The Declining Value of Revolving-Door Lobbyists: Evidence from the American States

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Abstract: *"Revolving-door" lobbyists are individuals who transition from governmental positions into lobbying for private entities. Such lobbyists thrive on the insider connections and political knowledge that they developed while in government. These assets afford former lawmakers more access to and influence over incumbent lawmakers. The value of their connections and knowledge, however, is contingent on former colleagues remaining within the legislature. As new legislators enter the assembly, the connections and knowledge of former members expire and lose value. Whereas increases in turnover or assembly size generate more former lawmakers who might lobby, such increases negatively affect former members' value as lobbyists. Interest groups accordingly hire fewer former legislators to lobby. Other factors, such as longer cooling-off periods or increased legislative staff resources, produce slight or no substantive effects on rates of revolving. Legislative characteristics mostly determine rates of revolving for former lawmakers.*

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"Revolving-door" lobbyists are individuals who transition from governmental positions into lobbying for private entities. As new lobbyists, they have insider connections and political knowledge that afford their clients greater policy influence. Although revolving from the public to the private sector delivers increased access and influence for some lobbyists, it raises questions related to political representation. For example, is there a premium on the lobbying services of former public officials? If so, are interest groups with greater financial resources more likely to hire them and enjoy greater access and influence? Moreover, do retiring legislators, staffers, and other state actors temper their governmental actions in anticipation of soon receiving cushy private-sector jobs? In addition to making campaign donations or commenting on proposed regulations, hiring a "revolver" is yet another means for attempting to influence public policy.

While hiring a former government official might be an effective means for gaining influence (see Baumgartner et al. 2009, 208; Makse 2017), the value of insider connections and political knowledge is contingent on the continued presence of former colleagues within government. If an individual knows incumbent legislators well enough to gain access to or lobby them more effectively, then this individual might advertise his or her legislative experience to be paid to lobby. Persons with the connections and knowledge that legislative experience generates often receive a premium for their services over other lobbyists (see LaPira and Thomas 2017, 96–102). If a former legislator's colleagues have departed the assembly, however, then his or her insider connections and political knowledge are no longer as valuable to clients. The value of connections and knowledge should influence how many legislators are hired as revolving-door lobbyists.

The crux of my argument is that the representation of interests is affected by their institutional context. The revolving-door can be modeled in terms of supply and demand. Each political system supplies a different number of legislators depending on legislative turnover and assembly size. The number of those individuals who become lobbyists is contingent on the continued presence of colleagues in the assembly and their proportional influence over policy. As turnover or assembly size increase,

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lobbyist–legislator relationships, as well as the political knowledge former legislators have, expire and lose value. Under such conditions, there are diminished returns from hiring former legislators to lobby. Interest demand for revolvers is accordingly depressed. As a result, the political systems with the most former legislators have the fewest revolvers, proportionally. Once I model this supply and demand, I control for the imposition of "cooling off" periods, the presence of substitutes like legislative staffers, numbers of interest groups, and registration criteria for lobbyists. I find strong and consistent support for the declining value of revolving-door lobbyists, but mixed results for these other confounders.

This article contributes to our understanding of the revolving-door in several ways. I propose that characteristics of legislatures help to structure the representation of interests by changing the value of connections and knowledge. Based on my theory, I generate a model that predicts how many former legislators will register to lobby. To test the model empirically, I measure the presence of revolvers in all 50 U.S. states over two decades. No other study has examined the presence of state-level revolvers to such an extent. Interests and institutions are found to interact in ways that substantively affect representation, and institutional reforms related to assembly characteristics can help to level the playing fields for groups with fewer material resources.

Democratic Concerns over Revolving

The possibility that policy makers might retire from public service and then represent private interests before their former colleagues has raised concerns over the political influence of interest groups. Individuals with government experience might be hired for representation services (e.g., lobbying, litigating, or submitting regulatory comments or amici briefs) because of either their relationships with incumbents, political knowledge, or policy expertise (see LaPira and Thomas 2014; 2017, 52–65). They might sell their services out to the highest bidders (organized interests) regardless of the bidders' goals. If hiring a revolver results in clients getting greater influence over policy, then the policy influence of clients who can afford revolvers (i.e., more resourceful groups) might be magnified. Such influence might even occur prior to an incumbent retiring and entering into representation services. The prospect of receiving cushy private-sector positions can induce soon-retiring incumbents to cater their actions to the wishes of future employers. Reformers in various political systems have attempted to address these concerns with various ethics laws.

There are substantial differences among organized interests in the material resources available to them for paying lobbyists (Baumgartner et al. 2009, 199; Walker 1991). Interest groups with more resources can more easily hire expensive lobbyists, particularly those with *legislative* experience. Lobbyists who formerly worked as legislators or staffers have been found to cost more money to hire. Blanes i Vidal, Draca, and Fons-Rosen (2012) found that when the U.S. senator for whom a staffer used to work retired from Congress, the revolver's estimated revenue from lobbying fell drastically. Former staffers with more connections to current ones have also been found to earn more (McCrain 2018). Indeed, revolvers are among Washington's most expensive lobbyists, with some earning contract-adjusted revenues in excess of $2 million (LaPira and Thomas 2017, 89). Business interests have been found to hire revolvers more often than other types of interest groups (Baumgartner et al. 2009, 199; LaPira and Thomas 2017, 116).

Although revolvers might be more expensive to hire, there is evidence that their clients get what they pay for. In examining a large sample of bills in Congress from the early 2000s, Baumgartner et al. (2009, 203) found that groups who had hired more revolvers enjoyed more policy success than groups who had hired fewer or no revolvers. In examining a sample of bills from the 2010s, Makse (2017) found that the number of former members of Congress lobbying on those bills had a noticeable impact on the chances of those bills being reported out of their respective committees, even after controlling for totals of other lobbyists. Universities and defense-related firms have specifically been shown to hire revolvers who deliver results (see Lazarus and McKay 2012; Luechinger and Moser 2014).

In addition to awarding influence to clients after retiring from political office, incumbent lawmakers can have conflicting interests due to the prospect of becoming a revolver (Barro 1973). If a legislator has chosen not to run for reelection and is looking for post-congressional work, lobbying can be an attractive choice due to the compensation and ability to remain involved in politics (Parker, Parker, and Dabros 2012). Becoming a lobbyist might also allow incumbents who were not reelected to continue living in the Beltway instead of returning to an unfriendly district. In order for lobbying to be a viable career choice, however, the lawmaker has to demonstrate value to potential clients. Last-term lawmakers are no longer beholden to their constituents. The appeal of gaining future employment can lead these lawmakers to make decisions they would not have otherwise made during their last terms in office. In some suggestive cases, lawmakers were noted to have become revolvers

immediately after advocating for major pieces of legislation that were beneficial to the interests of their new employers (see Kusnetz 2013). Although these correlations or historical patterns do not prove the existence of any quid pro quo agreements, numerous legislatures have enacted "cooling off" periods to help prevent such conflicts of interest (see Rosenson 2005, 156–61).

Given that revolvers play influential roles within the legislative process by representing groups with more material resources than others, and given that they actually deliver results for their clients more often than nonrevolvers, understanding the institutional circumstances surrounding their numbers is of crucial importance to reformers. If legislative characteristics or laws influence the number of revolvers within a democratic system, as well as the influence they achieve for their moneyed clients, then political reformers have valuable information for making the playing fields of political advocacy more even for interests with fewer financial resources. This article tests for whether such reforms as changing legislative turnover and assembly size, implementing cooling-off periods, hiring legislative staffers, and imposing lobby transparency each help to slow down the revolving-door. If one accepts that the merits of policy positions are independent of the resources of their advocates, then such political reforms can help to eliminate or at least ameliorate the influence of money on politics and policy. Numbers of revolvers on the Hill have increased drastically since the 1970s (Lazarus, McKay, and Herbel 2016). The effects of reforms should be of immediate interest to the public.

The Declining Value of Revolver Assets

As compared to nonrevolver lobbyists, revolvers offer their clients two kinds of assets: insider connections and political knowledge. When legislators work together within assemblies, they often form personal connections with each other. Such relationships can be formed over shared legislative priorities or personal interests. When legislators retire or are removed from their workplaces, they continue to be familiar with their former colleagues. Even though retirement or loss of reelection might entail no longer being able to cast roll-call votes, former legislators can still maintain social relationships with incumbents. While serving in office, legislators also acquire political knowledge. Such knowledge consists of familiarity with the legislative priorities and ambitions of incumbents, how committees are managed, and how to construct a winning coalition for a proposal. The interpersonal bonds that legislators form while in office, as well as the political knowledge they acquire, make former legislators attractive advocates for interest groups (see LaPira and Thomas 2017, 36).[1]

As revolving-door lobbyists, former legislators can achieve results for their clients due to increased access to incumbents. Interest groups seeking to influence policy need to lobby those who decide what policies are enacted. In a legislature, the targets of lobbying efforts consist of lawmakers who vote on the outcomes of proposals. A lobbyist's influence begins when a legislator bases his or her knowledge or decisions on what a lobbyist tells him or her (Wright 1996, 81). This is possible only if a lobbyist has access to the lawmaker (Truman 1951, 260–64), and having a relationship or being familiar with incumbent lawmakers reduces the cost of gaining access to them (McCrain 2018). Since former legislators cannot cast votes in the assembly, their influence is contingent on whether they have access to incumbents.

Accordingly, the value of revolvers' insider relationships and political knowledge is contingent on whether their prior colleagues continue to serve as incumbent legislators. As new members enter an assembly, former lawmakers' relationships and knowledge expire. New members are not familiar with former legislators, and they may even be suspicious of lobbyists in general. Legislative turnover has the effect of reducing the access to incumbents that revolvers once enjoyed. The political knowledge of prior legislators also expires as new members enter the assembly. New legislators may have different legislative priorities or management styles. Not being familiar with incumbent priorities or not understanding how committees are managed is harmful to a revolver's ability to build winning coalitions and usher proposals through the legislative process. As new legislators enter the chamber and join committees, the access and influence that revolver lobbyists previously enjoyed are reduced.

Factors such as legislative turnover and assembly size govern the value of revolvers' insider connections and political knowledge. Turnover can vary across political systems due to a variety of institutional and political reasons (see Moncrief, Niemi, and Powell 2004). Turnover

[1] Political knowledge is different from policy expertise (see LaPira and Thomas 2017, 60–65). Whereas legislators may acquire knowledge of each other's priorities and ambitions while working together (and learning how to build winning coalitions), they have been assumed to be policy generalists (i.e., nonexperts) who work on multiple issues and who need informational subsidies from lobbyists (see Ainsworth 1997; Denzau and Munger 1986, 91; Hall and Deardor 2006, 80). Nonrevolvers may acquire policy expertise and become lobbyists (see LaPira and Thomas 2017, 52–67), but only those working within the legislature have political knowledge of incumbent members.

presents two dilemmas to revolving-door lobbyists. First, revolvers must maintain access to and knowledge of incumbent policy makers, despite turnover. Maintaining relationships and political knowledge is more difficult when there is more upheaval within the assembly. Building relationships and coalitions with new legislators can be time-consuming, as freshmen are often suspicious of career lobbyists (see Mooney 2007). Second, the exit of incumbents from the legislature produces new, potentially competing revolvers. These more recent (former) legislators might even be more valuable as advocates since (from among all former legislators) their relationships and knowledge are the most up-to-date. A revolver's assets are more valuable to clients when his or her prior colleagues remain in the assembly.

A revolver's insider connections and political knowledge are also worth less in large assemblies. As assemblies increase in membership size, the proportional influence of each individual legislator over policy outcomes decreases and more votes are needed for policy victories (McCormick and Tollison 1981, 33). The smallest statehouse chamber in the United States is the Alaska Senate, which consists of 20 members. The largest statehouse chamber is the 400-person New Hampshire House of Representatives. Each senator in Alaska has a lot more proportional influence over policy outcomes than each representative in New Hampshire. Across the two chambers, the average payoff from a revolver influencing each senator is greater than the payoff from influencing each representative (see Powell 2012, 44–45). Whereas differences in such payoffs might not matter when legislators are unanimous in their roll-call voting, the differences can be salient whenever chambers are split. Tilting the majority outcomes in smaller chambers requires lobbyists to target fewer individuals than in larger assemblies. A revolver's assets are more valuable to clients when his or her former colleagues have more proportional influence over policy.

Although legislative turnover and size should both independently affect the value of a revolver's insider connections and political knowledge, these factors interact to influence the supply of former legislators who may become lobbyists. The supply of individuals with legislative experience can be increased by either high turnover or large assembly size, but both of these factors work in tandem to increase supply even further. If there exists a large assembly with high turnover, then the total of former legislators should be quite large compared to the supply produced by smaller legislatures full of members who serve for decades. As a result, different kinds of legislatures supply different numbers of individuals with legislative experience who can become revolvers.

A naïve assumption would be that revolver totals increase linearly with the supply of former legislators, but this assumption fails to take into account the declining value of revolver assets. Despite increases in legislator supply, interest groups reduce their demand for revolvers in at least two ways. Groups across different political systems choose to hire more or fewer revolvers based on the immediate characteristics of their local legislature. There may be a limited supply of revolvers, or (even with a large supply) groups might not think that hiring revolvers is worthwhile given high turnover or a large assembly. If groups can assess the value of revolvers in such a prospective manner, then there should be significant differences across states in rates of revolving (after controlling for legislator supply). Groups might also adjust their hiring decisions over time in a retrospective manner. If turnover or assembly size changes within a legislature, then the insider connections and political knowledge of revolvers expire more or less quickly. Over time, clients will update their expectations of how useful former legislators are (as lobbyists) given local changes in turnover or legislature size. If clients ascertain that their revolvers are no longer being granted as much access as before, then they will be (on average) less likely to hire revolvers than nonrevolvers. If such updating occurs within states in response to institutional changes, then we should expect revolver totals to shift over time within individual states.

Demand for revolvers does not shift equally or immediately in response to shifts in the supply of former legislators because of informational asymmetries. Interest groups do not detect that slight differences in the supply of potential revolvers greatly affect the value of insider relationships or political knowledge. LaPira and Thomas (2017, 56–57) portray groups as being on the "uncertain outside" and lobbyists as being hired informants who understand local politics. Groups are uninformed about the issues of greatest interest to incumbents and how to achieve the most favorable results. As agents, lobbyists can help to address these uncertainties, but they can also take advantage of principal–agent problems by exaggerating policy victories or potential losses (see Drutman 2015, 137–43). The uncertainty that groups suffer from when evaluating the performance of their advocates explains why demand for revolvers may not respond proportionally or immediately in response to differences in turnover or assembly size. Nevertheless, if there are any decreases in demand due to institutional differences, then there will be a curvilinear relationship between the supply of former legislators and total revolvers. In legislatures with low turnover or small chambers, there should be few revolvers because of limited supply. Legislatures that

supply more former legislators will have more revolvers, but revolver totals will display diminishing marginal increases as clients begin to ascertain that their revolver lobbyists are not much different from nonrevolver lobbyists (in terms of access and influence).

H1: There will be a positive relationship between former legislators and revolvers, but with diminishing marginal increases.

Confounding Variables

While the number of former lawmakers should be a leading determinant of how many of them register as lobbyists (but with diminishing marginal increases), there are other factors that can influence how many former legislators become lobbyists. These confounders include restrictions on post-governmental employment, the presence of legislative staff persons, across-state differences in totals of registered interest groups, and differences in registration criteria for lobbyists.

Postgovernmental Employment Restrictions

Numerous states have imposed limits on how soon retired public officials may work for private entities in specific capacities after their work in government ends. Such restrictions are referred to as "cooling-off" periods. Restrictions on postgovernment employment (PGE) are intended to curb conflicts of interest in which soon-retiring public officials may want to appease the interests of future employers. The laws are also intended to protect public trust in political institutions (National Conference of State Legislatures [NCSL] 2002). Different revolving-door laws are designed for preventing conflicts of interest among specific groups of officials, including legislators, their staffers, and regulators, among others. Some laws work as intended. Cain and Drutman (2014) examined Legistorm data and found that the hiring of former congressional staffers was affected by the 2007 Honest Leadership and Open Government Act, which implemented a 1 year cooling-off period for members and staffers.

In addition to turnover and assembly size, cooling-off periods might further reduce the demand for legislator revolvers and have negative wage effects. Former legislators in states with cooling-off periods lose the ability to gain lobbying experience immediately upon leaving office. In the intervening years, their connections and knowledge may atrophy somewhat. Moreover, former legislators might have to take on consultative positions that pay less than lobbying. Such roles may not require lobbyist registration and might be hidden from public view (see Lapira 2015). Other workplace sabbaticals have been shown to have similar wage effects. Mothers tend to be paid less money than their non-mother female counterparts. Explanations for this trend include the loss of job experience and mothers entering into jobs that are more accommodating to motherhood (see Budig and England 2001 for a test of competing explanations). Unfortunately for mothers, wage effects can last for decades (Kahn, García-Manglano, and Bianchi 2014). For reformers, however, depressed rates of revolving might be a desirable outcome provided that cooling-off periods are not simply causing ex-legislators to avoid registering as lobbyists.

H2: Longer cooling-off periods will be negatively correlated with revolver totals on average, ceteris paribus.

Legislative Staff as Revolvers

Former legislators are not the only individuals with insider connections and political knowledge who can become lobbyists. Legislative staffers might also retire from the public sector in order to take advantage of contacts and knowledge (see McCrain 2018). Such revolving is common at the federal level (see LaPira and Thomas 2014; 2017, 37). Former congressional staffers represent the largest single group of revolvers on the Hill, and their services come at a premium (Blanes i Vidal, Draca, and Fons-Rosen 2012). In the U.S. states, staff members are typically subject to the same PGE restrictions that affect their former bosses (see Holman and Reddy 2011). In relation to ex-lawmakers, permanent staff persons might serve as substitutes. Both legislators and staff persons can have insider connections and knowledge. If there are many *former* staffers in a state, then interest groups might hire more of them instead of former legislators. This might have the effect of taking business from former legislators, thereby reducing their totals as lobbyists.

H3: Legislative staff will be negatively correlated with (legislator) revolver totals on average, ceteris paribus.

Number of Interest Groups

As lobbyists, former legislators might find clients more easily in states with larger populations of interest groups, or when more groups decide to hire lobbyists. This would lead to there being more revolvers in states that house more groups. Gray and Lowery (1996) developed the

Energy-Stability-Area model to explain differences in interest populations across states. More interest groups hire lobbyists when policy outcomes are less certain (Gray et al. 2015). At some points in time, there might even be spikes in lobbying activity due to major policy battles (e.g., see Brasher, Lowery, and Gray 1999). Some political systems constantly house more interest groups because of their larger economies or area. Whereas some U.S. states contain several thousand clients, others contain only a few hundred. It should be easier for legislators in large states with many active groups to find work as lobbyists than legislators in small states with many fewer groups. In predicting numbers of revolvers, I hold interest populations constant.

H4: Interest populations will be positively correlated with revolver totals on average, ceteris paribus.

Lobbyist Registration Criteria

The effects of registration criteria on totals of registered lobbyists have been subject to debate for some time, but recent research suggests that the number of criteria within a state should be utilized as a statistical control when estimating totals of registered clients or lobbyists. Strickland (2019) argues that more criteria give lobbyists less personal discretion over whether to register. I hold constant the number of lobbyist registration criteria within a state whenever predicting totals of registered revolvers. Registration criteria help to determine who all has to register as a lobbyist (see Newmark 2017). I employ Newmark's (2005) additive index of lobby definitions commonly found in the U.S. states. The index ranges in value from 0 definitions to 7. This variable is expected to correlate positively with revolver totals. Such a finding would suggest that there are unregistered or "shadow" revolvers in U.S. states with few criteria (LaPira 2015). There likely are thousands of unregistered advocates in Washington, and some former members of Congress might take advantage of registration loopholes (see Thomas and LaPira 2017).

H5: Lobbyist registration criteria will be positively correlated with revolver totals on average, ceteris paribus.

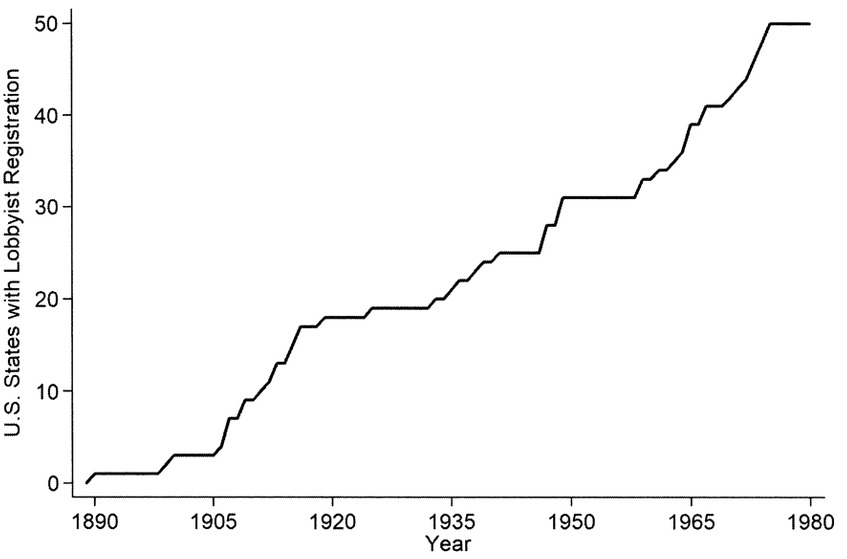
Data and Measurement

Testing my hypotheses requires disclosure of which individuals are lobbyists. The data also need to be collected from a single regime but at multiple points in time, or from multiple regimes. There are roughly a dozen governments around the world that require lobbyists to register. In most of these countries, unfortunately, lobby transparency laws are recent developments and there are substantial differences in how information is reported (see Chari, Hogan, and Murphy 2010; Crepaz 2017). As a result, drawing cross-national lobby data proves problematic for testing my hypotheses. Although the United States has a relatively robust set of lobby transparency laws, these laws are also new. Even though the U.S. Congress enacted the Regulation of Lobbying Act in 1946, the Supreme Court struck down many provisions of the law in *United States v. Harriss* (1954). It was not until 1995 that Congress passed the Lobbying Disclosure Act, which filled many holes left in the original statute. Unfortunately as well, roughly 24 years' worth of federal lobby data is insufficient for testing my hypotheses, given that turnover among members of Congress has not changed much during that time (Glassman 2017) and that the last time either chamber changed membership size was in 1959.

Data from the U.S. states fulfill all of the criteria required for testing my hypotheses. The states have provided data over multiple decades, and their different institutional and political characteristics allow for statistical inference. Massachusetts was the first democracy in the world to require lobbyists to register, starting in 1891 (Opheim 1991).[2] In the following decades, numerous other states began to adopt similar measures. Figure 1 shows the increase between 1890 and 1980 in the number of states requiring lobbyists to register. There was a flurry of reforms in the Progressive Era, with additional spurts following the 1946 federal law and the 1974 Watergate scandal. The totals are based on information found in legislative journals and records, and from secondary sources such as state investigative committees and nongovernmental research organizations. By 1975, all 50 states had adopted laws or resolutions requiring lobbyists to register. Whereas secretaries of state had historically been the source of lobby information in most states, more states began to establish commissions for such purposes after the 1970s (see Rosenson 2005). Some legislatures had had internal staff members register lobbyists, but these states, too, eventually delegated registration to outside agencies. Arkansas's and West Virginia's legislatures were the last

[2]While the U.S. House of Representatives first required lobbyists to register in 1876, the resolution did not require lobbyists to register during subsequent sessions. Only lobbyists active within the House during the 44th Congress (1875–77) had to register (see Straus 2015, 5–6).

FIGURE 1 Historical Lobby Registration Adoption



ones to delegate lobbyist registration to outside agencies, both in the late 1980s (Thomas 1998).[3]

To determine whether the supply of legislators affects numbers of revolving-door lobbyists at a curvilinear rate, I began with lists of legislators and lobbyists dating back multiple decades. Using data collected by Klarner et al. (2013), I generated lists of legislators from each state for 1967 to 2008. These lists were then divided into two periods consisting of individuals who were elected between 1967 and 1986, and those elected between 1987 and 2008. States that held elections in odd years had slightly different cutoff points that are specified later. Lists of registered lobbyists were then gathered and transcribed from the 50 U.S. states for 1989 and 2011. With some exceptions listed later, lists from 1989 were taken from Wilson (1990), and 2011 lists were provided by the National Institute on Money in State Politics (hereafter, the Institute).[4] Names of former legislators were found within these lists of lobbyists.

Since no single source indicates which state lobbyists have legislative experience, I turned to detecting revolvers by matching names across lists. This involved filtering duplicate names out of each list, isolating surnames, sorting them alphabetically, and then highlighting all surnames that appeared among both legislators and lobbyists within the same state. Individuals were then matched based on shared name combinations. Lobbyists were marked as revolvers only if they shared the same first and last names of a former legislator. If a lobbyist's name contained a suffix such as "Jr." or "Sr.," then he must have also shared the suffix with a legislator. Lobbyists were also considered revolvers in cases with matching last names but different versions of the same given name. Lobbyists were not considered revolvers if their names did not match the spelling of any legislator names, including if middle initials or suffixes conflicted. This process was repeated for each state-year observation generated. Lobbyist names from 1989 were identified among legislators who had served or won election at some point between 1967 and 1986 but who were not in office in 1989. For lobbyists from 2011, legislator names were drawn from those who won election at some point between 1987 and 2008 but who were not in office in 2011. I test the reliability of this name matching in the SI Appendix 1.[5]

[3]A listing of registration adoption dates is included in Appendix 6 of the supporting information (SI), along with the methods of enactment and initial enforcement agencies.

[4]Data from the Institute have been used in other studies cited in SI Appendix 5, which also includes a discussion and tests of the reliability of the data.

[5]The cutoffs for these two historical periods differed by a few years in states with elections in odd-numbered years or in states where elections were held only every 4 years. Since I was working with lists of election winners, at least two elections were allowed to have occurred in each state between the years that legislator names were drawn and when lobbyist registration lists were collected and transcribed. Since elections occur only every 4 years in Alabama and Maryland, legislator names were gathered from elections that occurred between 1990 and 2006 (for the second historical period under review). In Mississippi, where elections occur only every 4 years but in odd-numbered years, legislator names for the second phase were drawn from those who won or held office between 1987 and 2007. In New Jersey and Virginia, where elections are held every 2 years but in odd-numbered years, second-phase

Explanatory Variables

The number of former legislators within a state is expected to be correlated with the total number of revolvers, but with diminishing marginal increases. In order to capture this relationship, I include the logged number of former legislators in my models. I expect this variable to be a reliable, positive predictor of revolver totals.[6] Figures 2 and 3 show scatterplots of total revolvers and former legislators for the two historial periods in the 50 U.S. states. While the correlations in both figures are suggestive of diminishing returns, other factors might help to influence revolver totals.

To determine whether PGE restrictions negatively affect revolver totals, I incorporate the length in months of a state's cooling-off period into my statistical models. This information was collected from Rosenson (2005) and also verified using annual editions of the *Lobbying, PACs, and Campaign Finance 50 State Handbooks*. Between 1989 and 2011, the number of U.S. states with waiting periods of some length increased from 12 to 33. Figure 4 shows the gradual increase in the number of states adopting cooling-off periods of any length between 1989 and 2016. The figure was constructed using data from Rosenson (2005), and the *Handbooks*, as well as information from Public Citizen and the National Conference of State Legislatures (NCSL 2015). The maximum waiting period within my data set was 24 months. I assigned a length of 6 months to states where legislators only had to wait until the end of the current legislative session to lobby.

Measuring the number of legislative staffers who became lobbyists presents a challenge since there is no existing directory of legislative staffers from the U.S. states that dates back multiple decades. Nevertheless, since former and current staffers might be substitutes, their presence may affect the number of legislators who revolve. I incorporate into my models the total of all permanent staff persons serving each state's legislature in 1988 or 2009. This measure does not include persons who work only during legislative sessions, which typically last only several months each year in nonprofessionalized legislatures. Totals of permanent staff were provided by the NCSL (2016). A count of staff persons is the most direct measure of how many of them might revolve, but I also control for alternative measures of staff resources (e.g., Bowen and Greene 2014; Squire 1988) in SI Appendix 3.

To account for how easy it might be for former legislators to find clients, I include the number of registered interest groups within my models. These totals were counted from the same lists in which revolver names were found. Lists from 1989 were collected mostly from Wilson (1990), although lists published by state agencies were used where possible.[7] Lists from 2011 were collected mostly from the Institute, except for lists from Alaska, California, New Jersey, Pennsylvania, and Wyoming. Lists from these states were also collected from state authorities. The use of 2011 lists from official sources is due to discrepancies between lists provided by Wilson or the Institute, and either official registration statistics published by state authorities or predictions based on the Energy-Stability-Area model of Gray and Lowery (1996).[8]

Comparing totals of registered lobbyists across states requires holding registration criteria constant. Newmark (2005) demonstrates that substantial variation exists across U.S. states in the numbers of criteria adopted. His scale of lobby definitions ranges from a low score of 0 to a high of 7, with 1 additional point being awarded to a state for each lobbyist definition its laws contain. The seven registration criteria for lobbyists include whether one is lobbying legislators, whether one is lobbying executive officials, whether current public officials or state employees must register, and registration thresholds related to compensation paid for, expenditures made while, and time spent lobbying. Data on registration criteria are from Strickland (2019).

Estimation Method and Results

My dependent variable of interest is the number of former legislators registered to lobby. This variable is a count that cannot assume negative values. I estimated negative binomial regression coefficients that account for overdispersion (see Long 1997, 230–41). I am working with two

listings of legislators were drawn from years 1988–2007. Legislator data from Vermont are missing for 1967 to 1986.

[6]The total of former legislators is a function of both turnover and assembly size, but not a direct measure of either of those factors. It is difficult to measure the long-term effects of turnover. Turnover may fluctuate wildly from election to election (see Berry, Berkman, and Schneiderman 2000), it can vary across chambers in bicameral legislatures (see Moncrief, Niemi, and Powell 2004, 61–65), and members might serve nonconsecutive terms or cycle from lower to upper chambers in states with weak term-limits laws (see Sarbaugh-Thompson 2010). In SI Appendix 2, I attempt to parse the long-term effects of turnover from those of legislature size. My findings are robust to the inclusion of legislature size in the statistical models, as well as the use of an alternative turnover measure.

[7]Lobbyist lists from 1989 were found for the following states: Alaska, Colorado, Georgia, Kansas, Maryland, Mississippi, New Hampshire, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, Tennessee, and Texas.

[8]In additional model specifications in SI Appendix 3, I control for totals of registered lobbyists, and also for both lobbyist and client totals.

FIGURE 2 Total Revolvers and Former Legislators, 1989

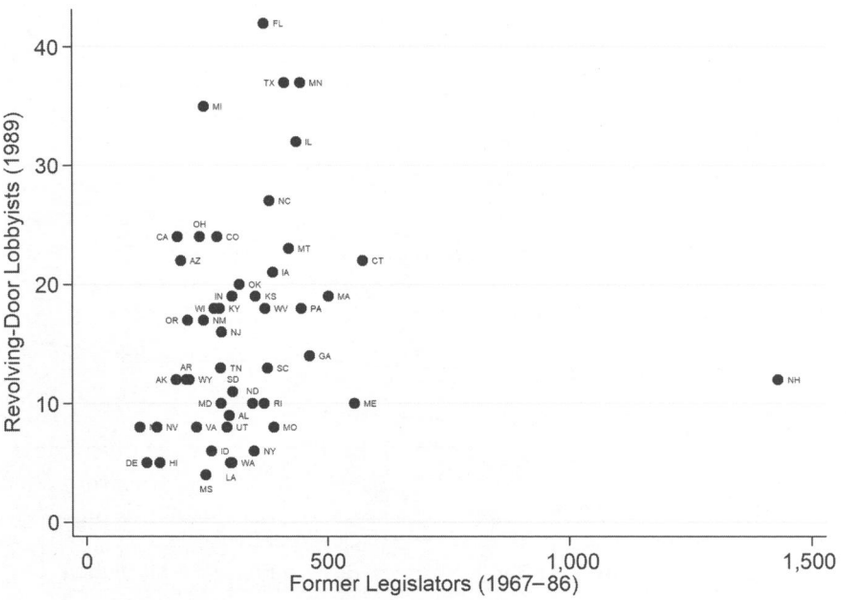
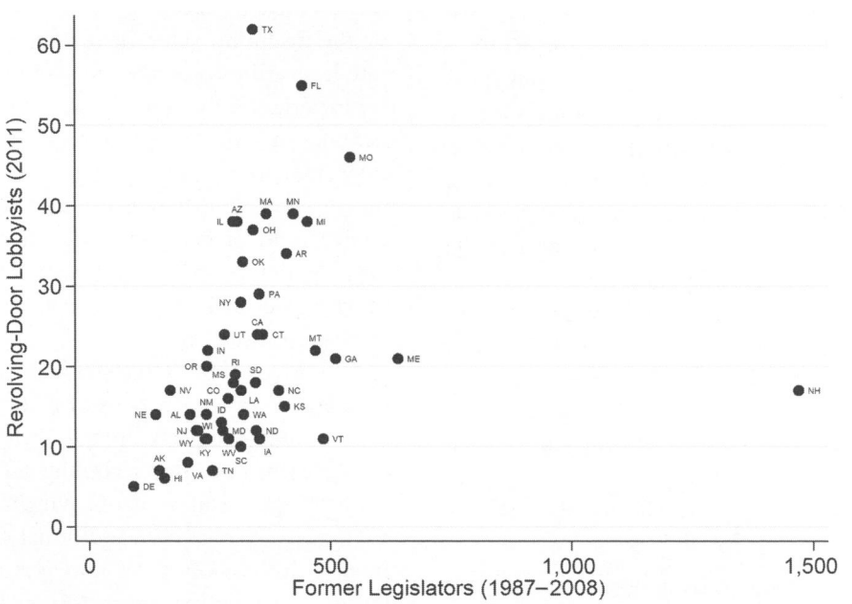
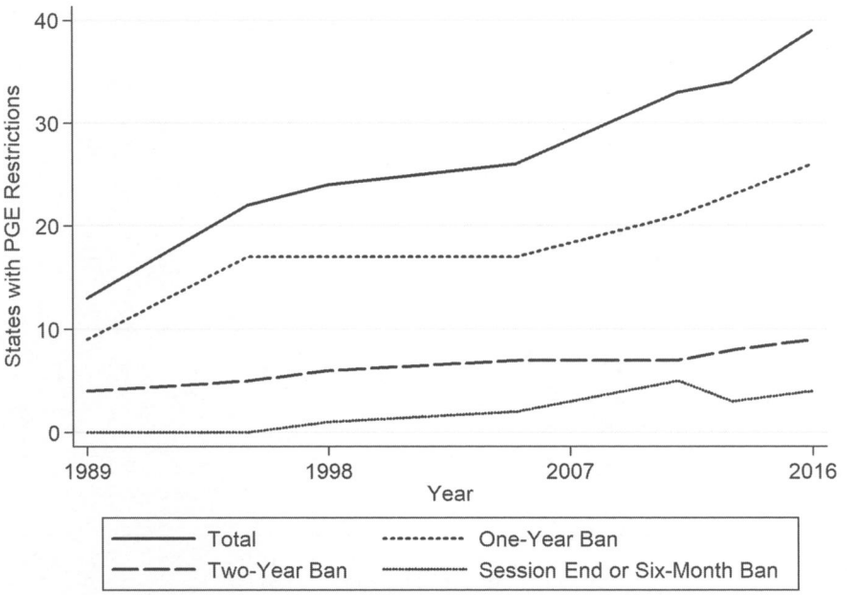


FIGURE 3 Total Revolvers and Former Legislators, 2011



panels of observations from the U.S. states gathered from 1989 and 2011. Since each state (with the exception of Vermont) has two observations, there is clustering of my observations by state. Each state presents its own "contextual" confounders that influence the number of registered revolvers (Steenbergen and Jones 2002, 219–20). This violates the least squares assumption of independent errors. To help account for this violation, Models 1 and 2 include standard errors that have been clustered by state (see Primo, Jacobsmeier, and Milyo 2007). As opposed to including state-level fixed effects, clustering my standard errors allows me to maximize the amount of variation (both across states and across time) for estimating my coefficients. Such clustering does not,

FIGURE 4 PGE Restrictions in the U.S. States



however, control for state-specific starting points or for nationwide trends over time. To control for these issues, I estimate two additional models with both state and year fixed effects included. The inclusion of both sets of effects forces those models to utilize only change within states (from 1989 to 2011) when estimating coefficient sizes. Although this approach provides more conservative estimates presented in Models 3 and 4, it is necessary for eliminating the influence of state-specific, time-invariate confounders on my coefficients (see Allison 2009).[9] In all models, coefficients for legislator, staff, and client totals have been divided by 1,000 to reduce the number of zeros reported. This step does not affect the significance of any coefficients.[10]

Results

The coefficients listed in Table 1 show strong support for the declining value of revolving-door lobbyists. As state legislatures produce more individuals with legislative experience, the number of revolving-door lobbyists increases at a declining marginal rate. All four models show evidence for my first hypothesis. The first and third models show that there is no linear correlation between revolvers and former legislators. Instead, revolvers are correlated with former legislators with diminishing marginal returns. I perform several robustness checks in the supporting information.

With regard to PGE restrictions, results suggest that these laws do dampen rates of revolving among former legislators. In models with errors clustered by state and models with fixed effects, cooling-off periods have a discernible negative effect on revolving. The coefficients suggest that, on average, each additional 12 months of waiting time results in about three fewer revolvers. These results do not prove, however, that former legislators truly shy away from lobbying in states with cooling-off periods. Former legislators may instead not register and become consultants for lobby firms. Indeed, former members of Congress have been found to avoid registering as lobbyists by becoming consultants (LaPira 2015). Although it remains possible that cooling-off periods (as workplace sabbaticals) truly decrease the value of former legislators by forcing them not to lobby while their connections and experience atrophy somewhat, more research is needed

[9]Whereas the inclusion of fixed effects in the negative binomial model might introduce incidental parameters bias, Allison and Waterman (2002) and Allison (2009, 61–69) show that such bias is negligible with both the application of the mean-dispersion variance function labeled "NB2" by Cameron and Trivedi (1998) and the use of unconditional fixed effects. This is different from the constant-dispersion function used by Hausman, Hall, and Griliches (1984), which is implemented as part of Stata's xtnbreg command.

[10]In SI Appendix 3, I provide alternative model specifications. These include estimating linear regression models and also providing bootstrapped standard errors. The results remain substantively the same.

TABLE 1 The Declining Value of Revolving-Door Lobbyists

	Model 1 Clustered SE	Model 2 Clustered SE	Model 3 Fixed Effects	Model 4 Fixed Effects
Former Legislators /1,000	0.588	—	0.957	—
	(0.467)		(0.576)	
ln(Former Legislators)	—	0.448***	—	0.383**
		(0.160)		(0.191)
Cooling-Off Months	−0.017***	−0.016***	−0.015**	−0.014**
	(0.005)	(0.005)	(0.006)	(0.006)
Legislative Staffers /1,000	0.018	0.009	0.231	0.255
	(0.107)	(0.100)	(0.177)	(0.177)
Registered Interests /1,000	0.505***	0.484***	0.223***	0.226***
	(0.089)	(0.085)	(0.086)	(0.086)
Registration Criteria	0.027	0.019	0.073**	0.074***
	(0.031)	(0.030)	(0.029)	(0.028)
Constant	2.248***	−0.081	1.889***	0.006
	(0.168)	(0.866)	(0.293)	(1.102)
ln(α)	−2.066	−2.222	−18.060	−21.543
	(0.152)	(0.163)	(351.452)	—
Observations	99	99	99	99
Number of States	50	50	50	50
Akaike Information Criterion	682.939	671.799	647.086	643.810

Note: State and year fixed effects are included in Models 3 and 4 but not reported. Standard errors are in parentheses.
**p < .05; ***p < .01, two-tailed tests.

to determine whether legislators are not circumventing cooling-off periods simply by refusing to register.

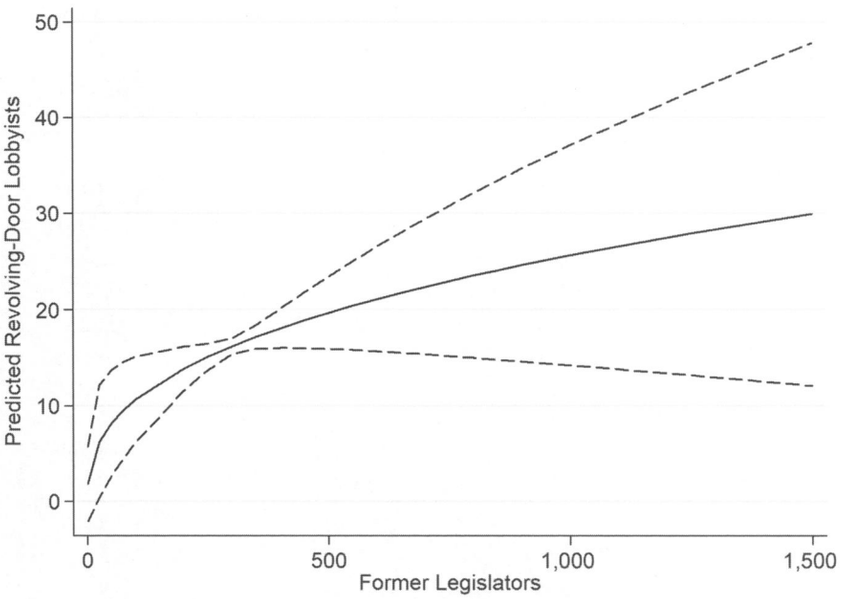
The results presented in Table 1 provide no support for my third hypothesis that legislative staff serve as substitutes for legislator revolvers. None of the coefficients achieved levels of significance worth noting, therefore disconfirming my expectation. This might be because interest groups hire former staffers for their ties to current staffers (McCrain 2018), who may not experience the same turnover as legislators. If this is the case, then the supply and demand model for these revolvers may adhere to a different functional form.

My estimates provide strong support for the fourth hypothesis that as interest populations increase, so do revolver totals. All four models in Table 1 suggest that, while interest populations are correlated with revolver totals, the introduction of more groups into a state (over the time period studied) corresponded with the entry of even more revolvers. Former legislators therefore appear to benefit from the additional opportunities to lobby that come with growing interest populations.

All of the trends described above persist even when controlling for the registration criteria that might capture additional revolvers, but evidence for Hypothesis 5 is mixed. Whereas the numbers of criteria between states were not correlated with revolver totals in models with clustered standard errors, enacting more criteria between 1989 and 2011 appeared to have a positive effect on revolver registration rates. These findings are suggestive of shadow lobbying. Revolving-door lobbyists, as former legislators, are often some of the most adept advocates for hire. Former members of Congress know how to evade having to register as lobbyists (LaPira 2015). When U.S. state governments impose more registration criteria on lobbyists, they have less room to hide. While implementing new criteria might bring some revolvers out of the shadows, there might already be widespread noncompliance that helps to explain the lack of discernible findings in models with clustered errors.

To illustrate the declining value of revolvers, Figure 5 shows a line chart of predicted revolver totals based on the results presented in Model 4. The solid line in the figure traces predicted revolver counts at various totals of former legislators when all other variables are held at their means, and the dashed lines represent 95% confidence intervals. When all other variables are held constant, we see a curvilinear relationship between revolver and legislator totals emerge. Since Model 4 utilizes state and year fixed effects, the correlation illustrated in Figure 5 is based on within-state changes that occurred over

FIGURE 5 Predicted Revolving-Door Lobbyists and Former Legislators



time. States that saw small increases in totals of former legislators saw larger, proportional increases in totals of revolvers, relative to states that saw large increases in former legislators. The value of revolver assets diminishes as more individuals cycle through the legislature.

Implications

Numbers and types of politically active groups supposedly matter for political representation (Schattschneider 1960) and economic growth (see Olson 1982), but there are differences in the types, quality, and costs of advocates. Revolving-door lobbyists have been shown to exacerbate resource inequalities between interest groups. Given that revolving-door lobbyists often represent and get results for the wealthiest of clients, what reforms are needed to help lessen their influence and make the playing fields of political advocacy more even for groups of all resource levels? My findings suggest that a few reforms might be effective.

Policy makers can use the findings of this study to estimate how quickly the revolving-door is currently spinning within their respective capitals, and whether increasing turnover might have a desired effect on revolver totals. Increasing turnover or assembly size initially increases the number of former legislators who become lobbyists, but such totals experience diminishing marginal increases. According to my results, if a legislature has historically produced a large number of individuals with legislative experience, then further increases in turnover are unlikely to yield significantly more revolvers. On the other hand, if a legislature historically saw low turnover or was small in size, then large changes to those factors are likely to produce substantially more revolving-door lobbyists. These results have implications for legislative reforms such as professionalization and the implementation of term limits. Whereas turnover has decreased over time in most legislatures as a result of professionalization, totals of former legislators *increased* in most states that implemented legislative term limits (see Moncrief, Niemi, and Powell 2004). As of 2017, legislators in 15 states were restricted by term limitations, but such laws do not explain turnover entirely. The effects of term limits vary since some states allow for unlimited but nonconsecutive terms (Sarbaugh-Thompson 2010), and there also remains substantial variation in turnover among legislatures without term limits.

My findings also have implications for the expected price of revolvers. Revolvers in states with the fewest former legislators might be paid the greatest premium over the services of nonrevolvers since there is a limited supply of legislative experience in those states (see LaPira and Thomas 2017, 66–81). Even though there might be more revolvers in states with marginally more legislators, the average revolver premium should decrease as more former legislators are supplied, and certainly as demand for their services declines. Revolver prices might be

measured directly in states that require reporting of compensation, or indirectly by examining the types and totals of clients they represent. If revolver prices are greatest under conditions of low legislator supply, then this would suggest that their deleterious effects on political representation are greatest in those legislatures. In this regard, efforts to professionalize legislatures or foster careerism among members might have undesirable consequences on political representation.

While adjusting turnover or professionalizing a legislature can have counterintuitive effects on the representation of interests, other reforms sometimes have similarly unintended consequences. Gerber (1999) documents how direct democracy techniques that originated during the Progressive Era are today prone to being captured by wealthy interest groups. Hogan (2005) finds that the imposition of strict campaign giving limits in some states is correlated with interest groups relying more often on other forms of electioneering. Moreover, LaPira and Thomas (2017, 191–201) argue that numerous lobbyists likely deregistered in response to the 2007 Honest Leadership and Open Government Act and the Obama administration's restrictions on registered lobbyists. State-based reformers may benefit from considering numbers and clienteles of local revolvers prior to adjusting turnover or further professionalizing a legislature.

Some reforms appear to slow down the revolving-door but more research is needed. The implementation of cooling-off laws between 1989 and 2011 was shown to depress revolver totals somewhat. This might surprise critics of such laws (see Law and Long 2012), but it remains to be seen whether cooling-off laws are achieving their intended objectives. If lawmakers retire from service only to accept positions as consultants (i.e., jobs that do not require lobby registration), then cooling-off periods may instead be pushing the revolving-door underground. The substantive effect of such laws is small when compared to the effects of turnover or assembly size. I also did not find that increases in legislative staff resources depress rates of revolving. This is despite there being some evidence that staff persons substitute for the roles of lobbyists (see Berkman 2001). Taken together, these findings suggest that if reformers truly want to devalue revolving-door lobbyists, then they should enact meaningful reforms that cycle people in and out of the legislature.

My findings also suggest that the number of revolvers within a state depends on various contextual factors. As evidenced by the differences in model fits in Table 1, the inclusion of state and year fixed effects increased the predictive utility of my models. This is suggestive of several things. The different U.S. states had different starting points in terms of how many revolvers were registered in 1989 and subsequent years. The most powerful predictor of revolver totals in any state and year is likely the number of revolvers registered in the prior year. The inclusion of fixed effects by state helps to isolate and control for these different starting points, but additional data collection is needed for parsing components of variation that remains unexplained.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix 1: Reliability of Name Matching
Appendix 2: Parsing Legislative Turnover and Assembly Size
Appendix 3: Alternative Model Specifications
Appendix 4: Alternative Samples
Appendix 5: Reliability of Lobbyist Registration Data
Appendix 6: Descriptive Information
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