment in training if it is firm-specific, or perhaps the majority's outsized influence over committee hearings increases its demand for staffers with oversight training, which could increase attendance. In either case, changes in majority status would be correlated with both the key independent variable and the dependent variable, which raises the possibility that a key test of our theory is in fact a spurious correlation.

In order to account for the importance of changing majority status, we replicate the turnover analysis from Table 3, but we add three variables. The first is a control variable for upcoming majority changes: If a legislator's party is moving from the minority party in the current Congress to the majority party next Congress, this variable is coded as a 1. If the majority does not change, it is coded as 0. If a party is moving from the majority to the minority, it is coded as -1. The second is an interaction between this upcoming majority status variable and career uncertainty (as measured by whether or not a legislator is in his/her final term). The third is a control variable indicating whether or not the legislator's party is currently in the majority within his/her chamber.

Our goal is to show that our key result, that the coefficient for a staffer's member being in their final term is negative and statistically significant, is robust to controlling for an upcoming change in majority status. That is precisely what Table G6 shows. The point estimates are very similar to those in the baseline analysis and the coefficients remain statistically significant at conventional levels.

Secondarily, the analysis shows that an upcoming change in majority status moderates the effect of an employer's departure. A legislator's departure depresses attendance even more when the legislator's party is about to gain the majority. This result was not obvious ex ante. Even if we suppose that the training provides firm-specific human capital, gaining the majority could make staffers less sensitive to their member's departure (because there will be lots of new legislators who need to hire staff, which increases the staffer's likelihood of being able to remain in Congress) or more sensitive to their member's departure (because lobbying firms want to hire members of the majority party, so trying to find a new job in Congress becomes less attractive). The results are inconsistent with the former and consistent with the

latter. This is not a test of our theory, because the theory does not produce a clear prediction, but it is nevertheless an interesting exploratory finding.

Table G6 – Attendance at Trainings vs. Turnover: Majority Change/Status as Moderator

	Dependent variable:	
	Staffers	Hours
	(1)	(2)
Final Term	-0.018^{***}	-0.022^{**}
	(0.006)	(0.009)
Upcoming Majority Status Change	0.006	0.008
	(0.004)	(0.008)
Senate	0.065^{***}	0.125^{**}
	(0.022)	(0.050)
In Majority	-0.002	-0.003
	(0.005)	(0.009)
Upcoming Majority Change	-0.005	-0.016
	(0.007)	(0.017)
Final Term x Upcoming Majority Status Change	$\mathbf{-0.020^{**}}$	$\mathbf{-0.017}$
	(0.009)	**(0.012)**
Observations	43,940	43,940
Note:	*p<0.1; **p<0.05; ***p<0.01	

H Expertise Acquisition and Promotion Rate

If oversight expertise is firm specific, as the evidence in the main text suggests, we would also expect Congressional offices to reward staffers who acquire it. One possible method for doing this would be to promote staffers who acquire expertise to policy focused or senior positions. To examine this question, we utilize a design similar to that in Table 5. Specifically, we utilize a variety of Cox proportional hazards models to study the rate at which staffers receive promotions to policy focused and senior positions. Variables that are statistically significantly correlated with faster promotion rates will have positive coefficient values. Jobs are coded according to the categorizations described in Section I. To ensure proper comparisons, we subset the data to only include staffers who were hired to positions that were neither policy focused, nor senior. Ultimately, there are two pairs of models, as we examine the effects on promotion rates of interest/attendance for bootcamps and seminars separately.

Table H7 shows the results of these tests. Across all combinations of training and promotion types, staffers who expressed an interest in training or attended sessions received promotions faster than those who did not. This aligns with theoretical expectations if oversight expertise is a firm specific type of human capital. Of course, these results are not causal: There are many means by which staffers might acquire expertise, as well as many ways for an office to reward staffers for their expertise. However, these results do lend additional validation to the results described in the main text.

Table H7 – Training Interest/Attendance vs. Promotion Rate This table shows the results of four Cox proportional hazards models. The analysis is performed on staffers who were hired into jobs not considered policy focused or senior positions, according to our handcoding process. The results suggest that staffers who expressed an interest or attended training session(s) got promoted to policy-focused and senior positions more quickly than those who did not. This appears to be true for both types of training.

	Bootcamps		*Seminars*	
	Promotion Rate (policy)	Promotion Rate (senior)	Promotion Rate (policy)	Promotion Rate (senior)
Interested/Attended	**1.182***** **(0.147)**	**1.311***** **(0.372)**	**1.382***** **(0.073)**	**1.116***** **(0.170)**
Senate	0.897*** (0.052)	-0.882^{***} (0.133)	0.811*** (0.046)	-0.502^{***} (0.110)
Salary	-0.00004^{***} (0.00000)	0.00003*** (0.00000)	-0.00005^{***} (0.00000)	0.00002*** (0.00000)
Committee	1.781*** (0.100)	-0.232 (0.305)	1.485*** (0.091)	0.563*** (0.187)
Observations	101,971	106,315	136,350	143,011
Note:				*p<0.1; **p<0.05; ***p<0.01

I List of Policy and Senior Positions

I.0.1 Policy Relevant Positions

Observations with the following job titles were marked as "policy relevant jobs": LEGISLATIVE ASSISTANT, LEGISLATIVE CORRESPONDENT, LEGISLATIVE DIRECTOR, PROFESSIONAL STAFF MEMBER, COUNSEL, LEGISLATIVE AIDE, SENIOR LEGISLATIVE ASSISTANT, SENIOR POLICY ADVISOR, PROFESSIONAL STAFF, CONGRESSIONAL AIDE, SENIOR COUNSEL, LEGISLATIVE COUNSEL, SENIOR ADVISOR, POLICY ADVISOR, LEGISLATIVE ASSISTANT (OTHER COMPENSATION), CHIEF COUNSEL, ASSISTANT COUNSEL, RESEARCH ASSISTANT, POLICY DIRECTOR, MILITARY LEGISLATIVE ASSISTANT,

GENERAL COUNSEL, LEGISLATIVE DIRECTOR (OTHER COMPENSATION), PROFESSIONAL STAFF MBR, SENIOR PROFESSIONAL STAFF, SENIOR PROFESSIONAL STAFF MEMBER, LEGISLATIVE CORRESPONDENT (OTHER COMPENSATION), SR LEGISLATIVE ASSISTANT, TAX COUNSEL, BUDGET ANALYST, ECONOMIST, INVESTIGATIVE COUNSEL, POLICY ANALYST, HEALTH POLICY ADVISOR, STAFF ASSISTANT/LEG CORRES, COUNSEL (OTHER COMPENSATION), SENIOR ECONOMIST, SENIOR LEGISLATIVE ASSISTANT (OTHER COMPENSATION), DEMOCRATIC COUNSEL, SR PROFESSIONAL STAFF MEMBER, PROFESSIONAL STAFF MEMBER (OTHER COMPENSATION), POLICY COORDINATOR, DEPUTY LEGISLATIVE DIRECTOR, INVESTIGATOR, NATIONAL SECURITY ADVISOR, SENIOR PROFESSIONAL STAFF MEM, TRADE COUNSEL, SENIOR HEALTH POLICY ADVISOR, LEGIS CORRESPONDENT, MINORITY PROFESSIONAL STAFF ME, CHIEF ECONOMIST, MINORITY PROFESSIONAL STAFF, LEGISLATION COUNSEL, MINORITY COUNSEL, REPUBLICAN COUNSEL, SPECIAL COUNSEL, POLICY ASSISTANT, ASSOCIATE COUNSEL, SENIOR POLICY ADVISOR (OTHER COMPENSATION), MILITARY LEGISLATIVE ASST, STAFF ASSISTANT/LEGISLATIVE CO, LEGISLATIVE DIRECTOR & COUNSEL, LEGISLATIVE AIDE (OTHER COMPENSATION), LEGAL COUNSEL, LEGISLATIVE STAFF ASSISTANT, OVERSIGHT COUNSEL, PROFESSIONAL STAFF (OTHER COMPENSATION), STAFF DIRECTOR & CHIEF COUNSEL, REPUBLICAN PROFESSIONAL STAFF, DEMOCRACTIC PROF STAFF MEMBER, ECONOMIC POLICY ADVISOR, HEALTH POLICY DIRECTOR, SENIOR LEGISLATIVE COUNSEL, POLICY AIDE, SUBCOMMITTEE PROF STAFF MEMBER, CHIEF INVESTIGATIVE COUNSEL, LEGISLATIVE COUNSEL (OTHER COMPENSATION), DEPUTY CHIEF OF STAFF/LEGISLAT, DEMOCRATIC PROFESSIONAL STAFF MEMBER, DEPUTY POLICY DIRECTOR, ECONOMIC DEVELOPMENT DIRECTOR, SENIOR LEGISLATIVE AIDE, LEGISLATIVE DIRECTOR/COUNSEL, MINORITY PROFESSIONAL STAFF MEMBER, LEGIS CORRES/LEGIS ASST, FOREIGN POLICY ADVISOR, SENIOR ASSOCIATE COUNSEL, LEGISLATIVE STAFF (REP), CHIEF OVERSIGHT COUNSEL, JUNIOR LEGISLATIVE ASSISTANT, SENIOR COUNSEL (OTHER COMPENSATION), MINORITY CHIEF COUNSEL, CHIEF TAX COUNSEL, SR LEGIS ASST, SENIOR PROF STAFF MEMBER, DEPUTY COUNSEL, SCHEDULER/LEGISLATIVE AIDE, HEALTH COUNSEL, SENIOR LEGISLATION COUNSEL, ADA AIDE, LEGISLATIVE CORRESPONDENT (OVERTIME), STAFF ASSIST/LEG CORRESPONDENT, SUBCOMMITTEE CHIEF COUNSEL, REPUBLICAN PROF STAFF MEMBER, DEP. CHIEF OF STAFF/LEGIS. DIR, SPECIAL ADVISOR, STAFF ASST/LEG CORRESPONDENT, LEGISLATIVE ANALYST, SENIOR INVESTIGATOR, NE/MW COALITION LEGISLATION DIRECTOR, LEGISLATIVE ASSISTANT/COUNSEL, DIGITAL DIR & POLICY ADV, LEGISLATIVE CORRESPONDENT/ASST, STAFF DIRECTOR AND CHIEF COUNSEL, CHIEF OF STAFF/COUNSEL, INTERNATIONAL TRADE COUNSEL, JR LEGISLATIVE ASSISTANT, LEGISLATIVE CORRESPONDENT/PRES, LEGISLATIVE ASSISTANT/LEG. COR, SENIOR INVESTIGATIVE COUNSEL, SR LEGISLATIVE ASST, DEPUTY CHIEF OF STAFF/LD, PROFESSIONAL POLICY STAFF, SPECIAL ASSISTANT FOR POLICY AND PROJECTS, LEGISLATIVE CORRESPONDENT/AIDE, PROFESSIONAL STAFF MBR (OTHER COMPENSATION), STAFF ASST/LEGIS CORRESPONDENT, DEMOCRATIC CHIEF COUNSEL, LEGIS ASST/LEGIS CORRESPONDENT, MINORITY GENERAL COUNSEL, TAX POLICY ADVISOR, MAJORITY COUNSEL, LEGISLATIVE ASSISTANT/CORRES, SCHEDULER/LEGISLATIVE CORRES, SENIOR BUDGET ANALYST, LA, LEGISLATIVE STAFF, LEGIS CORRESPONDENT/PRESS ASST, COUNSEL/SENIOR POLICY ADVISOR, SENIOR POLICY DIRECTOR, LEG CORRESPONDENT/LEG ASST, RE-

SEARCHER, DEPUTY LEGISLATIVE ASSISTANT, ASST CHIEF CLERK (DEBATES), DEPUTY CHIEF OF STAFF/COUNSEL, REFUND COUNSEL, SENIOR HEALTH COUNSEL, LEGISLATION TAX ACCOUNTANT, LEGISLATIVE CORR/STAFF ASST, SR EDUCATION POLICY ADVISOR, LEGIS CORRESPONDENT/STAFF ASST, LEGISLATIVE COORDINATOR, LEGISLATIVE CORRESPONDENT/STAF, SENIOR ECONOMIC ADVISOR, SENIOR TAX COUNSEL, CHIEF OF STAFF/LEG DIRECTOR, LEGIS ASST/LEGISLATIVE CORRES, POLICY ADVISOR (OTHER COMPENSATION), CHIEF TRADE COUNSEL, LEGIS CORR/PRESS ASST, LEGISLATIVE ASSOCIATE, STAFF ASSISTANT / LEGISLATIVE CORRESPONDENT, CHIEF COUNSEL (OTHER COMPENSATION), LEG CORRESPONDENT/STAFF ASSIST, PROFESSIONAL STF MBR, STAFF ASST/LEGISLATIVE CORRES, CHIEF HEALTH COUNSEL, SR POLICY ADVISOR, BUDGET DIRECTOR, DEFENSE POLICY ADVISOR, DEMOCRATIC SR PROF. STAFF MEM, LEGISLATIVE CORRES/LEGIS ASST, SCHEDULER/LEGISLATIVE ASST, SR. LEGISLATION COUNSEL, SENIOR EDUCATION POLICY ADVISOR, DEMOCRATIC GENERAL COUNSEL, LABOR COUNSEL, REPUBLICAN CHIEF COUNSEL, DIRECTOR OF INVESTIGATIONS, LEGISLATIVE RESEARCH ASSISTANT, MILITARY LEGISLATIVE ASSISTANT (OTHER COMPENSATION), ASSISTANT COUNSEL (OTHER COMPENSATION), DEMOCRATIC SENIOR COUNSEL, COUNSELOR, DEPUTY LEGISLATIVE COUNSEL, DIR. OF LEGISLATIVE OPERATIONS, NATIONAL SECURITY POLICY ADVISOR, PROFESSIONAL STAFF MEMBER - S&, SENIOR LEGISLATIVE ASSOCIATE, MAJORITY SUBCOMMITTEE STAFF, REPUBLICAN SENIOR COUNSEL, RESEARCH STAFF ASSISTANT, SENIOR PROFESSIONAL STAFF (OTHER COMPENSATION), CHIEF COUNSEL/LEGIS DIRECTOR, DEP CHIEF OF STAFF & LEGIS DIR, HEALTH LEGISLATIVE ASSISTANT, LABOR POLICY ADVISOR, LABOR POLICY DIRECTOR, LEGISLATIVE CORR/SYSTEMS ADMIN, STAFF DIRECTOR/CHIEF COUNSEL, ASSOCIATE ADMIN. COUNSEL, CHIEF INVESTIGATOR, PRESS SECRETARY/LEGIS ASST, SUBCOMMITTEE PROFESSIONAL STAF, LA/LC, LEGISLATIVE ASSISTANT / COUNSEL, LEGISLATIVE DIR/DEPUTY COS, DIRECTOR OF OVERSIGHT, DEPUTY COS/LEG DIRECTOR, ELECTIONS COUNSEL, HEALTH PROFESSIONAL STAFF, LEGISLATIVE COORESPONDENT, MINORITY SENIOR PROFESSIONAL STAFF MEMBER, SENIOR CONGRESSIONAL AIDE, DEMOCRATIC SENIOR PROFESSIONAL STAFF MEMBER, DIR OF LEGISLATIVE OPERATIONS, DIRECTOR OF ECONOMIC DEVELOPMENT, STAFF ASSIST/LEGISLATIVE CORRE, BUDGET REVIEW DIRECTOR, DEMOCRATIC PROF STAFF MEMBER, DIR OF EDU & HUMAN SERV POLICY, LEG ASST/LEG CORRESPONDENT, OVERSIGHT STAFF DIRECTOR, SR LABOR POLICY ADVISOR, SR LEGISLATIVE ASSISTANT (OTHER COMPENSATION), SUBCOM PROF STAFF MEMBER, LEGISLATIVE AIDE/CORRESPONDENT, LEGISLATIVE CORR/PRESS ASSIST, SENIOR HEALTH ADVISOR, STAFF ASSISTANT/LC, DEPUTY COS/LEGISLATIVE DIR, LABOR POLICY COUNSEL, POLICY COUNSEL, REPUBLICAN LEGISLATIVE ASSISTANT, PROF STAFF MEMBER (DEM), PROFESSIONAL STAFF/COUNSEL, CHIEF INTERNATIONAL TRADE COUNSEL, CHIEF OF STAFF-WASHINGTON DC, DEMOCRATIC POLICY ADVISOR, BANKING COUNSEL, MAJORITY LEGISLATIVE ASSISTANT, SUBCOMMITTEE PROF STAFF MEMBER (OTHER COMPENSATION), SUBCOMMITTEE STAFF DIR-HEALTH, APPROPRIATIONS ASSOCIATE, ASSOCIATE GENERAL COUNSEL, ASSOCIATE LEGISLATIVE ASSISTANT, DEMOCRATIC POLICY DIRECTOR, DEPUTY CHIEF OF STAFF FOR POLICY, SUBCOMMITTEE STAFF ASSOCIATE (OTHER COMPENSATION), EDUCATION POLICY DIRECTOR, LEG DIR/DEPUTY CHIEF OF STAFF, LEGISLATIVE AIDE/LEGIS CORRESP, LEGISLATIVE CORR/STAFF ASST., POLICY ANALYST (OTHER COMPENSATION),

EXECUTIVE ASSISTANT/LEGISLATIV, POLICY DIRECTOR (OTHER COMPENSATION), PROFESSIONAL STAFF (DEM), SENIOR POLICY ADVISOR, DEMOCRATIC STAFF, BUDGET ANALYST (OTHER COMPENSATION), IMMIGRATION COUNSEL, SR LEGISLATIVE CORRESPONDENT, DEMOCRATIC RESEARCH ASSISTANT, DIRECTOR OF EDUCATION POLICY, SENIOR PROFESSIONAL STAFF MBR, GENERAL COUNSEL (OTHER COMPENSATION), HEALTH RESEARCH ASSISTANT, MINORITY RESEARCH ASSISTANT, REPRESENTATIVE PROFESSIONAL STAFF MEMBER, SENIOR ECONOMIC POLICY ADVISOR, SENIOR POLICY AIDE, SENIOR POLICY ANALYST, SENIOR REPUBLICAN COUNSEL, DEPUTY CHIEF AND LEGIS DIRECTO, DEPUTY LAW REVISION COUNSEL, SENIOR FOREIGN POLICY ADVISOR, SR POLICY ADVISOR & COUNSEL, STATISTICAL ANALYST, CHIEF STATISTICAL ANALYST, DEPUTY STAFF DIR/CHIEF COUNSEL, SR LEGISLATIVE DATA SPECIALIST, MAJORITY RESEARCH ASSISTANT, REPUBLICAN SENIOR PROFESSIONAL, SENIOR EDUCATION POLICY ADVISO, SENIOR POLICY COUNSEL, STAFF DIRECTOR / CHIEF COUNSEL, CHIEF CLERK (COMMITTEES), DEMOCRATIC CHIEF CLERK, DEPUTY CHIEF OVERSIGHT COUNSEL, DIRECTOR OF MILITARY AFFAIRS, GENERAL COUNSEL & PARLIAMENTAR, MINORITY CHIEF CLERK, POLICY ASSOCIATE, REPUBLICAN GENERAL COUNSEL, SENIOR PROFESSIONAL STAFF MEM (OTHER COMPENSATION)

I.0.2 Senior Positions

Similarly, the following job titles were marked as "senior positions": LEGISLATIVE DIRECTOR, CHIEF OF STAFF, DEPUTY CHIEF OF STAFF, CHIEF COUNSEL, POLICY DIRECTOR, GENERAL COUNSEL, LEGISLATIVE DIRECTOR (OTHER COMPENSATION), SUBCOMMITTEE STAFF DIRECTOR, STAFF DIRECTOR, CHIEF CLERK, DEPUTY CHIEF COUNSEL, MINORITY STAFF DIRECTOR, DEPUTY CHIEF OF STAFF (OTHER COMPENSATION), DEPUTY LEGISLATIVE DIRECTOR, DEPUTY CHIEF OF STAFF/LEG DIR, REPUBLICAN STAFF DIRECTOR, DEPUTY CHEIF OF STAFF, CHIEF ECONOMIST, DEPUTY CHIEF, CHIEF, LEGISLATIVE DIRECTOR & COUNSEL, STAFF DIRECTOR & CHIEF COUNSEL, HEALTH POLICY DIRECTOR, DC CHIEF OF STAFF, CHIEF INVESTIGATIVE COUNSEL, SUBCOMMITTEE DIRECTOR, DEPUTY CHIEF OF STAFF/LEGISLAT, DEPUTY POLICY DIRECTOR, ECONOMIC DEVELOPMENT DIRECTOR, LEGISLATIVE DIRECTOR/COUNSEL, EXECUTIVE DIRECTOR SENATE STEERING COMMITTEE, DEPUTY CHIEF OF STAFF/COMM DIR, CHIEF OVERSIGHT COUNSEL, MINORITY CHIEF COUNSEL, CHIEF TAX COUNSEL, MAJORITY STAFF DIRECTOR, SUBCOMMITTEE CHIEF COUNSEL, DEP. CHIEF OF STAFF/LEGIS. DIR, NE/MW COALITION LEGISLATION DIRECTOR, STAFF DIRECTOR AND CHIEF COUNSEL, CHIEF OF STAFF/COUNSEL, WASHINGTON DIRECTOR, DIRECTOR OF ECONOMIC DEVELOPME, DEPUTY CHIEF OF STAFF/LD, DEMOCRATIC CHIEF COUNSEL, MINORITY GENERAL COUNSEL, SENIOR POLICY DIRECTOR, DEPUTY CHIEF OF STAFF/COUNSEL, CHIEF OF STAFF/LEG DIRECTOR, MINORITY DEPUTY STAFF DIRECTOR, CHIEF TRADE COUNSEL, CHIEF COUNSEL (OTHER COMPENSATION), REPUBLICAN DEPUTY STAFF DIRECTOR, CHIEF HEALTH COUNSEL, BUDGET DIRECTOR, REPUBLICAN SUB-COMMITTEE STAFF DIRECTOR, DEMOCRATIC GENERAL COUNSEL, REPUBLICAN CHIEF COUNSEL, DIRECTOR OF INVESTIGATIONS, DEMOCRATIC DEPUTY STAFF DIRECTOR, DIR. OF LEGISLATIVE OPERATIONS, CHIEF COUNSEL/LEGIS DIRECTOR, DEP CHIEF OF STAFF & LEGIS DIR, LABOR POLICY DIRECTOR,

STAFF DIRECTOR/CHIEF COUNSEL, CHIEF INVESTIGATOR, CHIEF OF STAFF/COMM DIRECTOR, LEGISLATIVE DIR/DEPUTY COS, DIRECTOR OF OVERSIGHT, DEPUTY COS/LEG DIRECTOR, STAFF DIRECTOR (OTHER COMPENSATION), DIR OF LEGISLATIVE OPERATIONS, DIRECTOR OF ECONOMIC DEVELOPMENT, BUDGET REVIEW DIRECTOR, DEPUTY COS/COMMUNICATIONS DIR., DIR OF EDU & HUMAN SERV POLICY, OVERSIGHT STAFF DIRECTOR, DEPUTY COS/LEGISLATIVE DIR, CHIEF INTERNATIONAL TRADE COUNSEL, CHIEF OF STAFF-WASHINGTON DC, MINORITY SUBCOMMITTEE STAFF DIRECTOR, SUBCOMM STAFF DIRECTOR, DEPUTY CHIEF OF STF/EXEC ASST, SUBCOMMITTEE STAFF DIR-HEALTH, DEMOCRATIC POLICY DIRECTOR, DEPUTY CHIEF OF STAFF FOR POLICY, DEPUTY STAFF DIRECTOR (OTHER COMPENSATION), LEG DIR/DEPUTY CHIEF OF STAFF, MAJORITY SUBCOMMITTEE STAFF DIRECTOR, POLICY DIRECTOR (OTHER COMPENSATION), DIRECTOR OF EDUCATION POLICY, GENERAL COUNSEL (OTHER COMPENSATION), DEPUTY CHIEF AND LEGIS DIRECTO, CHIEF STATISTICAL ANALYST, DEPUTY STAFF DIR/CHIEF COUNSEL, STAFF DIRECTOR / CHIEF COUNSEL, CHIEF CLERK (COMMITTEES), DEMOCRATIC CHIEF CLERK, DEPUTY CHIEF OVERSIGHT COUNSEL, DIRECTOR OF MILITARY AFFAIRS, GENERAL COUNSEL & PARLIAMENTAR, MINORITY CHIEF CLERK, REPUBLICAN GENERAL COUNSEL