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From the Halls of Congress to K Street: Government Experience and its Value for Lobbying

Lobbying presents an attractive postcongressional career, with some former congressional members and staffers transitioning to lucrative lobbying careers. Precisely why congressional experience is valued is a matter of ongoing debate. Building on research positing a relationship between political uncertainty and demand for lobbyists, we examine conditions under which lobbyists with past congressional experience prove most valuable. To assess lobbyist earnings, we develop a new measure, Lobbyist Value Added, that reflects the marginal contribution of each lobbyist on a contract, and show that previous measures understate the value of high-performing lobbyists. We find that former staffers earn revenues above their peers during times of uncertainty, and former members of Congress generate higher revenue overall, which we identify by comparing revenues generated by individuals who narrowly won election to those who narrowly lost. These findings help characterize when lobbyists with different skillsets prove most valuable and the value added by government experience.

While some politicians remain in office until the end of their professional lives, many others are defeated or choose to leave office to explore the career options available to them outside of electoral politics. Former officials receive job offers and accept positions that reward them for their political background; roughly one in four former high-level politicians and government officials go on to postpolitical employment as a board director or lobbyist (Palmer and Schneer 2019). Lobbying presents a particularly lucrative and visible form of postpolitical employment, perhaps because value as a lobbyist so clearly relates to human capital developed while serving in government.

The theoretical literature on lobbying has traditionally advanced two views of the lobbying process, both of which point to why former members of Congress (MCs) and their staffers may be successful in particular as lobbyists. First, the literature has emphasized how lobbying can serve as a form of information transfer, with interest groups sending informational signals on policy issues to politicians (Austen-Smith 1994, 1995; Grossman and Helpman 2001; Lohmann 1995). Under this view, issue expertise proves to be a valuable characteristic, and so former MCs and staffers may be highly valued for expertise developed while in office (Berry 1977; Esterling 2004; Heinz et al. 1993; Salisbury et al. 1989). Other scholars have emphasized the importance of political connections as a crucial currency for lobbyists, which can allow them to help tip the scales for or against legislation considered before Congress. In a study of former congressional staffers, Blanes i Vidal, Draca, and Fons-Rosen (2012) find that former US Senate staffers who became lobbyists suffered a substantial drop in revenue when their senator left office. Similarly, Bertrand, Bombardini, and Trebbi (2014) argue that connections bring lobbyists more of a revenue premium than does issue expertise. McCrain (2018) also demonstrates the high value of connections between former and current legislative staff.

Recent political science research on lobbying, however, has begun to advance a subtly different understanding of the role of lobbyists in the policymaking process. LaPira and Thomas (2017) characterize lobbyists as providing a form of *political insurance* for firms and other groups worried that government policies may affect their interests. This view of lobbying as political insurance provides a compelling rationale for the explosion in lobbying activity over the past three decades. As the analytic capacity of Congress has declined and strong, centralized parties have emerged, uncertainty about government policy has increased and, in turn, created a strong demand for those with knowledge of policy as well as insider process knowledge—termed “revolving-door” lobbyists by LaPira and Thomas (2017). Revolving-door lobbyists are valued, the authors argue, not just for their policy chops or their connections per se, but rather for their understanding of how the policy process really works, which is developed by actually working in government and that lends firms insight into navigating the policymaking process. It is this form of human capital—process knowledge—that helps generate sky-high wages

for some lobbyists and not others, even those working on behalf of the same firm.^{1, 2}

The relationship between political uncertainty and demand for lobbyists is crucial to this model of lobbying, but some important propositions about this linkage remain unstudied and untested. To our knowledge, no one has actually tested the relationship explicitly. As part of the explanation for why demand for lobbying has increased over time, LaPira and Thomas illustrate that congressional staff head counts have declined (2017, 13) and indicators for party centralization (2017, 18–19) have increased. But linking these trends to measurable increases in policy uncertainty and, in turn, fluctuations in demand for lobbying is a trickier matter. For one, policy uncertainty is a function not only of the institutional dynamics in Congress but also of external events.³ Looking within a single year, LaPira and Thomas find that lobbyists suited to reduce political uncertainty tended to work across policy issue areas and in political domains, such as taxes, particularly sensitive to uncertainty about government policymaking (2017, 153). However, because the bulk of the analysis focuses on a snapshot of lobbyist behavior in a single year, this approach does not facilitate an examination of the fundamental relationship between political uncertainty and demand for lobbyists over time.

Our article seeks to examine this issue and several interrelated questions about postpolitical employment of former officials (MCs and congressional staffers) as lobbyists. First, what is the relationship between uncertainty about public policy and the demand for these lobbyists? In particular, we aim to assess whether lobbyists with particular skills developed serving in Congress—either as a legislator or staffer—see outside returns to their earnings in moments of heightened policy uncertainty. Second, can we establish exactly how much higher a return from lobbying can be earned due only to past employment in Congress? Several obstacles prevent easy answers to these questions. Measuring individual earnings from lobbying is not a straightforward exercise. Lobbying firms must file reports detailing their activities, but they need only report payments from a client overall rather than reporting on a per-lobbyist basis—a problem that complicates any study probing the earnings of lobbyists. Moreover, the personal characteristics that lead to successful careers in politics also correlate with success as a lobbyist. As a result, a simple comparison of the earnings of lobbyists who served in the Senate or House

versus others does not identify the effect of holding office on one's career as a lobbyist.

We employ several methods to help address these issues. We develop a measure of lobbyist earnings that captures the share of revenues directly attributable to the presence of a particular individual on a lobbying team. Key to our approach is the use of penalization methods (i.e., ridge regression) to address the high dimensionality of lobbying data and the strong collinearity that results (i.e., there are almost as many lobbyists as lobbying reports in a quarter, and many lobbyists work together repeatedly). An approach identifying individual lobbyist contributions to a group is necessary since lobbying on behalf of a client is a team activity in which multiple lobbyists from a firm collaborate—and not always in equal shares. Indeed, approaches that do not assess individual contributions to a lobbying team may be particularly likely to overlook the differences between rainmaker lobbyists with revolving-door experience and others on a lobbying team. Our measure, which we term *Lobbyist Value Added* (LVA), reflects the marginal contribution of each lobbyist to his or her team of lobbyists. We demonstrate that a standard measurement approach used in the literature (revenues per lobbyist), which does not take into account the marginal contribution of a particular lobbyist, tends to understate the value of the most sought-after “rainmaker” lobbyists.

Then, using LVA, we examine the relationship between demand for lobbyists and policy uncertainty, as measured by a widely used index measuring policy uncertainty over time (Baker, Bloom, and Davis 2016). For 2000–14, we identify stretches of time where aggregate policy uncertainty measures were high.⁴ We estimate LVA for each of these time periods and assess how LVA for former MCs and staffers changes in periods of high uncertainty. We find that while lobbyists overall file more reports and have higher earnings in moments of increased uncertainty, the effect is especially pronounced for former staffers. Former MCs have higher earnings on average during times of heightened policy uncertainty, but they do not appear to earn an outside return during times of high policy uncertainty, as compared to lobbyists without revolving-door experience.

To determine how much of the high earnings on the part of former government employees actually stems from their time in public service, we narrow our focus to MCs and implement a

regression-discontinuity design comparing the lobbying careers of individuals who narrowly won a Senate or House seat to individuals who narrowly lost. Using this approach, we find a large, statistically significant effect of congressional service on lobbying careers. Holding office has positive value for postcongressional careers as lobbyists. We examine the likelihood of becoming a lobbyist, revenues per lobbyist, and LVA-weighted revenues to demonstrate that service in Congress leads to more successful lobbying careers.

Finally, we examine the population of politician-lobbyists and correlations between lobbying success and types of political experience: committee service, leadership positions, previous employment, wealth, ideology, and other characteristics. Thus, we not only demonstrate the conditions under which politician-lobbyists generate outside revenue, we can also determine which, if any, characteristics of political experience predict greater marginal contributions among former MCs.

Our study of how holding office affects lobbying careers adds to the larger debate on the revolving door. The movement of federal government employees into the lobbying industry has been the target of recent regulation. Currently, former House and Senate members and staffers above a certain pay level are subject to “cooling off” periods before they may work as lobbyists (Maskell 2010). Establishing more accurately (1) the reasons revolving-door lobbyists are valued as well as (2) the return that former politicians bring to lobbying firms due to their government service can help guide efforts to develop policy and regulations for the revolving-door phenomenon.

Data

The data used for this article are constructed primarily from the following sources: (1) a database of lobbying reports from the Center for Responsive Politics (CRP); (2) House and Senate electoral returns; and (3) policy uncertainty data from the Economic Policy Uncertainty index.

The CRP, through its website opensecrets.org, provides a compilation of client transaction-level reports filed by lobbying firms under the Lobbying Disclosure Act of 1995.⁵ From 1998 to 2007, lobbying reports were filed biannually, and since 2007, lobbying reports are filed quarterly. For each lobbying

firm–client transaction, the database provides information on the dollar amount of the transaction as well the lobbyists linked to the transaction. Using these data, we can construct a list of lobbyists, the date range that each lobbyist was active in the lobbying industry, and the dollar value of each lobbyist’s transaction. In order to identify whether candidates went on to become lobbyists, we match the candidate names from the House and Senate electoral data to the names in the lobbying reports.

One challenge of working with lobbying reports is that lobbying is only reported quarterly or biannually, such that we cannot observe each distinct lobbying action, but only the firm’s activity for the specified time period. Furthermore, the reports are filed at the lobbying-firm and client level, such that multiple lobbyists at the same firm are often listed on a single report, and we cannot distinguish their independent billings. As a result, to analyze individual lobbyist revenue, we take two distinct approaches: (1) dividing the amount listed on each lobbying report equally between all of the lobbyists listed on a report; and (2) developing an alternate method to measure individual Lobbyist Value Added based on repeated observations of teams working together in different configurations across multiple lobbying reports, which we discuss in more detail later in the article. We adjust the dollar amounts in the lobbying reports to 2014 dollars using the Consumer Price Index.⁶

Another challenge in studying politician-lobbyists is that shadow lobbying may lead to an undercount of former politicians becoming lobbyists. Under a 2008 revision to the Lobbying Disclosure Act, lobbyists must register and submit lobbying reports. However, only those individuals who spend 20% or more of their time on lobbying activity for a client (or who make more than one lobbying contact) are required to submit reports.⁷ Thus, many individuals who do act and work like lobbyists, but do not officially spend 20% or more of their time lobbying for a given client, do not have to register as lobbyists and do not submit lobbying reports. This loophole has been referred to as the “Daschle loophole” after former Senate majority Tom Daschle, who became infamous as a “policy advisor” working for lobbying organizations such as Alston and Bird and DLA Piper (Watson 2016). The rise of unregistered lobbyists who evade reporting requirements has made the lobbying industry look smaller on paper, while in reality, various organizations and experts have estimated that the

lobbying industry has dramatically increased in size (Auble 2013; Fang 2014; Watson 2016). For instance, a study by the Center for Responsive Politics found that over 46% of active, reporting lobbyists in 2011, while still working for the same employers in 2012, did not report any lobbying activity in 2012 (Auble 2013). LaPira (2014), in comparing a sample of active professionals from the on-line directory *Lobbyists.info* with those who are registered under the LDA, finds that 52.3% are shadow lobbyists.

Since using lobbying reports excludes the population of shadow lobbyists, our data should undercount the number and activity of politicians and staffers who work in at least some lobbying capacity. Thus, our results may be, if anything, underestimating the effect of a congressional career on the likelihood of working as a lobbyist in some form and on the revenues or number of clients derived from lobbying work.

Using the lobbying reports data, we extracted all reports filed by a lobbying firm for work done for a paying client, which excluded in-house lobbying and *pro bono* work (such as on behalf of some small nonprofits). From 2000 to 2014, there were 456,466 reports that fit our criteria, and 16,544 lobbyists named on these reports. For this study, we then further restricted the sample to lobbyists who had served on at least 12 reports in their lobbying careers.

Table 1 reports the means for different measures of lobbying outcomes, broken out by those who we study as revolving-door lobbyists (former MCs and staffers).⁸ At a glance, we see that the group of lobbyists who formerly worked in Congress filed more reports per year on average, brought in higher revenues per year, and higher LVA-weighted revenues per year than lobbyists who

TABLE 1
Descriptive Statistics: Lobbying Measures

	All Lobbyists	Revolving-Door Lobbyists	Other Lobbyists
Lobbying Reports per Year	18.86	24.63	16.9
Revenues per Year (\$k)	288.28	395.53	251.8
LVA Wtd. Rev. per Year (\$k)	271.83	376.17	236.34
Observations	8,306	2,108	6,198

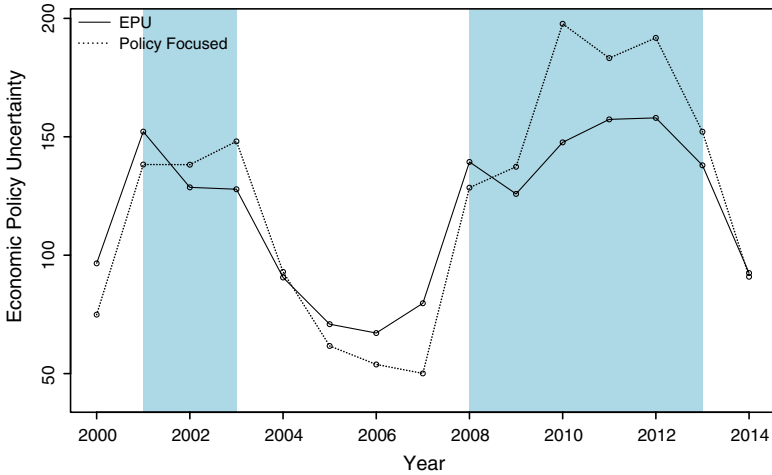
did not serve in Congress. Table A.1 in the online supporting information also provides a sense of how frequently congressional candidates go on to lobby. A higher percentage of House and Senate election winners go on to become lobbyists when compared to House and Senate election losers. Furthermore, on average, the election winners who became lobbyists bring in higher annual revenues.

To capture policy uncertainty, we use data from Baker, Bloom, and Davis (2016), who developed a monthly index of economic policy uncertainty for the United States. The index is based on the monthly frequency of articles containing terms that the authors identify and validate as describing policy, the economy, and uncertainty. The authors validate their index by incorporating a human audit study of newspaper articles, and show how their index compares to other measures of economic uncertainty and the number of mentions of policy uncertainty in publications from the Federal Reserve System. Their resulting economic policy uncertainty index is a useful measure for our purposes.⁹ One potential worry with this measure is that it captures only *economic* uncertainty and not uncertainty related to other policy issues. To account for that issue, we make use of additional categorical data made available by the authors. Specifically, they estimate uncertainty measures for a variety of different policy categories over time based on keywords used in newspaper coverage.¹⁰ We identify a subset of these categories (Health Care, National Security, Entitlement Programs, and Regulation) designed to identify issues not purely related to the economy, and we calculate an uncertainty measure using this approach as well.

We use the index from Baker, Bloom, and Davis (2016) to construct a yearly mean of economic policy uncertainty, and calculate the median uncertainty across our entire time period (2000–14). Then, for each year, we classify that year as being a period of “high uncertainty” if the mean uncertainty for that year is greater than the median uncertainty across the entire time period. For 2000–14, the median uncertainty was 102.015. This results in the years 2001–03 and 2008–13 being classified as years of high uncertainty. Figure 1 illustrates the yearly means of uncertainty and the periods of high uncertainty.

We also plot our alternative measure of policy uncertainty (represented by the dashed line). It correlates highly with the economic policy uncertainty measure and, if we were to use it to

FIGURE 1
Economic Policy Uncertainty



Note: This figure displays the yearly means of economic policy uncertainty for our time period, 2000–14. Data for economic policy uncertainty come from Baker, Bloom, and Davis (2016). The shaded areas represent periods of high uncertainty, when the yearly mean is greater than the median uncertainty of the entire time period.

determine years with high levels of policy uncertainty, our conclusions would not change.

Measuring Earnings from Lobbying

Lobbying is a team activity in which multiple lobbyists collaborate to achieve the objectives of their client. In the FEC data, lobbying reports list every employee who worked on a lobbying effort, along with compensation. As a result, individual compensation from lobbying is not observable to researchers. This is a problem that the literature on lobbying has mostly glossed over in past research. The standard approaches have been to attribute all lobbying dollars earned in a report to everyone on the report or to calculate the per-person lobbying dollars per report (Blanes i Vidal, Draca, and Fons-Rosen 2012; LaPira and Thomas 2017).¹¹ Such an approach, which we will refer to as *Revenues per Lobbyist*, biases downward the earnings attributed to the most valuable lobbyists, while biasing upwards the earnings attributed to less valuable lobbyists.¹²

Our goal is to provide estimates that most accurately reflect the marginal value of a lobbyist, or, put another way, the marginal increase in fees charged by a lobbying firm when adding a given lobbyist to a job. We develop a new measure of earnings attributable to a lobbyist, which we call *Lobbyist Value Added*. Consider a firm with two lobbyists, A and B. Lobbyist A works on contracts alone as well as with lobbyist B. Lobbyist B works only with lobbyist A. When lobbyist A works alone, she receives payment on average of \$10,000. When lobbyist B works with lobbyist A, they receive \$15,000 total. Under the standard approach of averaging payment between all reported lobbyists on the report, we would attribute \$7,500 in earnings to both lobbyists A and B for their joint reports. Under the revised LVA approach we are describing, we would attribute \$10,000 in earnings to lobbyist A and \$5,000 in earnings to lobbyist B for their joint work. The key idea is to parcel out earnings for joint projects based on the earnings histories from other projects as well. The estimates of LVA therefore reflect payments to a lobbying firm that are directly attributable to the presence of a particular lobbyist on a lobbying report.

Estimation of Lobbyist Value Added

We make several implicit assumptions to estimate a model of individual lobbyist earnings with LVA. We assume: (1) LVA remains constant over the time that an individual works as a lobbyist; and (2) LVA does not depend on the presence of other lobbyists on a contract (that is, there are no interaction variables in the model). Later in the article, we relax these assumptions and implement a measure of LVA that varies depending on time period.

We leverage variation in lobbyist participation across different reports to identify a lobbyist's individual value added. More formally, y_{ijt} equals the yearly earnings (in 2014 dollars) that an individual lobbyist earns as part of a unique set of lobbyists working for a firm. γ_i equals a lobbyist fixed effect. δ_j represents a fixed effect for "supporting" lobbyists for a lobbying firm j . These are people for whom we do not estimate an individual fixed effect (because they are not on enough lobbying reports in the sample). θ_t can represent a year fixed effect or year trend, so we effectively allow the baseline payment to vary by year. Our model assumes that contributions to lobbying are additive and separable between lobbying team members. The coefficients we estimate can

be interpreted as the earnings for an individual lobbyist joining a team. While clearly many other factors contribute to the price of a lobbyist (for example, a larger job might earn more of a salary), we allow those factors to remain endogenous to the model. One might assume that the ability to secure an extensive lobbying contract (and the earnings associated with it) is in itself a component of a lobbyist's value added.

Several challenges to estimation exist. First, there is a high degree of collinearity between variables, since lobbyists often work together on contracts repeatedly. This can make it difficult to identify the individual contribution of a lobbyist to earnings on a contract with a team of lobbyists. Second, the data are high dimensional. From 2000 to 2014, more than 16,000 lobbyists appeared on at least one report.

In order to make estimation feasible, we impose several additional restrictions on the model. We follow the approach outlined in Vilain and Kolkovsky (2016), where the authors face a similar problem of estimating the individual value of soccer players from aggregate data. First, we only estimate lobbyist fixed effects for those lobbyists whose names appear on at least 12 lobbying reports between 2000 and 2014.¹³ Second, we include a shrinkage term that penalizes fixed effects estimates that are nonzero. That is, we employ a ridge regression rather than a standard least squares model. The ridge regression leads the estimation to trade off some bias in exchange for lower variance and, in turn, potentially lower prediction errors for out-of-sample data.

We minimize the function:

$$\sum_{ijt} (y_{ijt} - \gamma_i - \delta_j - \theta_t)^2 + \lambda \sum_{ij} \|\gamma_i^2 + \delta_j^2\|_2^2$$

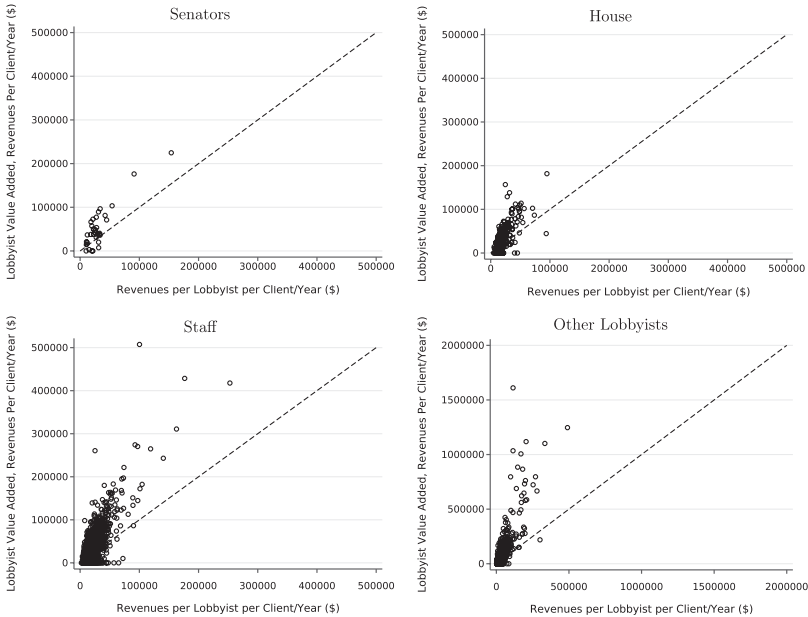
and choose λ based on tenfold cross-validation to minimize out-of-sample prediction error. After estimating the parameters of the model, we have recovered individual-level estimates of each lobbyist's contributions to earnings on a lobbying report. In Appendix A.1.4 in the online supporting information, we explore how adding additional variables to the model, including the size of the lobbying team and firm fixed effects for all observations, affects our estimates of LVA. We can further use these estimates to calculate weighted total revenues from lobbying (*LVA-Weighted Revenues*) or weighted revenues per client (*LVA-Weighted Revenues per Client*) by using our estimates to weight each member's contribution to a lobbying report.¹⁴ These estimates can be

constructed for the full set of years in the sample or on a per-year basis. Furthermore, we can impose the additional restriction that lobbyists cannot make negative contributions to a lobbying team by adding the restriction to the model that individual lobbyist fixed effects are greater than or equal to zero.¹⁵

Comparing Earnings per Lobbyist to Lobbyist Value Added

Our *Lobbyist Value Added* measure produces estimates that differ substantially from those produced by previous methods. Figure 2 compares LVA-weighted revenues per client/year to the standard measure of revenues per lobbyist per client/year (i.e., dividing the earnings on a report by the number of names on the report) for members of the House or Senate, former staffers, and all other lobbyists. If there were no changes in the estimates, most points would fall along the 45-degree line (i.e., with a slope of one). However, across all four cases it is evident that the slope

FIGURE 2
Comparing Lobbyist Value Added to Earnings per Lobbyist



Note: This figure displays scatter plots of LVA revenues per client/year versus revenues per lobbyist per client/year.

of the line of best fit through the plotted points is considerably steeper. While some variation exists, on balance, the LVA measure suggests that past estimates have undervalued the highest earners and overvalued the lowest earners.

The value added estimates lead to substantial revisions when examining earnings on a percentage basis as well. Figure A.1 in the online supporting information displays the percentage shifts for individual senators, members of the House (restricted to largest positive/negative shifts), and staffers. For example, in the House, we find that several members have essentially no value added whatsoever (i.e., 100% decreases when comparing earnings per lobbyist to LVA). This is also true for a small handful of senators. For most former politically connected individuals, however, the effect is to revise their earnings upward. Over 80% of former senators working as lobbyists were being undervalued based on the earnings per lobbyist measures.

To assess whether mismeasurement due to using revenues per lobbyist has systematically biased estimates for lobbyists who formerly worked in politics, we regress revenue measures against a set of variables indicating whether an individual is a former senator, member of the House, or staffer. Table 2 displays the results from ordinary least squares regressions, for which we have used the log of the revenues per lobbyist measure as the outcome in column (1), the log of the revised LVA-weighted revenues measure in column (2), and the percentage difference between the two (not log-transformed) in the third column.¹⁶ The reference group (i.e., the group that is neither a former senator, member of the House, or staffer) consists of all other former lobbyists. First, switching to the LVA-weighted revenue measure does change the direction of the effects for former House members, with a slightly negative null effect switching to a positive and significant effect when using LVA-weighted revenues. It also increases the magnitude of the estimated earnings bump due to past service for all three classes of revolving-door lobbyists that we study. Past employment in Congress correlates with large increases in earnings, according to our LVA measure. But the magnitude of the point estimates changes noticeably depending on the outcome used, particularly for former MCs. If we instead take the percentage difference (i.e., $\frac{\text{LVA Weighted Revenues} - \text{Earnings Per Lobbyist}}{\text{Earnings Per Lobbyist}}$), the results suggest

that the magnitude of the adjustment is larger for members of the House and Senate as compared to former staffers as well as other

TABLE 2
Lobbyist Value Added and Working in Politics

	(1)	(2)	(3)	(4)	(5)
	log(Rev. per Person)	log(LVA Wtd Rev.)	% Δ in Earnings	Rainmaker	log(Lobbying Reports)
Senator	0.118 (0.306)	2.166 ^{***} (0.764)	23.51 ^{**} (9.217)	0.130 [*] (0.0716)	-0.250 (0.302)
House	-0.136 (0.123)	0.802 [*] (0.410)	14.13 ^{***} (4.646)	0.0437 [*] (0.0245)	-0.281 ^{**} (0.114)
Former Staffer	0.801 ^{***} (0.0315)	1.077 ^{***} (0.160)	2.678 (1.746)	0.0930 ^{***} (0.00923)	0.709 ^{***} (0.0309)
Constant	13.77 ^{***} (0.0156)	10.38 ^{***} (0.0781)	-18.06 ^{***} (0.884)	0.0769 ^{***} (0.00339)	4.135 ^{***} (0.0141)
Observations	8306	8306	8306	8306	8306
R ²	0.070	0.006	0.002	0.018	0.066

Note. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

lobbyists. In particular, we estimate an increase in earnings for senators of 23.51% when we use the newly developed measure as compared to the old measure. Additionally, we can reject the null hypothesis that the estimate is no different than zero at $p = 0.05$.

Importantly, these estimates are descriptive; in the fifth section we will introduce a model that uses a regression-discontinuity design to estimate the effect of holding office on lobbying outcomes.

Using Lobbyist Value Added to Identify Rainmakers

Developing a new measure of LVA fulfills several purposes. First, it serves as a valid measure for studying the returns to holding office in its own right. Second, under the logic that payments to lobbying firms pass through as compensation to individual lobbyists, then our measure of LVA likely serves as a useful estimate of lobbyist wages.

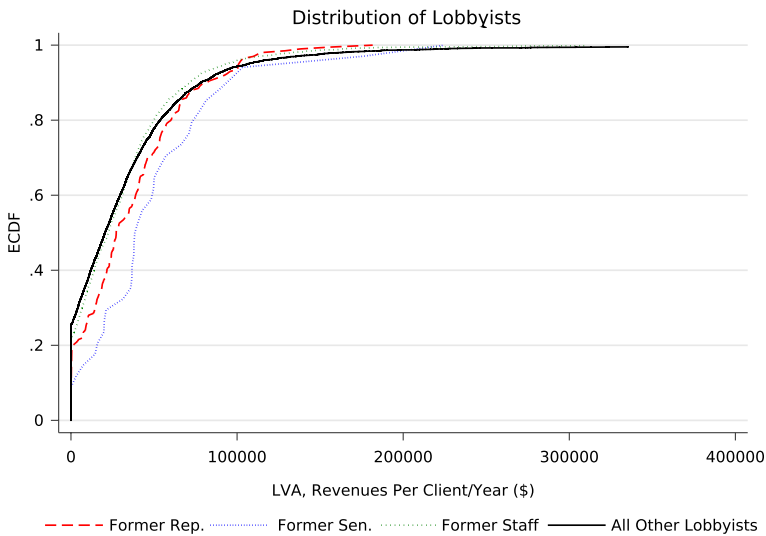
Under this assumption, we can use our measure of LVA to identify “rainmakers,” individuals who command a premium for their lobbying services and to whom firms turn for assistance with high-priority lobbying projects. We define a rainmaker as someone who, on a yearly basis, has worked on lobbying contracts for which he or she has amassed LVA-weighted revenues in the *top 10% of the distribution of lobbyists* we study.¹⁷ To identify rainmakers, we find all lobbying reports an individual works on in a year, then we calculate his or her *total* value added on a yearly basis by multiplying the total observed revenues (in 2014 USD) from each lobbying contract by the quotient of LVA divided by the sum of the LVA measures for all members of the team working on a contract. We then take the average across years. In effect, we are using our measure of value added to determine the relative contribution on each contract for each member of a lobbying team, and then using that to adjust total earnings.

Using this criterion to determine rainmakers, we now test whether past political experience predicts status as a rainmaker. Specification 4 in Table 2 shows that a history of employment in politics is associated with an increased probability of “rainmaker” status. Former senators were 13 percentage points more likely to earn rainmaker status than the typical lobbyist; interestingly, former staffers (9.3 percentage points) were slightly more likely than former members of the House (4.37 percentage points) to achieve this status.

A similar result obtains when we examine the full empirical cumulative distribution function of LVA based on employment history. Figure 3 shows that while the distribution of lobbyists does not vary hugely by group, former MCs are shifted to the right as compared to other lobbyists. That is, at most different points in the distribution former politicians out-earn comparable other lobbyists.

One possible concern is that individuals with a background in politics might select into the labor market for lobbyists differently than those with different backgrounds. For instance, if former politicians have a higher reservation wage (given the other options they have available to themselves), then that would also result in a form of sample selection whereby we observed a higher proportion of former politicians who are rainmakers when compared to other lobbyists. Similarly, if different types of former MCs select into lobbying differently, this too could bias

FIGURE 3
CDF of Lobbyist Value Added Across Professions



Note: This figure displays the cumulative distribution of all lobbyists by LVA. The blue and red lines show the distribution for lobbyists who were former Senate or House members, respectively, and the green line shows the distribution for lobbyists who were former staffers. The solid black line shows the distribution for all other lobbyists (who were never House members, Senate members, nor former House or Senate staff).

the results. Lazarus, McKay, and Herbel (2016) study the issue of what types of former MCs join lobbying firms, and show that there is meaningful variation in lobbying rates depending on institutional standing and, to a lesser extent, party. While we cannot entirely address the issue of sample selection in these descriptive regressions, the RDD approach used later in the article helps to address these concerns since it does not condition on people who became lobbyists.¹⁸

Portraits of High (and Low) Value Added Lobbyists

Now that we can measure the LVA of each lobbyist, who exactly are the lobbyists with the highest and lowest values of LVA? Out of the top 10 lobbyists in our data set who have the highest LVA (measured per year), six of them have appeared on the *The Hill's* annual "Top Lobbyists" ranking, many of them for multiple years, giving some validation that our LVA measure does indeed identify the value of lobbyists viewed by the lobbying industry and clientele as top lobbyists (The Hill Staff 2011, 2013, 2015, 2016). All of them have high-profile clients of large associations and blue-chip companies spanning various industries, that is, Google (Tony Podesta), Amazon (John Breaux), Goldman Sachs (Jonathan Talisman), Starwood Hotels (Kenneth Kies), BP (Tony Podesta), and Motion Picture Association of America (Jonathan Talisman), to name a few.

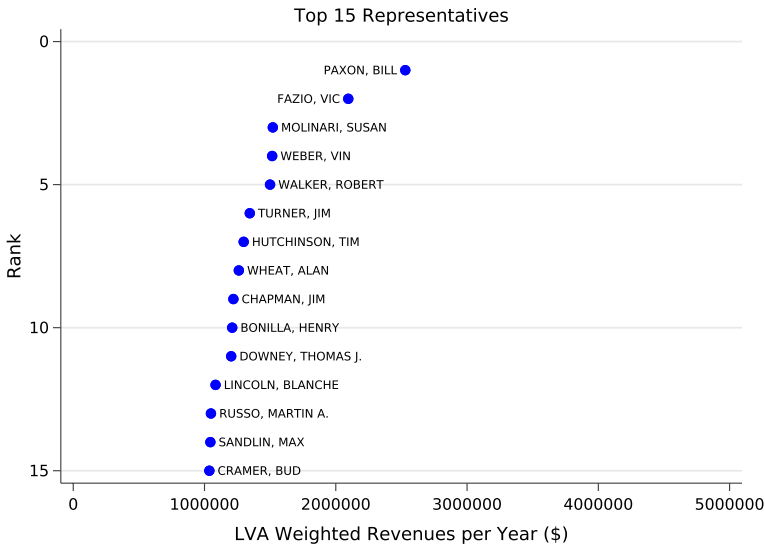
H. Stewart Van Scoyoc, who has the highest average LVA per year in the data set, is the founder, president, and CEO of Van Scoyoc Associates, one of the top-earning lobbying firms, which specializes in taxation and appropriations (The Hill Staff 2011). In fact, of the top 10 lobbyists in our data set, five of them, including Van Scoyoc, are founders of lobbying firms that became some of the most prominent and largest firms in Washington, DC: Van Scoyoc and Van Scoyoc Associates, Jonathan Talisman and Capitol Tax Partners, John Breaux and the Breaux-Lott Leadership Group, Robert Livingston and the Livingston Group, and Tony Podesta and the Podesta Group. Furthermore, two of the lobbyists in our top 10—Jack Abramoff and Tony Podesta—had lobbying clients and activities so lucrative that they became subjects of criminal investigations (and, in the former's case, was found guilty and sentenced). When we look at lobbyists who had the highest aggregate LVA value across our entire time period,

most of the top 10 are the same, with some other notable lobbyists appearing. For instance, Michael Herson, the lobbyist with the 10th highest aggregate LVA, is the president and CEO of American Defense International, a defense lobbying firm, and regularly has high-profile defense clients such as Northrup Grumman and Raytheon.

Compare these top lobbyists to the lobbyists in our data set with the lowest values of LVA. Unsurprisingly, of the 10 lobbyists with the lowest nonzero values of LVA, none of them made any ranking lists of lobbyists or were partners, founders, or leaders of a lobbying firm. And only two of them have ever been mentioned in an article in *Politico*, whereas nine of the top 10 lobbyists were regularly mentioned in *Politico*. This is not due to a lack of time spent lobbying, as all but three of the lowest 10 lobbyists lobbied for multiple years.

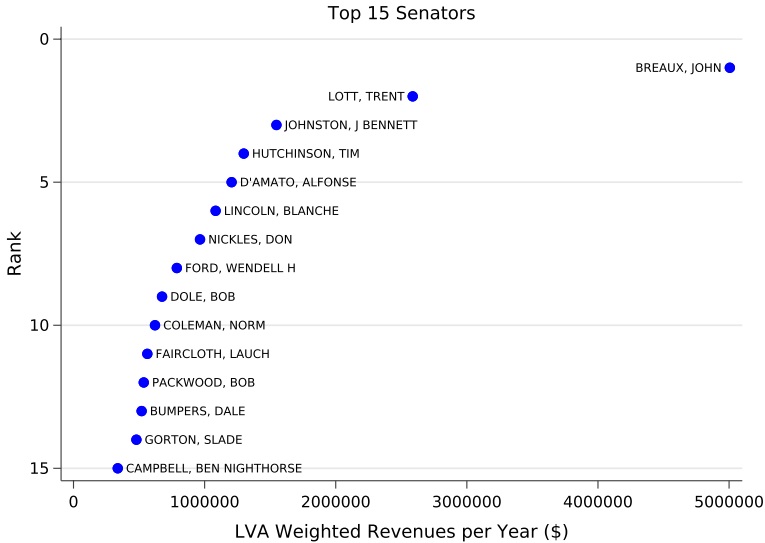
Of particular note are lobbyists in our data set who were former members of Congress and former staffers. Figures 4 and 5 show the top-performing lobbyists who were former representatives and senators, ranked by LVA per year. One of

FIGURE 4
Yearly Value Added for Top House Members



Note: This figure displays the top 15 former House members who have the highest yearly Lobbyist Value Added.

FIGURE 5
Yearly Value Added for Top Senators



Note: This figure displays the top 15 former Senate members who have the highest yearly Lobbyist Value Added.

the most notable examples of a rainmaker is John Breaux (D-LA). Breaux was a member of the House from 1972 to 1987 and a member of the Senate from 1987 to 2005. He held the position of Deputy Whip from 1993 until his retirement and was a senior member of the Senate Finance Committee. After choosing not to run for re-election, Breaux cofounded the lobbying firm Breaux-Lott Leadership Group with his Senate colleague, Trent Lott (R-MS). Lott also first served in the House from 1973 to 1989, where he was the House Minority Whip. He was elected to the Senate in 1989 and served until his resignation in 2007, during which time he held positions of Senate Majority Whip, Minority Whip, Minority Leader, and Majority Leader. In 2010, the Breaux-Lott Leadership Group reported an annual lobbying firm revenue of \$11 million and was acquired by the lobbying firm Patton Boggs in one of the largest acquisitions on K Street (Brush 2014). Breaux and Lott continue to work for Patton Boggs and are the two top rainmakers in our Senate sample.¹⁹

Like Senators Breaux and Lott, Vic Fazio (D-CA3) also had a lucrative career in the lobbying industry after Congress and is one of the top-performing rainmakers in the House sample. Fazio was a member of the House from 1979 to 1999, and served as a ranking member on the House Oversight Committee as well as a member in the House Appropriations Committee. After retiring from Congress, Fazio joined the lobbying firm Akin Gump Strauss Hauer & Feld. As a lobbyist, he has advocated that lobbyists play a crucial role in the legislative process, arguing that “they know how to communicate with the members, they know how to work within the system” (Martin 2011).

These anecdotes help raise the question of the effect of House and Senate service on lobbying outcomes. How much did serving in the House or the Senate or as a staffer contribute to the lobbying careers of these rainmakers—and to the lobbying careers of any former member in general? And under what conditions were these revolving-door lobbyists seen as particularly valuable? We turn to answer these questions in the next section.

Political Uncertainty and Lobbying

Having developed and validated tools for assessing lobbyist value added, we now turn to testing a key hypothesis about what makes former officials and staffers valuable. A central insight developed by LaPira and Thomas (2017) is that lobbying can be understood as an effort by firms and groups to reduce risks posed by the government to their core interests. As a result, political uncertainty helps drive the demand for lobbyists, who in turn utilize an array of skills to navigate crucial moments where government policy may adversely affect these interests. This logic helps explain important observable patterns in lobbying behavior, including the proliferation of lobbyist employment over the past three decades. LaPira and Thomas note:

interest groups are responding to risks associated with two critical long-term trends in American politics: the decline in the analytic capacity of Congress and the rise of strong political parties in government. These conditions have created an increased sense of unpredictability given the increasingly unorthodox and chaotic policy process in Washington. Accordingly, interest organizations have sought to reduce that unpredictability—the likelihood of an unforeseen policy drive-by—by

purchasing the kind of lobbying as political insurance offered by those with significant insider experience in government. While all lobbyists offer services to reduce some political or policy risk, these two trends in American politics have made those lobbyists with insider knowledge of the process more valuable over time. (2017, 12)

Building on these insights, we note that policy uncertainty, rather than being just a secular trend increasing over time, has in fact exhibited significant variation. Political uncertainty climbed higher after crises such as 9/11 and during the Great Recession and has subsided at other points in time. We theorize that these fluctuations over time should have also influenced demand for the services of lobbyists, and, as predicted by LaPira and Thomas (2017), those with insider knowledge of the political process in particular: we test whether lobbyists with congressional experience—as a member or staffer—garner higher revenues during time periods characterized by high policy uncertainty. This idea departs notably from LaPira and Thomas (2017) because their theory focuses primarily on uncertainty arising from institutional changes within Congress. We posit that political uncertainty more generally should lead to additional demand for lobbyists with process knowledge developed through past government employment. This logic follows quite closely from arguments made in LaPira and Thomas in two ways. First, the authors make a similar assumption that past government experience is the “most useful empirical proxy” for identifying lobbyists able to provide “strategic process benefits” (2017, 79). Additionally, the authors document empirically that these “revolving-door” lobbyists with insider process knowledge tended to work on lobbying contracts that spanned across industries and issue areas.

This insight is a pivotal aspect of our argument because it suggests that “revolving-door lobbyists” can provide useful services across a wide range of different issue areas, rather than being restricted by policy topic. That is, process knowledge is useful no matter the policy area. As a result, to the extent that political uncertainty tracks with the potential risks brought about by future legislation, it can make sense to study political uncertainty and its relationship to lobbying at an aggregate level. Furthermore, even single-issue legislation often has far-reaching consequences that cut across industry and issue groups. Healthcare reform culminating in the Patient Protection and Affordable Care Act affected

firms across every industry group; changes to the tax code similarly had far-reaching impacts not confined to a particular issue or industry.

To summarize, then, our argument proceeds as follows. Political uncertainty varies over time depending on external events and institutional factors within Congress. A high level of political uncertainty creates risks for industry and issue groups because it increases the probability of government intervention impinging on the interests of these groups. Demand for lobbyists will be responsive to fluctuations in political uncertainty; just as residents in a coastal area prepare for a forecasted hurricane, groups expend increasing resources on lobbyists when they foresee that their interests may be affected by a coming legislative storm. “Revolving-door” lobbyists, who have gained specialized process knowledge through past employment in government, will prove particularly in demand in periods of high policy uncertainty.

To our knowledge, no one has sought to test the relationship between policy uncertainty and lobbying explicitly—perhaps because a widely accepted measure of political uncertainty has previously not been available. We evaluate this relationship by classifying years between 2000 and 2014 as either high or low uncertainty years, as explained in the previous section. For each year, we calculate the average value of the policy uncertainty measure. Next, we classify each year based on whether it falls above or below median uncertainty levels. The result is that we divide the sample into five distinct time periods. Low uncertainty periods are: 2000, 2004–07, and 2014. High uncertainty periods are: 2001–03 and 2008–13. For each time period, we also separately calculate LVA-weighted revenues and other relevant measures for all lobbyists in the sample.

We estimate a model of the form:

$$\begin{aligned} \log(\text{LVA Weighted Revenues})_{it} = & \alpha + \beta \cdot \text{Rev. Door Lobbyist}_{it} \\ & + \gamma \cdot \text{High Uncertainty}_{it} \\ & + \pi \cdot \text{Rev. Door Lobbyist}_{it} \times \text{High Uncertainty}_{it} \\ & + \theta_t + \epsilon_{it}, \end{aligned} \quad (1)$$

where i indexes lobbyists, t indexes time periods, and θ_t is a time period indicator variable.²⁰ ϵ_{it} is an error term distributed with mean zero and variance σ^2 . The variable $\text{Rev. Door Lobbyist}_{it}$ is an indicator variable that takes the value 1 for former MCs and staffers and 0 for all others. Furthermore, we can test the relationship

for alternate measures of experience such as past service as an MC or former staffer alone and for outcome variables, including revenues per lobbyist and number of lobbying reports.

Table 3 reports the results. Examining the effects for “revolving-door” lobbyists, we find an increase of 13.4 percentage points in lobbying reports on average. In high uncertainty periods, the number of lobbying reports filed almost doubles. Most interestingly, revolving-door lobbyists file even more lobbying reports than others during times of high uncertainty. The coefficient on the interaction between high uncertainty and former experience as an MC or staffer suggests an additional 26 percentage point increase under these conditions. Lobbying reports on their own do not necessarily translate into higher income, but they serve as a useful proxy for the amount of work done, and we view them as a rough measure of demand. Interestingly, when we break out the effects by examining former MCs and former staff individually, it becomes clear that the effects on the number of lobbying reports filed is driven primarily by former staff. They see a one-quarter increase in the number of lobbying reports filed. On the other hand, former MCs actually tend to file fewer lobbying reports than the baseline lobbyist. To test our key hypothesis, we examine the interaction terms. We do not see a statistically significant increase in the number of lobbying reports filed in times of high uncertainty by MCs, whereas there is an increase for former staff members of 27%. Given the baseline number of reports (controlling for time period) is around 24 reports filed, this amounts to an average increase of slightly more than six additional lobbying reports filed by former staffers in times of high uncertainty.

Examining revenues per lobbyist, we find a similar pattern. Overall, revolving-door lobbyists earn significantly more than those who did not previously work in government, and the boost is even larger in times of high uncertainty. When breaking out the effects for MCs versus former staffers, the key results are, somewhat surprisingly, a negative effect observed for former MCs and a positive and statistically significant effect for former staff; in times of high uncertainty, we observe a null effect for former MCs and a positive effect for former staff. The negative result for former MCs does not accord with our expectations, or with the results when we estimated the effect of past experience serving in Congress over the full period of time from 2000 to 2014 without using time period dummy variables. The negative effect for former MCs that we

TABLE 3
Lobbyist Value Added and Policy Uncertainty

	log(Lobbying Reports)			log(Revenues per Lobbyist)			log(Lobbyist-Weighted Revenues)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Policy Uncertainty	1.032 ^{***} (0.0257)	1.067 ^{***} (0.0238)	1.037 ^{***} (0.0257)	0.790 ^{***} (0.0297)	0.824 ^{***} (0.0281)	0.784 ^{***} (0.0296)	2.520 ^{***} (0.213)	2.597 ^{***} (0.205)	2.463 ^{***} (0.210)
Rev.-Door Lobbyist	0.134 ^{***} (0.0197)			0.225 ^{***} (0.0213)			0.575 ^{***} (0.137)		
Former MC		-0.659 ^{***} (0.0616)			-0.410 ^{***} (0.0689)			1.105 ^{***} (0.270)	
Former Staff			0.253 ^{***} (0.0193)			0.307 ^{***} (0.0210)			0.418 ^{***} (0.142)
Rev. Door × Uncertainty	0.264 ^{***} (0.0322)			0.239 ^{***} (0.0343)			0.237 (0.195)		
MC × Uncertainty		0.0582 (0.104)			-0.0580 (0.116)			-0.635 (0.413)	
Staff × Uncertainty			0.271 ^{***} (0.0313)			0.270 ^{***} (0.0334)			0.381 ^{ast} (0.203)
Constant	3.110 ^{***} (0.0207)	3.200 ^{***} (0.0189)	3.083 ^{***} (0.0206)	12.79 ^{***} (0.0246)	12.90 ^{***} (0.0233)	12.78 ^{***} (0.0244)	8.367 ^{***} (0.195)	8.496 ^{***} (0.190)	8.447 ^{***} (0.193)
Time Period	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dummy									
Observations	15351	15351	15351	15351	15351	15351	15351	15351	15351
R ²	0.149	0.145	0.165	0.134	0.115	0.147	0.018	0.015	0.017

Note. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

observe may be attributable to differences over time in how many lobbyists work on a given report. If MCs have a high value added, then reports with more people will lead the revenues per lobbyist measure to particularly undervalue former MCs.

Interestingly, when we evaluate LVA-weighted revenues as the outcome variable, the sign for former MCs flips direction. We estimate that revolving-door lobbyists in general and both former MCs and former staff individually have higher LVA-weighted revenues than the typical lobbyist. One interpretation of the switch in signs is that LVA more accurately accounts for actual value added than the revenues per lobbyist measures. Despite all of this, in times of high policy uncertainty, the effects are still most pronounced for former staff as compared to former MCs. It does not appear that former MCs earn outside returns in times of high political uncertainty.

Overall, former MCs appear to have distinctly different patterns of employment than former staff. Former MCs work on fewer reports but have higher value added than former staff when they do work on reports. On the other hand, in times of heightened policy uncertainty former staff consistently not only work more but also see a differential increase in earnings, while former MCs do not exhibit these characteristics.

Crucially, these findings allow us to update our understanding of the relationships between policy uncertainty and revolving-door lobbying. LaPira and Thomas (2017) predict that increasing uncertainty should lead to higher wages for revolving-door lobbyists—they are more likely to have specialized process knowledge, and, in an increasingly centralized political environment, they are more likely to have connections to key decision makers in Congress. Our findings suggest this logic applies primarily to staffers. Former MCs have high value added in times of high uncertainty *and* in times of low uncertainty. For premier revolving-door lobbyists—for example, those who served in Congress—fluctuations in levels of uncertainty do not lead to an additional premium as compared to other lobbyists.

Effect of Holding Office on Lobbying Careers

MCs do not appear to earn a premium in times of high policy uncertainty, but their earnings nonetheless appear to be higher than most revolving-door lobbyists. Our next objective is

to more accurately identify the returns that former House and Senate members receive in a postcongressional lobbyist career. So far, we have compared lobbyists who previously worked in Congress to everyone else working as a lobbyist. However, this approach does not address possible correlation between working in Congress (i.e., winning a congressional election or landing a job as a staffer) and a host of other factors that may be related to success as a lobbyist. For instance, previous education level, industry experience, and charisma may make an individual more likely to end up in Congress and also more likely to generate higher lobbyist revenue.

In order to avoid this potential bias and to estimate the causal effect of experience in Congress on subsequent lobbyist revenue, we use a regression-discontinuity design in an electoral setting (Lee 2008). The key identifying assumption of this empirical approach is that winning a very close election is largely due to random factors, that is, the odds of being on one side or the other of the 50% threshold are as good as a coin flip as we approach the threshold. This approach relies on the continuity of the conditional mean function as we approach the threshold from at least one side (Lee and Lemieux 2010).

We follow the approach used in Palmer and Schneer (2016), in which the authors use the candidate rather than the election as the unit of observation. This approach uses the vote share in a candidate's first attempt at running for an office as the mechanism determining treatment status (i.e., either holding or not holding office). Some candidates lose their initial election and run again and win, which may be thought of as a difference between treatment assignment and receipt of treatment. Put simply, this "fuzzy" regression-discontinuity approach uses random assignment at the threshold between winning and losing a first election to instrument for actual receipt of treatment (Hahn, Todd, and Van der Klaauw 2001).

To model the discontinuity, we estimate a model of the form:

$$Lobbyist_i = \alpha + \beta \cdot In\ Office_i + \gamma \cdot f(Vote\ Margin_i) + \epsilon_i, \quad (2)$$

$$In\ Office_i = \kappa + \lambda \cdot First\ Election\ Winner_i + \theta \cdot f(Vote\ Margin_i) + v_i, \quad (3)$$

where $In\ Office_i$ denotes whether a candidate served in Congress, $Vote\ Margin_i$ denotes the margin by which a candidate won or lost, $First\ Election\ Winner_i$ denotes whether a candidate won his

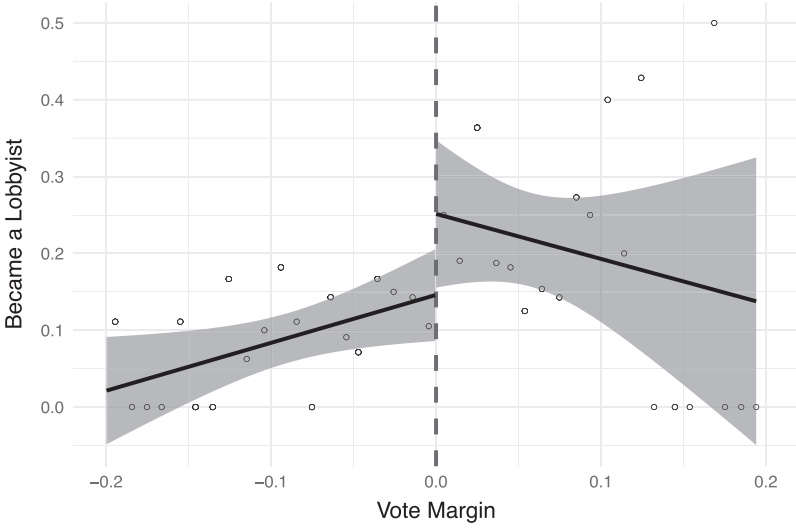
or her first election, and $f(\cdot)$ is a polynomial function of the vote margin. The estimate of β represents the effect of holding office on subsequent lobbyist outcomes.²¹ In our analysis, we are interested in three quantities of interest: (1) probability of becoming a lobbyist, (2) revenues per lobbyist, and (3) LVA-weighted revenues.²²

Figure 6 illustrates the discontinuity that serves as the basis for our estimate of the impact of holding office on the probability of becoming a lobbyist. The left panel illustrates a noticeable jump in the probability of becoming a lobbyist for those who narrowly won Senate (first) elections (and became senators) as compared to those who narrowly lost; the right panel illustrates this for House elections.²³ Table 4 presents the main findings on the effect of Senate and House service on the probability of becoming a lobbyist. We see that holding a Senate seat increases the probability of the individual becoming a lobbyist by 16–18%, with the results statistically significant at the 0.05 and 0.100 bandwidths. Holding a House seat increases the probability of becoming a lobbyist by 16–23%, significant at bandwidths equal to 0.05, 0.075, and 0.10. All in all, winners of close Senate and House elections who served in Congress are more likely to become lobbyists compared to the losers, and estimates of the effect are comparable across chambers.

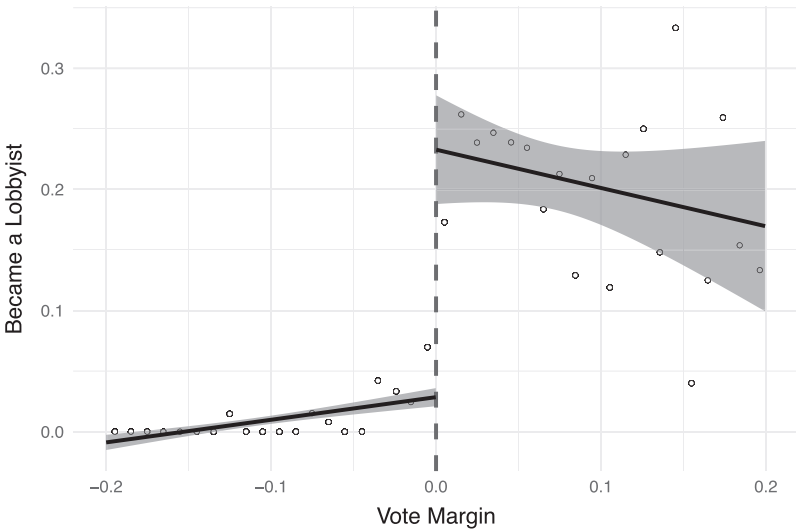
We see similar upward jumps around the discontinuity when looking at the lobbying revenue outcomes. Figures A.2 and A.3 in the online supporting information illustrate the same regression-discontinuity figures for *Revenues per Lobbyist* and *LVA-Weighted Revenues*. In each figure, the left panel presents the jump in discontinuity for those who narrowly won Senate elections (and became members of the Senate) as compared to those who narrowly lost; the right panel illustrates this for House elections.²⁴

Columns (4)–(6) of Table 4 report the corresponding estimates of the effect of Senate service (bottom panel) and the effect of House service (top panel) on $\log(\text{Revenues per Lobbyist})$. We also report identical results but with the outcome variable in levels rather than logs in Table A.2 in the online supporting information. For 0.075 and 0.100 bandwidths, the effect is statistically significant and substantively large in the Senate; serving in the Senate increases earnings from lobbying by roughly 2.5 on a log scale, equivalent to slightly over \$1 million in additional earnings given the base earnings for Senate losers. Serving in the House

FIGURE 6
Effect of Holding Office on Becoming a Lobbyist



(a) Effect of Senate Service on Becoming a Lobbyist



(b) Effect of House Service on Becoming a Lobbyist

Note. These figures display the discontinuity between close election winners and losers in the Senate and the House (bandwidth = ± 0.20). In each figure, we include a line that estimates the jump at the cut off point, using a linear function.

TABLE 4
Fuzzy Regression Discontinuity (First Election): Effect of Holding Office on Lobbying Outcomes

	Became Lobbyist			log(Revenues per Lobbyist)			log(LVA-Weighted Revenues)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>(a) House</i>									
Effect of Holding Office	0.164 ^{**} (0.0762)	0.211 ^{***} (0.0526)	0.231 ^{***} (0.0414)	2.186 ^{**} (1.032)	2.537 ^{***} (0.708)	2.583 ^{***} (0.560)	1.738 [*] (0.912)	2.259 ^{***} (0.630)	2.367 ^{***} (0.535)
Observations	845	1279	1702	846	1280	1703	846	1280	1703
BW Loc. Poly.	0.0500	0.0750	0.100	0.0500	0.0750	0.100	0.0500	0.0750	0.100
<i>(a) Senate</i>									
Effect of Holding Office	0.185 (0.151)	0.188 [*] (0.106)	0.163 [*] (0.0921)	2.329 (1.781)	2.400 ^{**} (1.206)	2.366 ^{**} (1.029)	2.619 (1.704)	2.263 [*] (1.157)	2.351 ^{**} (0.955)
Observations	186	262	316	186	262	316	186	262	316
BW Loc. Poly.	0.0500	0.0750	0.100	0.0500	0.0750	0.100	0.0500	0.0750	0.100

Note. Standard errors clustered at state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

increases earnings from lobbying by just under half a million dollars.

Columns (7)–(9) in Table 4 present the corresponding estimates of the effect of holding office on LVA-weighted revenues. Again, at the 0.075 and 0.100 bandwidths, the effect of Senate service is statistically significant and very large. A lobbyist who won a close Senate election and subsequently served in the Senate adds almost \$1.3 million more to lobbying contracts than a lobbyist who lost a close Senate election. Similarly, at the 0.075 and 0.100 bandwidths, the effect of House service on LVA-weighted revenue is statistically significant and large, but again with a point estimate smaller than seen in the Senate. A lobbyist who won a close House election and subsequently served in the House adds roughly \$600,000 more to lobbying contracts than a lobbyist who lost a close House election.

Finally, we perform robustness checks to ensure that the results from this RDD framework are not spurious or due to some peculiarity of this setting. We replace the outcome variables of interest with pretreatment covariates and reestimate the regression discontinuity. If close elections do indeed generate close to random variation in who holds office, then pretreatment variables (not affected by winning or losing an election) should have no relationship to holding office. Table A.4 in the online supporting information provides a robustness check evaluating the relationship between holding office and pretreatment covariates. We use gender (indicator for female candidates), region (indicator for Northeast, South, Midwest, West), and party (indicator for Democratic candidate) as outcome variables. In none of these cases do we estimate effects statistically distinguishable from zero. This exercise suggests that the RDD framework employed here does not produce meaningful correlations between pretreatment covariates and holding office—put differently, the treatment and control conditions are relatively balanced in terms of pretreatment covariates.

All this said, we do want to emphasize caution in interpreting these results. Ultimately, a small group of House and Senate losers actually become lobbyists, which leads to some imprecision in the estimates. What, then, can we take away from these regression-discontinuity results? First, the effect of holding either a Senate office or House office increases the probability of becoming a lobbyist and leads to higher lobbying revenues. For

those looking to command incomes that would place them in the far-right tail of the lobbyist income distribution, serving in the Senate appears to be the best path forward as it produces larger increases in LVA-weighted revenues than the House. However, when evaluating the effect on becoming a “rainmaker” lobbyist in the top 10% of the earnings distribution, it appears both the House and Senate have a roughly equivalent effect (see Table A.3 in the online supporting information).

Finally, can certain characteristics related to congressional service explain the positive return to holding a congressional seat? We check whether characteristics correlated with developing process knowledge, expertise, and connections in Congress can explain the lobbying revenue returns that we find in the previous section. In particular, we look at whether committee assignment, leadership roles, previous employment and wealth, and ideology are driving factors. A full set of results for this analysis can be found in the online supporting information.

Committees have been viewed as major enforcers of their own policy wishes since they set agendas, originate bills, and are the main players in the conference stages of a bill (Krehbiel, Shepsle, and Weingast 1987; Shepsle and Weingast 1987). Committee-level membership has also been found to be linked to the number of lobbying contacts each member has received (Wright 1990). Thus, having a strong network of committee colleagues and experience in the committee process are potentially highly valuable characteristics for a lobbyist. However, we do not find a broad pattern of systematic relationships between committee service and lobbying outcomes (see Tables A.7 and A.11 in the online supporting information). There are a few committees for which committee service has a significant association with the number of lobbying reports: Financial Services, International Relations, Judiciary, Resources, and Standards of Official Outcomes are negatively associated with the number of lobbying reports, while District of Columbia is positively associated with the number of lobbying reports. But across the board, there is not an extensive set of strong relationships between committee service and LVA-weighted earnings or revenues per person.

As House and Senate leadership roles also point to the strength of a congressman’s network, which can be later exploited in a lobbying career, we also look at whether there is a link between leadership roles and lobbying outcomes (see Tables A.8 and A.12).

We find that being a committee ranking member in the House has a significant, positive effect on the probability of becoming a lobbyist, LVA-weighted earnings, and revenues per person. Being a party leader in the Senate has a significant, positive effect on becoming a lobbyist, LVA-weighted earnings, and revenues per person. In terms of previous employment and wealth, we do not find consistent, broad patterns, but we can point out two specific relationships (see Tables A.9 and A.13): previous employment as a lawyer has a significant, positive effect on House members' probability of becoming lobbyists and on their LVA-weighted earnings and revenues per person, and a senator's wealth when leaving office has a significant, negative relationship with LVA-weighted earnings and revenues per person.

Interestingly, we find a rather robust, significant effect of ideology on the likelihood of becoming a lobbyist. Using DW-NOMINATE scores, being a conservative has a strong positive effect on becoming a lobbyist. The ideology effect ranges from a 14% increase in probability for House members to a 40% increase in probability for Senate members (see Tables A.10 and A.14 in the online supporting information for full results). Furthermore, a conservative ideology also has a significant positive effect on the other money-based lobbying outcomes (LVA-weighted earnings and revenues per person) for both House and Senate members.

Conclusion

Our results provide insight on postpolitical careers by examining the conditions that lead to demand for lobbyists—in particular lobbyists with past congressional experience as a member or staffer. Building on recent research emphasizing the process knowledge gained through experience working in government, we have sought to test explicitly one of the fundamental propositions undergirding arguments made about the value of lobbyists. Specifically, does political uncertainty lead to greater demand for lobbyists? Studying this relationship is important because it also has bearing on our understanding of lobbying more generally. If big variations in uncertainty lead to variations in demand for lobbyists, then this helps support the notion that lobbyists help reduce uncertainty. And reducing uncertainty is a particular type of skill—one that accords more closely with a vision of lobbyists as insiders with process knowledge, which is subtly different than

either possessing specialized knowledge in particular policy subject areas or just having connections.

We find that times of high political uncertainty lead to more demand for lobbyists overall—as reflected in increases in the number of lobbying reports filed and in LVA. Crucially, former staffers experience increases in demand during times of high policy uncertainty that outstrip the increases experienced by other lobbyists. One reasonable interpretation of this finding is that former staffers are particularly well-positioned to mitigate political uncertainty. Interestingly, former MCs do not appear to experience outside increases in demand for their services in times of high uncertainty. We can envision at least two possible interpretations of this result. On the one hand, former MCs may simply possess a different set of skills than staffers, which are potentially less suited to uncertain times. On the other hand, former MCs may simply possess such a unique combination of process knowledge *and* other characteristics that they command a premium no matter the circumstance. We think the data point more strongly towards the second possibility.

In implementing this study, we have tried to account for two important characteristics of lobbying that most previous studies have missed: the fact that lobbying is a collective and cooperative enterprise by a team of lobbyists, and that the lobbyist earnings distribution is itself heavily skewed. We use a refined LVA measure, which captures the marginal contribution of each lobbyist to his or her team, in order to study the individual value of lobbyists. Our assessments of this measure show it to be valuable for identifying meaningful statistical relationships that a revenues per lobbyist measure does not always uncover. For example, we noted that the sign on the coefficient for past service as an MC flips directions (and accords with our expectations) when switching from a revenues per lobbyist to an LVA-weighted revenues measure. We also show that LVA appears to do a better job at properly valuing the highest performing lobbyists.

We also use the LVA measure developed in this article in our effort to identify the additional value attributable to past service as an MC. To do this, we implement a regression-discontinuity design on close elections, and we find that there are indeed statistically significant effects of congressional service on lobbying careers, on the order of an additional \$500–600K for members of the House and close to double that for senators.

Finally, our estimates for the effect of holding office on income from lobbying provide a reference point for measuring gains from office. When viewed in tandem with the more than \$100k per year gains seen from serving on corporate boards attributable to holding office (Palmer and Schneer 2016), research on postpolitical careers is beginning to provide a more comprehensive account of the lower bound of the gains from holding office or working as a staffer. Understanding more precisely the size of gains that former government employees enjoy due to their previous service, as well as the positions that provide these gains, may help guide policy on the revolving-door and governmental ethics regulations.

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NOTES

1. Indeed, the same lobbying firm will employ a range of lobbyists with varying degrees of skill in the realm of policy, process knowledge, and connections to people (LaPira and Thomas 2017).

2. To be clear, the emphasis on process knowledge supposes lobbyists are not seeking primarily to persuade politicians or counterlobby opposing groups (Austen-Smith and Wright 1994); it also does not entirely accord with the view of lobbying as a subsidy for like-minded legislators (Hall and Deardorff 2006). Rather, the vision of lobbying presented here is one that is primarily reactive to (possibly detrimental) government action. Our reading of process knowledge is that it is distinct from specific subject/policy expertise but could include either knowing who key decision makers are or being able to provide insight into their thought process. Thus it is related but nonetheless distinct from the characterization of “connections” in other lobbying work.

3. For instance, the legislative agenda is determined not just by the party in power but also by what the times demand (Binder 1999).

4. Specifically, in the top half of the distribution as compared to years with low uncertainty measures.

5. The Lobbying Disclosure Act of 1995 (LDA) required any lobbyist to register and file a semiannual activity report with the Clerk of the House and the Secretary of the Senate. The reports are required to include the name of the lobbyist, the client, the issue area of the lobbying activity, and the total amount of lobbying-related income from the client (Petersen 2007). In 2007, the Honest Leadership and Open Government Act of 2007 expanded the disclosure requirements under the LDA to include more frequent quarterly reports in place of the former semiannual requirement (Maskell 2010).

6. We construct our adjustments from the index numbers provided in Table 24 from the Bureau of Labor Statistics, available at <http://www.bls.gov/cpi/cpid1404.pdf>.

7. Lobbying activity includes “lobbying contacts and any efforts in support of such contacts, including preparation or planning activities, research, and other background work that is intended, at the time of its preparation, for use in contacts, and coordination with the lobbying activities of others”; a lobbying contact is contact with a covered official, which includes members of the House and Senate and their staff, as well as certain members of executive agencies (Lobbying Disclosure Act Guidance 2008).

8. Clearly, the notion of a revolving-door lobbyist extends to individuals who work outside of Congress as well. For this article, we have chosen to focus on the congressional revolving door.

9. Additional details on construction of the measure are available at www.policyuncertainty.com.

10. These include: Monetary Policy, Taxes, Government Spending, Health Care, National Security, Entitlement Programs, Regulation, Trade Policy, and Sovereign Debt.

11. More precisely, this approach assumes that (1) in expectation, each lobbyist contributes equally, and (2) the lobbying report’s total revenue is independent of a lobbyist’s share of the contribution.

12. We have found one notable exception to the earnings per lobbyist approach in Bertrand, Bombardini, and Trebbi (2014). This article includes robustness checks that identify lobbyist earnings by estimating lobbyist fixed effects using ordinary least squares. A key contrast of this approach as compared to LVA is our use of ridge regression to allow for stable estimates in a high-dimensional setting with only limited variation in lobbying teams.

13. Lobbyists who have less than 12 reports are pooled together in a firm fixed effect (with other lobbyists from their firm who have less than 12 reports).

14. For a given report, we take a lobbyist’s fixed effect estimate and divide it by the total sum of the fixed effect estimates of all the participating lobbyists on the report to generate that lobbyist’s weight. Then, we multiply that lobbyist’s weight by the total earnings from the report to generate the weighted earnings of the lobbyist from that report. Next, we aggregate the weighted earnings for the lobbyist across all reports he or she is on to construct the total weighted earnings for the lobbyist’s career, which we call the total *Lobbyist Value Added*. We also divide this sum by the number of years the lobbyist has worked to get the lobbyist’s yearly mean *Lobbyist Value Added*.

15. We impose this assumption from this point onwards. We found that with this restriction it also made sense to set the year fixed effects to zero to improve estimation performance. We include year fixed effects in the alternate specification presented in Appendix A.1.4 in the online supporting information.

16. In columns (1) and (2), we log the dependent variable so that a small handful of outliers in each group does not overly influence the results.

17. Given that we are only examining a subset of lobbyists who have appeared on more than 12 lobbying reports, in reality these lobbyists are actually even further in the tail of the distribution than the top 10% of all lobbyists.

18. That said, we have less ability to address sample selection for nonpoliticians.

19. See John B. Breaux and Trent Lott biographies at <https://www.squirrepattonboggs.com/>. Accessed May 22, 2014.

20. Including a time period indicator is important since the number of years per time period is not uniform. Including the indicator variable controls for this issue as well as other period-specific effects.

21. One potential issue with this approach is that narrow winners and narrow losers may differ in their pretreatment covariates. Caughey and Sekhon (2011) find that covariate imbalance worsens between winning and losing candidates in close elections in the House since 1942. This pattern raises concerns about nonrandom close election outcomes (i.e., sorting). However, Eggers et al. (2015) demonstrate that this objection does not appear to hold up across a range of different close elections in the United States (Governor, Senate, Local, etc.) and abroad.

22. To measure the effect of holding office on the probability of becoming a lobbyist, we use a binary variable that indicates whether a candidate ever became a lobbyist. For congressional winners, this is whether they became a lobbyist at any point after their congressional service; for congressional losers, this is whether they became a lobbyist at any point after losing their first congressional election. Second, we examine *Revenues per Lobbyist*. As discussed in the third section, there is often more than one lobbyist linked to each transaction in the CRP lobbying report database, reflecting the event where multiple lobbyists were contracted by the client for the transaction. The *Revenues per Lobbyist* measure follows the common approach in the literature, which is to take the total dollar amount for each transaction and attribute the whole amount evenly across each lobbyist linked to the transaction. Third, we look at LVA-weighted earnings, which weight lobbyist earnings by the value added measure introduced in this article. In our sample, we look at everyone elected or serving in Congress starting in 1992. Those who are still in office after 2012 are excluded from our analysis, as are those who died in office.

23. We estimated models using local-linear regression, following the best practices recommended by Gelman and Imbens (2018).

24. One concern with our results and approach is that the election RDD creates an imbalance in terms of job experience. That is, election losers may

enter the lobbying business immediately while election winners gain experience and enter the market later. Under this interpretation, the jump in earnings for winners would be due not to experience gained in Congress but experience in general. To learn about the extent of this effect, we estimated LVA separately by year to examine whether experience as a lobbyist generated large changes in earnings. Restricting the sample to lobbyists present in all years of our data, we regressed LVA-weighted earnings for each year on an experience trend. We found a relatively small positive effect that fell short of statistical significance. Thus, while experience as a lobbyist does appear to lead to increases in wages, the magnitude of the increases are not sufficient to explain the effects that we observe. The results are presented in Table A.6 in the online supporting information. We also restrict the sample to people aged between 60 and 70 years in 2014 and reestimate the effects for the Senate. This approach ensures comparability in age and experience to some degree. Though the sample is diminished, we continue to find a positive effect of congressional service on all outcome measures. The results for this exercise are presented in Table A.5.

REFERENCES

- Auble, Daniel. 2013. "Lobbyists 2012: Out of the Game or Under the Radar?" http://www.opensecrets.org/news/wp-content/uploads/2013/03/Lobbyists_2012.pdf
- Austen-Smith, David. 1994. "Strategic Transmission of Costly Information." *Econometrica* 62: 955–63.
- Austen-Smith, David. 1995. "Campaign Contributions and Access." *American Political Science Review* 89: 566–81.
- Austen-Smith, David, and John R. Wright. 1994. "Counteractive Lobbying." *American Journal of Political Science* 38: 25–44.
- Baker, Scott R., Nicholas Bloom, and Steven J. Davis. 2016. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics* 131: 1593–1636.
- Berry, Jeffery. 1977. *Lobbying for the People*. Princeton, NJ: Princeton University Press.
- Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi. 2014. "Is it Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process." *American Economic Review* 104: 3885–3920.
- Binder, Sarah A. 1999. "The Dynamics of Legislative Gridlock, 1947–96." *American Political Science Review* 93: 519–33.
- Blanes i Vidal, Jordi, Mirko Draca, and Christian Fons-Rosen. 2012. "Revolving Door Lobbyists." *American Economic Review* 102: 3731–48.
- Brush, Silla. 2014. "Patton Boggs Acquires Lobbying Firm of Former Sens Lott, Breaux." <http://thehill.com/business-a-lobbying/106811-patton-boggs-buys-lobbying-firm-of-former-sens-lott-and-breaux> (Accessed May 22, 2014).

- Caughey, Devin, and Jasjeet S. Sekhon. 2011. "Elections and the Regression Discontinuity Design: Lessons from Close U.S. House Races, 1942–2008." *Political Analysis* 19: 385–408.
- Eggers, Andrew C., Anthony Fowler, Jens Hainmueller, Andrew B. Hall, and James M. Snyder. 2015. "On the Validity of the Regression Discontinuity Design for Estimating Electoral Effects: New Evidence from Over 40,000 Close Races." *American Journal of Political Science* 59: 259–74.
- Esterling, Kevin M. 2004. *The Political Economy of Expertise: Information and Efficiency in American National Politics*. Ann Arbor: University of Michigan Press.
- Fang, Lee. 2014. "Where Have All the Lobbyists Gone?" <https://www.thenation.com/article/shadow-lobbying-complex/>
- Gelman, Andrew, and Guido Imbens. 2018. "Why High-Order Polynomials Should Not Be Used in Regression Discontinuity Designs." *Journal of Business & Economic Statistics*. <https://doi.org/10.1080/0735015.2017.1366909>
- Grossman, Gene, and Elhanan Helpman. 2001. *Special Interest Politics*. Cambridge, MA: MIT Press.
- Hahn, Jinyong, Petra Todd, and Wilbert Van der Klaauw. 2001. "Identification and Estimation of Treatment Effects with a Regression-Discontinuity Design." *Econometrica* 69: 201–09.
- Hall, Richard L., and Alan V. Deardorff. 2006. "Lobbying as Legislative Subsidy." *American Political Science Review* 100: 69–84.
- Heinz, John P., Edward O. Laumann, Robert L. Nelson, and Robert H. Salisbury. 1993. *The Hollow Core: Private Interests in National Policy Making*. Cambridge, MA: Harvard University Press.
- Krehbiel, Keith, Kenneth A. Shepsle, and Barry R. Weingast. 1987. "Why Are Congressional Committees Powerful?" *American Political Science Review* 81: 929–45.
- LaPira, Tim. 2014. "Lobbying in the Shadows: How Private Interests Hide from Public Scrutiny, and Why That Matters." In *Interest Group Politics* (9th ed.), ed. Allan J. Cigler, Burdett A. Loomis, and Anthony J. Nownes. Washington: CQPress. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2507300
- LaPira, Timothy M., and Herschel F. Thomas. 2017. *Revolving Door Lobbying: Public Service, Private Influence, and the Unequal Representation of Interests*. Lawrence: University Press of Kansas.
- Lazarus, Jeffrey, Amy McKay, and Lindsey Herbel. 2016. "Who Walks Through the Revolving Door? Examining the Lobbying Activity of Former Members of Congress." *Interest Groups & Advocacy* 5: 82–100.
- Lee, David S. 2008. "Randomized Experiments from Non-Random Selection in U.S. House Elections." *Journal of Econometrics* 142: 675–97.
- Lee, David S., and Thomas Lemieux. 2010. "Regression Discontinuity Designs in Economics." *Journal of Economic Literature* 48: 281–355.
- Lobbying Disclosure Act Guidance. 2008. http://lobbyingdisclosure.house.gov/amended_lda_guide.html (Accessed September 2, 2016).

- Lohmann, Susanne. 1995. "Information, Access, and Contributions: A Signaling Model of Lobbying." *Public Choice* 85: 267–84.
- Martin, Jonathan. 2011. "Vic Fazio to Freshmen: Listen to Lobbyists." <http://www.politico.com/news/stories/0111/47227.html> (Accessed May 22, 2014).
- Maskell, Jack. 2010. "Post-Employment, 'Revolving Door,' Laws for Federal Personnel." Technical Report Congressional Research Service.
- McCraun, Joshua. 2018. "Revolving Door Lobbyists and the Value of Congressional Staff Connections." *Journal of Politics* 80: 1369–83.
- Palmer, Maxwell, and Benjamin Schneer. 2016. "Capitol Gains: The Returns to Elected Office from Corporate Board Directorships." *Journal of Politics* 78: 181–96.
- Palmer, Maxwell, and Benjamin Schneer. 2019. "Postpolitical Careers: How Politicians Capitalize on Public Office." *Journal of Politics* 81: 670–75.
- Petersen, R. Eric. 2007. "Lobbying Disclosure: Themes and Issues, 110th Congress." Technical Report Congressional Research Service.
- Salisbury, Robert H., Paul Johnson, John P. Heinz, Edward O. Laumann, and Robert L. Nelson. 1989. "Who You Know Versus What You Know: The Uses of Government Experience for Washington Lobbyists." *American Journal of Political Science* 33: 175–95.
- Shepsle, Kenneth A., and Barry R. Weingast. 1987. "The Institutional Foundations of Committee Power." *American Political Science Review* 81: 85–104.
- The Hill Staff. 2011. "Top Lobbyists 2011: Hired Guns." <https://thehill.com/business-a-lobbying/185843-top-lobbyists-hired-guns> (Accessed March 31, 2019).
- The Hill Staff. 2013. "Top Lobbyists 2013." <https://thehill.com/business-lobbying/business-lobbying/188607-top-lobbyists-2013> (Accessed March 31, 2019).
- The Hill Staff. 2015. "Top Lobbyists 2015: Hired Guns." <https://thehill.com/business-a-lobbying/top-lobbyists/258462-top-lobbyists-2015-hired-guns> (Accessed March 31, 2019).
- The Hill Staff. 2016. "Top Lobbyists 2016: Hired Guns." <https://thehill.com/business-a-lobbying/top-lobbyists/302777-top-lobbyists-2016-hired-guns> (Accessed March 31, 2019).
- Vilain, Jean-Baptiste, and Rodrigo Lopez Kolkovsky. 2016. "Estimating Individual Productivity in Football." <http://econ.sciences-po.fr/sites/default/files/file/jbvilain.pdf>
- Watson, Libby. 2016. "What Is Shadow Lobbying? How Influence Peddlers Shape Policy in the Dark." <https://sunlightfoundation.com/blog/2016/04/19/what-is-shadow-lobbying-how-influence-peddlers-shape-policy-in-the-dark/> (Accessed September 2, 2016).
- Wright, John R. 1990. "Contributions, Lobbying, and Committee Voting in the U.S. House of Representatives." *American Political Science Review* 84: 417–38.

Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

- A.1.1. Summary Tables
- A.1.2. Summary Figures
- A.1.3. Regression Discontinuity
- A.1.4. Lobbyist Value Added