Working for the Revolving Door*

Peter Bils† Gleason Judd‡

Abstract

Government connections are crucial for revolving-door lobbyists, but their value depends on former colleagues remaining in government. We develop a dynamic model analyzing how this interdependence shapes revolving-door careers, revenues, and the effects of regulations. We characterize which workers enter government and show that most revolvers exit relatively quickly while a select few stay much longer. These senior revolvers are initially superstars who earn substantially higher revenues due to their highly valuable connections but their premium fades as they lose connections. These connection dynamics amplify revenue inequality among lobbyists. Revolving-door regulations generate indirect effects by altering the flow of connections, which can reinforce or counteract their intended direct effects. Cooling-off periods are particularly effective, both curtailing lobbying output and selecting for more motivated government workers who serve longer tenures. Raising government wages can backfire, by raising the value of revolving-door connections while worsening government selection and turnover.

*We thank Laurent Bouton, Steve Callander, Ying Chen, Wioletta Dziuda, Benjamin Egerod, Jean Guillaume Forand, Sean Gailmard, Thomas Groll, Brenton Kenkel, Kyuwon Lee, Larry Rothenberg, Ken Shotts, Cailin Slattery, Brad Smith, James Strickland, Ian Turner, Hye Young You, and audiences at Chicago, NYU, Princeton, Stanford GSB, UCSD, Vanderbilt, 2020 APSA Pre-Conference on Money in Politics, 2023 APC, 2023 WUSTL APAC, 2023 Chicago CEG American Politics, 2024 Cal WARM, 2024 Copenhagen-Princeton Money In Politics, 2024 NBER, 2025 Wallis, and 2026 RBI conferences for comments and suggestions.

†Departments of Political Science and Economics, Vanderbilt University (peter.h.bils@vanderbilt.edu).

‡Department of Politics, Princeton University, (gleason.judd@princeton.edu).

1 Introduction

Lobbying is the central means by which firms and interest groups influence policy in many countries. For instance, in the U.S., spending on lobbying in 2024 more than doubled the total amount of money raised by candidates in the presidential election (Source: OpenSecrets.org). However, gaining access and influence with policymakers requires effective lobbyists.

Accordingly, lobbying firms actively recruit former government workers, such as legislative staffers and bureaucrats, as *revolving-door lobbyists*.[1] Their government experience facilitates lobbying, making them highly valuable, and the prospect of such lucrative lobbying careers in turn shapes the public sector workforce by attracting workers to government (Salisbury and Shepsle, 1981), influencing their behavior while in government (Shepherd and You, 2020), and motivating them to leave for lobbying (Egerod, 2022; Luechinger and Moser, 2024). Moreover, after leaving, revolving-door lobbyists may exert excessive influence on policy (Baumgartner et al., 2009; McKay and Lazarus, 2023). In the aggregate, these individual career decisions affect governance and markets.[2] Yet, despite widespread attention and regulatory scrutiny directed at the revolving door, we lack a clear understanding of how it is shaped by individual career dynamics.

A key selling point of revolving-door lobbyists is their *government connections* (Levine, 2009; Bertrand et al., 2014; Luechinger and Moser, 2024).[3] These connections facilitate lobbying by securing meetings with politicians (Levine, 2009), understanding their tastes (Drutman, 2015; Strickland, 2023), and providing trust that facilitates information transmission (McCrain, 2018b; Hirsch et al., 2023). Crucially, however, those connections are only valuable to lobbyists while their former colleagues remain in government (Blanes i Vidal et al., 2012; McCrain, 2018b). Thus, the value of government connections is interdependent and dynamic (Holman and Esser, 2019; Luechinger and Moser, 2024). This *contingent value*

[1] According to a veteran lobbyist, "[w]e like to hire people who have in-depth experience either in the executive branch or in the legislative branch[...]" (Leech, 2013, pg. 26).

[2] On the negative side: (i) government turnover is associated with worse performance by Congressional staff (Crosson et al., 2018; McCrain, 2018a; Ommundsen, 2023) and bureaucrats (Lee, 2018; Akhtari et al., 2022; Lewis et al., 2022), and (ii) potential revolvers may favor their prospective employers (Cornaggia et al., 2016; Tabakovic and Wollmann, 2018; Tenekedjieva, 2021; Li, 2021). Additionally, their effectiveness as lobbyists may also lead to detrimental policies, e.g., Silicon Valley Bank extensively used revolvers to lobby for weaker banking regulations (Giorno, 2023), contributing to its ultimate collapse. But on the positive side: (i) more workers may be willing to join government and require lower compensation while there, and (ii) they may work harder to impress future employers or build human capital (deHaan et al., 2015; Kempf, 2020; Shepherd and You, 2020).

[3] Among others, (Rosenthal, 2000, pg. 218) claims that "[r]elationships are the primary vehicle of influence for the contract lobbyist" and (Cain and Drutman, 2014, pg. 42) conclude "[t]hough retiring staffers may be valuable for many reasons, the evidence here points to their personal relationships being their most valuable attribute."

of connections (Strickland, 2020, 2023) distinguishes the revolving door from most other industries where contacts retain value even after those contacts switch jobs.

In this paper, we study how the interdependent and dynamic nature of connections shapes the careers and revenues of revolving-door lobbyists. We develop a dynamic model of career decisions by potential revolvers in which government connections are endogenous—depending on the career choices of other workers—and erode as former colleagues exit government. In the model, workers at the beginning of their careers choose whether to enter the private sector or government. Those who join the public sector then face an ongoing decision of whether to stay in government or exit to become a revolving-door lobbyist. Once a worker joins either the private or lobbying sector, she remains there permanently. Although the private sector may be more lucrative, some workers enter government due to intrinsic public service motivation and to build human capital that is valuable for lobbying. This human capital has two components: government experience and government connections. In our model, workers are *connected* if they ever served concurrently in government.

The key feature of our model is that government connections are endogenous, so each revolver's revenues depend on the career decisions of other workers. As former colleagues leave the public sector, lobbying human capital erodes, creating endogenous feedback between the equilibrium flow of revolving-door lobbyists and their revenues. Parsing the effects of this interdependence is the core of our analysis. To emphasize the contingent value of connections, we abstract from several other relevant features—electoral turnover, labor market frictions, and policymaking dynamics. Our model therefore applies most directly to unelected government workers, such as Congressional staffers or bureaucrats, who form the bulk of revolving-door lobbyists.[4] However, our insights about how contingent connections shape career incentives can also shed light on the behavior of politicians and on other settings where revolving connections are important, such as credit ratings analysts who transition to investment banking.

We study how the contingent value of connections affects three sets of outcomes: revolving-door careers, the distribution of lobbyists' revenues, and the effects of regulations intended to curb the revolving door.

We first establish existence of a stationary equilibrium and characterize the distribution of workers across sectors. Different workers make different career choices in equilibrium for two reasons. First, workers vary in their public service motivation—i.e., their intrinsic taste for government service. Second, all else equal, more government experience increases a

[4]Although ex-politicians are prominent, revolving-door lobbyists are overwhelmingly former staffers or bureaucrats (LaPira and Thomas, 2014). Former staffers are particularly sought after: across a wide range of political actors, they "received uniformly high praise as lobbyists" (Levine, 2009, pg. 239).

worker's value in the lobbying sector, so each individual's calculus evolves over time. Since workers with higher public service motivation enjoy government service more, they are both more inclined to enter and more inclined to stay. Workers with low public service motivation join the private sector directly; those in an intermediate range enter government but revolve after a moderate stint; and those with the highest motivation remain so long that most retire before they are willing to revolve. Government tenures are monotonically increasing and convex in public service motivation. Consequently, most revolvers have moderate levels of public service motivation and exit government relatively early, while a select few with higher public service motivation eventually revolve after much longer government tenures.

We next analyze how endogenous connections affect the dynamics and distribution of lobbying revenues—a prominent measure of revolvers' output and wages (Blanes i Vidal et al., 2012; Ban et al., 2019; Bombardini and Trebbi, 2020). A revolver's revenue depends on two components of her human capital: government experience, which is fixed at the time of revolving, and her connection stock, which erodes as former colleagues exit. Heterogeneity in government experience alone can generate revenue inequality, since workers who stay longer in government build higher-quality connections. However, endogenous connections introduce a second source of variation via lobbying tenure, which determines how much of a revolver's initial connection stock remains. Because government experience and connections are complements, their interaction amplifies inequality.

We show that a small group of *superstars* earn far more than their peers, that they are recent revolvers with long government careers, and that their elite status is temporary as their connection stocks erode. To isolate how contingent connections contribute to this revenue inequality, we compare against a counterfactual economy in which workers face identical career incentives but connections are fixed. We show that endogenous connections increase any inequality measure consistent with the Lorenz ordering, such as the Gini index. To ground this analysis empirically, we also document two patterns in U.S. lobbyist revenues that are consistent with the role of depreciating connections that our model highlights: individual revenues do not clearly increase with lobbying tenure, and the revenue distribution exhibits persistently high inequality.

Finally, we study how connections mediate the effects of two policy instruments intended to address the revolving door: government wages and cooling-off periods. Increasing government wages has a *direct* effect that attracts workers to the public sector and discourages revolving. However, this also slows the outflow of government workers and increases the connection stock, generating an *indirect* effect that incentivizes revolving. The indirect effect produces heterogeneous responses: workers with low public-service motivation stay longer than they otherwise would; workers with high public-service motivation revolve sooner. Thus, higher government wages mute superstar lobbyists but accelerate revolving by highly motivated workers.

Cooling-off periods also generate competing direct and indirect effects. The direct effect reduces the value of revolving because new lobbyists must wait before producing output and lose connections while doing so. This discourages entry into government but also encourages government workers to stay longer, so the indirect effect on the connection stock is ambiguous. When workers are sufficiently impatient, longer cooling-off periods deter entry, extend government tenures, and reduce the equilibrium connection stock.

These individual-level effects have implications for aggregate outcomes. We consider two objectives that broadly capture prominent considerations for regulating the revolving door: (i) government output, which depends on the intrinsic motivation and experience of the public-sector workforce, and (ii) total lobbying output, which reflects the aggregate influence of revolving-door lobbyists. We show via numerical analyses how the two instruments affect these objectives in distinct ways, largely due to differences in how they impact the endogenous dynamics of connections. Higher government wages have a limited impact on government output because they encourage highly motivated and experienced workers to exit, while attracting those with low public service motivation. Furthermore, higher wages substantially increase total lobbying output as revolvers accumulate more experience and retain more connections. In contrast, longer cooling-off periods increase government output by retaining experienced and highly motivated workers, while reducing total lobbying output. Our analysis thus suggests that cooling-off periods may be a particularly effective instrument for addressing the revolving door.

We conclude by discussing several extensions of the baseline model. First, we consider a fixed-size government, showing that while this eliminates certain entry effects, the compositional and tenure effects driven by connections remain. Second, we allow workers to take costly actions before revolving that affect their lobbying payoff, capturing behaviors ranging from productive effort to policy favors. The equilibrium pattern of such behavior depends on whether these actions complement or substitute for connections, with complementarity amplifying the superstar phenomenon and substitutability concentrating distortions among short-tenure revolvers. Third, we allow the price of lobbying output to respond to the supply of revolvers. The qualitative characterization of career paths and revenues is unchanged, but endogenous prices will introduce additional equilibrium effects when considering comparative statics on government wages or cooling-off periods. Notably, the equilibrium effects due to connections are distinct from those due to prices.

2 Connections with the Literature

This paper contributes to understanding how post-government employment opportunities influence public sector careers and subsequent lobbying outcomes.[5] While some existing theories emphasize government service as a means to signal ability to potential employers (Mattozzi and Merlo, 2008; Bond and Glode, 2014), we emphasize its role for building human capital through government experience and connections. Other models that incorporate human capital accumulation in the context of revolving-door workers (Bar-Isaac and Shapiro, 2011; Bond and Glode, 2014; De Chiara and Schwarz, 2021; Kalmenovitz et al., 2022) abstract from connections, or lump them in with other forms of human capital. In contrast, our analysis centers on how the contingent value of connections shapes equilibrium outcomes. This interdependence across workers also departs from other models of the revolving door studying the interaction between a single regulator and firm (Che, 1995; Salant, 1995).

We also shed light on political selection into government careers.[6] Our model features heterogeneous intrinsic motivation for public service, which scholars have emphasized in their efforts to understand public-sector careers (e.g., Besley, 2005; Perry and Hondeghem, 2008). We study how these motives combine with instrumental motives for building connections and lobbying human capital, rather than signaling ability (Mattozzi and Merlo, 2007; Delfgaauw and Dur, 2010) or affecting policy implementation (Forand et al., 2023). Previous work has also investigated how public-sector compensation (e.g., Francois, 2000; Besley and Ghatak, 2005; Delfgaauw and Dur, 2008; Prendergast, 2007, 2008; Dal Bó et al., 2013) and bureaucratic discretion (Gailmard and Patty, 2007) influence selection into government when workers have intrinsic public service motivations. We contribute to this strand of research by showing that revolvers' need for connections alters how higher wages affect government entry and retention.

Complementary to our approach, Fisman et al. (2025) empirically study the effects of revolving-door laws on selection into state legislatures, finding that such restrictions deter entry and reduce incumbent turnover. While their focus is on elected politicians and reduced-form effects, our model focuses on unelected government workers who constitute the bulk of revolvers but still provides a structural account of an underlying mechanism—the interdependence of career incentives through connections—that can generate such responses. Likewise, Gamalerio and Trombetta (2025) also studies elected officials and find that longer cooling-off periods in Italy altered the characteristics of political candidates.

[5] We focus on workers' incentives to *exit* government into lobbying, differentiating our work from theories of *entry* into government from the private sector (e.g., Hübert et al., 2023).

[6] Specifically, we trace different workers' incentives to enter and stay in government jobs, rather than run for elected office (as in, e.g., Osborne and Slivinski, 1996; Diermeier et al., 2005; Mattozzi and Merlo, 2007).

Our approach to modeling the careers of revolving-door lobbyists relates to the literatures on occupational choice (Roy, 1951) and occupation-specific human capital (Becker, 1962). In our model, workers build human capital in one occupation (government) that, unique to this paper, (i) pays off only after transitioning to lobbying and (ii) depreciates endogenously as former colleagues leave. Point (i) makes the individual worker's problem analogous to the canonical schooling choice model in Mincer (1958), where in our paper "schooling" consists of time in government building connections. However, point (ii) contrasts with the schooling literature, which typically assumes human capital increases with work experience. Instead, revolvers' human capital endogenously decreases with lobbying tenure.[7] Moreover, in our setting, revolving incentives depend on expectations about others' decisions through connections in a way particular to the revolving door. Thus, we highlight the interplay between individual career incentives and broader labor market forces (as in, e.g., Moscarini, 2001, 2005).

Finally, we provide an explanation for *rainmaker* lobbyists (Ban et al., 2019)—i.e., superstars who generate substantially more revenue than their peers. While such top-end inequality exists in a number of contexts and has a variety of explanations (see Gabaix, 2009, for a discussion), our mechanism relates most closely to talent-based explanations for wage inequality. Within industries, superstars emerge when talented workers access complementary tools magnifying innate differences (Sattinger, 1975), allowing them to attract substantially more consumers (Rosen, 1981) or charge substantially higher prices (Gabaix and Landier, 2008; Terviö, 2008). Our mechanism, also driven by heterogeneity across individuals, shows how small differences in public-service motivation create large differences in human capital, enabling substantially higher lobbying revenues. This rationale emerges naturally from the interdependence and dynamics of connections in the revolving door context.

3 The Model

We study a dynamic model in which workers choose whether to enter government and, conditional on entering, whether to transition to lobbying through the revolving door. Our key contribution is to incorporate the dynamic and interdependent evolution of government connections. To isolate the role of connections in equilibrium behavior and outcomes, we keep the remainder of the environment deliberately parsimonious, e.g., abstracting from market frictions and political uncertainty.

[7] An additional difference is that heterogeneity in individuals' government payoffs plays a central role in our model, whereas schooling costs are often taken as negligible (see Heckman et al., 2006, for a discussion).

3.1 Model Set-up

Players and timing. Time is continuous, indexed by $t \in [0, \infty)$. At each date there is a continuum of workers. Workers exit according to a Poisson process with rate $\delta > 0$ and are immediately replaced by a newborn worker of age 0. A newborn worker i draws *public service motivation* ψ_i (independently of age) from a strictly increasing distribution function G with full support on $\mathbb{R}$ and density g. Thus, workers in our model are heterogeneous in their age and public service motivation.

Each worker initially chooses between entering government and the private sector. Subsequently, at each instant t in which worker i is in government, she chooses whether to remain in government or to revolve into lobbying. Once worker i enters the private sector or revolves into lobbying, she makes no further choices. Let $\mathbf{1}^g_{it} \in \{0, 1\}$ indicate whether worker i is in government at time t.

Connections. A worker's connections at date t are the other workers who overlapped with her in government and who still remain in government at t. Formally, workers i and j are *connected* if there exists t' such that $\mathbf{1}^g_{it'} = 1$ and $\mathbf{1}^g_{jt'} = 1$. Worker i's government connections at time t are given by the set

$$\left\{ j \mid \mathbf{1}^g_{jt} = 1 \;\text{ and }\; \exists t' \leqslant t \text{ such that } \mathbf{1}^g_{it'} = \mathbf{1}^g_{jt'} = 1 \right\}.$$

Let q_{it} denote the Lebesgue measure of this set. We refer to q_{it} as worker i's *connection stock* at time t. Notice that, after leaving government, a worker's connection stock will depreciate endogenously over time as her connections exit government.

Lobbying output. After revolving, a worker's lobbying output at time t depends on (i) her government tenure and (ii) her connection stock. Specifically, suppose worker i enters government at time t_1 and exits at time $t_2 > t_1$. Her government tenure is then $\tau_g \equiv t_2 - t_1$, and for $t \geqslant t_2$, her lobbying output is

$$y_\ell(q_{it}, \tau_g) = q_{it} \cdot v(\tau_g), \tag{1}$$

where $v : \mathbb{R}_+ \to \mathbb{R}_+$ captures the effect of government tenure on the productivity of a given connection stock. Thus, government tenure and connections both raise lobbying output and they are complements.

We impose the following assumptions on v: $v'(\tau_g) > 0$, $v''(\tau_g) \leqslant 0$, and $v'''(\tau_g) \geqslant 0$ for all τ_g; $\lim_{\tau_g \to \infty} v(\tau_g) = \infty$ and $\lim_{\tau_g \to \infty} v'(\tau_g) < \infty$.

Payoffs. Workers receive wage income throughout their careers and, while in government, derive flow utility from public service motivation. Let z_{it} denote worker i's income at time t and let $\rho > 0$ denote the discount rate. Hence, the effective discount rate is $\delta + \rho$, and worker i's expected lifetime payoff is

$$\int_0^\infty e^{-(\delta+\rho)t} \cdot \Big(z_{it} + \mathbb{I}_{it}^g \, \psi_i \Big) \, dt. \tag{2}$$

Income varies across sector. The flow payoff from income in the private sector is $z_{it} = w_p > 0$; and in government it is $z_{it} = w_g > 0$, with w_p and w_g exogenous. In lobbying, we assume worker i's income equals her output, $z_{it} = y_\ell(q_{it}, \tau_g)$, with the price of lobbying output taken as exogenous and normalize to 1, a point we return to later. Accordingly, we also refer to y_ℓ as a worker's *lobbying revenue*.

Finally, we assume that revolving immediately always yields lower income than entering the private sector, $y_\ell(\frac{1}{\delta}, 0) < w_p$.

3.2 Equilibrium

We focus on stationary equilibrium in which: (i) a worker's decisions only depend on her public service motivation and government tenure, and (ii) the cross-sectional distribution of worker characteristics across sectors is constant over time.

Stationary strategies. A stationary strategy in our model is a pair $\sigma = (\gamma, \eta)$. A worker's entry decision is characterized by a function $\gamma : \mathbb{R} \to \{0, 1\}$, with $\gamma(\psi) = 1$ indicating that a newborn of type ψ enters government. The function $\eta : \mathbb{R} \times [0, \infty) \to \{0, 1\}$ is the exit rule, with $\eta(\psi, \tau_g) = 1$ denoting that a worker with government tenure τ_g and public service motivation ψ chooses to exit into lobbying.[8]

Steady state. Normalizing the inflow of newborn workers to one, the time-invariant mass of workers with age in $[a, a + da]$ is $e^{-\delta a} da$, which gives total population mass $1/\delta$. With stationary strategies, the steady state mass of government workers with public service motivation and government tenure in $[\psi, \psi + d\psi] \times [\tau_g, \tau_g + d\tau_g]$ is

$$d\mu^g(\psi, \tau_g; \sigma) = e^{-\delta \tau_g} \cdot \gamma(\psi) \cdot (1 - \eta(\psi, \tau_g)) \, dG(\psi) \, d\tau_g. \tag{3}$$

This then implies that worker masses and characteristics in the private and lobbying sectors are constant over time as well.

[8] We assume throughout that players use measurable strategies.

The *lobbying tenure* of a worker age a who revolved after government tenure τ_g is $\tau_\ell \equiv a - \tau_g$. After revolving, a worker does not overlap with any new government workers. Fixing a strategy σ, the connection stock of a worker in the steady state only depends on her lobbying tenure τ_ℓ and satisfies

$$q(\tau_\ell; \sigma) = \int_{[\tau_\ell, \infty) \times \mathbb{R}} d\mu^g(\psi, \tau_g; \sigma). \tag{4}$$

Continuation values. Given a σ, the continuation value to a worker from revolving after government tenure τ_g, is

$$V_r(\tau_g; \sigma) = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \cdot y_\ell\big(q(\tau_\ell; \sigma), \tau_g\big)\, d\tau_\ell.$$

Then the dynamic payoff to a worker with public service motivation ψ from entering government and revolving after tenure τ_g is

$$V_g(\tau_g, \psi; \sigma) = \frac{1 - e^{-(\delta+\rho)\tau_g}}{\delta + \rho} \cdot (\psi + w_g) + e^{-(\delta+\rho)\tau_g} \cdot V_r(\tau_g; \sigma).$$

Finally, the continuation value to entering the private sector is

$$V_p = \frac{w_p}{\delta + \rho}.$$

Equilibrium definition. For each ψ, define the worker's optimal government tenure and associated continuation value under strategy profile σ as:

$$\tau_g^*(\psi; \sigma) \equiv \arg\max_{\tau_g \in [0,\infty)} V_g(\tau_g, \psi; \sigma) \qquad \text{and} \qquad V_g^*(\psi; \sigma) \equiv \max_{\tau_g \in [0,\infty)} V_g(\tau_g, \psi; \sigma).$$

An *equilibrium* is a strategy profile $\sigma^* = (\gamma^*, \eta^*)$ that satisfies:

(i) *optimal entry*: $\gamma^*(\psi) = \mathbf{1}\big\{V_g^*(\psi; \sigma^*) \geqslant V_p\big\}$ for all ψ;

(ii) *optimal revolving*: $\eta^*(\psi, \tau_g) = \mathbf{1}\big\{\tau_g \geqslant \tau_g^*(\psi)\big\}$ for all (ψ, τ_g); and

(iii) *connections consistency*: the mass of government workers satisfies condition (3) and $q(\tau_\ell; \sigma) = \int_{[\tau_\ell, \infty) \times \mathbb{R}} d\mu^g(\psi, \tau_g; \sigma^*)$ for all τ_ℓ.

3.3 Discussion of the Model

Upon joining government, a worker immediately overlaps with the other current government workers and becomes connected to them. However, connections are only valuable if the worker stays and builds her government tenure. Our approach to modeling the value of connections captures differences that depend on an individual worker's experience. For instance, workers who had longer government tenures may hold more influence with their former colleagues due to their greater expertise. Alternatively, they may maintain better reputations with their former employers. Notice, this means expertise still plays an important role for a revolver's value, as building experience complements connections though the function v.[9] While such factors may also separately impact a revolver's value, including a separate additive term would not change the main qualitative forces we analyze.

Our model abstracts from other dimensions of building connections. For examples, two workers may be better connected if they spent more time together in government, or a worker may meet more workers over time. However, the key features driving the results of our model also exist under these alternative specifications. In particular, it is still the case that: (i) spending more time in government improves the value of connections, and (ii) a connection's value is contingent on the connection remaining in government. Thus, we focus on our approach to modeling connections, which is tractable and captures the importance of building expertise.

Throughout, we compare our model to one where the endogenous aspect of connections is shut down. To facilitate comparisons, we consider the same model, but fix q_{it} as an exogenous scalar $q_{it} = \overline{q} > 0$ for all i and t. This fixed-connections setting can also be interpreted as a pure expertise/experience benchmark. In Section 5.3, we choose $\overline{q}$ to ensure workers face identical incentives in both settings, enabling a clean comparison of distributional effects.

To emphasize the role of endogenous connections, our model makes several simplifying assumptions. First, we model lobbying payoffs in reduced form. This captures the various ways that a revolver may engage in lobbying (see, e.g., Grossman and Helpman, 2001; Bombardini and Trebbi, 2020; Schnakenberg and Turner, 2023, for overviews), without tying our insights to any particular lobbying technology. Second, we assume that all of a lobbyist's connections are equally valuable. However, our main theoretical results are robust to including a function that weights connections by their tenure, thus allowing, for example, a connection to a more senior worker to be more valuable. Third, we do not model involuntary turnover (e.g.,

[9]Egerod et al. (2024) argues that "connections and information are likely to complement each other." Longer tenure may facilitate stronger relationships or greater expertise that enable persuasive arguments (Drutman, 2015; Strickland, 2023), and lead to older relationships that "allow you to cut through things" (Dale Florio, NJ lobbyist, in Rosenthal, 2000, pg. 120).

due to elections) since many relevant lobbying issues are not partisan or electorally salient, and bipartisan connections are fairly common.[10] Moreover, most revolving-door lobbyists are former staffers who primarily lobby current staffers, so many current and prospective revolvers have discretion over their government tenure.

More substantively, we do not model lobbyists re-entering government, since re-entry is not a primary consideration in the standard lobbyist calculus and government jobs are often seen as "a way station to wealth" (Levine, 2009, pg. 65).[11,12] Empirically, a very small percentage of revolving-door lobbyists ever reenter government (Kalmenovitz et al., 2022; Luechinger and Moser, 2024) and such reentry may reflect significantly different motives than building connections or human capital—e.g., influencing policy (Hübert et al., 2023) or regulatory capture (Dal Bó, 2006).

Finally, the connections in our model are between workers, rather than between the workers and one valuable connection, such as a politician. Although connections to politicians are valuable, connections to staffers are critical since they control access to legislators, draft critical policy details, and "make the wheels go round" (Leech, 2013, pg. 180).[13]

In the conclusion we discuss three extensions to our baseline model. First, we discuss the effects of imposing an exogenous constraint on the size of government. In our baseline model we allow the size to be responsive to fully capture the entry incentives of workers. Additionally, note that we can interpret the w_g in our model as arising from the government's cost minimizing choice to achieve a target size. Second, we consider incorporating in-government behavior into the model by allowing government workers to choose an action that affects their revolving-door payoff. This extension flexibly captures actions that are productive (exerting effort, building expertise) or not (corruption). Third, our baseline setup abstracts from general equilibrium effects between the labor markets in our model (i.e., government, private sector, and lobbying wages are fixed). This assumption clarifies the role of interdependent and dynamic connections. Our main insights about career paths and revolver revenues are unaffected by allowing the lobbying sector's wage rate to be set in a competitive equilibrium. However, we show it introduces new effects when considering comparative statics, which differ from the effects due to connections.

[10] "Most lobbyists manage to develop connections on both sides of the aisle because Democrats and Republicans can go either way on many issues of interest" (Rosenthal, 2000).

[11] For instance, the lobbyist Lyle Dennis notes that "[t]he concept of the revolving door is interesting. My experience is that it often only revolves one way" (Leech, 2013, pg. 98).

[12] We also assume that workers cannot enter the private sector after revolving. This simplifies the presentation but does not affect our qualitative results. In this case, the revolving payoff would now be $\max\{w_p, q(\tau_\ell)\, v(\tau_g)\}$, which raises the minimum observed revolver revenue but does not affect the emergence of inequality due to the effect of connections on top-end revenues.

[13] Echoing the widespread view, a veteran lobbyist observed that "[w]e need to deal with staff because legislators rely on them" (Rosenthal, 2000, pg. 190).

4 Characterization of Equilibrium

We establish existence of equilibrium and characterize entry and exit decisions. We show that: (i) workers with sufficiently low public service motivation never enter government, (ii) among those who enter, government tenure is strictly increasing in ψ_i—lower-motivation workers leave earlier, while higher-motivation workers stay longer—and (iii) tenure is convex in public service motivation, so workers with very high ψ_i are "government lifers" likely to exit through exogenous attrition rather than revolving. Crucially, these individual decisions depend on expectations about lobbying wages, which in turn depend on aggregate revolving behavior through connections. Proofs can be found in the Appendix.

4.1 Exit decision

To begin, we analyze the exit decision for a government worker, taking as given the expected evolution of connections. Intuitively, workers weigh their value from continued government service against their potential lobbying wages. Specifically, staying in government provides utility through two channels. The first is the direct benefit from further public service and wages (through $\psi_i + w_g$), and the second is the increased future benefit because a longer tenure increases the effectiveness of the connection stock through $v(\tau_g)$. On the other hand, leaving through the revolving door provides a flow of lobbying income.

Each worker's payoff from revolving depends on her government tenure and anticipated flow of connections. Given a strategy profile σ, each prospective revolver can forecast her connection stock at each future date. Recall that, under stationarity, $q(\tau_\ell; \sigma)$ denotes a worker's connection stock and this only depends on her lobbying tenure τ_ℓ. When a worker is deciding whether to exit, what matters is not just today's connection stock, $q(0; \sigma)$, but the entire lifetime discounted connection stock. Suppressing dependence on σ, we denote this cumulative quantity as Q, where

$$Q = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} q(\tau_\ell; \sigma) d\tau_\ell. \tag{5}$$

Each connection lasts until the contact leaves government, either exogenously or endogenously. Thus, Q depends on how many workers choose to enter government and the duration of their government tenures, as well as the effective discount rate.

Hence, the dynamic payoff from revolving after government tenure τ_g is

$$V_r(\tau_g; Q) = v(\tau_g) \cdot Q.$$

Consequently, the continuation payoff to a type ψ_i worker from entering government and then revolving after a tenure τ_g is

$$V_g(\tau_g, \psi_i; Q) = \frac{1 - e^{-(\delta+\rho)\tau_g}}{\delta + \rho} \cdot (\psi_i + w_g) + e^{-(\delta+\rho)\tau_g} \cdot v(\tau_g) \cdot Q. \tag{6}$$

When worker i enters government, she stays until reaching her optimal government tenure τ_g^*. Each worker's optimal government tenure balances her anticipated lobbying wages against her benefits from continued government service. In equilibrium, if i enters government, then τ_g^* must solve the first-order condition

$$(\delta + \rho) \cdot v(\tau_g) \cdot Q = \psi_i + w_g + v'(\tau_g) \cdot Q. \tag{7}$$

Each worker's optimal tenure balances two forces. The left-hand side of (7) is the marginal cost of remaining in government for an additional instant: the worker risks losing the revolving payoff $v(\tau_g) \cdot Q$ due to exogenous attrition (at rate δ) and delays the return on this value (at rate ρ). The right-hand side is the corresponding marginal benefit: the direct flow utility from continued government service, $\psi_i + w_g$, and the rate at which additional tenure increases the present value of the revolving payoff, $v'(\tau_g) \cdot Q$. The characterization of τ_g^* implies that i stays in government at each age $a < \tau_g^*$ and then exits when $a = \tau_g^*$.

All government workers in the same entering cohort anticipate the same lobbying wages if they revolve at the same time, but they differ in their public service motivation. Inspecting equation (7), the gain from remaining in government is greater for workers with higher public service motivation. This observation yields the following characterization of exit behavior.

Lemma 1. *In every equilibrium, there exists a function* $\overline{\psi}^* : \mathbb{R}_+ \to \mathbb{R}$ *such that worker* i *with government tenure* τ_g *revolves if and only if* $\psi_i \leqslant \overline{\psi}^*(\tau_g)$.

All else equal, workers with greater ψ_i are more motivated to remain in government. Consequently, exit behavior in equilibrium is fully characterized by a function $\overline{\psi}^*$ mapping government tenure to public service motivation. In equilibrium, this function must be consistent with the optimal decision to exit, so equation (7) yields:

$$\overline{\psi}^*(\tau_g) = Q \cdot \Big((\delta + \rho) \cdot v(\tau_g) - v'(\tau_g)\Big) - w_g. \tag{8}$$

For a given Q, worker i's equilibrium tenure τ_g^* satisfies:

$$\tau_g^*(\psi_i) = \overline{\psi}^{*-1}(\psi_i) = \arg\max_{\tau_g \geqslant 0} V_g(\tau_g; \psi_i, Q).$$

The function $\overline{\psi}^*$ depends on Q, so i's expectation about her flow of connections impacts her decision to revolve. Furthermore, the quantity of connections a revolver has left in government will depend on the connections' government tenures. Thus, in equilibrium, Q must also be consistent with $\overline{\psi}^*$ through the steady-state connections condition.

4.2 Entry Decision

Next, we characterize who enters government. Entering government provides workers the opportunity to build human capital that is valuable for lobbying, whereas the private sector yields a fixed flow of the wage w_p. For worker i, government employment is worthwhile if

$$\max_{\tau_g} V_g(\tau_g; \psi_i, Q) \geqslant \frac{w_p}{\delta + \rho}. \tag{9}$$

Otherwise, i prefers to enter the private sector.

Lemma 2 establishes that, in equilibrium, workers enter government if and only if their public service motivation is high enough.

Lemma 2. *In every equilibrium, there exists a cut-point* $\underline{\psi}^* \in \mathbb{R}$ *such that worker* i *enters government if and only if* $\psi_i \geqslant \underline{\psi}^*$.

Notably, entry is affected by expectations about aggregate revolving behavior through its impact on lobbying wages. In turn, higher entry increases the quantity of connections, all else equal. Thus, in equilibrium, $\underline{\psi}^*$ and Q are jointly determined.

4.3 Equilibrium Career Trajectories

To summarize, a worker's behavior in any equilibrium is characterized by: (i) an entry threshold $\underline{\psi} \in \mathbb{R}$, and (ii) an exit function $\overline{\psi} : \mathbb{R}_+ \to \mathbb{R}$ mapping tenure to public service motivation. Given this characterization, a worker's connections after lobbying tenure τ_ℓ are:

$$q(\tau_\ell) = \int_{\tau_\ell}^{\infty} e^{-\delta a} \cdot \Big(1 - G\Big(\max\{\underline{\psi}, \overline{\psi}(a)\}\Big)\Big) da, \tag{10}$$

and notice that for workers currently in government age a and tenure τ_g are equivalent.

Each revolver's government connections must be old enough to have coincided with the revolver, but also young enough to still be working there. Thus, connections diminish for two reasons. First, they do not have connections to recent entrants: a revolver i with lobbying tenure τ_ℓ does not overlap with any workers with ages 0 to τ_ℓ. Second, their connections have attrition as former colleagues (exogenously) die or (endogenously) leave for lobbying:

among workers of each age $a \geqslant \tau_\ell$, only a mass $e^{-\delta a}$ are still alive and only those with public service motivation $\psi \geqslant \max\{\underline{\psi}, \overline{\psi}(a)\}$ are still in government. Consequently, the measure of i's connections who have age $a \geqslant \tau_g$ is $e^{-\delta a} \cdot \Big(1 - G\big(\max\{\underline{\psi}, \overline{\psi}(a)\}\big)\Big)$. An entry threshold $\underline{\psi}$ and exit function $\overline{\psi}$ jointly determine equation (10) and, in turn, the total discounted connections Q.

Proposition 1 delivers existence and characterization of equilibrium. In particular, there is a solution $\big(\underline{\psi}^*, \overline{\psi}^*(\tau_g), Q^*\big)$ to equations (5), (8), and, (9) that characterizes equilibrium behavior.

Proposition 1. *An equilibrium exists and is characterized by a* $\big(\underline{\psi}^*, \overline{\psi}^*(\tau_g), Q^*\big)$ *that solves*

$$\underline{\psi} = \frac{w_p - (\delta+\rho) \cdot e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})} \cdot v\big(\overline{\psi}^{-1}(\underline{\psi})\big) \cdot Q}{1 - e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})}} - w_g, \tag{11}$$

$$\overline{\psi}(\tau_g) = Q \cdot \Big((\delta+\rho) \cdot v(\tau_g) - v'(\tau_g)\Big) - w_g, \tag{12}$$

$$Q = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^\infty e^{-\delta a} \cdot \Big(1 - G\Big(\max\{\underline{\psi}, \overline{\psi}(a)\}\Big)\Big)\, da\, d\tau_\ell. \tag{13}$$

Next, Proposition 2 leverages Proposition 1 to sharpen the characterization of entry and exit behavior in equilibrium. Figure 1 illustrates the result by labeling which sector each (ψ, τ_g) worker is in at a date t.

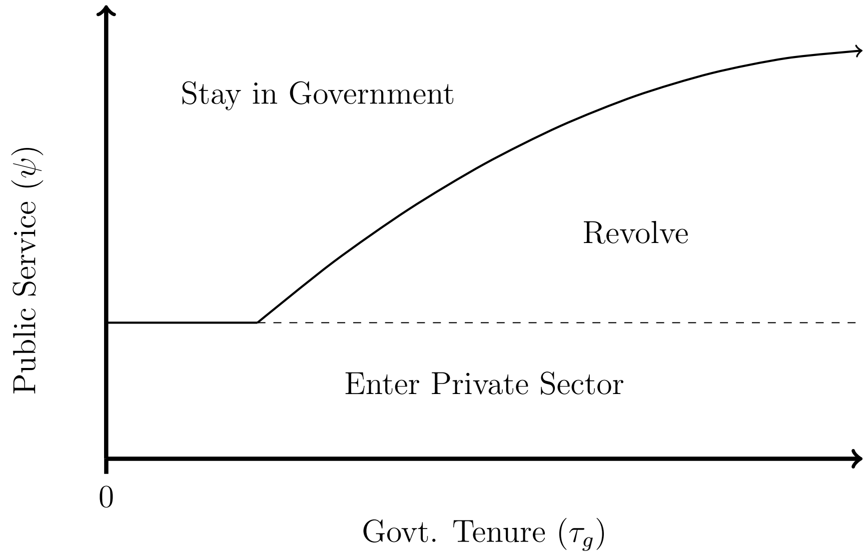
Proposition 2. *In equilibrium, (i) the entry threshold is* $\underline{\psi}^* \in \big(\overline{\psi}^*(0), w_p - w_g\big)$ *and (ii) the exit function* $\overline{\psi}^*$ *is strictly increasing and concave in* τ_g.

Proposition 2 derives a lower bound on ψ for government entry and shows that no workers revolve immediately. First, since the option value of revolving must be weakly positive, everyone who prefers government service to private wages will enter. Second, government workers need to build the value of their connections, which initially occurs quickly and justifies waiting.[14] Third, government tenure is increasing and convex in public service motivation. Over time, waiting has less impact on wages because the increase in output via experience is diminishing, so longer government tenure increases the appeal of revolving for any worker. Moreover, since the marginal gain in v diminishes, they stay much longer. Thus, although every government worker could in principle serve a long government tenure to increase their value as a lobbyist, workers with greater ψ stay much longer.

Propositions 1 and 2 characterize cohort career dynamics. After an initial period building connections, the least public-minded workers begin revolving. Most leave fairly quickly while

[14] Even if $y_\ell(1/\delta, 0) > w_p$, workers entering government will wait a positive amount of time before revolving as long as $v'(0)$ is sufficiently large.

Figure 1: Equilibrium Career Choices



Note: Figure 1 shows equilibrium sorting of workers across sectors based on their public service motivation (vertical axis) and government tenure (horizontal axis). Workers with low public service motivation enter the private sector directly. Those with moderate motivation enter government but revolve after building sufficient connections. Workers with the highest motivation remain in government for extended periods, with many retiring before revolving.

a select few stay much longer. Each cohort's outflow slows gradually but never stops, so cohorts become increasingly homogeneous in ψ over time.

Finally, these results also have implications for the composition of revolvers at each date. Specifically, they are mostly young and have relatively low ψ. Of course, there are more young workers—since they have had less time to already leave due to revolving or attrition. Additionally, however, younger revolvers have lower ψ and are particularly sensitive to waiting. Thus, conditional on government tenure, the share of revolvers decreases over time. Together, these factors produce a relatively large and diverse (in ψ) wave of young revolvers that coincides with a trickle of more senior revolvers.

5 Revolver Revenues

Having characterized career decisions—who enters government and how long they stay—we now analyze how endogenous connections shape lobbying revenues. Revenues are a widely used measure of revolvers' output and wages (Blanes i Vidal et al., 2012; Ban et al., 2019; Bombardini and Trebbi, 2020) and, by extension, their influence or value. We characterize how individual revenues evolve over time, establish the emergence of temporary superstars, and show that endogenous connections amplify revenue inequality.

Existing empirical work suggests that connections dynamics may impact revenues, as they decrease when revolvers lose specific government connections (Blanes i Vidal et al., 2012) and depreciate as their connections erode over time (McCrain, 2018b; Strickland, 2023). To further ground our theoretical analysis, we begin by documenting two additional empirical patterns in revolvers' revenues. First, individual revenues do not clearly increase with lobbying tenure. Second, the revenue distribution has very high inequality. These patterns differ from many other industries—which generally have positive wage-tenure relationships (Altonji and Williams, 2005) and lower inequality—and do not clearly follow from standard human capital explanations applied to the revolving-door context. We show they are consistent, however, with government connections being a key asset for lobbyists whose value erodes as former colleagues exit government.

5.1 Empirical Patterns: Revenue Dynamics and Inequality

We analyze revenues of U.S. federal lobbyists from 1999–2008 using data from Blanes i Vidal et al. (2012), which cover the universe of registered federal lobbyists during this period. The data are derived from disclosure reports filed under the Lobbying Disclosure Act (LDA) of 1995, which requires lobbyists to file semi-annual reports disclosing their revenues from each client. Each observation is an individual lobbyist by reporting period, with measures of total lobbying revenue in that six-month period.[15] We focus on revolving-door lobbyists, defined as those with prior federal government employment.

Pattern 1: *Individual lobbyist revenues do not clearly increase with lobbying tenure.* We estimate how individual lobbyist revenue evolves over their careers, accounting for differences in lobbying ability. Our dependent variable is $\log\left(\frac{y_{it}}{\tilde{y}_i}\right)$, where y_{it} denotes lobbyist i's revenue in period t and $\tilde{y}_i$ denotes the average of i's first two reported revenues.[16] Our independent variable of interest is *tenure*: the number of periods since i's first positive-revenue period.

Our baseline sample consists of lobbyists who: (i) did not start lobbying in 1998 (addressing left-censoring), (ii) exited before 2008 (addressing right-censoring), (iii) lobbied for at least 3 years, and (iv) have no gaps in their lobbying careers.[17] To address potential selection

[15]Specifically, we use the variable `revw_worper` from Blanes i Vidal et al. (2012) and adjust revenues for inflation to 2008 dollars. For further discussion, see their paper.

[16]This normalization stabilizes the baseline revenue measure since lobbyists may only be active for part of their first reporting period. For estimation, we drop the first two observations and only use individuals whose lobbying career spans at least three years (i.e., spanning at least five reporting periods in practice). Our results are robust to alternate normalizations (see Table B4).

[17]Restriction (ii) conditions on exit, which could bias toward lobbyists with declining revenues if revenue declines prompt exit. In Appendix Table B2, however, we relax this restriction and estimates are qualitatively

on lobbying ability, we both subset by career length (comparing only lobbyists who remain in the industry for the same duration) and pool across career lengths with career-length fixed effects. Our primary specification is:

$$\log\left(\frac{y_{it}}{\tilde{y}_i}\right) = \alpha + \beta \cdot \text{Tenure}_{it} + \gamma_t + \varepsilon_{it}, \tag{14}$$

where γ_t are reporting-period fixed effects.

Table 1 reports estimates. Across all specifications, we do not find evidence for positive returns to lobbying tenure; some estimates suggest modestly negative returns. In Appendix C, we provide evidence that this pattern is robust to various adjustments to the sample, revenue measures, and specifications.

Table 1: Revenue-Tenure Relationship for Revolving-Door Lobbyists

	By Career Length		Pooled
	3 yrs	4 yrs	3–6 yrs
Tenure coefficient ($\hat{\beta}$)	−0.062	−0.084	−0.039
	(0.063)	(0.076)	(0.028)
Lobbyists	62	37	135
Observations	241	214	780

Note: Estimates of β from equation (14). All specifications include period fixed effects; pooled specification includes career-length fixed effects. Standard errors clustered by individual.

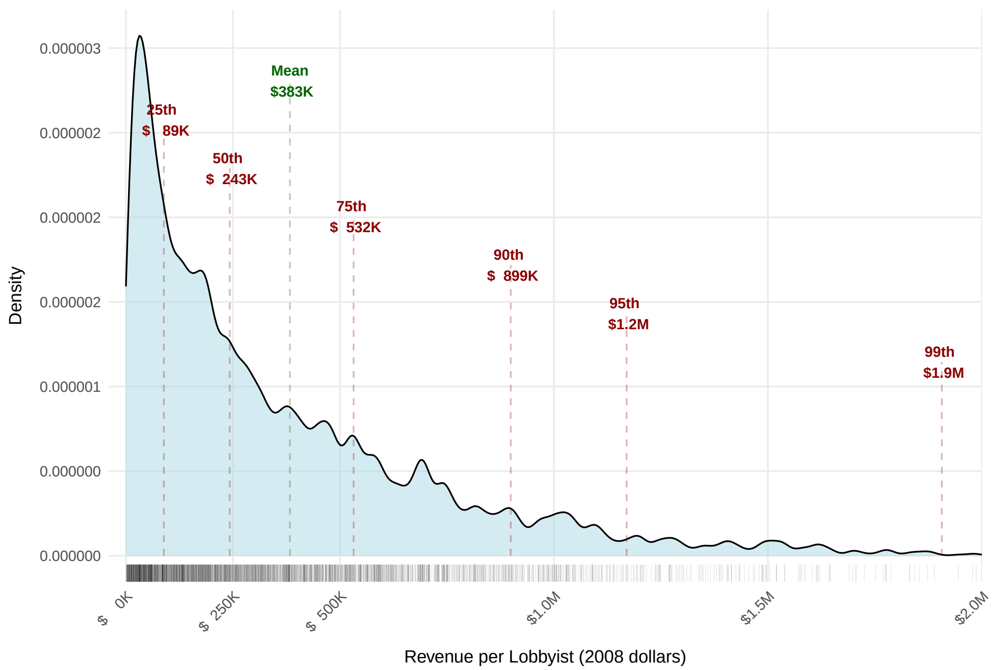
This pattern contrasts with other labor markets, where wages typically increase with tenure as workers accumulate industry-specific human capital (Topel, 1991; Altonji and Williams, 2005). The absence of positive returns to lobbying tenure is consistent with a downward force offsetting any gains from accumulated lobbying experience. If government connections are a key asset for lobbyists, then the erosion of connections as former colleagues exit government provides one such force.

Pattern 2: *Persistently high inequality in revolvers' revenues.* We next consider the cross-sectional distribution of revenues. Figure 2 displays the 2008 distribution of individual revolver revenues, which exhibits pronounced right skew: mean revenue ($383,000) exceeds median revenue ($243,000) by 58%, and the Gini coefficient is 0.53. This level of inequality is

similar.

not unusual. From 1999–2008, the Gini coefficient ranges from 0.53 to 0.55, mean-to-median ratios range from 1.54 to 1.69, and the distribution is consistently heavy-tailed.[18]

Figure 2: Distribution of Annual Revenues for Revolving-Door Lobbyists, 2008



Note: Kernel density estimate with markers indicating key percentiles. The 2008 distribution is heavy-tailed and cannot reject a log-normal form (see Appendix D).

This inequality is high even among professions with skewed compensation. For a rough comparison, the Gini coefficient for U.S. lawyer salaries was approximately 0.47 in 2023, with mean-to-median ratios typically below 1.3.[19] Moreover, the revolver revenue distribution is highly concentrated despite lacking the canonical mechanisms that generate superstars in other contexts—scale effects from reaching larger audiences (Rosen, 1981) or complementarities between talent and firm size (Gabaix and Landier, 2008)—since individual lobbyists face natural limits on how many clients they can serve.

[18]See Appendix D for more details.

[19]Data from the Bureau of Labor Statistics Occupational Employment and Wage Statistics. Like lobbying, the legal profession involves client relationships, specialized knowledge, and high educational requirements.

5.2 Individual Revenues: Dynamics and Superstars

We begin by considering how an individual revolver's revenue varies over time. In equilibrium, a revolver's revenue depends on her government tenure τ_g through v and lobbying tenure, $\tau_\ell = a - \tau_g$, through q. Specifically, to emphasize this dependence and suppress dependence on σ, we can rewrite (1) in terms of tenures as:

$$y_\ell(\tau_g, \tau_\ell) = v(\tau_g) \cdot q(\tau_\ell). \tag{15}$$

Holding age a fixed, revenue increases in τ_g through two complementary channels: greater experience (through v) and more remaining connections (through q, since higher τ_g implies lower τ_ℓ).

For a given revolver, revenue is highest immediately upon entering lobbying, $y_\ell(\tau_g, 0)$, and this maximum is increasing in government tenure τ_g. After revolving, her revenue decreases as τ_ℓ increases because the connection stock steadily erodes as former colleagues exit government. Moreover, y_ℓ is convex in τ_ℓ, as the connection stock diminishes fastest immediately after revolving since most workers revolve quickly (Proposition 2). These revenue dynamics are endogenous via the equilibrium flow of workers through the revolving door. The resulting decline in individual revenues is consistent with the first empirical pattern documented above: revenues need not increase with lobbying tenure because connection decay can offset gains from accumulated lobbying experience.

Turning to the cross-section, revenues are highest among recent revolvers with long government tenure—i.e., low τ_ℓ and high τ_g. Lemma 3 sharpens this intuition and establishes that, for sufficiently high a, each cohort contains some high-τ_g revolvers who earn substantially more than their same-age peers. Specifically, within sufficiently old cohorts, revenue is convex in government tenure among the most recent revolvers.

Lemma 3. *For all sufficiently large a, revenue $y_\ell(\tau_g, a - \tau_g)$ is strictly convex in τ_g for τ_g sufficiently close to a.*

Convexity arises eventually as the marginal return to government tenure diminishes (through v) while the marginal loss of connections accelerates (through q). Since $y_\ell(\tau_g, \tau_\ell) = v(\tau_g) \cdot q(a - \tau_g)$, we have:

$$\frac{d^2 y_\ell}{d\tau_g^2} = v''(\tau_g) \cdot q(a - \tau_g) - 2v'(\tau_g) \cdot q'(a - \tau_g) + v(\tau_g) \cdot q''(a - \tau_g). \tag{16}$$

The first term is negative (diminishing returns to experience), but the latter two terms are positive since $q' < 0$ and $q'' > 0$. The middle term captures the endogenous benefit of preserving more connections by staying longer in government. The last term reflects that connections decay fastest immediately after revolving, so the marginal benefit of fresher connections is largest at low τ_ℓ. When a is also sufficiently large, then the connection stock is substantial and the positive terms dominate.

Lemma 3 implies pronounced differences between the high revenue revolvers within the age cohorts that contain the highest revenue revolvers. This revenue inequality within these particular cohorts suggests that more broadly, across age cohorts, the highest revenue revolvers may earn substantially more than the others.

Building on the preceding observation, we study the variation in revolvers' revenues in the steady-state revenue distribution. A key observation regarding the revenue distribution is that, since revenues vary only through tenures τ_g and τ_ℓ, it is a transformation of the steady-state distribution of (τ_g, τ_ℓ). Notably, τ_ℓ depends only on calendar time since revolving, and the exogenous exit rate δ is constant. Using these properties, Lemma 4 facilitates the rest of our revenue analysis by establishing that τ_g and τ_ℓ are independent in the steady-state tenure distribution.

Lemma 4. *The steady-state joint distribution of* (τ_g, τ_ℓ) *among revolvers is independent.*

The preceding observations combine to yield several key properties for any upper tail of the revenue distribution, which are stated precisely in Proposition 3. To state them, for $\alpha \in (0,1)$, let y_α denote the revenue level such that a fraction α of revolvers earn more than y_α, and define TopShare_α as the share of total revenue earned by these top-α earners.

Proposition 3 establishes three key properties of high-revenue lobbyists. First, the highest-earning revolvers receive disproportionately large revenues. Accordingly, we refer to these lobbyists as *superstars*. Second, these superstars have high government tenure τ_g *and* low lobbying tenure τ_ℓ. Revolvers with lower τ_g never accumulated valuable connections, while revolvers with high τ_g and high τ_ℓ have lost many connections. Finally, superstars will eventually drop from the top if they lobby long enough. Due to the swift exodus of connections shortly after revolving, their high initial revenues fade fairly quickly and thus superstardom is temporary.

Proposition 3. *For the top* $\alpha \in (0,1)$ *share of earners, we have: (i)* $\mathit{TopShare}_\alpha > \alpha$*, with* $\frac{\partial}{\partial \alpha}\left(\frac{\mathit{TopShare}_\alpha}{\alpha}\right) < 0$*; (ii)* $\mathbb{E}[\tau_g | y_\ell > y_\alpha] > \mathbb{E}[\tau_g]$ *and* $\mathbb{E}[\tau_\ell | y_\ell > y_\alpha] < \mathbb{E}[\tau_\ell]$*; and (iii) every revolver with* $y_\ell(\tau_g, 0) > y_\alpha$ *eventually has* $y_\ell(\tau_g, \tau_\ell) < y_\alpha$ *for some finite* $\tau_\ell > 0$*.*

5.3 Connections and Revenue Inequality

The presence of superstar revolvers suggests the revenue distribution can exhibit substantial inequality, consistent with the second empirical pattern documented in Section 5.1. To parse possible factors fueling high inequality, we now analyze the role of endogenous connections. To isolate their impact, we compare the equilibrium revenue distribution in our model to the *fixed-connections* model in which connections are not endogenous, and thus play no role in determining revenues.

Specifically, we construct a counterfactual economy in which individual lobbying revenues are $y_0(\tau_g) \equiv v(\tau_g) \cdot \overline{q}$, where $\overline{q} = (\delta + \rho) \cdot Q^*$ is a constant. The normalization is chosen so that $\int_0^\infty e^{-(\delta+\rho)\tau_\ell}\overline{q}\, d\tau_\ell = Q^*$, which ensures that $V_r(\tau_g)$ is the same in both settings. Workers therefore face identical career incentives in both settings, so entry decisions and government tenures are equivalent, which yields the same joint distribution of (τ_g, τ_ℓ). Initial lobbying revenues also coincide, $y_\ell(\tau_g, 0) = y_0(\tau_g)$ for all τ_g.

In the counterfactual, revenues are constant in lobbying tenure τ_ℓ. Thus, counterfactual revenues are a monotone concave transformation of τ_g alone, with the revenue distribution determined solely by v and the distribution of government tenure induced by G. In this benchmark, superstars are simply high-τ_g revolvers and their revenues remain constant until retirement. Depending on v and G, substantial inequality can arise from variation in government tenure alone and the distribution may be heavy-tailed.

The key difference is that endogenous connections lead to strictly lower revenues for all revolvers with $\tau_\ell > 0$ since connections decline over time. Thus, revenues vary through τ_g *and* τ_ℓ rather than only through τ_g. Revolvers quickly lose connections after revolving, so younger revolvers with a given government tenure τ_g earn more than older revolvers with the same τ_g. In our model, rather than simply having long government tenure, superstars have long government tenure *and* revolved recently.

Proposition 4 shows that endogenous connections amplify revenue inequality. Specifically, the counterfactual revenue distribution *Lorenz dominates* the revenue distribution with endogenous connections. Thus, endogenous connections increase any standard measure of inequality, such as the Gini coefficient or top shares. Essentially, connection decay introduces an additional, independent source of revenue variation that compounds the inequality due to differences in government tenure by widening the gap between recent high-tenure revolvers at the top and longer-tenured lobbyists whose connections have eroded.

Proposition 4. *The revenue distribution in the fixed-connections counterfactual, R_0, strictly Lorenz dominates the revenue distribution with endogenous connections, R_ℓ. Thus,* $\text{Gini}(R_\ell) > \text{Gini}(R_0)$ *and* $\text{TopShare}_\alpha(R_\ell) > \text{TopShare}_\alpha(R_0)$ *for all $\alpha \in (0, 1)$.*

6 Revolving Door Regulations

Having shown that our model is consistent with revenue patterns for revolving-door lobbyists, we now use it to study the effects of policy changes. The movement of workers between the public sector and lobbying may affect government performance. On one hand, the prospect of lucrative lobbying opportunities can help draw workers into the public sector. On the other, those same opportunities lead to additional turnover as workers exit government. Moreover, by leveraging their connections, revolving-door lobbyists may be particularly successful at influencing policy in favor of their clients.

Given these potential impacts, there is significant interest in understanding how to alter the incentives of revolvers. In this section, we study two policy instruments for doing so. The first is the government wage rate, w_g. Raising government wages is frequently highlighted as crucial for attracting and retaining workers in the public sector. However, doing so will also have implications for workers' incentives to revolve.[20] Second, many governments implement regulations directly targeted at revolving-door lobbying, with perhaps the most prominent being *cooling-off periods*. This approach restricts former government employees from engaging in certain lobbying activities for a designated duration after leaving.[21]

To study the effects of cooling-off periods on revolvers' incentives, we modify our model to incorporate a waiting period of length λ before a former government worker can generate revenue as a lobbyist. For simplicity, we assume that a revolver's flow payoff during this waiting period is 0.[22] Thus, the dynamic payoff for worker i who revolves after a government tenure τ_g is $v\big(\tau_g\big) \cdot Q(\lambda)$, where:

$$Q(\lambda) = \int_{\lambda}^{\infty} e^{-(\delta+\rho)s} \cdot q(\tau_\ell)\, d\tau_\ell. \tag{17}$$

The stationary equilibrium of the modified model is characterized analogously to the baseline model, but with Q^* now defined according to (17).

[20]The issue of low government wages relative to the outside options has been explicitly linked to higher turnover through the revolving door in discussions of government pay. See, e.g., McGehee (2021) and Schapiro (2008) for Congressional testimony arguing that low wages lead workers to exit into lobbying and Wall Street.

[21]Executive branch employees in the United States are banned from lobbying their former agency or colleagues for one or two years, depending on their level of seniority, and certain Congressional staffers are subjected to a one year ban. Cooling-off periods are also often used outside the US, for example, senior EU officials are banned from lobbying for one year after leaving.

[22]While lobbying restrictions can be difficult to enforce, there is evidence that regulations still cause workers to alter their behavior (Cain and Drutman, 2014; Kalmenovitz et al., 2022; Wirsching, 2023). It is straightforward to extend the analysis so that lobbyists instead get w_p or a reduced lobbying payoff during the cooling-off period to capture inefficiencies in enforcement.

6.1 Effects on Individual Behavior

We start by studying how workers respond to a change in the government wage or the length of the cooling-off period. Our analysis highlights that the equilibrium effects of connections can alter, and sometimes even reverse, the direct effects of increasing w_g or λ.

For government wages, the *direct* effect of increasing w_g is to increase the individual benefit of government service, simultaneously encouraging entry into government and discouraging exit to lobbying. In the aggregate, however, these direct responses alter the mass and tenure composition of government workers and hence change the cumulative connection stock Q^*. This, in turn, produces an *indirect* effect on behavior by altering the value of revolving.

More precisely, consider the total effect of w_g on entry for i:

$$\frac{\partial V_g^*}{\partial w_g} = \underbrace{\frac{1 - e^{-(\delta+\rho)\tau_g^*(\psi_i)}}{\delta + \rho}}_{\text{Direct Effect} > 0} + \underbrace{e^{-(\delta+\rho)\tau_g^*(\psi_i)} \cdot v\big(\tau_g^*(\psi_i)\big) \cdot \frac{\partial Q^*}{\partial w_g}}_{\text{Indirect Effect}}. \tag{18}$$

If workers are sufficiently impatient (ρ large) then the direct effect determines the aggregate effect, and an increase in w_g leads to an increase in Q^*. Thus, the indirect effect on entry is positive and always reinforces the direct effect. That is, increasing government wages encourages entry, which then further encourages entry through greater connections.

The total effect of w_g on exit, however, varies across workers and can be positive or negative. Formally, the exit effect is:

$$\frac{\partial \overline{\psi}^*}{\partial w_g} = \underbrace{-1}_{\text{Direct Effect} < 0} + \underbrace{\frac{\partial Q^*}{\partial w_g} \cdot \Big((\delta + \rho) \cdot v(\tau_g) - v'(\tau_g)\Big)}_{\text{Indirect Effect}}. \tag{19}$$

The direct effect encourages longer government tenures, but when ρ is large the indirect effect is always positive and hence encourages exit. Since $(\delta + \rho) \cdot v(\tau_g) - v'(\tau_g)$ increases with government tenure, the indirect effect on $\overline{\psi}^*$ strengthens as τ_g increases. Workers with long government tenures have highly valuable connections, through $v(\tau_g)$, and thus even a small increase in Q^* incentivizes them to revolve. Conversely, workers with shorter tenures have a low $v(\tau_g)$, and so an increase in Q^* has relatively little impact on their revolving payoff. For these workers, the direct effect of w_g dominates their decision. Consequently, the overall effect in (19) is positive if and only if τ_g is sufficiently high. In equilibrium, τ_g^* depends on public service motivation, with low-ψ workers revolving sooner and high-ψ workers staying longer in government.

These observations are collected in Proposition 5.

Proposition 5. *If ρ is sufficiently large, then increasing w_g will: (i) increase Q^*, (ii) decrease $\underline{\psi}^*$, and (iii) increase $\tau_g^*(\psi_i)$ if and only if ψ_i is sufficiently low.*

The endogenous nature of connections plays an important role in how w_g affects behavior. To clarify this, Corollary 1 considers the fixed-connections benchmark where q_{it} is fixed at some $\overline{q} > 0$.

Corollary 1. *In the fixed-connections counterfactual, increasing w_g will decrease $\underline{\psi}^*$ and increase $\tau_g^*(\psi)$ for all ψ.*

When the connection stock is exogenous, w_g has no indirect effects, eliminating feedback between entry, exit, and connections. In particular, higher w_g always attracts more workers to government and uniformly extends the tenures of all government workers ($\frac{\partial \overline{\psi}^*}{\partial w_g} = -1 < 0$).

If connections are endogenous, then for high ρ increasing w_g can cause long-tenured government workers to revolve sooner. Moreover, the magnitude of exit effects also varies across workers:

$$\frac{\partial^2 \overline{\psi}^*}{\partial w_g \partial \tau_g} = \frac{\partial Q^*}{\partial w_g} \cdot \Big((\delta + \rho) \cdot v'(\tau_g) - v''(\tau_g) \Big) > 0.$$

Workers with the longest and shortest tenures are most responsive to changes in government wages. Those who would revolve quickly instead stay much longer, while those who would revolve slowly now leave sooner.

Now we consider how cooling-off periods affect workers' behavior. The duration of the cooling-off period changes the value of lobbying careers, thereby affecting incentives for both entering government service and subsequently transitioning into lobbying. As revolving-door lobbyists lose connections during the mandatory waiting period, λ directly decreases Q^*, which lowers the returns from revolving. This discourages entry into government, which further lowers the value of revolving through fewer connections. But it also discourages exit, which raises the value of revolving by making connections more durable. Therefore, λ also has competing indirect effects on the flow of workers through government, and thus on Q^*. The overall effect of λ on Q^* is:

$$\frac{\partial Q^*}{\partial \lambda} = \underbrace{-e^{-(\delta+\rho)\lambda} \cdot q(\lambda)}_{\text{Direct Effect} < 0} + \underbrace{\int_{\lambda}^{\infty} e^{-(\delta+\rho)\tau_\ell} \cdot \frac{\partial q(\tau_\ell)}{\partial \lambda} \, d\tau_\ell}_{\text{Indirect Effect}}.$$

If workers are sufficiently impatient (high ρ), then the direct effect dominates and Q^* decreases. In turn, this leads to fewer workers entering government and dissuades workers from revolving. Proposition 6 formally states these effects.

Proposition 6. *If ρ is sufficiently large, then increasing λ will: (i) increase $\underline{\psi}^*$, (ii) decrease Q^*, and (iii) increase $\tau_g^*(\psi)$ for all ψ.*

Connections again generate equilibrium effects that impact how workers respond to a change in the cooling-off period. When workers are sufficiently impatient the directional effects on $\underline{\psi}^*$, Q^*, and τ_g^* are the same with endogenous and fixed connections. However, the indirect effect will alter the magnitude of change. For completeness, Corollary 2 summarizes the comparative statics for the fixed-connections case.

Corollary 2. *In the fixed-connections counterfactual, increasing λ will: (i) increase $\underline{\psi}^*$, (ii) decrease Q^*, and (iii) increase $\tau_g^*(\psi)$ for all ψ.*

6.2 Aggregate Effects

Given the myriad ways in which the revolving door may impact welfare, policymakers confront a number of different objectives when trying to design policies to address it. However, workers in our model do not internalize many of the externalities associated with the revolving door, e.g., distortions due to lobbying or changes in government capacity. As such, rather than evaluating policies using worker welfare, we consider two reduced-form objectives that broadly capture many central concerns related to government capacity and revolving-door lobbying.

First, by altering the attractiveness of working in government, the revolving door affects the government's ability to attract and retain workers. Consistent with the literature on public service motivation (James, 1989; Perry and Wise, 1990), workers with higher ψ may be more productive.[23] In addition, high government capacity depends on retaining experienced workers. We therefore model aggregate government output as:

$$Y_g = \int_0^\infty e^{-\delta\tau_g} \int_{\max\{\overline{\psi}(\tau_g),\underline{\psi}\}}^\infty y_g(\psi,\tau_g)\, dG(\psi)\, d\tau_g,$$

where $y_g(\psi,\tau_g)$, the output of an individual worker, is increasing in both ψ and τ_g. We assume the simple functional form $y_g(\psi,\tau_g) = v(\tau_g)\cdot\max\{\psi,0\}$. This specification makes transparent how the forces in the model affect Y_g. In particular, under this specification

[23]Likewise, models of the bureaucracy emphasize the importance of intrinsic policy motivations for generating productive effort (e.g., Gailmard and Patty, 2007; Prendergast, 2007). Empirically, much of the public administration literature suggests a positive relationship between performance and public service motivation (see Ritz et al. (2016) for a review) and ideological alignment between civil servants and politicians improves procurement outcomes (Spenkuch et al., 2023).

additional workers do not increase government output once $\underline{\psi}$ is negative. However, the qualitative mechanisms we emphasize do not depend on this exact functional form; what matters is that as $\underline{\psi}$ decreases, additional workers are less productive due to lower public service motivation and/or shorter tenures. We return below to how our results change if government tenure and ψ are instead substitutes in government production.

Second, after exiting, revolving-door lobbyists can leverage their connections to influence policy on behalf of their clients. We assume that a lobbyist's value for her client is captured by the output (or revenue) she generates, and interpret greater output as more socially costly.[24] Thus, the cost from lobbying by revolvers is proportional to total lobbying output:

$$Y_\ell = \int_0^\infty e^{-\delta a} \int_{\underline{\psi}}^{\max\{\overline{\psi}(a),\underline{\psi}\}} y_\ell\big(q\big(a - \tau_g^*(\psi)\big), \tau_g^*(\psi)\big)\, dG(\psi)\, da. \tag{20}$$

Increasing the government wage or cooling-off period affects both the entry and exit decisions of workers, and can therefore have several effects on Y_g and Y_ℓ. First, consider entry. Lowering $\underline{\psi}$ increases the mass of government workers, which raises Y_g. However, these marginal entrants have relatively lower ψ and in equilibrium have shorter government tenures. Thus, the marginal contribution to Y_g through entry is increasingly muted as $\underline{\psi}$ decreases. In terms of Y_ℓ, if more workers enter government then more eventually become revolvers. Additionally, revolvers will have more connections in government, consequently, the entry effect also increases Y_ℓ.

Second, consider increasing a worker's government tenure. Straightforwardly, if a worker stays longer this increases Y_g, as there are more workers in government and they obtain more experience. The effect of tenure on Y_ℓ is more subtle. On one hand, a longer government tenure raises a worker's lobbying productivity through $v(\tau_g)$. On the other, it also lowers the probability that the worker survives to become a revolver. Because v is concave in τ_g, while survival decreases exponentially with age, the first effect typically dominates for low tenure workers and the second for high tenure workers. Thus, increasing the tenure of low-ψ workers is a force for increasing Y_ℓ, whereas increasing the tenure of high-ψ workers is a force for decreasing it.

[24]In some settings lobbying may instead be socially beneficial, e.g., due to information transmission from the private sector to government. In these cases, the opposite interpretation should be used for evaluating the welfare implications of changes in Y_ℓ.

6.3 Numerical Analysis

Changing the public sector wage or cooling-off period affects both the entry and exit decisions of workers. This generates multiple competing effects on Y_g and Y_ℓ, making it difficult to sign comparative statics in general. As such, we conduct a numerical exercise designed to illustrate the consequences of changing regulations on Y_g and Y_ℓ.

Parameter values & functional forms. Given that the environment is intentionally stylized, our objective is not to perform a full quantitative analysis. Instead, our goal is to clarify how the forces in the model qualitatively affect outcomes and demonstrate that endogenous connections can play a significant role in shaping how Y_g and Y_ℓ respond to regulations. However, we still discipline parameter values using a small set of moments from the data to ensure that workers in the model face empirically plausible tradeoffs. In doing so, we are also able to highlight that endogenizing connections improves the model's ability to match key features of the revenue distribution.

We set $\delta = .025$, implying an expected working life of 40 years, and the discount rate to $\rho = .05$ (both values are standard in the literature). We base w_g on the average wages for government workers with advanced degrees and choose w_p to be consistent with the estimated public-sector wage gap for such workers.[25] This yields values $w_p = 1.26$ and $w_g = .97$ (in units of \$100,000, inflation adjusted to 2008).[26] To keep lobbying compensation comparable to incomes in the government and private sector, we now assume that revolvers only keep a fraction β of the revenue they generate. Absent direct evidence on this share, we take law-firm partners as a reasonable comparison group and set $\beta = .5$, as estimates for their compensation relative to originations (Major, Lindsey & Africa, 2024) and for average law-firm profits (Srinivasan, 2023) are often above 40%. Finally, we set the cooling-off period to be one year, $\lambda = 1$, which is a common duration (see footnote 21).

We assume $v(\tau_g) = r \cdot \log\left(1 + \tau_g\right)$, and that ψ is drawn from a Gumbel distribution with location parameter μ and scale parameter fixed to 1. Lacking estimates for the parameters r and μ, we calibrate them to target two moments: average revolver lobbying revenue in 2008 and average government tenure for federal workers in 2008.[27] This yields $\mu \approx -3.244$ and $r = 5.6$. Given our stylized environment, μ and r account for a number of unmodeled factors

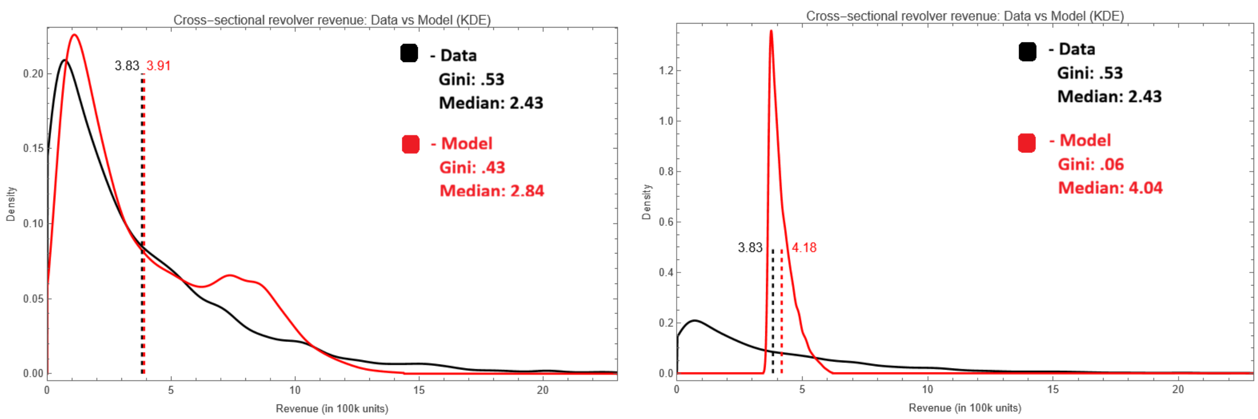
[25] We focus on workers with advanced degrees to capture that potential revolvers are likely to have high outside options due to education or ability.

[26] We convert the 2010 average hourly wages in Falk (2012) into annual income (40 hours/week × 52 weeks) and then deflate to 2008 dollars

[27] Specifically, for each in (r, μ) on a grid, we solve for the equilibrium Q^* and $\underline{\psi}^*$ and simulate the distributions of government tenure and revolver revenue. We then choose (r, μ) to minimize the sum of squared relative moments, $\left(\frac{AvgTenure_{model} - AvgTenure_{data}}{AvgTenure_{data}}\right)^2 + \left(\frac{AvgRev_{model} - AvgRev_{data}}{AvgRev_{data}}\right)^2$.

in fitting the data, and thus should not be taken directly as estimates for the empirical distribution of public service motivation.

Under this specification, the model generates an average annual revolver revenue of $\$391,000$ per year (data: $\$384,000$) and average government tenure of 9.3 years (data: 9.9 years, U.S. Bureau of Labor Statistics, 2008). Figure 3a compares the model distribution of revenue to the empirical distribution of revolver revenue for 2008. Despite only targeting the mean, the model reasonably approximates the overall shape of the distribution, with a median revenue $\$284,000$ (data: $\$243,000$) and Gini coefficient .43 (data: .53). Moreover, the endogeneity of connections is important for generating this inequality. Figure 3b plots the empirical distribution of revenue against the fixed-connections model (holding Q fixed at the baseline Q^*). The fixed-connections alternative still matches the mean reasonably well ($\$418,000$ per year), but the median is too high ($\$404,000$ per year), and overall the distribution does not exhibit enough inequality (Gini = .06).



(a) Empirical distribution in 2008 (black) compared to the model distribution (red).

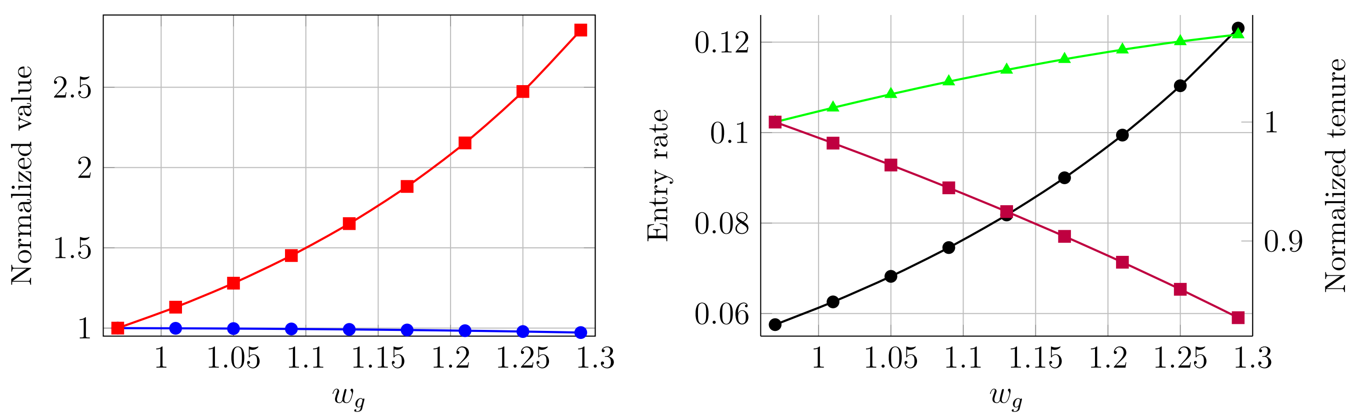
(b) Empirical distribution in 2008 (black) compared to the fixed-connections model distribution (red)

Figure 3: Kernel density estimates of revolver revenue distributions

Effects of revolving door regulations. Having established face validity for the importance of connections under a reasonable parameter specification, we now analyze how Y_ℓ and Y_g vary with revolving door regulations via w_g and λ. First, Figure 4a plots how Y_g and Y_ℓ change as w_g increases from .97 to 1.29. The effect of w_g on Y_g is minimal. Increasing w_g above w_p, from $w_g = .97$ to $w_g = 1.29$, changes Y_g by less than 3%, and Y_g is *decreasing* over the entire range. The muted response of Y_g reflects the countervailing effects of entry and tenure. Increasing w_g increasing Y_g through the entry effect because it lowers $\underline{\psi}^*$. In terms of tenure, although some workers to stay longer in government, recall from part 1 of

Proposition 5 that high ψ workers can exit sooner when Q^* increases. As a result, retention decreases for the most motivated and experienced workers. These contrasting forces are illustrated by Figure 4b, which plots the tenure response for a low-ψ worker and a high-ψ worker, as well as the entry rate. Note that if connections are instead exogenous then all workers would stay longer following an increase in w_g (Corollary 1). Hence, the possibility that increasing public sector wages may depress government output is a direct consequence of the equilibrium feedback effects through endogenous connections.[28]

Instead, for total lobbying output the entry and tenure effects work in the same direction. Higher w_g draws more workers into government, which increases the number of revolvers and the their equilibrium connection stock. In addition, low-ψ workers stay longer in government and become more valuable as lobbyists through higher $v(\tau_g)$, while high-ψ workers exit sooner and thus are more likely to survive to become revolvers. Therefore, the tenure effect is also a force for increasing Y_ℓ. Consequently, in contrast to Y_g, we observe that Y_ℓ is highly responsive to changes in w_g.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as a function of w_g. Note that Y_g and Y_ℓ are normalized by their initial values.

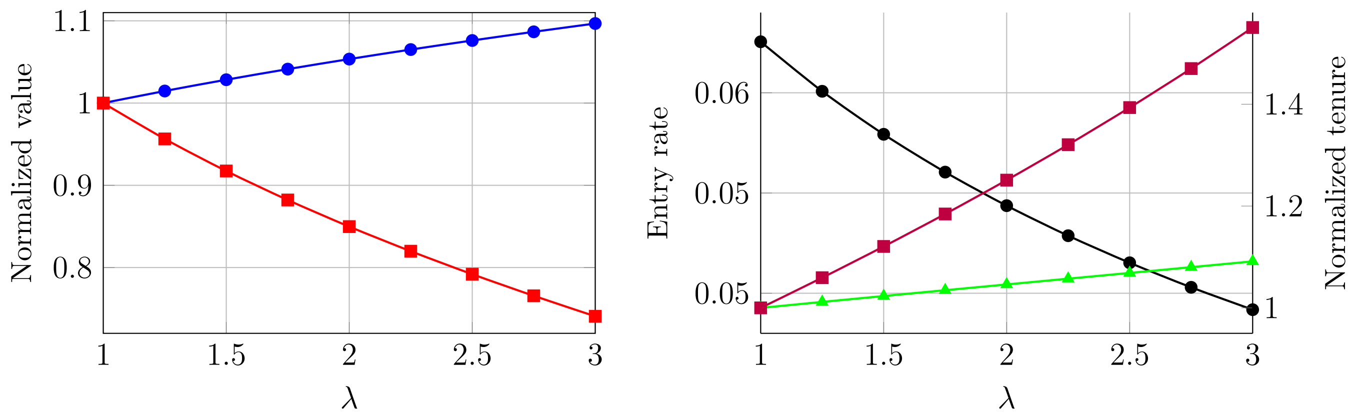
(b) Government tenure for a worker with $\psi = 0$ (green, triangle), for a worker with $\psi = 2$ (purple, square), and the entry rate (black, circle) as a function of w_g. Note that tenures are normalized by their initial values.

Figure 4: Counterfactuals over w_g.

Second, we vary the cooling-off period, λ. Figure 5a plots the (normalized) values of Y_g and Y_ℓ as λ increases from 1 to 3 years. Although fewer workers enter government as λ increases, those who do enter stay longer in government and have higher ψ than those who are deterred. In turn, under this parameterization, the tenure effect dominates the entry effect and Y_g increases. For Y_ℓ, as previously discussed, a longer tenure pushes towards increasing

[28] Under alternative parameter values Y_g may increase in w_g, however, the response remains highly inelastic. See Appendix B.

lobbying output for low-ψ workers and decreasing it for high-ψ workers. As increasing λ increases τ_g^* for all workers who still enter government, the tenure effect on Y_ℓ is ambiguous in general. However, due to their long tenures, and thus much higher lobbying value, high-ψ workers are much more responsive to λ (see Figure 5b). At the same time, higher λ lowers entry, which decreases the total number of revolvers. Hence, overall, the indirect effects of λ push towards lowering Y_ℓ. Moreover, increasing λ has the direct effect of preventing revolvers from lobbying for some time and diminishes their connections. Consequently, the dampening forces dominate and Y_ℓ decreases in this numerical example.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as a function of λ. Note that Y_g and Y_ℓ are normalized by their initial values.

(b) Government tenure for a worker with $\psi = 0$ (green, triangle), for a worker with $\psi = 2$ (purple, square), and the entry rate (black, circle) as a function of λ. Note that tenures are normalized by their initial values.

Figure 5: Counterfactuals over λ.

Robustness. In Appendix B we show that under a variety of alternative parameter choices the main qualitative results from our numerical analysis hold: increasing w_g has a limited effect on Y_g and increases Y_ℓ, whereas increasing λ increases Y_g and decreases Y_ℓ.[29] If we do not constrain the model to try and match the empirical moments, then for some parameter values raising wages is not so clearly dominated. In particular, both w_g and λ increase Y_g and Y_ℓ. Our examples suggest that this occurs when the entry rate into government is already close to 1. Hence, the parameters for which this can happen are extreme, and w_g still does not hold a clear advantage over λ.

More consequential is our choice of functional form for government output. In the appendix we consider the same numerical exercise but with $y_g(\psi, \tau_g) = v(\tau_g) + \max\{0, \psi\}$.

[29] In our numerical analysis we truncate ages and ψ to speed computation. We show that the qualitative findings for our baseline specification also hold if we increase the truncation values.

Now every additional worker contributes to output, which causes Y_g to be more responsive and to increase as w_g increases. However, it is still the case that high-ψ workers are much more productive, and hence due to the endogeneity of connections the response of Y_g is still inelastic compared Y_ℓ. Consequently, raising government wages remains an ineffective tool for addressing the revolving door.

Taking stock. Comparing the effects of government wages w_g versus cooling-off periods λ, our analysis suggests that the latter is more effective for regulating the revolving door. As highlighted by the numerical example, longer cooling-off periods both improve government output *and* reduce lobbying output. In contrast, higher wages increase total lobbying output and also have a limited effect on government output, potentially even decreasing it. Furthermore, cooling-off periods dominate government wages in our numerical example even though we have abstracted from the costs of financing higher public sector salaries.[30]

7 Concluding Discussion

7.1 Extensions

Fixed size of government. In our model, we do not impose a limit on the size of government, which starkly illuminates how the supply of workers into government affects incentives through connections. Assume a limit on the size of government and that workers are randomly selected when there are excess applicants. This does not change the key forces that lead to superstars and revenue inequality: high-ψ workers stay much longer in government and connections diminish over the course of a revolver's lobbying tenure.

When considering an increase in w_g or λ, fixing the size eliminates entry effects that are driven by a change in the mass of government workers. This alters the magnitude of the indirect effect of connections on behavior (and thus on Y_g and Y_ℓ). However, the same compositional effects from changing entry incentives remain: making government more attractive relative to the private sector draws in low-ψ workers. Additionally, if government becomes more attractive relative to lobbying, then the direct effect is to encourage longer government tenures. In turn, connections are more durable and thus lobbying becomes relatively more attractive for high-ψ workers. Consequently, constraining the size of government reduces of the equilibrium effect of connections, but should not fundamentally alter our main qualitative insights about revolving-door policies.

[30] Of course, with an infinite budget the tradeoffs for w_g disappear.

Actions in government. Suppose that each worker can take a costly action before revolving that increases her payoff from lobbying. This captures a variety of actions that revolvers might take before exiting, such as supporting industry-favorable policies (Cornaggia et al., 2016; Tabakovic and Wollmann, 2018; Tenekedjieva, 2021), or investing effort to build human capital that is valuable to potential employers (deHaan et al., 2015; Kempf, 2020; Shepherd and You, 2020).

The incentives for workers to distort their behavior prior to revolving evolve over their tenure in government due to the increasing value of their connections. A key factor in this evolution is whether connections and in-government behavior are complements or substitutes in determining lobbying output.[31] If the action complements the revolver's connections, then costlier actions become more appealing as the value of i's connections grows. In contrast, if it is a substitute, then costlier actions become relatively less appealing. An implication of this relationship is that revolvers with long government tenures distort their behavior more before revolving if the action and connections are complements, but distort their behavior less if they are substitutes.

Whether the action is a complement or substitute for connections also determines how workers respond to a policy change. Assume that the lifetime discounted connection stock Q^* increases, either because w_g increases (as in Proposition 5) or because λ decreases (as in Proposition 6). If connections and the in-government action are substitutes, then the policy change dampens a worker's incentive to take action before revolving. Conversely, if the in-government action complements human capital, then increasing Q^* encourages workers to engage in more of the action.

Endogenous price for lobbying services. Our analysis treats the price paid for lobbying output as exogenous in order to isolate how connections shape tenure decisions and occupational sorting. Suppose the price of lobbying services, p_ℓ, is determined in equilibrium. Now the lobbying flow payoff to a revolver who supplies output y_ℓ is $p_\ell \cdot y_\ell(\tau_g, \tau_\ell)$. Assume lobbying output is aggregated by a perfectly competitive sector with production function $F(Y_\ell)$. Then the equilibrium price per unit of output is pinned down by

$$p_\ell = F'(Y_\ell). \tag{21}$$

[31] For example, working hard and building expertise raises the value of connections by enabling more effective lobbying arguments or facilitating more favorable receptions by former colleagues, in which case the action is a complement. Conversely, if granting policy favors acts as a quid-pro-quo in exchange for a higher salary after revolving, then the action acts a substitute for developing extensive connections.

Workers continue to take prices as given when choosing whether to enter government and when to revolve, so behavior is still summarized by entry and exit thresholds, and the exit threshold remains increasing and concave in tenure. Likewise, within an equilibrium, a revolvers lobbying payoff remains proportional to her individual lobbying output, so our within-equilibrium comparisons of revolver outcomes are unchanged because they hold p_ℓ^* fixed. In particular, connections continue to generate declining payoffs over lobbying tenure and temporary superstar revolvers. In contrast, when endogenous connections are shut down ($q_{it} = \overline{q}$), lobbying payoffs remain flat in lobbying tenure even when p_ℓ is endogenous.

Endogenizing p_ℓ creates additional equilibrium effects when taking comparative statics on w_g or λ. However, endogenous connections affect equilibrium behavior in a manner that is distinct from the feedback effects due to market forces. Consider a policy change that increases the aggregate supply of government workers. The effect through the market channel is to decrease p_ℓ^* due to an increased supply of lobbyists, which discourages revolving and lowers the attractiveness of joining government. Instead, through the connection channel raising the size of government encourages revolving by increasing the connection stock, which then further incentivizes more workers to join government.

7.2 Conclusion

We developed a model of the labor market for revolving-door lobbyists in which government connections are endogenous and dynamic, eroding as former colleagues exit. Our model explicitly accounts for how the value of each worker's connections depends on others' career decisions, generating feedback between individual choices and aggregate market outcomes. When workers extend their government careers, they slow connection decay for all revolvers, creating general equilibrium effects. This feedback produces distinctive patterns: connection dynamics amplify revenue inequality, revenues decline with lobbying tenure as networks erode, and there are temporary superstars whose elite status fades as contacts exit.

The connections dynamics we highlight can shape the impact of policy instruments aimed at curbing the revolving door. Understanding how interventions propagate through endogenous connection networks is essential for evaluating various approaches to regulate the revolving door. We shed new light on why cooling-off periods may be particularly appealing: under empirically plausible conditions, they not only reduce lobbying output but also improve the composition of government workers and reduce government turnover. Conversely, raising public sector wages appears ineffective, and potentially detrimental, in an environment where connections to others are important.

Our framework provides a foundation for further analysis. For instance, incorporating political turnover would enrich the analysis and scope for policy prescriptions. Beyond the government-adjacent sectors, our approach to modeling dynamic and interdependent connections may be useful in other contexts—from knowledge spillovers in innovation to relationship capital in finance—where human capital depends on endogenously evolving networks.

References

Akhtari, Mitra, Diana Moreira, and Laura Trucco, "Political Turnover, Bureaucratic Turnover, and the Quality of Public Services," *American Economic Review*, 2022, *112* (2), 442–493.

Altonji, Joseph G. and Nicolas Williams, "Do Wages Rise with Job Seniority? A Reassessment," *Industrial and Labor Relations Review*, 2005, pp. 370–397.

Ban, Pamela, Maxwell Palmer, and Benjamin Schneer, "From the Halls of Congress to K street: Government Experience and its Value for Lobbying," *Legislative Studies Quarterly*, 2019, *44* (4), 713–752.

Bar-Isaac, Heski and Joel Shapiro, "Credit Ratings Accuracy and Analyst Incentives," *American Economic Review: Papers and Proceedings*, 2011, *101* (3), 120–24.

Baumgartner, Frank R., Jeffrey M. Berry, Marie Hojnacki, Beth L. Leech, and David C. Kimball, *Lobbying and Policy Change: Who Wins, Who Loses, and Why*, University of Chicago Press, 2009.

Becker, Gary S., "Investment in Human Capital: A Theoretical Analysis," *Journal of Political Economy*, 1962, *70* (5, Part 2), 9–49.

Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi, "Is it Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process," *American Economic Review*, 2014, *104* (12), 3885–3920.

Besley, Timothy, "Political Selection," *Journal of Economic Perspectives*, 2005, *19* (3), 43–60.

_ **and Maitreesh Ghatak**, "Competition and Incentives with Motivated Agents," *American Economic Review*, 2005, *95* (3), 616–636.

Blanes i Vidal, Jordi, Mirko Draca, and Christian Fons-Rosen, "Revolving Door Lobbyists," *American Economic Review*, 2012, *102* (7), 3731–48.

Bó, Ernesto Dal, Frederico Finan, and Martín A. Rossi, "Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service," *Quarterly Journal of Economics*, 2013, *128* (3), 1169–1218.

Bombardini, Matilde and Francesco Trebbi, "Empirical Models of Lobbying," *Annual Review of Economics*, 2020, *12* (1), 391–413.

Bond, Philip and Vincent Glode, "The Labor Market for Bankers and Regulators," *Review of Financial Studies*, 2014, *27* (9), 2539–2579.

Cain, Bruce E. and Lee Drutman, "Congressional Staff and the Revolving Door: The Impact of Regulatory Change," *Election Law Journal*, 2014, *13* (1), 27–44.

Che, Yeon-Koo, "Revolving Doors and the Optimal Tolerance for Agency Collusion," *RAND Journal of Economics*, 1995, pp. 378–397.

Chiara, Alessandro De and Marco A Schwarz, "A dynamic theory of regulatory capture," 2021.

Clauset, Aaron, Cosma Rohilla Shalizi, and Mark E.J. Newman, "Power-law Distributions in Empirical Data," *SIAM review*, 2009, *51* (4), 661–703.

Cornaggia, Jess, Kimberly J. Cornaggia, and Han Xia, "Revolving Doors on Wall Street," *Journal of Financial Economics*, 2016, *120* (2), 400–419.

Crosson, Jesse M., Geoffrey M. Lorenz, Craig Volden, and Alan E. Wiseman, "How Experienced Legislative Staff Contribute to Effective Lawmaking," in "State of Congressional Capacity Conference" 2018.

Dal Bó, Ernesto, "Regulatory Capture: A Review," *Oxford Review of Economic Policy*, 2006, *22* (2), 203–225.

deHaan, Ed, Simi Kedia, Kevin Koh, and Shivaram Rajgopal, "The Revolving Door and the SECs Enforcement Outcomes: Initial Evidence from Civil Litigation," *Journal of Accounting and Economics*, 2015, *60* (2-3), 65–96.

Delfgaauw, Josse and Robert Dur, "Incentives and Workers Motivation in the Public Sector," *The Economic Journal*, 2008, *118* (525), 171–191.

_ and _ , "Managerial Talent, Motivation, and Self-selection into Public Management," *Journal of Public Economics*, 2010, *94* (9-10), 654–660.

Diermeier, Daniel, Michael Keane, and Antonio Merlo, "A political economy model of congressional careers," *American Economic Review*, 2005, *95* (1), 347–373.

Drutman, Lee, *The Business of America is Lobbying*, Oxford University Press, 2015.

Egerod, Benjamin C.K., "The Lure of the Private Sector: Career Prospects Affect Selection Out of Congress," *Political Science Research and Methods*, 2022, *10* (4), 722–738.

_ **, Anne Rasmussen, and Jens van der Ploeg**, "Revolving Door Benefits? The Consequences of the Revolving Door for Political Access," *Interest Groups & Advocacy*, 2024, pp. 1–22.

Falk, Justin Robert, "Comparing the compensation of federal and private-sector employees," in "in" Congress of the United States, Congressional Budget Office 2012.

Fisman, Raymond, Jetson Leder-Luis, Catherine O'Donnell, and Silvia Vannutelli, "Revolving Door Laws and Political Selection," Working Paper 33626, National Bureau of Economic Research 2025.

Forand, Jean Guillaume, Gergely Ujhelyi, and Michael M. Ting, "Bureaucrats and Policies in Equilibrium Administrations," *Journal of the European Economic Association*, 2023, *21* (3), 815–863.

Francois, Patrick, "Public Service Motivation as an Argument for Government Provision," *Journal of Public Economics*, 2000, *78* (3), 275–299.

Gabaix, Xavier, "Power Laws in Economics and Finance," *Annual Review of Economics*, 2009, *1* (1), 255–294.

_ **and Augustin Landier**, "Why has CEO Pay Increased So Much?," *Quarterly Journal of Economics*, 2008, *123* (1), 49–100.

Gailmard, Sean and John W. Patty, "Slackers and Zealots: Civil Service, Policy Discretion, and Bureaucratic Expertise," *American Journal of Political Science*, 2007, *51* (4), 873–889.

Gamalerio, Matteo and Federico Trombetta, "Jumping without parachutes. Revolving doors and political incentives," *Revolving doors and political incentives (November 12, 2025)*, 2025.

Giorno, Taylor, "Collapsed Silicon Valley Bank enlisted revolving door lobbyists to push its policy agenda in Washington," March 2023.

Grossman, Gene M. and Elhanan Helpman, *Special Interest Politics*, MIT Press, 2001.

Heckman, James J, Lance J Lochner, and Petra E Todd, "Earnings functions, rates of return and treatment effects: The Mincer equation and beyond," *Handbook of the Economics of Education*, 2006, *1*, 307–458.

Hirsch, Alexander V., Karam Kang, B. Pablo Montagnes, and Hye Young You, "Lobbyists as Gatekeepers: Theory and Evidence," *Journal of Politics*, 2023, *85* (2), 731–748.

Holman, Craig and Caralyn Esser, "Slowing the Federal Revolving Door," *Public Citizen: Washington, DC https://www. citizen. org/article/slowing-the-federal-revolving-door*, 2019.

Hübert, Ryan, Janna King Rezaee, and Jonathan Colner, "Going into Government: How Hiring from Special Interests Reduces Their Influence," *American Journal of Political Science*, 2023, *67* (2), 485–498.

James, Wilson, "Bureaucracy: What Government Agencies Do and Why They Do It," *New York: Basic Books.*, 1989.

Kalmenovitz, Joseph, Siddharth Vij, and Kairong Xiao, "Closing the Revolving Door," *working paper*, 2022.

Kempf, Elisabeth, "The Job Rating Game: Revolving Doors and Analyst Incentives," *Journal of Financial Economics*, 2020, *135* (1), 41–67.

LaPira, Timothy M. and Herschel F. Thomas, "Revolving Door Lobbyists and Interest Representation," *Interest Groups & Advocacy*, 2014, *3* (1), 4–29.

Lee, Shinwoo, "Employee Turnover and Organizational Performance in US Federal Agencies," *The American Review of Public Administration*, 2018, *48* (6), 522–534.

Leech, Beth L., *Lobbyists at Work*, Springer, 2013.

Levine, Bertram J., *The Art of Lobbying*, CQ Press, 2009.

Lewis, David E, Christopher Piper, and Mark D Richardson, "When Vacancies Matter for US Federal Agency Performance1," 2022.

Li, Zeren, "Subsidies for Sale: Post-government Career Concerns, Revolving-Door Channels, and Public Resource Misallocation in China," *Revolving-Door Channels, and Public Resource Misallocation in China (May 3, 2021)*, 2021.

Luechinger, Simon and Christoph Moser, "The Revolving Door Phenomenon," in "The Political Economy of Lobbying," Springer, 2024, pp. 167–182.

Major, Lindsey & Africa, "2024 Partner Compensation Survey," October 2024. Biennial survey of Am Law 200 partners; accessed 2026-03-01.

Mattozzi, Andrea and Antonio Merlo, "The Transparency of Politics and the Quality of Politicians," *American Economic Review*, 2007, *97* (2), 311–315.

_ **and** _ , "Political Careers or Career Politicians?," *Journal of Public Economics*, 2008, *92* (3-4), 597–608.

McCrain, Joshua, "Legislative Staff and Policymaking," Technical Report, Working Paper 2018.

_ , "Revolving Door Lobbyists and the Value of Congressional Staff Connections," *The Journal of Politics*, 2018, *80* (4), 1369–1383.

McGehee, Meredith, "Written Testimony of Meredith McGehee," Hearing on "Congressional Staff Capacity," Committee on House Administration, U.S. House of Representatives March 2021. Accessed 2026-02-13.

McKay, Amy Melissa and Jeffrey Lazarus, "Policy Consequences of Revolving-Door Lobbying," *Political Research Quarterly*, 2023, p. 10659129231177648.

Mincer, Jacob, "Investment in human capital and personal income distribution," *Journal of political economy*, 1958, *66* (4), 281–302.

Moscarini, Giuseppe, "Excess Worker Reallocation," *Review of Economic Studies*, 2001, pp. 593–612.

_ , "Job Matching and the Wage Distribution," *Econometrica*, 2005, *73* (2), 481–516.

Ommundsen, Emily Cottle, "The Institution's Knowledge: Congressional Staff Experience and Committee Productivity," *Legislative Studies Quarterly*, 2023, *48* (2), 273–303.

Osborne, Martin J. and Al Slivinski, "A Model of Political Competition with Citizen-Candidates," *Quarterly Journal of Economics*, 1996, *111* (1), 65–96.

Perry, James L. and Annie Hondeghem, *Motivation in Public Management: The Call of Public Service*, Oxford University Press, 2008.

_ **and Lois Recascino Wise**, "The Motivational Bases of Public Service," *Public Administration Review*, 1990, pp. 367–373.

Prendergast, Canice, "The Motivation and Bias of Bureaucrats," *American Economic Review*, 2007, *97* (1), 180–196.

_ , "Intrinsic motivation and incentives," *American Economic Review*, 2008, *98* (2), 201–205.

Ritz, Adrian, Gene A. Brewer, and Oliver Neumann, "Public Service Motivation: A Systematic Literature Review and Outlook," *Public Administration Review*, 2016, *76* (3), 414–426.

Rosen, Sherwin, "The Economics of Superstars," *American Economic Review*, 1981, *71* (5), 845–58.

Rosenthal, Alan, *The Third House: Lobbyists and Lobbying in the States*, CQ Press, 2000.

Roy, A. D., "Some Thoughts on the Distribution of Earnings," *Oxford Economic Papers*, 1951, *3* (2), 135–146.

Salant, David J., "Behind the Revolving Door: A New View of Public Utility Regulation," *RAND Journal of Economics*, 1995, pp. 362–377.

Salisbury, Robert H. and Kenneth A. Shepsle, "Congressional Staff Turnover and the Ties-That-Bind," *American Political Science Review*, 1981, *75* (2), 381–396.

Sattinger, Michael, "Comparative Advantage and the Distributions of Earnings and Abilities," *Econometrica*, 1975, *43* (3), 455–468.

Schapiro, Mary L., "Financial Services and General Government Appropriations for 2010: SEC Actions Relating to the Financial Crisis (SEC Staffing discussion)," Hearing before the Subcommittee on Financial Services and General Government, Committee on Appropriations, U.S. House of Representatives 2008. Printed hearing record (published 2009). See exchange on SEC staffing, attrition, pay parity, and competition with Wall Street.

Schnakenberg, Keith E. and Ian R. Turner, "Formal Theories of Special Interest Influence," *Annual Review of Political Science*, 2023, *27.*

Shaked, Moshe and J. George Shanthikumar, *Stochastic orders*, Springer, 2007.

Shepherd, Michael E and Hye Young You, "Exit Strategy: Career Concerns and Revolving Doors in Congress," *American Political Science Review*, 2020, *114* (1), 270–284.

Spenkuch, Jörg L., Edoardo Teso, and Guo Xu, "Ideology and Performance in Public Organizations," *Econometrica*, 2023, *91* (4), 1171–1203.

Srinivasan, Madhav, "Are Profit Margin And Recessions Still In Sync?," March 2023. Penn Carey Law news/article page.

Strickland, James M., "The Declining Value of Revolving-Door Lobbyists: Evidence from the American States," *American Journal of Political Science*, 2020, *64* (1), 67–81.

_ , "The Contingent Value of Connections: Legislative Turnover and Revolving-door Lobbyists," *Business and Politics*, 2023, pp. 1–21.

Tabakovic, Haris and Thomas G. Wollmann, "From Revolving Doors to Regulatory Capture? Evidence from Patent Examiners," Technical Report, National Bureau of Economic Research 2018.

Tenekedjieva, Ana-Maria, "The Revolving Door and Insurance Solvency Regulation," *Available at SSRN 3762573*, 2021.

Terviö, Marko, "The Difference That CEOs Make: An Assignment Model Approach," *American Economic Review*, 2008, pp. 642–668.

Topel, Robert, "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority," *Journal of Political Economy*, 1991, *99* (1), 145–176.

U.S. Bureau of Labor Statistics, "Employee Tenure in 2008," Technical Report USDL 08-1344, U.S. Department of Labor, Bureau of Labor Statistics September 2008. News release.

Wirsching, Elisa Maria, "Sorting for K Street: Post-Employment Regulations and Strategic Wage Setting in Congress," 2023.

A Proofs

Lemma 1. *In every equilibrium, there exists a function* $\overline{\psi}^* : \mathbb{R}_+ \to \mathbb{R}$ *such that a worker* i *with tenure* τ_g *revolves if and only if* $\psi_i \leqslant \overline{\psi}^*(\tau_g)$.

Proof. Fix an equilibrium σ^*. By definition, $\eta^*(\psi, a) = 1$ if and only if $\tau_g^*(\psi) \leqslant a$. Since $\tau_g^*(\psi_i) = \arg\max_{\tau_g} V_g(\tau_g; \psi_i, \sigma^*)$, then individual i's choice τ_g^* must solve:

$$0 = -w_g - \psi_i + (\delta + \rho)v(\tau_g) \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{-\infty}^\infty \int_{\tau_\ell}^\infty \gamma^*(\psi)\eta^*(\psi, a)e^{-\delta a} da\, dG(\psi)\, d\tau_\ell$$
$$- v'(\tau_g) \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{-\infty}^\infty \int_{\tau_\ell}^\infty \gamma^*(\psi)\eta^*(\psi, a)e^{-\delta a} da\, dG(\psi)\, d\tau_\ell.$$

Applying the implicit function theorem yields:

$$\frac{\partial \tau_g^*}{\partial \psi_i} = \frac{1}{Q^*\big((\delta + \rho)v'(\tau_g^*) - v''(\tau_g^*)\big)} > 0.$$

Thus, τ_g^* is a strictly increasing function of ψ_i. Letting $\overline{\psi}^*$ denote the inverse of τ_g^* completes the proof. □

Lemma 2. *In every equilibrium, there exists a* $\underline{\psi}^* \in \mathbb{R}$ *such that each worker* i *enters government if* $\psi_i \geqslant \underline{\psi}^*$ *and enters the private sector otherwise.*

Proof. Fix an equilibrium σ^*. It is straightforward that each worker i will not enter government if ψ_i is sufficiently low, but will enter if ψ_i is sufficiently high. To complete the proof, we show there is a unique $\underline{\psi}^* \in \mathbb{R}$ that distinguishes these cases. First, note that i's payoff of not entering government, V_p, is constant in ψ_i. Second, applying the envelope theorem, i's payoff from entering government, $V_g^*(\psi, \sigma^*)$, is strictly increasing in ψ. □

Proposition 1. *An equilibrium exists and is characterized by a* $(\underline{\psi}^*, \overline{\psi}^*(\tau_g), Q^*)$ *that solves:*

$$\underline{\psi} = \frac{w_p - (\delta + \rho) \cdot e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})} \cdot v\big(\overline{\psi}^{-1}(\underline{\psi})\big) \cdot Q}{1 - e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})}} - w_g, \tag{22}$$

$$\overline{\psi}(\tau_g) = Q \cdot \Big((\delta + \rho) \cdot v(\tau_g) - v'(\tau_g)\Big) - w_g, \tag{23}$$

$$Q = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^\infty e^{-\delta a}\Big[1 - G\Big(\max\{\underline{\psi}, \overline{\psi}(a)\}\Big)\Big]\, da\, d\tau_\ell. \tag{24}$$

Proof. By construction, any solution to the above system of equations is an equilibrium. We show that any equilibrium must be characterized by solutions to the above system. By Lemma 2, in any equilibrium there exists $\underline{\psi}$ such that i enters government if and only if $\psi_i \geqslant \underline{\psi}$. Furthermore, by Lemma 1, there exists $\overline{\psi}(\tau_g)$ such that each worker i is in government at government tenure τ_g (equivalently, at age a) if and only if $\psi_i > \max\{\overline{\psi}(\tau_g), \underline{\psi}\}$. Thus, we have:

$$Q = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_s^\infty e^{-\delta a}\Big[1 - G(\max\{\underline{\psi}, \overline{\psi}(a)\})\Big] da d\tau_\ell.$$

In equilibrium, each newly born worker i will revolve after a tenure that solves:

$$\max_{\tau_g} \frac{1 - e^{-(\delta+\rho)\tau_g}}{\delta + \rho}(\psi_i + w_g) + e^{-(\delta+\rho)\tau_g} v(\tau_g) \cdot Q.$$

Each worker's objective is concave in τ_g, so i's optimal stopping time, $\tau_g^*(\psi)$, is the unique solution to:

$$e^{-(\delta+\rho)\tau_g}(\psi_i + w_g) + e^{-(\delta+\rho)\tau_g} v'(\tau_g) \cdot Q - (\delta+\rho)e^{-(\delta+\rho)\tau_g} v(\tau_g) \cdot Q = 0. \tag{25}$$

Next, we prove that a solution exists. To start, we show there is a $(\underline{\psi}^*, Q^*)$ that solves

$$\underline{\psi} = \frac{w_p - (\delta+\rho)e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})} v(\overline{\psi}^{-1}(\underline{\psi}))Q}{1 - e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi})}} - w_g \tag{26}$$

$$Q = \int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^\infty e^{-\delta a}\Big[1 - G\Big(\max\Big\{(\delta+\rho)v(a) \cdot Q - v'(a) \cdot Q - w_g, \underline{\psi}\Big\}\Big)\Big] da d\tau_\ell. \tag{27}$$

Consider (27). First, at $Q = 0$ the RHS is $\int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^\infty e^{-\delta a}\Big[1 - G\Big(\max\{-w_g, \underline{\psi}\}\Big)\Big] da d\tau_\ell > 0$. Second, $1 - G(\cdot) < 1$ implies that the RHS is strictly less than $\int_0^\infty e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^\infty e^{-\delta a} da d\tau_\ell = \frac{1}{\delta(2\delta+\rho)}$, so the RHS is smaller than the LHS at $Q = \frac{1}{\delta(2\delta+\rho)}$. Since each side is continuous in Q, the intermediate value theorem yields a solution, which we denote $Q^*(\underline{\psi})$. Moreover, Q^* is unique because—given a fixed $\underline{\psi}$—the LHS is strictly increasing in Q while the RHS is is decreasing.

Plugging $Q^*(\underline{\psi})$ into (26) implies that $\underline{\psi}^*$ solves

$$\underline{\psi} = \frac{w_p - (\delta+\rho)e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi}; Q^*(\underline{\psi}))} v\big(\overline{\psi}^{-1}(\underline{\psi}; Q^*(\underline{\psi}))\big) \cdot Q^*(\underline{\psi})}{1 - e^{-(\delta+\rho)\overline{\psi}^{-1}(\underline{\psi}; Q^*(\underline{\psi}))}} - w_g. \tag{28}$$

Note that $Q(\psi) \in [0, \frac{1}{\delta(2\delta+\rho)}]$ always holds. Recall that $\overline{\psi}^{-1}(\psi; Q) = \tau_g^*(\psi; Q)$, so $\tau_g^*(\underline{\psi}; Q)$

is the solution to $(\delta + \rho) \cdot v(\tau_g) - v'(\tau_g) = \frac{\underline{\psi}+w_g}{Q\cdot}$. Thus, there exists $\psi^- \in \mathbb{R} \cup \{-\infty\}$ such that $\lim_{\underline{\psi}\to\psi^-} \overline{\psi}^{-1}(\underline{\psi}; Q) = 0$. In turn, $\underline{\psi} \to \psi^- < \infty$ also implies that the RHS of (28) goes to $\frac{w_p-(\delta+\rho)e^0\cdot v(0)\cdot}{1-e^0} = \infty$. On the other hand, as $\underline{\psi} \to \infty$ we have $\lim_{\underline{\psi}\to\infty} \overline{\psi}^{-1}(\underline{\psi}, Q) > 0$ and therefore the limit of the RHS of (28) is finite. Thus, since both sides of (28) are continuous in $\underline{\psi}$, the intermediate value theorem yields existence of a solution $\underline{\psi}^*$.

To complete the argument, define $\overline{\psi}^*(\tau_g) = Q^* \cdot \left(v(\tau_g) - \frac{v'(\tau_g)}{\delta+\rho}\right) - w_g$. □

Proposition 2. *In equilibrium, (i) the entry threshold is $\underline{\psi}^* \in \left(\overline{\psi}^*(0), w_p - w_g\right)$ and (ii) the exit function $\overline{\psi}^*$ is strictly increasing and concave in τ_g.*

Proof. To begin, we prove (i). We show that $\overline{\psi}^*(0) < \underline{\psi}^* < w_p - w_g$. For the second inequality, note that in equilibrium $V_g^* > \frac{\psi+w_g}{\delta+\rho}$. Thus, $\psi_i + w_g \geqslant w_p$ implies $V_g^* > V_p = \frac{w_p}{\delta+\rho}$, so i would enter in equilibrium. Hence, $\underline{\psi}^* < w_p - w_g$.

Next, we verify the first inequality, to show a contradiction suppose $\overline{\psi}^*(0) \geqslant \underline{\psi}^*$. Then, workers with $\psi_i \in [\underline{\psi}^*, \overline{\psi}^*(0)]$ will revolve immediately after joining government. Thus, for these workers we have $V_g^* = Q^* \cdot v(0) < \frac{y_\ell(\frac{1}{\delta},0)}{\delta+\rho} \leqslant \frac{w_p}{\delta+\rho} = V^p$, where the last inequality follows from our assumption that $y_\ell(\frac{1}{\delta}, 0) \leqslant w_p$. Combining these observations yields $\underline{\psi}^* \leqslant \psi_i < \underline{\psi}^*$, a contradiction.

We now prove (ii). First, $\overline{\psi}^*$ is strictly increasing in τ_g since $\frac{\partial\overline{\psi}^*}{\partial\tau_g} = Q^* \cdot \big((\delta + \rho) \cdot v'(\tau_g) - v''(\tau_g)\big) > 0$ follows from $v' \geqslant 0$ and $v'' \leqslant 0$. Second, $\overline{\psi}^*$ is concave in τ_g since $\frac{\partial^2\overline{\psi}^*}{\partial\tau_g^2} = Q^* \cdot \big((\delta + \rho) \cdot v''(\tau_g) - v'''(\tau_g)\big) \leqslant 0$ follows from $v'' \leqslant 0$ and $v''' \geqslant 0$. □

Lemma 3. *For all sufficiently large a, revenue $y_\ell(\tau_g, a - \tau_g)$ is strictly convex in τ_g for τ_g sufficiently close to a.*

Proof. Revenue is $y_\ell(\tau_g, a - \tau_g) = v(\tau_g)q(a - \tau_g)$. The second derivative with respect to τ_g is:

$$\frac{d^2y_\ell}{d\tau_g^2} = \Big(v''(\tau_g)q(a - \tau_g) - 2v'(\tau_g)q'(a - \tau_g) + v(\tau_g)q''(a - \tau_g)\Big). \tag{29}$$

We analyze each term as $a \to \infty$ with $\tau_\ell = a - \tau_g$ small. First, we claim $\lim_{\tau_g\to\infty} v''(\tau_g) = 0$. Since $v'' \leqslant 0$ and $v''' \geqslant 0$, the function v'' is increasing and bounded above by zero, so the limit exists. If $\lim_{\tau_g\to\infty} v''(\tau_g) = L < 0$, then $v'(\tau_g) \to -\infty$ as $\tau_g \to \infty$, contradicting $\lim_{\tau_g\to\infty} v'(\tau_g) < \infty$. Hence $v''(\tau_g) \to 0$.

For the first term in (29), since $v''(\tau_g) \to 0$ and q is bounded on $\mathbb{R}_+$, we have $v''(\tau_g)q(a - \tau_g) \to 0$ as $a \to \infty$ with τ_g close to a.

For the second term, $v' > 0$ and $q' < 0$ imply $-2v'(\tau_g)q'(a - \tau_g) > 0$.

For the third term, note that for small τ_ℓ, equation (10) implies $q'(\tau_\ell) = -e^{-\delta\tau_\ell}(1-G(\underline{\psi}^*))$ and hence $q''(\tau_\ell) = \delta e^{-\delta\tau_\ell}(1 - G(\underline{\psi}^*))$, which is bounded away from zero. Since $v(\tau_g) \to \infty$ as $\tau_g \to \infty$, the third term $v(\tau_g)q''(a - \tau_g) \to \infty$.

Combining these observations, for a sufficiently large and τ_g sufficiently close to a, the third term dominates the first two in (29), so $\frac{d^2 y_\ell}{d\tau_g^2} > 0$. □

Lemma 4. *In equilibrium, government tenure τ_g and lobbying tenure τ_ℓ are independent in the cross-section of revolvers.*

Proof. We show that the joint distribution of (τ_g, τ_ℓ) among revolvers in steady state decomposes into a product of marginals.

Consider a revolver observed at date t with government tenure τ_g and lobbying tenure τ_ℓ. This worker has age $a = \tau_g+\tau_\ell$, entered government at date $t-a$, and revolved at date $t-\tau_\ell$. In equilibrium, government tenure uniquely determines public service motivation: a worker who revolves after tenure τ_g must have $\psi = \overline{\psi}^*(\tau_g)$, since $\overline{\psi}^*$ is strictly increasing by Proposition 2. Accordingly, among revolvers τ_g has support $[\tau_g^{\min}, \infty)$, where $\tau_g^{\min} \equiv \overline{\psi}^{*-1}(\underline{\psi}^*)$.

At any date, the flow of newborn workers who will choose to revolve after government tenure in $[\tau_g, \tau_g + d\tau_g]$ equals $g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g}d\tau_g$. This expression follows from the change of variables $\psi = \overline{\psi}^*(\tau_g)$: the density of ψ is $g(\psi)$, and the Jacobian of the transformation is $\frac{d\overline{\psi}^*}{d\tau_g}$, which is positive since $\overline{\psi}^*$ is strictly increasing. The probability that such a worker survives to age $a = \tau_g + \tau_\ell$ without exogenous attrition is $e^{-\delta a} = e^{-\delta(\tau_g+\tau_\ell)}$.

Therefore, the joint measure of revolvers with tenures in $[\tau_g, \tau_g + d\tau_g] \times [\tau_\ell, \tau_\ell + d\tau_\ell]$ is:

$$\begin{aligned} d\mu^r(\tau_g, \tau_\ell) &= g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g} \cdot e^{-\delta(\tau_g+\tau_\ell)}\, d\tau_g\, d\tau_\ell \\ &= \underbrace{g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g} \cdot e^{-\delta\tau_g}\, d\tau_g}_{\equiv d\mu_{\tau_g}(\tau_g)} \cdot \underbrace{e^{-\delta\tau_\ell}\, d\tau_\ell}_{\equiv d\mu_{\tau_\ell}(\tau_\ell)}, \end{aligned}$$

where the factorization uses $e^{-\delta(\tau_g+\tau_\ell)} = e^{-\delta\tau_g} \cdot e^{-\delta\tau_\ell}$.

Integrating each factor separately, the total measure of revolvers is $\mu^r_{\tau_g}([\tau_g^{\min}, \infty))\cdot\mu^r_{\tau_\ell}(\mathbb{R}_+)$, where $\mu_{\tau_\ell}(\mathbb{R}_+) = \int_0^\infty e^{-\delta\tau_\ell}d\tau_\ell = \frac{1}{\delta}$. Dividing each factor by its integral yields the joint density $f(\tau_g, \tau_\ell) = f_{\tau_g}(\tau_g)\cdot f_{\tau_\ell}(\tau_\ell)$, where $f_{\tau_\ell}(\tau_\ell) = \delta e^{-\delta\tau_\ell}$ and $f_{\tau_g}(\tau_g) = \frac{g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g}e^{-\delta\tau_g}}{\mu^r_{\tau_g}([\tau_g^{\min},\infty))}$. This product form establishes independence. □

Proposition 3. *For the top α fraction of earners, we have: (i)* $\text{TopShare}_\alpha > \alpha$*, with* $\frac{\partial}{\partial\alpha}\left(\frac{\text{TopShare}_\alpha}{\alpha}\right) < 0$*; (ii)* $\mathbb{E}[\tau_g|y_\ell > y_\alpha] > \mathbb{E}[\tau_g]$ *and* $\mathbb{E}[\tau_\ell] > \mathbb{E}[\tau_\ell|y_\ell > y_\alpha]$*; and (iii) every revolver with* $y_\ell(\tau_g, 0) > y_\alpha$ *eventually has* $y(\tau_g, \tau_\ell) < y_\alpha$ *for some finite* $\tau_\ell > 0$.

Proof. Let y_α denote the threshold such that $P(y_\ell > y_\alpha) = \alpha$, i.e., the top α fraction of earners have revenues exceeding y_α.

Part (i): The top α share is

$$\text{TopShare}_\alpha = \frac{\mathbb{E}[y_\ell \cdot \mathbf{1}_{y_\ell > y_\alpha}]}{\mathbb{E}[y_\ell]} = \alpha \cdot \frac{\mathbb{E}[y_\ell | y_\ell > y_\alpha]}{\mathbb{E}[y_\ell]}.$$

Since the revenue distribution is non-degenerate, $\mathbb{E}[y_\ell | y > y_\alpha] > y_\alpha > \mathbb{E}[y_\ell | y_\ell \leqslant y_\alpha]$. By the law of total expectation,

$$\mathbb{E}[y] = \alpha\, \mathbb{E}[y_\ell | y > y_\alpha] + (1-\alpha)\, \mathbb{E}[y_\ell | y_\ell \leqslant y_\alpha] < \mathbb{E}[y_\ell | y_\ell > y_\alpha],$$

so $\text{TopShare}_\alpha > \alpha$.

For the comparative static, $\frac{\text{TopShare}_\alpha}{\alpha} = \frac{\mathbb{E}[y_\ell | y_\ell > y_\alpha]}{\mathbb{E}[y_\ell]}$. As α increases, y_α decreases. Expressing $\mathbb{E}[y_\ell \mid y_\ell > y_\alpha] = \frac{1}{\alpha} \int_{y_\alpha}^{\infty} y\, f(y)\, dy$ and differentiating, using $\frac{dy_\alpha}{d\alpha} = -1/f(y_\alpha)$, yields

$$\frac{d}{d\alpha}\, \mathbb{E}[y_\ell \mid y_\ell > y_\alpha] \;=\; \frac{1}{\alpha}\Big(y_\alpha - \mathbb{E}[y_\ell \mid y_\ell > y_\alpha]\Big) \;<\; 0,$$

where the inequality follows because $y_\alpha < \mathbb{E}[y_\ell \mid y_\ell > y_\alpha]$ for any non-degenerate distribution. Thus, since $\mathbb{E}[y_\ell]$ is independent of α, we obtain $\frac{\partial}{\partial \alpha}\left[\frac{\text{TopShare}_\alpha}{\alpha}\right] < 0$.

Part (ii): By Lemma 4, $\tau_g \perp \tau_\ell$ in the cross-section of revolvers. Since $y_\ell = v(\tau_g) q(\tau_\ell)$ with v strictly increasing and q strictly decreasing, the conditional probability

$$h(\tau_g) \equiv P(y_\ell > y_\alpha \mid \tau_g) = P\left(q(\tau_\ell) > \frac{y_\alpha}{v(\tau_g)}\right)$$

is strictly increasing in τ_g: higher $v(\tau_g)$ lowers the threshold that $q(\tau_\ell)$ must exceed. By iterated expectations, $\mathbb{E}[h(\tau_g)] = P(y_\ell > y_\alpha) = \alpha$.

The conditional density of τ_g given $y_\ell > y_\alpha$ satisfies

$$f(\tau_g \mid y_\ell > y_\alpha) = \frac{P(y_\ell > y_\alpha \mid \tau_g)}{P(y_\ell > y_\alpha)} \cdot f_{\tau_g}(\tau_g) = \frac{h(\tau_g)}{\alpha} \cdot f_{\tau_g}(\tau_g).$$

The likelihood ratio $h(\tau_g)/\alpha$ is strictly increasing in τ_g, so by the monotone likelihood ratio property, the conditional distribution first-order stochastically dominates the unconditional. Hence $\mathbb{E}[\tau_g \mid y_\ell > y_\alpha] > \mathbb{E}[\tau_g]$.

For τ_ℓ, define $\tilde{h}(\tau_\ell) \equiv P(y_\ell > y_\alpha \mid \tau_\ell)$. Since q is strictly decreasing in τ_ℓ, $\tilde{h}(\tau_\ell)$ is strictly decreasing in τ_ℓ, so the likelihood ratio $\tilde{h}(\tau_\ell)/\alpha$ is also strictly decreasing. By the monotone likelihood ratio property, the unconditional distribution first-order stochastically dominates the conditional. Hence $\mathbb{E}[\tau_\ell \mid y_\ell > y_\alpha] < \mathbb{E}[\tau_\ell]$.

Part (iii): Fix τ_g such that $y_\ell(\tau_g, 0) > y_\alpha$. Revenue $y_\ell(\tau_g, \tau_\ell) = v(\tau_g)q(\tau_\ell)$ is strictly decreasing in τ_ℓ since q is strictly decreasing in τ_ℓ. By equation (10), $\lim_{\tau_\ell\to\infty} q(\tau_\ell) = 0$, so $\lim_{\tau_\ell\to\infty} y_\ell(\tau_g, \tau_\ell) = 0 < y_\alpha$. By continuity and strict monotonicity, there exists a unique $\tilde{\tau} > 0$ with $y_\ell(\tau_g, \tilde{\tau}) = y_\alpha$ and $y_\ell(\tau_g, \tau_\ell) < y_\alpha$ for all $\tau_\ell > \tilde{\tau}$. □

Proposition 4. *The revenue distribution in the fixed-connections counterfactual, R_0, strictly Lorenz dominates the revenue distribution with endogenous connections, R_ℓ. Thus,* $\text{Gini}(R_\ell) > \text{Gini}(R_0)$ *and* $\text{TopShare}_\alpha(R_\ell) > \text{TopShare}_\alpha(R_0)$ *for all $\alpha \in (0, 1)$.*

Proof. The proof proceeds in three steps. First, we use the independence of τ_g and τ_ℓ (by Lemma 4) to decompose endogenous-connection revenues as the product of fixed-connection revenues and an independent multiplicative factor $M(\tau_\ell)$ capturing connection decay. Second, we show that this multiplicative structure yields strict convex order between the normalized revenue distributions. Third, we translate strict convex order into strict Lorenz dominance, from which the Gini and top-share comparisons follow immediately.

Step 1. Define $M(\tau_\ell) \equiv \frac{q(\tau_\ell)}{\bar{q}}$, where $\bar{q} \equiv (\delta + \rho)Q^*$ is chosen so that $\int_0^\infty e^{-(\delta+\rho)\tau_\ell}\bar{q}\, d\tau_\ell = Q^*$. Since $y_\ell = v(\tau_g)q(\tau_\ell)$ and $y_0 = v(\tau_g)\bar{q}$, we have $y_\ell = y_0 \cdot M(\tau_\ell)$. Note that M is strictly decreasing in τ_ℓ with $\lim_{\tau_\ell\to\infty} M(\tau_\ell) = 0$. Additionally, since $\tau_g \perp \tau_\ell$ (by Lemma 4), we have $y_0 \perp M$.

Next, we verify that $\mathbb{E}[y_0]$ and $\mathbb{E}[y_\ell]$ are finite. Since $\mathbb{E}[y_0] = \bar{q} \cdot \mathbb{E}[v(\tau_g)]$ and τ_g has marginal density proportional to $g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g}e^{-\delta\tau_g}$ (by Lemma 4), finiteness requires $\int_{\tau_g^{\min}}^\infty v(\tau_g)\, e^{-\delta\tau_g}\, g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g}\, d\tau_g < \infty$. Then, $\lim_{\tau_g\to\infty} v'(\tau_g) < \infty$ implies $v'(\tau_g) \leqslant c < \infty$ for all τ_g, so $v(\tau_g) \leqslant v(0) + c\tau_g$. Since $(v(0)+c\tau_g)e^{-\delta\tau_g}$ is bounded on $\mathbb{R}_+$ and $\int_{\tau_g^{\min}}^\infty g(\overline{\psi}^*(\tau_g))\frac{d\overline{\psi}^*}{d\tau_g}\, d\tau_g \leqslant 1$, the integral converges and $\mathbb{E}[y_0] < \infty$. Similarly, $\mathbb{E}[M] < \infty$ since $q(\tau_\ell) \leqslant q(0) < \infty$ for all τ_ℓ, and $\mathbb{E}[M] > 0$ since $q(\tau_\ell) > 0$ for all finite τ_ℓ because G has full support on $\mathbb{R}$. Thus $\mathbb{E}[y_\ell] = \mathbb{E}[y_0] \cdot \mathbb{E}[M] \in (0, \infty)$. Then, define the normalized variables $\tilde{y}_0 \equiv \frac{y_0}{\mathbb{E}[y_0]}$ and $\tilde{M} \equiv \frac{M}{\mathbb{E}[M]}$, so that $\mathbb{E}[\tilde{y}_0] = \mathbb{E}[\tilde{M}] = 1$, $\tilde{y}_0 \perp \tilde{M}$, and $\frac{y_\ell}{\mathbb{E}[y_\ell]} = \tilde{y}_0 \cdot \tilde{M}$.

Step 2. We consider scale-invariant inequality measures, so it suffices to compare the distributions of $\tilde{y}_0$ and $\tilde{y}_0 \cdot \tilde{M}$. Since $\tilde{y}_0$ and $\tilde{M}$ are independent nonnegative random variables with $\mathbb{E}[\tilde{M}] = 1$, Theorem 3.A.33 of Shaked and Shanthikumar (2007) implies $\tilde{y}_0 \leqslant_{cx} \tilde{y}_0 \cdot \tilde{M}$.

To show $\tilde{y}_0 <_{cx} \tilde{y}_0 \cdot \tilde{M}$, we verify that $\mathbb{E}[(\tilde{y}_0 \cdot \tilde{M} - d)_+] > \mathbb{E}[(\tilde{y}_0 - d)_+]$ for all $d > 0$.[32] Let $\overline{m}$ denote the supremum of the support of $\tilde{M}$. Since $\mathbb{E}[\tilde{M}] = 1$ and M is strictly decreasing, $M(\tau_\ell) < M(0)$ for all $\tau_\ell > 0$, so $\mathbb{E}[M] < M(0)$. Thus, $\overline{m} = \frac{M(0)}{\mathbb{E}[M]} > 1$.

[32] We follow convention using $(y - d)_+ = \max\{0, y - d\}$.

Fix $d > 0$. For any $\tilde{y}_0 > \frac{d}{\overline{m}}$, the function $(\tilde{y}_0 \cdot \tilde{M} - d)_+$ is convex and has a kink at $\tilde{M}^* = \frac{d}{\tilde{y}_0} \in (0, \overline{m})$. Thus, the support of $\tilde{M}$ places positive probability on both $\{\tilde{M} < \tilde{M}^*\}$ and $\{\tilde{M} > \tilde{M}^*\}$. Thus, Jensen's inequality is strict:

$$\mathbb{E}\Big[(\tilde{y}_0 \cdot \tilde{M} - d)_+ \ \mid \ \tilde{y}_0\Big] > \Big(\tilde{y}_0 \cdot \mathbb{E}[\tilde{M}] - d\Big)_+ = (\tilde{y}_0 - d)_+.$$

Since $v(\tau_g) \to \infty$ as $\tau_g \to \infty$ and τ_g has unbounded support, $\tilde{y}_0$ is unbounded, so $P(\tilde{y}_0 > \frac{d}{\overline{m}}) > 0$. Then, taking expectations over $\tilde{y}_0$ yields $\mathbb{E}\Big[(\tilde{y}_0 \cdot \tilde{M} - d)_+\Big] > \mathbb{E}[(\tilde{y}_0 - d)_+]$. Both expectations are finite since $(x - d)_+ \leqslant x$ and $\mathbb{E}[\tilde{y}_0] = \mathbb{E}[\tilde{y}_0 \tilde{M}] = 1$. Since $d > 0$ is arbitrary and the random variables have equal finite means, it follows that $\tilde{y}_0 <_{cx} \tilde{y}_0 \cdot \tilde{M}$ (see Theorem 3.A.1 in Shaked and Shanthikumar, 2007).

By equation (3.A.33) of Shaked and Shanthikumar (2007), for nonnegative random variables with finite means, $X <_{\text{Lorenz}} Y$ if and only if $\frac{X}{\mathbb{E}[X]} <_{cx} \frac{Y}{\mathbb{E}[Y]}$.[33] Since $\frac{y_0}{\mathbb{E}[y_0]} = \tilde{y}_0 <_{cx} \tilde{y}_0 \cdot \tilde{M} = \frac{y_\ell}{\mathbb{E}[y_\ell]}$, we have $R_0 <_{\text{Lorenz}} R_\ell$.

Step 3. We have shown that the Lorenz curve of R_ℓ lies strictly below that of R_0, i.e., $L_{R_\ell}(p) < L_{R_0}(p)$ for all $p \in (0,1)$. Note that, for any nonnegative random variable Z, the Gini coefficient satisfies $\text{Gini}(Z) = 1 - 2\int_0^1 L_Z(p)\,dp$ and the top α share satisfies $\text{TopShare}_\alpha(Z) = 1 - L_Z(1-\alpha)$. Both expressions are strictly decreasing in the Lorenz curve, so $L_{R_\ell} < L_{R_0}$ implies $\text{Gini}(R_\ell) > \text{Gini}(R_0)$ and $\text{TopShare}_\alpha(R_\ell) > \text{TopShare}_\alpha(R_0)$ for all $\alpha \in (0,1)$. ☐

Next, we prove the comparative statics results in Section 6. To do so, we introduce two functions. Additionally, we now incorporate the cooling-off period λ into the expressions.

Define the following two functions:

$$\phi_1(Q, \underline{\psi}) = \int_{\min\{\lambda, \overline{a}\}}^{\overline{a}} e^{-(\delta+\rho)\tau_\ell} \Big\{ \int_{\tau_\ell}^{\overline{a}} e^{-\delta a}\Big(1 - G(\underline{\psi})\Big) da + \int_{\overline{a}}^{\infty} e^{-\delta a}\Big(1 - G(\overline{\psi}(a))\Big) da \Big\} d\tau_\ell \quad (30)$$
$$+ \int_{\max\{\lambda, \overline{a}\}}^{\infty} e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^{\infty} e^{-\delta a}\Big(1 - G(\overline{\psi}(a))\Big) da d\tau_\ell - Q,$$

$$\phi_2(Q, \underline{\psi}) = w_p - (\delta+\rho)e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})} \cdot v\big(\tau_g^*(Q, \underline{\psi})\big) \cdot Q - \Big(1 - e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})}\Big)(\underline{\psi} + w_g), \quad (31)$$

where $\overline{a}$ is the unique a that solves

$$-w_g + (\delta+\rho)v(a) \cdot Q \cdot - v'(a) \cdot Q \cdot = \underline{\psi}. \quad (32)$$

[33] Following convention, $X <_{\text{Lorenz}} Y$ means the Lorenz curve of X lies strictly above that of Y, so X Lorenz dominates Y and exhibits lower inequality.

Notice that equilibria are characterized by solutions $(Q^*, \underline{\psi}^*)$ to $\big(\phi_1(Q, \underline{\psi}), \phi_2(Q, \underline{\psi})\big) = (0, 0)$.

Lemma A.1. *We have* $\frac{\partial \phi_1}{\partial Q} < 0$, $\frac{\partial \phi_1}{\partial \underline{\psi}} \leqslant 0$, $\frac{\partial \phi_2}{\partial Q} \leqslant 0$, *and* $\frac{\partial \phi_2}{\partial \underline{\psi}} < 0$.

Proof. First,

$$\begin{aligned}\frac{\partial \phi_1}{\partial Q} = -1 - &\int_{\min\{\lambda, \overline{a}\}}^{\overline{a}} e^{-(\delta+\rho)\tau_\ell} \int_{\overline{a}}^{\infty} e^{-\delta a} \cdot \Big((\delta + \rho) v(a) - v'(a)\Big)\, g(\overline{\psi}(n))\, da\, d\tau_\ell \\ &- \int_{\max\{\lambda, \overline{a}\}}^{\infty} e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^{\infty} e^{-\delta a} \cdot \Big((\delta + \rho) v(a) - v'(a)\Big)\, g(\overline{\psi}(a))\, da\, d\tau_\ell \\ < 0,&\end{aligned}$$

where the inequality follows because $(\delta + \rho) \cdot v(a) > v'(a)$ for all $a > \overline{a}$. Next, we have $\frac{\partial \phi_1}{\partial \underline{\psi}} = -\int_{\min\{\lambda,\overline{a}\}}^{\overline{a}} e^{-(\delta+\rho)\tau_\ell} \Big(\int_{\tau_\ell}^{\overline{a}} e^{-\delta a}\, g(\underline{\psi})\, da\Big)\, d\tau_\ell \leqslant 0$; $\frac{\partial \phi_2}{\partial Q} = -(\delta+\rho) \cdot e^{-(\delta+\rho)\tau_g^*(\underline{\psi})} \cdot v(\tau_g^*(\underline{\psi})) \leqslant 0$; and $\frac{\partial \phi_2}{\partial \underline{\psi}} = -\Big(1 - e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})}\Big) < 0$. □

Lemma A.2. $\lim\limits_{\delta+\rho \to 0} \overline{a} = \infty$.

Proof. Fix $\underline{\psi}$. Recall that $\overline{a}$ solves (32). Then, rearranging, $\overline{a}$ solves:

$$\delta + \rho = \frac{\underline{\psi} + w_g + v'(a) Q}{v(a) Q} \tag{33}$$

Towards a contradiction suppose that $\lim\limits_{\delta+\rho\to 0} \overline{a} < \infty$. Note that LHS (33) $\to 0$. Therefore, in the limit $\overline{a}$ solves $0 = \frac{\underline{\psi} + w_g + v'(a)Q}{v(a)Q}$. However, by assumption $v(a) < \infty$ and $v'(a) > 0$ for all $a < \infty$, a contradiction. □

Lemma A.3. *For* ϕ_1, *we have* $\lim\limits_{\rho\to\infty} \frac{\partial \phi_1}{\partial Q} = -1$ *and* $\lim\limits_{\rho\to\infty} \frac{\partial \phi_1}{\partial \underline{\psi}} = 0$. *And for* ϕ_2, *we have* $\lim\limits_{\rho\to\infty} \frac{\partial \phi_2}{\partial Q} = 0$ *and* $\lim\limits_{\rho\to\infty} \frac{\partial \phi_2}{\partial \underline{\psi}} = -1$.

Proof. First, we have

$$\begin{aligned}\lim_{\rho\to\infty} \frac{\partial \phi_1}{\partial Q} = -1 - \lim_{\rho\to\infty} \Bigg(&\int_{\min\{\lambda, \overline{a}\}}^{\overline{a}} e^{-(\delta+\rho)\tau_\ell} \int_{\overline{a}}^{\infty} e^{-\delta a} \cdot \Big((\delta + \rho) v(a) - v'(a)\Big)\, g(\overline{\psi}(a))\, da\, d\tau_\ell \\ &- \int_{\max\{\lambda, \overline{a}\}}^{\infty} e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^{\infty} e^{-\delta a} \cdot \Big((\delta + \rho) v(a) - v'(a)\Big)\, g(\overline{\psi}(a))\, da\, d\tau_\ell \Bigg) \\ = -1,&\end{aligned}$$

Note that $0 \leqslant e^{-\delta a} \cdot \big((\delta+\rho)\cdot v(a) - v'(a)\big) \leqslant (\delta+\rho)\cdot e^{-\delta a}\cdot v(a)$. Thus, a sufficient condition for the above limit to hold is that

$$\text{(i)} \lim_{\rho\to\infty} \int_{\min\{\lambda,\overline{a}\}}^{\overline{a}} (\delta+\rho)e^{-(\delta+\rho)\tau_\ell} \int_{\overline{a}}^{\infty} e^{-\delta a}\cdot v(a)\, g(\overline{\psi}(a))\, da\, d\tau_\ell = 0$$

$$\text{(ii)} \lim_{\rho\to\infty} \int_{\max\{\lambda,\overline{a}\}}^{\infty} (\delta+\rho)e^{-(\delta+\rho)\tau_\ell} \int_{\tau_\ell}^{\infty} e^{-\delta a}\cdot v(a)\, g(\overline{\psi}(a))\, da\, d\tau_\ell = 0.$$

To see why (i) and (ii) hold, note that in each case $\int e^{\delta a} v(a) g(\cdot) da < \infty$ and, for all τ_ℓ, applying L'Hopital's rule yields $(\delta+\rho)e^{-(\delta+\rho)\tau_\ell} \to 0$ as $\rho \to \infty$.

Second, we have

$$\lim_{\rho\to\infty} \frac{\partial \phi_1}{\partial \underline{\psi}} = \lim_{\rho\to\infty} - \int_{\min\{\lambda,\overline{a}\}}^{\overline{a}} e^{-(\delta+\rho)\tau_\ell} \left(\int_{\tau_\ell}^{\overline{a}} e^{-\delta a}\, g(\underline{\psi})\, da \right) = 0,$$

which follows because (i) $\lim\limits_{\rho\to\infty} e^{-(\delta+\rho)\tau_\ell} = 0$ and (ii) $\lim\limits_{\rho\to\infty} \int_{\tau_\ell}^{\overline{a}} e^{-\delta a} g(\underline{\psi}) \leqslant \frac{e^{-\delta\tau_\ell}}{\delta} \cdot \sup g(\underline{\psi}) < \infty$, since $g(\underline{\psi}) < \infty$ for all $\underline{\psi}$.

Third, we have

$$\lim_{\rho\to\infty} \frac{\partial \phi_2}{\partial Q} = \lim_{\rho\to\infty} - (\delta+\rho) e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})} v(\tau_g^*(Q,\underline{\psi})) = 0,$$

which follows because $0 < \tau_g^*(Q,\underline{\psi}) < \infty$ and applying L'Hopital's rule yields $\lim_{\rho\to\infty}(\delta+\rho)e^{-(\delta+\rho)\tau_g^*} = 0$.

Finally,

$$\lim_{\rho\to\infty} \frac{\partial \phi_2}{\partial \underline{\psi}} = \lim_{\rho\to\infty} - \left(1 - e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})}\right) = -1,$$

which also follows because $e^{-(\delta+\rho)\tau_g^*(Q,\underline{\psi})} \to 0$ as $\rho \to \infty$. □

Proposition 5. *If ρ is sufficiently large, then increasing w_g will: (i) increase Q^*, (ii) decrease $\underline{\psi}^*$, and (iii) increase $\tau_g^*(\psi_i)$ if and only if ψ_i is sufficiently low.*

Proof. To sign the comparative statics we apply the implicit function theorem to the system (30) and (31), which yields

$$\begin{bmatrix} \frac{\partial Q^*}{\partial w_g} \\ \frac{\partial \underline{\psi}^*}{\partial w_g} \end{bmatrix} = \frac{-1}{\frac{\partial \phi_1}{\partial Q}\frac{\partial \phi_2}{\partial \underline{\psi}} - \frac{\partial \phi_1}{\partial \underline{\psi}}\frac{\partial \phi_2}{\partial Q}} \begin{bmatrix} \frac{\partial \phi_2}{\partial \underline{\psi}} \cdot \frac{\partial \phi_1}{\partial w_g} + \left(-\frac{\partial \phi_1}{\partial \underline{\psi}}\right) \cdot \frac{\partial \phi_2}{\partial w_g} \\ -\frac{\partial \phi_2}{\partial Q} \cdot \frac{\partial \phi_1}{\partial w_g} + \frac{\partial \phi_1}{\partial Q} \cdot \frac{\partial \phi_2}{\partial w_g} \end{bmatrix}$$

By Lemma A.1, $\frac{\partial\phi_1}{\partial Q} < 0$, $\frac{\partial\phi_1}{\partial\underline{\psi}} \leqslant 0$, $\frac{\partial\phi_2}{\partial Q} \leqslant 0$, and $\frac{\partial\phi_2}{\partial\underline{\psi}} < 0$. Additionally,

$$\frac{\partial\phi_2}{\partial w_g} = -\Big(1 - e^{-(\delta+\rho)\tau_g^*(\underline{\psi},Q)}\Big) < 0, \text{ and}$$
$$\frac{\partial\phi_1}{\partial w_g} = \int_0^{\overline{a}} e^{-(\delta+\rho)\tau_\ell}\int_{\overline{a}}^{\infty} e^{-\delta a}g(\overline{\psi}(a))dad\tau_\ell + \int_{\overline{a}}^{\infty} e^{-(\delta+\rho)\tau_\ell}\int_{\tau_\ell}^{\infty} e^{-\delta a}g(\overline{\psi}(a))dad\tau_\ell \geqslant 0.$$

Hence, $\frac{\partial\phi_2}{\partial\underline{\psi}} \cdot \frac{\partial\phi_1}{\partial w_g} - \frac{\partial\phi_1}{\partial\underline{\psi}} \cdot \frac{\partial\phi_2}{\partial w_g} < 0$ and $-\frac{\partial\phi_2}{\partial Q} \cdot \frac{\partial\phi_1}{\partial w_g} + \frac{\partial\phi_1}{\partial Q} \cdot \frac{\partial\phi_2}{\partial w_g} > 0$. Therefore, $\frac{\partial\underline{\psi}^*}{\partial w_g} < 0 < \frac{\partial Q^*}{\partial w_g}$ holds if and only if

$$\frac{\partial\phi_1}{\partial Q}\frac{\partial\phi_2}{\partial\underline{\psi}} - \frac{\partial\phi_1}{\partial\underline{\psi}}\frac{\partial\phi_2}{\partial Q} > 0. \tag{34}$$

By Lemma A.3 $\lim_{\rho\to\infty} \frac{\partial\phi_1}{\partial Q}\frac{\partial\phi_2}{\partial\underline{\psi}} - \frac{\partial\phi_1}{\partial\underline{\psi}}\frac{\partial\phi_2}{\partial Q} = 1$. Thus, by continuity, inequality (34) holds for all ρ is sufficiently large. The comparative statics on $\tau_g^*(\psi)$ then follow by equation (19).

□

Proposition 6. *If ρ is sufficiently large, then increasing λ will: (i) increase $\underline{\psi}^*$, (ii) decrease Q^*, and (iii) increase $\tau_g^*(\psi)$ for all ψ.*

Proof. Applying the implicit function theorem yields

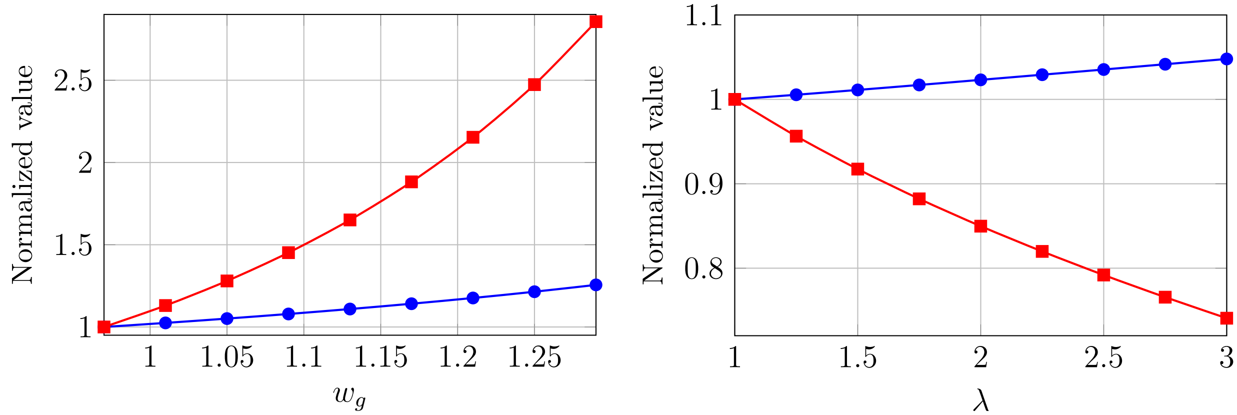
$$\begin{bmatrix} \frac{\partial Q^*}{\partial\lambda} \\ \frac{\partial\underline{\psi}^*}{\partial\lambda} \end{bmatrix} = \frac{-1}{\frac{\partial\phi_1}{\partial Q}\frac{\partial\phi_2}{\partial\underline{\psi}} - \frac{\partial\phi_1}{\partial\underline{\psi}}\frac{\partial\phi_2}{\partial Q}} \begin{bmatrix} \frac{\partial\phi_2}{\partial\underline{\psi}} \cdot \frac{\partial\phi_1}{\partial\lambda} + \Big(-\frac{\partial\phi_1}{\partial\underline{\psi}}\Big) \cdot \frac{\partial\phi_2}{\partial\lambda} \\ -\frac{\partial\phi_2}{\partial Q} \cdot \frac{\partial\phi_1}{\partial\lambda} + \frac{\partial\phi_1}{\partial Q} \cdot \frac{\partial\phi_2}{\partial\lambda} \end{bmatrix}.$$

Note that $\frac{\partial\phi_2}{\partial\lambda} = 0$ and $\frac{\partial\phi_1}{\partial\lambda} = -e^{-\delta\lambda}\int_\lambda^\infty e^{-\delta a}\Big(1 - G(\overline{\psi}(a))\Big)da < 0$. Then Lemma A.1 implies $\frac{\partial\phi_2}{\partial\underline{\psi}} \cdot \frac{\partial\phi_1}{\partial\lambda} - \frac{\partial\phi_1}{\partial\underline{\psi}} \cdot \frac{\partial\phi_2}{\partial\lambda} > 0$ and $-\frac{\partial\phi_2}{\partial Q} \cdot \frac{\partial\phi_1}{\partial\lambda} + \frac{\partial\phi_1}{\partial Q} \cdot \frac{\partial\phi_2}{\partial\lambda} < 0$. Thus, $\frac{\partial Q^*}{\partial\lambda} < 0 < \frac{\partial\underline{\psi}^*}{\partial\lambda}$ holds if and only if

$$\frac{\partial\phi_1}{\partial Q}\frac{\partial\phi_2}{\partial\underline{\psi}} - \frac{\partial\phi_1}{\partial\underline{\psi}}\frac{\partial\phi_2}{\partial Q} > 0.$$

As shown in the proof of Proposition 5, this condition holds for sufficiently large ρ. The comparative statics on $\tau_g^*(\psi)$ then follow by definition of $\overline{\psi}^*(\tau_g)$. □

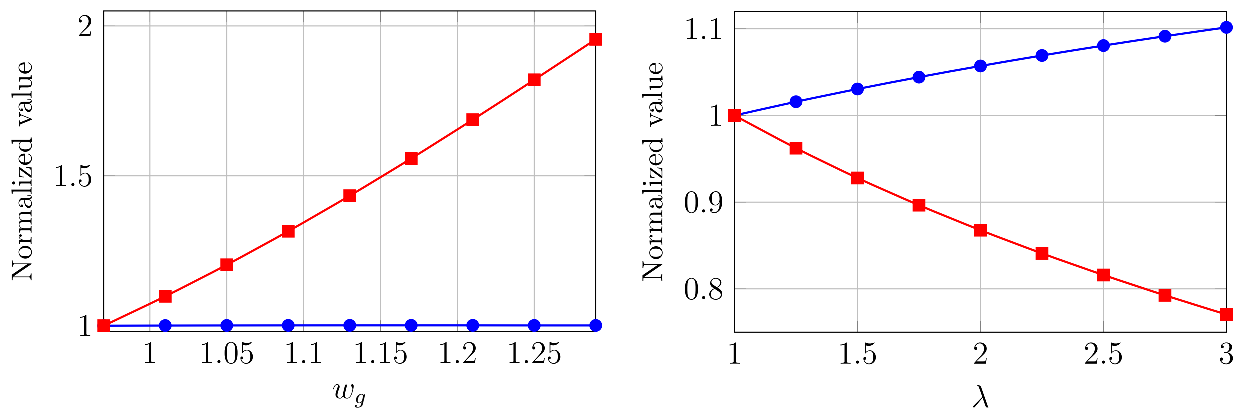
B Additional Numerical Examples



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

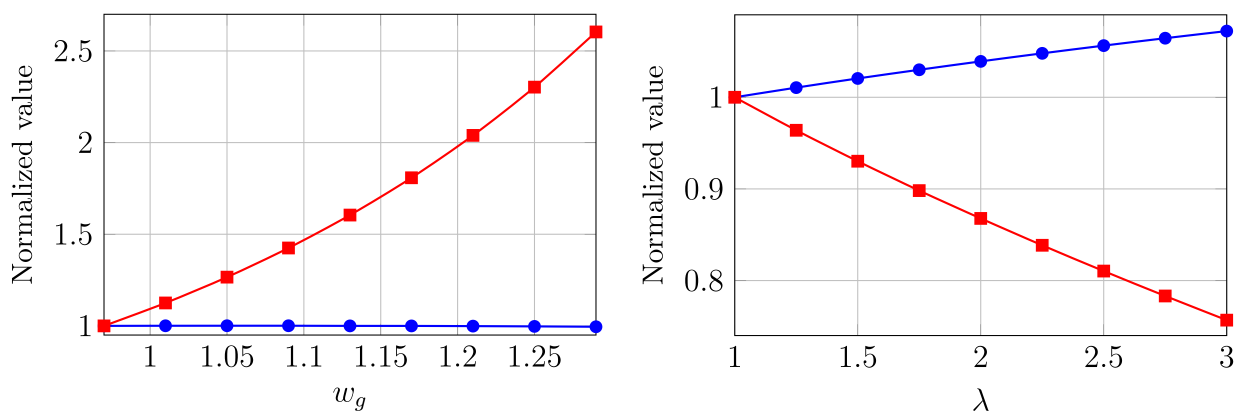
Figure 6: Policy counterfactuals with alternative functional form for government output, $y_g(\tau_g, \psi) = v(\tau_g) + \max\{\psi, 0\}$. All parameter values are the same as in the baseline specification.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

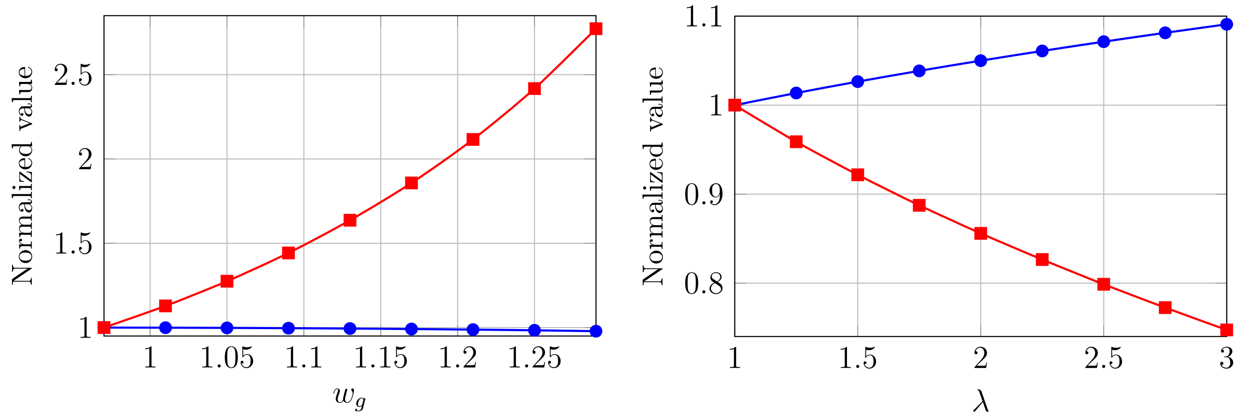
Figure 7: Policy counterfactuals with parameters not chosen to match data. Parameter values: $\delta = .025$, $\rho = .05$, $\beta = 1$, $w_p = 1$, $w_g = 1$, $\lambda = 1$, $r = .5$, $\mu = -$EulerGamma - 1, scale = 1.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

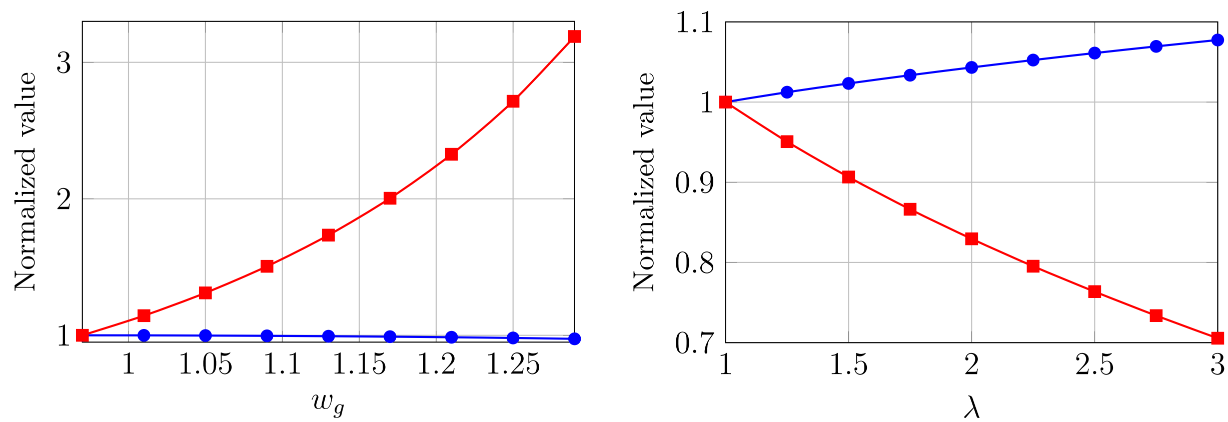
Figure 8: Policy counterfactuals with $\beta = .35$, $r = 6.346$, $\mu \approx -3.244$. Remaining parameter values are the same as in the baseline specification.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

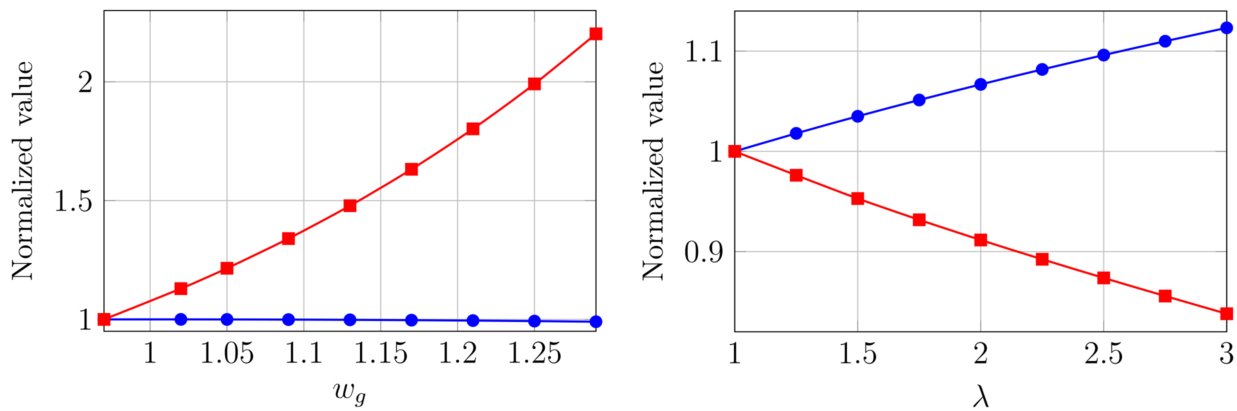
Figure 9: Policy counterfactuals with $\beta = .65$, $r \approx 4.107$, $\mu \approx -3.244$. Remaining parameter values are the same as in the baseline specification.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

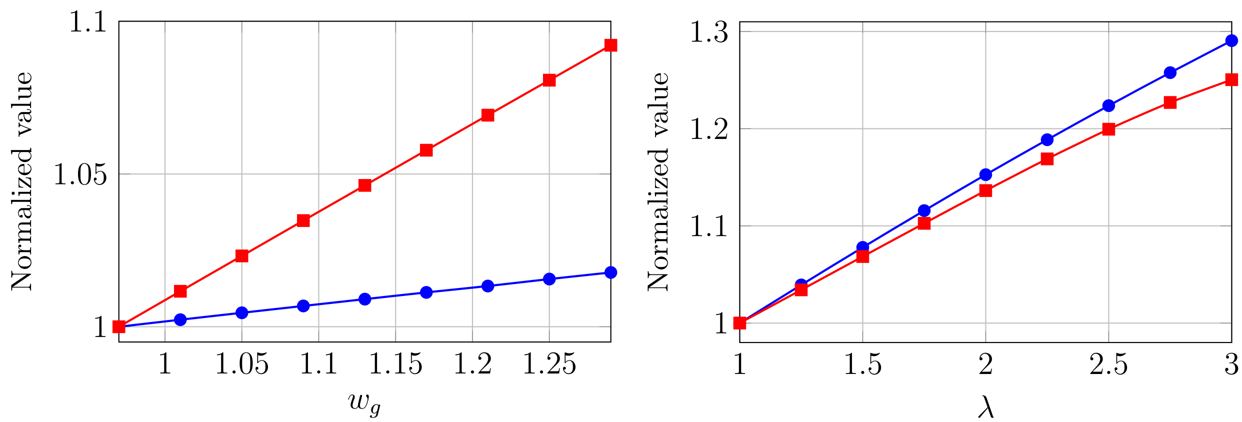
Figure 10: Policy counterfactuals with $\rho = .04$, $\mu \approx -3.244$, $r = 4.8533$. Remaining parameter values are the same as in the baseline specification.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

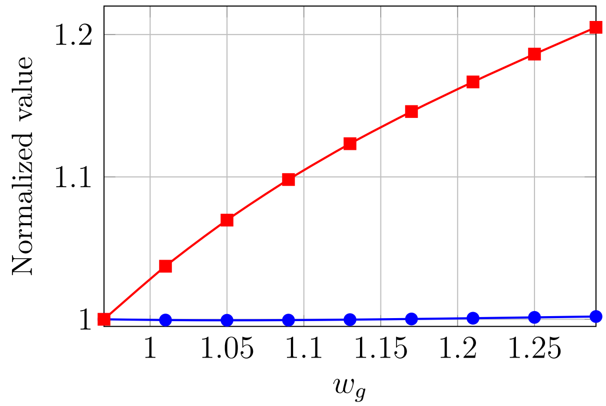
Figure 11: Policy counterfactuals with $\rho = .075$, $\mu \approx -2.577$, and $r = 3.36$. Remaining parameter values are the same as in the baseline specification.



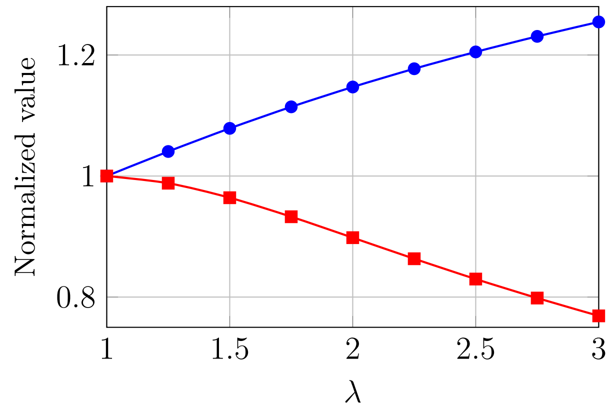
(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

Figure 12: Normalized output counterfactuals for Y_g and Y_ℓ over w_g and λ in a case with high entry, with unknown parameters not chosen to match data, $r = 2$, $\mu = -\text{EulerGamma}$. Remaining parameter values are the same as in the baseline specification.

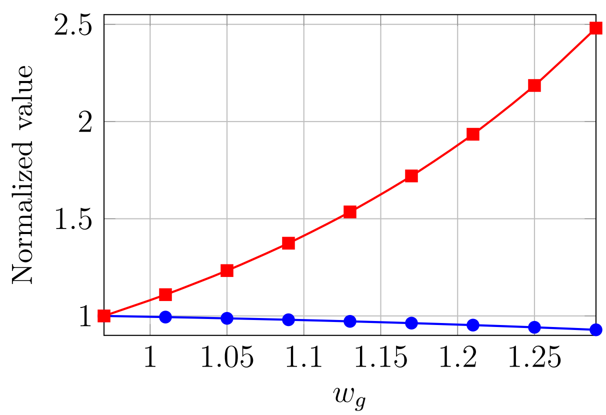


(a) Y_g (blue, circle) and Y_ℓ (red, square) as functions of w_g, normalized by initial values.

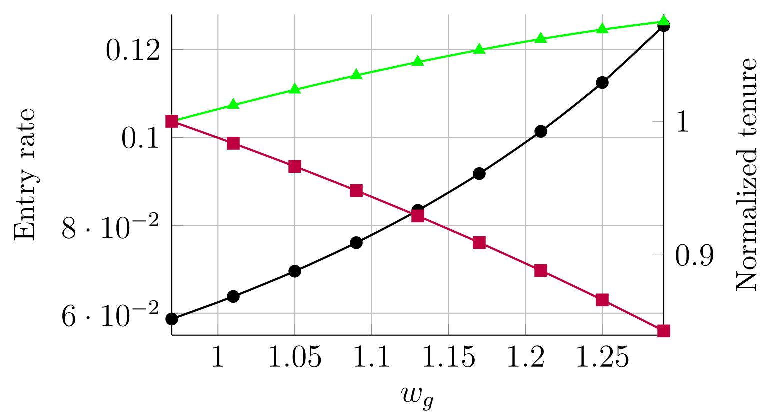


(b) Y_g (blue, circle) and Y_ℓ (red, square) as functions of λ, normalized by initial values.

Figure 13: Normalized output counterfactuals for Y_g and Y_ℓ over w_g and λ in a case with high entry, parameters not chosen to match data: $\delta = .025$, $\rho = .05$, $\beta = 1$, $w_p = 1$, $w_g = 1$, $\lambda = 1$, $r = 1$, $\mu = -$EulerGamma - 1, scale = 1.

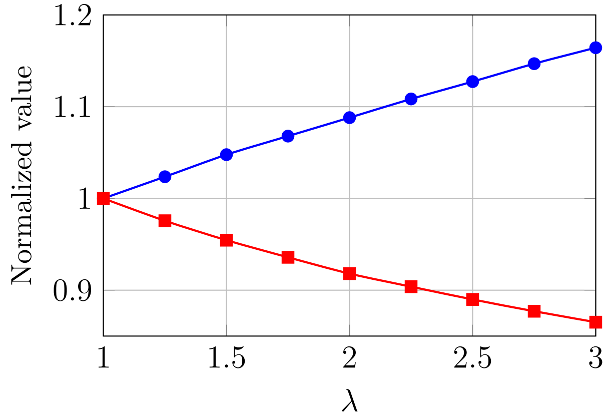


(a) Y_g (blue, circle) and Y_ℓ (red, square) as a function of w_g. Note that Y_g and Y_ℓ are normalized by their initial values.

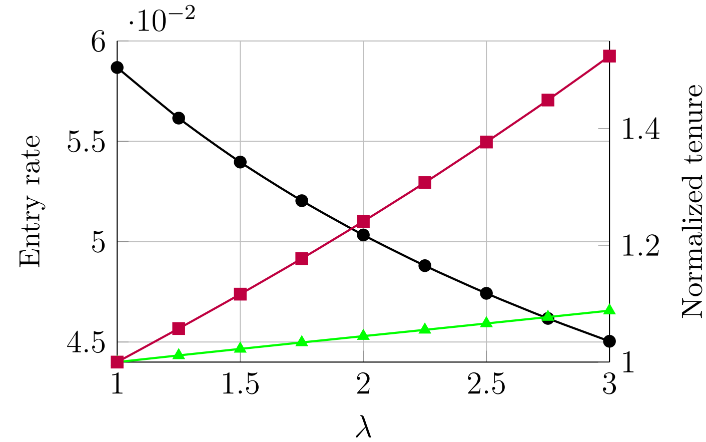


(b) Government tenure for a worker with $\psi = 0$ (green, triangle), for a worker with $\psi = 2$ (purple, square), and the entry rate (black, circle) as a function of w_g. Note that tenures are normalized by their initial values.

Figure 14: Counterfactuals over w_g with alternative truncations for ages and ψ, $nmax = 200$, $amax = 200$, $smax = 200$, $psiMin = -25$, $psiMax = 25$.



(a) Y_g (blue, circle) and Y_ℓ (red, square) as a function of λ. Note that Y_g and Y_ℓ are normalized by their initial values.



(b) Government tenure for a worker with $\psi = 0$ (green, triangle), for a worker with $\psi = 2$ (purple, square), and the entry rate (black, circle) as a function of λ. Note that tenures are normalized by their initial values.

Figure 15: Counterfactuals over λ with alternative truncations for ages and ψ, $nmax = 200$, $amax = 200$, $smax = 200$, $psiMin = -25$, $psiMax = 25$.

C Empirical Analysis of Lobbyist Revenue Dynamics

This appendix supplements the revenue-tenure analysis in Section 3. Unless otherwise noted, all tables report estimates of β from equation (14) with standard errors clustered by individual. Across all specifications and samples, we do not find evidence of positive returns to lobbying tenure.

We organize the robustness analysis into four categories. First, we vary the estimation sample (Tables B1 and B2). Second, we vary the revenue measure and normalization (Tables B3 and B4). Third, we consider alternative specifications (Tables B5 and B6). Finally, Table B7 estimates the revenue-tenure relationship for non-revolving-door lobbyists as a comparison group.

Table B1: Revenue-Tenure Relationship: Relaxing the Contiguous-Career Restriction

	By Career Length				Pooled
	3 yrs	4 yrs	5 yrs	6 yrs	3–6 yrs
Panel A: At most 1 zero-revenue period					
$\hat{\beta}$	−0.080*	−0.041	−0.020	−0.014	−0.025
	(0.031)	(0.030)	(0.029)	(0.046)	(0.013)
Lobbyists	243	159	97	70	569
Observations	813	858	710	645	3,026
Panel B: At most 2 consecutive zero-revenue periods					
$\hat{\beta}$	−0.081*	−0.045	−0.006	0.005	−0.013
	(0.029)	(0.028)	(0.028)	(0.039)	(0.012)
Lobbyists	272	179	117	91	659
Observations	873	926	808	789	3,396

Notes: $^*p < 0.05$. The baseline sample requires contiguous positive-revenue periods. Panels allow lobbyists whose longest consecutive gap between positive-revenue periods is at most 1 (Panel A) or 2 (Panel B) reporting periods. All specifications include period fixed effects; the pooled specification includes career-length fixed effects.

Table B2: Revenue-Tenure Relationship: Progressively Relaxing Sample Restrictions

	Career ⩾ 3 yrs		Career 3–6 yrs	
Sample	$\hat{\beta}$	N	$\hat{\beta}$	N
Baseline	−0.027	155	−0.039	135
	(0.026)		(0.028)	
Include 1998 starts	−0.076*	270	−0.076*	190
	(0.013)		(0.018)	
Include 2008 careers	0.002	861	−0.028	603
	(0.014)		(0.015)	
Include both	−0.043*	1,394	−0.044*	658
	(0.007)		(0.012)	
Both + allow 1 zero-period	−0.035*	3,479	−0.046*	1,745
	(0.004)		(0.007)	
Both + allow ⩽ 2 zero-periods	−0.033*	3,938	−0.041*	1,927
	(0.004)		(0.007)	

Notes: $^*p < 0.05$. Each row progressively relaxes restrictions from the baseline sample, which excludes lobbyists entering in 1998, those still active in 2008, and those with any gap in positive-revenue periods. *Include 1998 starts* adds lobbyists whose first positive-revenue period falls in 1998; *Include 2008 careers* adds those still active in 2008; subsequent rows additionally allow gaps of at most 1 or 2 consecutive zero-revenue periods. Both specifications pool across career lengths and include period and career-length fixed effects. N denotes the number of individual lobbyists.

Table B3: Revenue-Tenure Relationship: Alternative Revenue Measurements

	By Career Length		Pooled
	3 yrs	4 yrs	3–6 yrs
Panel A: Annual revenue			
$\hat{\beta}$	−0.075	−0.203	−0.112
	(0.145)	(0.208)	(0.065)
Lobbyists	62	37	135
Observations	124	110	396
Panel B: Alternative revenue variable			
$\hat{\beta}$	−0.135*	−0.091	−0.071*
	(0.062)	(0.084)	(0.033)
Lobbyists	62	37	135
Observations	241	214	780

Notes: $*p < 0.05$. Both panels use the baseline sample. Panel A aggregates revenues to the calendar-year level; the dependent variable is the log ratio of annual revenue to first-year revenue, and period fixed effects are replaced by year fixed effects. Panel B uses the alternative revenue variable `rev_worper` from Blanes i Vidal et al. (2012) rather than `revw_worper`. The pooled specification includes career-length fixed effects.

Table B4: Revenue-Tenure Relationship: Normalizing by Second-Period Revenue

Sample	By Career Length				Pooled
	3 yrs	4 yrs	5 yrs	6 yrs	3–6 yrs
Panel A: Baseline (contiguous careers)					
$\hat{\beta}$	−0.037	−0.107	0.023	−0.046	−0.027
	(0.070)	(0.083)	(0.072)	(0.106)	(0.032)
Lobbyists	62	37	18	18	135
Observations	241	214	144	181	780
Panel B: At most 1 zero-revenue period					
$\hat{\beta}$	−0.087*	−0.046	−0.027	−0.011	−0.028
	(0.034)	(0.031)	(0.034)	(0.064)	(0.015)
Lobbyists	243	159	97	70	569
Observations	813	858	710	645	3,026
Panel C: At most 2 consecutive zero-revenue periods					
$\hat{\beta}$	−0.083*	−0.052	−0.006	0.000	−0.016
	(0.032)	(0.029)	(0.032)	(0.053)	(0.014)
Lobbyists	272	179	117	91	659
Observations	873	926	808	789	3,396

Notes: $^*p < 0.05$. The dependent variable is $\log(y_{it}/y_{i,2})$, where $y_{i,2}$ is lobbyist i's revenue in her second positive-revenue period, rather than the average of the first two periods used in the main specification. The estimation sample is otherwise identical: observations from the first two periods are excluded in both specifications, so estimates reflect only the change in the baseline denominator. Sample definitions in Panels B and C correspond to those in Table B1. All specifications include period fixed effects; pooled specifications include career-length fixed effects.

Table B5: Revenue-Tenure Relationship: Quadratic Specification and Excluding Period Fixed Effects

	By Career Length		Pooled
	3 yrs	4 yrs	3–6 yrs
Panel A: Quadratic specification			
Linear	−0.508	−0.158	0.018
	(0.305)	(0.238)	(0.061)
Quadratic	0.064	0.008	−0.005
	(0.041)	(0.023)	(0.005)
Panel B: Excluding period fixed effects			
$\hat{\beta}$	−0.047	−0.025	−0.022
	(0.031)	(0.029)	(0.016)
Lobbyists	62	37	135
Observations	241	214	780

Notes: $^{*}p < 0.05$. Both panels use the baseline sample. Panel A augments equation (14) with a quadratic term in lobbying tenure; Panel B omits period fixed effects from the linear specification. The pooled specification includes career-length fixed effects.

Table B6: Revenue-Tenure Relationship: Individual Fixed Effects on Full Sample

	(1)	(2)
$\hat{\beta}$	0.011*	−0.004
	(0.001)	(0.003)
ln(agg. revenue)		0.476*
		(0.103)
Individual FE	Yes	Yes
Lobbyists	6,279	6,279
Observations	64,115	64,115

Notes: $^{*}p < 0.05$. The dependent variable is log individual revenue at the reporting-period level. The sample includes all revolving-door lobbyists with at least two positive-revenue periods, without restrictions on entry year, exit year, or career gaps. Both specifications include individual fixed effects. Column (2) controls for aggregate industry conditions using the log of total real lobbying expenditures in the calendar year. Standard errors clustered by individual.

Table B7: Revenue-Tenure Relationship: Non-Revolving-Door Lobbyists

	By Career Length				Pooled
	3 yrs	4 yrs	5 yrs	6 yrs	3–6 yrs
$\hat{\beta}$	−0.052*	−0.025	0.004	0.002	−0.022
	(0.024)	(0.024)	(0.031)	(0.034)	(0.012)
Lobbyists	280	150	77	45	552
Observations	1,081	878	601	445	3,005

Notes: $^{*}p < 0.05$. Sample restricted to lobbyists without prior federal government employment. These lobbyists may also experience connection-related dynamics if their professional networks include government officials whose turnover affects lobbying effectiveness. All specifications include period fixed effects; the pooled specification includes career-length fixed effects.

D Empirical Distribution of Revolver Revenues

Table C1: Descriptive Statistics by Year of Revolver Revenue (in 2008 dollars)

Year	N	Mean	Median	Mean/Med.	P10	P90	Gini
1999	2302	281,726	172,320	1.635	23,940	668,485	0.547
2000	2381	294,897	179,039	1.647	25,092	711,325	0.550
2001	2642	315,040	185,970	1.694	26,122	784,926	0.554
2002	2795	324,975	207,080	1.569	26,720	799,056	0.541
2003	3158	348,202	208,134	1.673	26,240	857,595	0.547
2004	3381	351,026	214,595	1.636	25,700	826,255	0.544
2005	3784	370,105	225,360	1.642	25,040	865,789	0.548
2006	3962	373,766	227,491	1.643	26,663	915,143	0.544
2007	4174	388,935	251,905	1.544	31,733	940,626	0.531
2008	4170	383,130	242,603	1.579	31,762	899,160	0.532

Notes: Annual revenue distribution statistics for active revolving-door lobbyists (in 2008 dollars). P10 and P90 are the 10th and 90th percentiles.

Table C2: Tests of Power Law and Log-Normal Distributions for Annual Lobbying Revenue

Year	Power Law (p-value)	Log-Normal (p-value)
1998	0.017	0.201
1999	0.001	0.014
2000	0.286	0.455
2001	0.079	0.059
2002	0.535	0.002
2003	0.060	0.001
2004	0.009	0.050
2005	0.103	0.076
2006	0.657	0.420
2007	0.157	0.043
2008	0.007	0.116

Note: Tests of whether annual lobbying revenues (in 2008 dollars) follow power law or log-normal distributions. For each year 1998–2008, we conduct bootstrap goodness-of-fit tests following Clauset et al. (2009) with the null hypothesis that revenues follow each distribution.

Figure 16: Density of Annual Revenues for Revolving-door Lobbyists (in 2008 dollars)

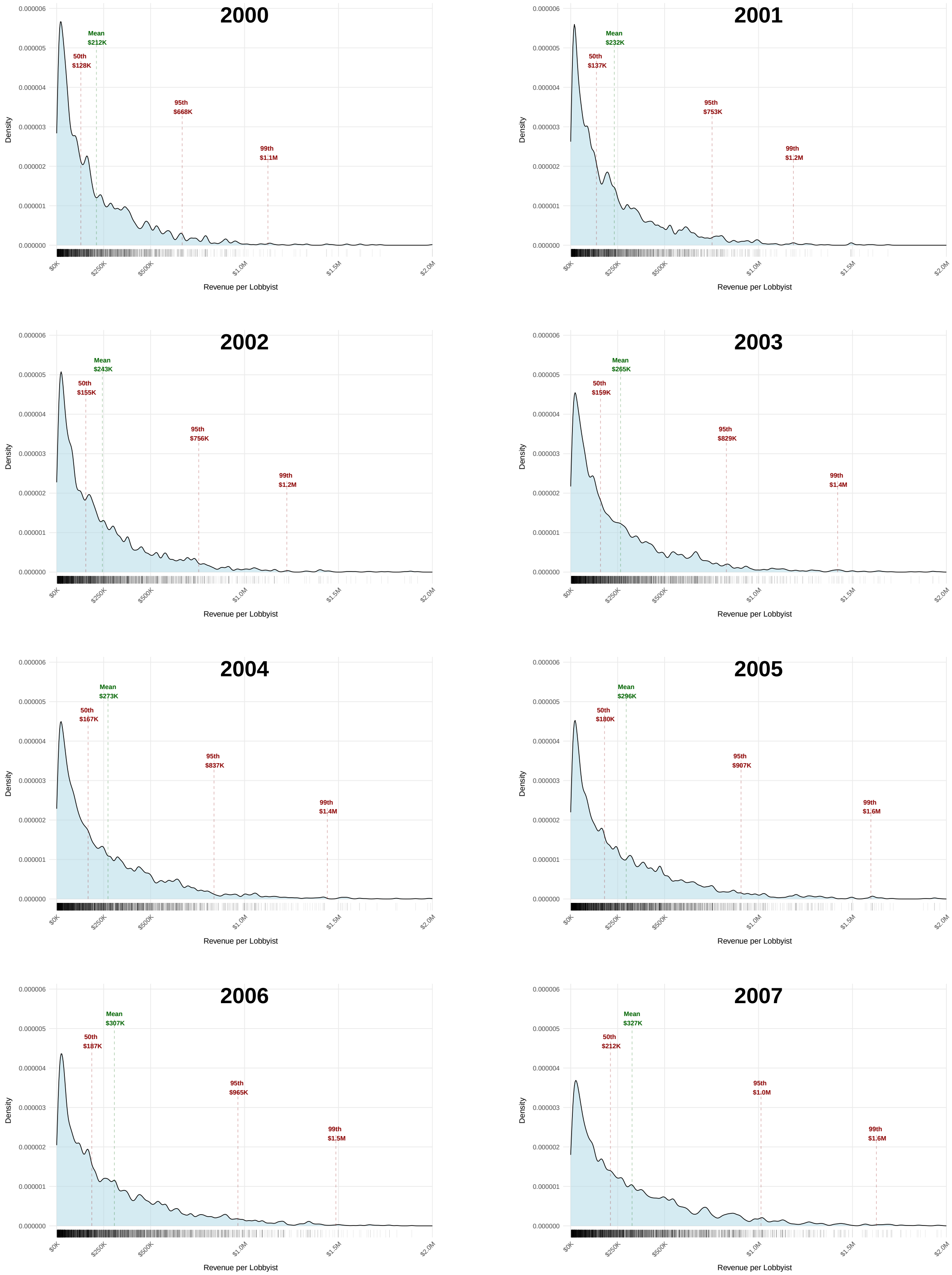


Figure 17: Distributions of Annual Revenue in 2001–2008 (in 2008 dollars)

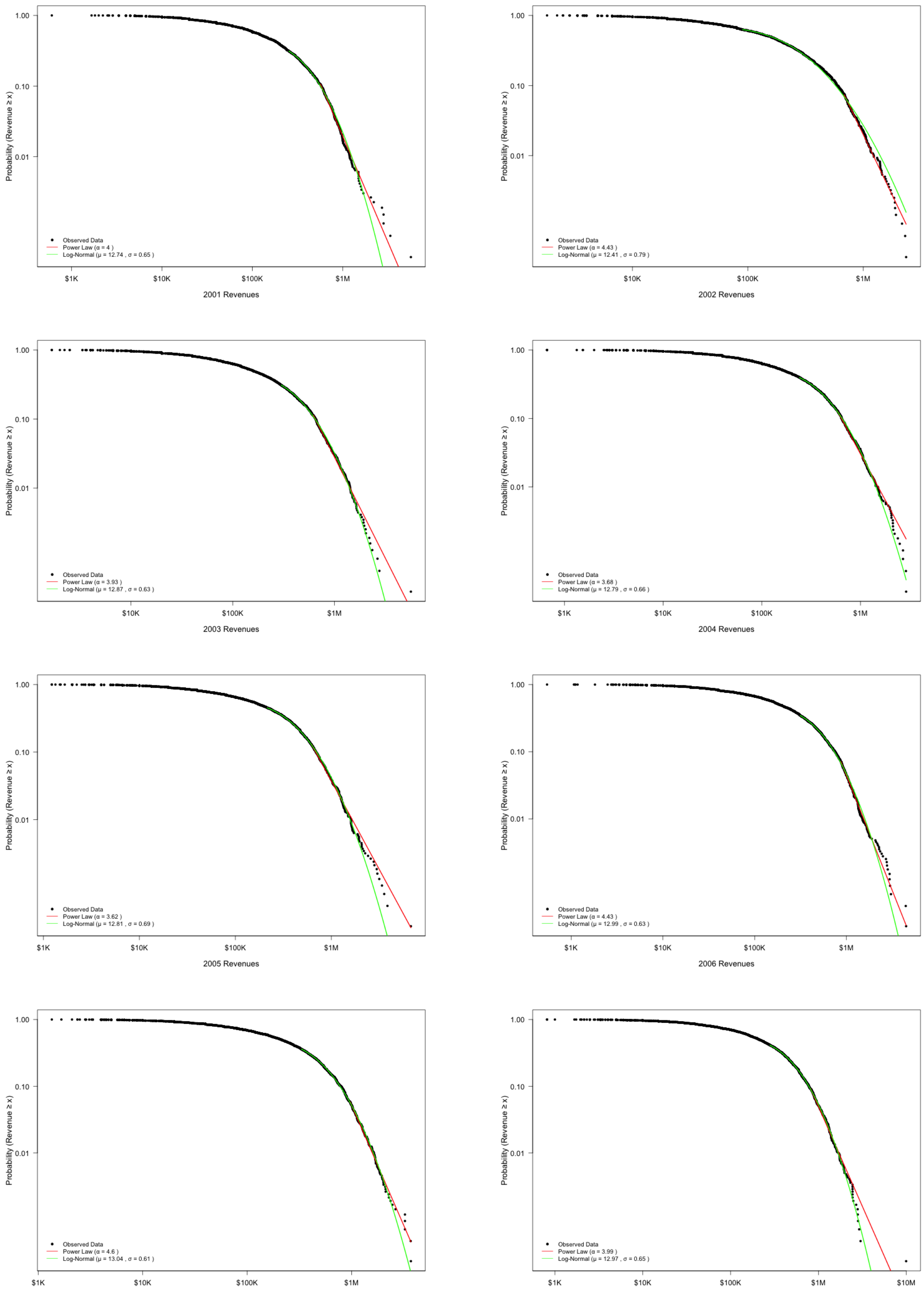


Figure 17 plots the complementary cumulative distribution of annual lobbying revenues on log-log scales for each year from 2001–2008. For each year, we show the observed data (points) and fitted power law (red line) and log-normal (green line) distributions. The plots are created using the `poweRlaw` package implementing methods from Clauset et al. (2009), with minimum tail thresholds estimated to optimize distributional fit. The x-axis shows revenue levels from \$10 to \$10,000,000 on a logarithmic scale, while the y-axis shows the probability of observing revenue greater than or equal to x on a logarithmic scale from 0.01 to 1.00. Each panel includes fitted parameter values.

The key takeaway is the heavy-tailed property that persists across all years. The Gini coefficient is between 0.53 and 0.55 throughout the panel (Table C1), and the density plots consistently show pronounced right skew with a small number of superstar lobbyists generating revenues several times the median.