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Going Into Government: How Hiring from Special Interests Reduces Their Influence*

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Abstract

Governments routinely decide to involve special interests in the development of public policy, a practice that can distort policy outcomes away from the public interest. Many are concerned that these policy distortions increase when special interest aligned individuals—such as lobbyists, activists or industry insiders—go into government. Using a formal model that centers the role of policy-making capacity in the development of policy, we demonstrate this is not always what happens. Our analysis provides two core insights. First, when an individual from a special interest group goes into government, this can paradoxically reduce the special interest's influence over public policy. Second, this individual has an endogenous incentive to enter government even though doing so weakens the special interest, whose preferences the individual shares. The model suggests that politicians' efforts to stop the practice of hiring individuals from special interest groups can counterintuitively increase special interest influence over politics.

Keywords: special interests, revolving door, policy-making, lobbying, formal theory

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On October 1, 2013, healthcare.gov was launched as the central hub for buying healthcare under the Affordable Care Act. It immediately crashed. Though it had been under development since the law was enacted in March 2010, only 1% of the 3.7 million people who tried to register on the exchange in the first week succeeded (Ford 2013). To fix it, President Obama turned to Todd Park, the nation's second ever Chief Technology Officer (CTO).

Obama established the CTO position early in his presidency to address the gap in technological capability between the private and public sectors. Obama's first pick for Deputy CTO was Andrew McLaughlin, a registered lobbyist and officer in Google's Political Action Committee. Subsequent CTO appointees, such as Todd Park and Megan Smith, had extensive histories in Silicon Valley, working for technology giants such as Apple and founding companies such as Athenahealth. For Megan Smith, the decision to leave California for Washington DC made sense. In discussing what "techies" could offer, Smith stated "There is literally a seat missing of the technical person at the table... Just like the lawyers have clerking on their resume, we need to rotate in and out of government, or it won't be as good as it needs to be" (Levy 2015).

While young, technologically-minded Democrats agreeing to work for the Obama Administration may not appear surprising, appointees such as Megan Smith left high level positions at companies that did not always share the Obama Administration's policy positions. The Obama Administration was at odds with tech companies on topics such as privacy and regulation, and growing animosity between Big Tech and the Democratic Party has been well documented. Perhaps the most noteworthy of these disagreements was the legal battle over whether Apple could be compelled to help the FBI crack into the San Bernardino shooter's iPhone (Shear, Sanger, and Benner 2016). This specific issue prompted a large debate over privacy, one where Obama and much of the tech industry landed on opposite sides. Megan Smith joined the administration from a company that was at times adversarial with the government, and described an environment where disagreement was not uncommon (Levy 2015).

The potential biases of these hires raised alarms for watchdog groups, leading to statements of

disapproval from organizations such as Consumer Watchdog and the Center for Digital Technology (Frates 2009). Still, when the Obama Administration desperately needed technological expertise to fix healthcare.gov, it was the CTO and his deputies who were brought in to fix the site.

In this article, we study what happens when individuals like Todd Park and Megan Smith decide to leave their jobs with a special interest (*e.g.*, the tech industry), and go into government positions. We analyze a formal model of policy-making that, like Groll and Ellis (2014, 2017) and Hirsch et al. (2021), treats special interest groups separately from the individuals who work for them. In our model, an individual chooses whether to keep working for a special interest or to take a job in government. If she goes into government, she takes with her the technical expertise that she acquired while working for the special interest, which is useful to the government. Our model is a successor to Hirsch and Shotts (2015, 2018), a set of papers that develops the intuition that government's lack of policy-making capacity makes it vulnerable to special interest influence. But by conceptualizing the special interest group in our model as a "they" and not an "it" (in the spirit of Shepsle 1992), we identify a tension between those groups as organizations and the rank-and-file individuals they employ.

We have two main findings. First, we demonstrate that when an individual from a special interest group is hired or appointed into a government position, it paradoxically reduces the special interest group's ideological influence over policy. This occurs because the individual changes the policy bargaining environment when she enters government since her technical expertise increases the policy-making capacity of whichever organization employs her. Second, we show that this industry insider will often prefer to go into government even though we purposefully assume: (1) doing so reaps no professional or financial rewards for her, (2) she is ideologically aligned with the special interest group who is weakened by her decision, and (3) she has no ability to influence the policy-maker's ideological objectives when in government.

1 The Revolving Door

The example of tech industry insiders joining government and substantially improving policy implementation is not the primary type of example that comes to mind when most think of the "revolving door." More typically cited examples involve individuals using their government positions to benefit their former industries or private sector employers. For example, when the Department of Education weakened regulations on for-profit colleges during the Trump administration, news reports and subsequent Congressional inquiries focused on the role that former industry executives and lobbyists played in the policy changes (Green and Cowley 2019).

Indeed, the revolving door is largely vilified by both the public and those in public office. Executive orders by the past three presidents, as well as bills introduced in Congress by both Democrats and Republicans, have sought to place limits on this practice.[1] According to one poll, when asked if company executives should be able to take government jobs that involve regulating their former industry, 59 percent of Democrats and 57 percent of Republicans said no (Nasr 2015).

Similarly, academic research on the revolving door has documented several potentially negative consequences. Current regulators, out of concern for their future career, sometimes act favorably towards the companies they are regulating in exchange for future employment (Cornaggia, Cornaggia, and Xia 2016), or pursue excessively complex regulations to enhance their employment value to regulated firms (Lucca, Seru, and Trebbi 2014). Once former public officials leave government, they are often able to use their personal connections as well as their experience in government to benefit their new private sector employers (LaPira and Thomas 2014; McCrain 2018).

On the other hand, future career prospects sometimes incentivize individuals working in government to work harder in order to showcase their skill sets to future employers (Che 1995). The normative implications of these findings are unclear, however. For example, while Shepherd and You (2020) demonstrates that Congressional offices became more legislatively productive right be-

1. These include Executive Orders 13490, 13770 and 13989, as well as the "Financial Services Conflict of Interest Act" (introduced in 2017) and the "Banning Lobbying and Safeguarding Trust Act" (introduced in 2019).

fore staffers leave to become lobbyists, the benefits of this increased productivity mostly accrued to industries with strong lobbying operations.

These studies focus on the exit side of the revolving door, either right before a public official exits government or right after. The research on the entry side of the revolving door is relatively thinner. Of the studies that exist, some demonstrate positive market returns for companies with connections to recently announced political appointees (*e.g.*, Luechinger and Moser 2014; Acemoglu et al. 2016), while others demonstrate that regulators coming from industry are biased in favor of their former industries (*e.g.*, Gormley 1979; Makkai and Braithwaite 1992). Though not direct evidence of quid pro quo or a conflict of interest, these findings suggest some benefit accrues to private sector organizations with connections to government officials. Much of the public distrust of officials from private industry reflect worries about this sort of bias, as was the case for the Department of Education officials who were hired from the for-profit college industry.

At a conceptual level, the prior research provides suggestive evidence that industry insiders may distort policy-makers' ideological objectives away from the public interest when they go into government. However, this is not the only problem facing government. In a recent survey of U.S. federal executives, the majority reported that they could not recruit the best employees and almost 40 percent said that an inadequately skilled workforce impedes their agency's mission (Lewis and Richardson 2017). Much like knowledge of government processes can be useful for regulated industries, insider knowledge of regulated industries can be useful for government regulatory agencies (Lee and You, n.d.). Indeed, expertise is often located outside of government, and a major dilemma facing policy-makers is how to make good policy when private interests have information and technical capacity that government lacks (this is a huge area of research, see Baron and Myerson 1982; Laffont and Tirole 1993; Gailmard and Patty 2013; Hirsch and Shotts 2015; 2018; Schnakenberg and Turner 2019, among many others).

Whether one worries about ideological co-optation of government or about the lack of policy-making capacity in government depends in part on the kinds of people who are going through the

revolving door. For example, the term "lobbyist" is often used to describe every individual who enters and exits the revolving door. But the number of registered lobbyists entering government or exiting government for lobbying positions is dwarfed by the total number of individuals entering and exiting the public sector for the private sector. Forty percent of respondents in the survey of U.S. federal executives had spent at least five years working in the private sector before entering government, and almost a quarter of respondents planning to leave the government expected to enter the private sector (Lewis and Richardson 2017). Revolving door lobbyists comprise only a minuscule share of these individuals (Blanes i Vidal, Draca, and Fons-Rosen 2012).

In this paper, we shine a light on this substantially larger group of individuals, who are routinely hired by government because of their technical expertise and outside experience. To emphasize that the individuals we study have extensive private sector expertise and bring their private sector knowledge into government, we will use the more general term "industry insiders" to refer to them. Our major contribution is to formally analyze how these industry insiders affects the policy-making capacity of government. Our analysis reveals that hiring them for government jobs can incentivize the government to make critical investments to build internal policy-making capacity and shift the balance of power away from a special interest group. We accordingly add an important set of findings to the aforementioned literature that focuses on the ways that government manages its technical or informational disadvantages relative to the private sector.

If government officials could have their way, they would gladly hire individuals with technical know-how, all else equal. However, because these individuals' technical know-how was developed while working outside government, they may also have ideological biases favoring their former industries or employers.[2] If they do, then these individuals may not actually want to work for government if doing so means working to implement policies that are ideologically distant from their own ideal policies. In our model, we set up a hard test of this question. We analyze the strategic

2. An important theme in the bureaucracy literature is that expertise and ideological bias (or "zealotry") often go hand-in-hand (*e.g.*, Prendergast 2007; Gailmard and Patty 2013).

incentives of an industry insider to take a job in government when she is perfectly aligned with a special interest group (and thus opposed to the ideological objectives of the government), unable to influence the policy-maker's ideological objectives, and not at all motivated by personal financial concerns. Strikingly, we show the industry insider often has an incentive to go into government even though she ends up helping the government achieve more of its ideological objectives.

Since most of the prior research on the revolving door focuses primarily on concerns about ideological co-optation, it's reasonable to question our assumption that the industry insider cannot directly influence the policy-maker's ideological objectives when in government. We emphasize that we make no empirical claims about the extent of ideological co-option by industry insiders working in government. The point of our analysis is to show that as long as an industry insider also increases the government's policy-making capacity by bringing their expertise and their skills with them into a government job, this creates a countervailing effect, helping to insulate the government from special interest influence.

In our analysis, the industry insider only finds it beneficial to take a job in government when doing so sufficiently increases the policy-making capacity of government. Thinking back to our motivating example, one reason the position of Chief Technology Officer was able to attract high quality appointees was that the Obama Administration invested in the role by creating an entirely new office with substantial resources around it. We capture the importance of policy-making capacity in our model using a tractable formulation in which we allow for opportunities to improve the "quality" of policy (which is costly, and requires capacity) in addition to standard, zero-sum ideological conflict over policy.

The multidimensionality of the policy-making environment creates both the opportunity for special interest influence (à la Hirsch and Shotts 2018), as well as the opportunity for the policy-maker to partially insulate itself from this influence by hiring the industry insider. Many other models across a wide range of substantive applications use a similar technology to examine how concerns about quality (sometimes called "valence" or "competence") structures political or policy

outcomes in the presence of ideological conflict (*e.g.*, Groseclose 2001; Lax and Cameron 2007; Bueno de Mesquita and Stephenson 2007; Ting 2011; Callander and Martin 2017; Hitt, Volden, and Wiseman 2017; Turner 2017; Hübert 2019). In our case, we examine how policy bargaining over two policy dimensions can be exploited by a third party, who takes actions that end up harming her ideological ally.

2 Special Interest Influence Over Policy

In this section, we describe a baseline model of policy-making, in which a special interest group (G, or "group") influences the policy set by a policy-maker (P) who is ideologically opposed to the group. Specifically, the group can offer to improve the quality of policy in return for ideological concessions. The group's bargaining leverage in the policy-making process results from its willingness to pay the cost of improving quality, combined with the policy-maker's relative lack of policy-making capacity (which the policy-maker would have to build).

The analysis of the baseline model of policy-making largely restates some results from Hirsch and Shotts (2018), which develops a tractable formal model for studying policy bargaining over policy ideology and policy quality. As a result, we relegate the formal analysis to the Supplemental Information and use this section to describe the details of the model set up, as well as its equilibrium. In Section 3 we turn to our main analysis in which we add the possibility that an industry insider can enter into government. As we will show, this decision will affect policy outcomes in the baseline model.

In our model, a "policy" consists of a level of quality, $q \geq 0$ and an ideological location, $x \in \mathbb{R}$. In the model, policy may be developed by either the group or the policy-maker, and to keep our notation clear, we label a policy developed and proposed by the group as (x_G, q_G), a policy developed by the policy-maker as (x_P, q_P). We label a generic policy outcome of the game as (x, q) which can either be (x_P, q_P) or (x_G, q_G).

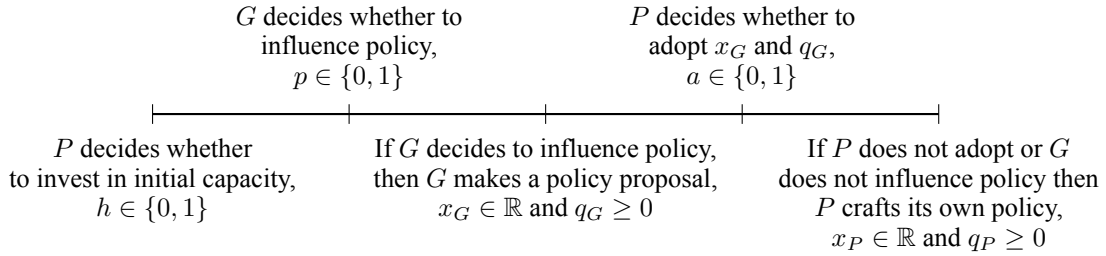
Sequence The baseline model of policy-making proceeds as follows. First, the policy-maker makes a decision $h \in \{0, 1\}$ about whether to build its own internal policy-making capacity; we refer to this as "initial capacity." (The "initial" qualifier will become more salient below.) If it does not ($h = 0$), then the policy-maker can only develop a low quality policy if it chooses to develop policy in-house: $x_P \in \mathbb{R}$ and $q_P = 0$. If it does ($h = 1$), then it can develop a high quality policy if it chooses to develop policy in-house: $x_P \in \mathbb{R}$ and $q_P \geq 0$. When the policy-maker invests in initial capacity, we say the policy-maker has "high capacity." Otherwise, we say the policy-maker has "low capacity."

Next, the special interest group decides whether to influence policy by participating in the policy-making process, which we denote by $p \in \{0, 1\}$. Substantively, the group's influence over policy could take several forms. For example, it could provide model legislation that the policy-maker could adopt, it could assist in writing regulations, or it could make a proposal to privately provide some service. However, what matters is that the special interest actually influences policy *outcomes*. Formally, if the group decides to influence policy, then it makes a policy proposal consisting of an ideological location $x_G \in \mathbb{R}$ and a level of quality $q_G \geq 0$. We are implicitly assuming the special interest group already has initial capacity to develop policy, which is consistent with the idea that it, for example, has particular technical expertise in the policy area under consideration. As we describe in detail below, policy quality is costly to produce, so the group may choose to produce a higher quality policy in exchange for more ideologically favorable policy content.

Finally, the policy-maker decides whether adopt the group's proposal ($a = 1$) or not ($a = 0$). If the policy-maker does not adopt the group's proposal, then it develops and implements its own policy in-house. We depict the sequence of moves in Figure 1.

Preferences The players' payoffs accrue at the end of the game and depend on both the ideological location of policy, $x \in \mathbb{R}$, as well as the quality of the policy, $q \geq 0$. Each player $i \in \{P, G\}$ gets a negative quadratic payoff from the ideological location of policy: $-\alpha_i(\hat{x}_i - x)^2$, where $\alpha_i > 0$

Figure 1: *We depict the sequence of moves in the core policy-making model in which a policy-maker chooses whether to adopt a special interest group's policy proposal or to develop its own.*



scales the salience of the ideological location of policy and $\hat{x}_i$ is player i's ideal point. Without loss of generality, we assume that $\hat{x}_P < \hat{x}_G$ so that the special interest group is "further to the right" than the policy-maker.

Each player's utility is linearly increasing in quality. Formally, we assume that each player gets a benefit $bq \geq 0$ from a q level of quality (where $b > 0$). In our main analysis, we assume that policy quality is commonly valued by all players. However, in Section 3.3, we discuss what happens if we relax the players' preference alignment over policy quality.

A high quality policy is costly to develop. The cost to the policy-maker and the special interest group from producing quality are $C_P(q_P; h)$ and $C_G(q_G)$, respectively. Note that since the policy-maker must invest in initial capacity in order to produce any quality of its own, we explicitly write its cost function on h and implicitly assume $C_P(q_P; h = 0) = \infty$ for all $q_P > 0$. In the following text, we will slightly abuse notation and let the unconditioned cost function, $C_P(q_P)$, indicate the policy-maker's cost conditional on investing in policy, $C_P(q_P; h = 1)$. We assume that $C_P(q_P)$ and $C_G(q_G)$ are strictly increasing and weakly convex in q_P and q_G, respectively, with $C_P(0) = C_G(0) = 0$. The shape of these cost functions (and namely, how steep they are) reflects the "marginal capacity" of each player: how costly it is for each organization to produce an additional unit of quality. We will say more about these cost functions below. Finally, the policy-maker pays a cost $k > 0$ if it decides to invest in initial capacity.

Given the players' available strategies, we can write the policy outcomes of the game as $x =$

$pax_G + (1 - pa)x_P$ and $q = paq_G + (1 - pa)q_P$. We now formally state the utility functions for the policy-maker and the special interest group:

$$u_P(x, q) = bq - \alpha_P(\hat{x}_P - x)^2 - (1 - pa)C_P(q_P; h) - hk$$
$$u_G(x, q) = bq - \alpha_G(\hat{x}_G - x)^2 - paC_G(q_G)$$

Technical assumptions We will adopt several technical assumptions that make the analysis more tractable and help us limit the number of cases we need to consider. We formally state these assumptions in the Supplemental Information, but briefly summarize them here. First, we will pin down players' precise behavior in situations where they are indifferent over terminal histories. This has little substantive impact on our conclusions. Second, we assume that the policy-maker pays a standard quadratic cost for policy quality with $C_P(0) = C'_P(0) = 0$. As a result of this and the fact that $b > 0$, the policy-maker has a unique "optimal" level of quality $\hat{q}_P > 0$ that maximizes $bq_P - C_P(q_P)$ and yields a quality payoff of $b\hat{q}_P - C_P(\hat{q}_P) \equiv \hat{v}_P$. (Recall, however, that the policy-maker may only produce quality if it invests in initial capacity, $h = 1$.) Finally, we assume that the special interest group pays a linear cost for quality such that its marginal cost is strictly greater than its marginal benefit. The fact that the benefit the special interest group gets from policy quality does not outweigh the cost it pays to produce it implies that the group would produce no quality if it were making policy on its own without the need to induce the policy-maker to accept the group's proposal (*i.e.*, $\hat{q}_G = 0$).

We adopt this last assumption is for two reasons. First, we wish to ensure that the special interest group faces a genuine trade-off when it makes a policy proposal to the policy-maker. Formally, this rules out corner solutions in which the special interest group can induce the policy-maker to accept the group's most preferred policy. Second, a linear cost function allows for a more tractable analytical characterization of the group's policy proposal. At a technical level, only one of our results formally depends on the specific linear form of the group's cost function. However, in

Appendix A.4 of the Supplemental Information, we analyze an example in which the special interest group has a standard quadratic cost function and demonstrate qualitatively identical results.

Equilibrium An equilibrium of this baseline policy-making model (as well as the extended model with the industry insider) consists of a profile of sequentially rational strategies. Where relevant, we will denote equilibrium strategies with a star and generic strategies without a star. We briefly describe the equilibrium of the baseline policy-making model in text and provide all formal analysis and results in the section Formal Results, beginning on page A1 of the Supporting Information.

The equilibrium analysis of the baseline policy-making model proceeds straight-forwardly using backward induction. In an equilibrium of the model, the special interest group influences policy as long as it is sufficiently ideologically extreme: $\hat{x}_G$ is above some threshold, $\hat{x}_G^{\text{p}}$ (defined in Lemma A3). Whenever it influences policy, it induces the policy-maker to accept a proposal $x_G^* \in (\hat{x}_P, \hat{x}_G)$ and $q_G^* > 0$, which, by construction, makes the policy-maker indifferent between accepting and rejecting the group's proposal. Whenever the special interest group does not influence policy, the policy-maker sets its own policy at $x_P^* = \hat{x}_P$ and $q_P^* = h^* \cdot \hat{q}_P$. Whether the policy-maker finds it optimal to invest in initial capacity depends on whether the benefit from doing so and setting policy at $\hat{q}_P$ (*i.e.*, $\hat{v}_P$) outweighs the cost of investment, k.

As is intuitive, special interest influence yields policy outcomes that are more ideologically favorable to the special interest group and less favorable to the policy-maker. In the next section, we show how an industry insider's entry into government can counterintuitively lessen the special interest's influence over policy. To do so, we will assume for the remainder of our analysis that the special interest group is sufficiently ideologically extreme that it would influence policy in this baseline model—*i.e.*, before the industry insider enters government.

3 Disaggregating The Special Interest

Policy-makers and special interest groups have sets of employees with relevant expertise, who enable those organizations to produce high quality policy. This is the essence of policy-making capacity, which is not innate to an organization and must be cultivated through investment and staffing decisions. We now turn to our main objective: disaggregating the two organizations in our core model to examine how a special interest aligned industry insider's employment choices affect policy-making dynamics.

We now add a new player to the model, the industry insider (I), who is policy-motivated in the sense that she cares about how policy affects her industry, and gets policy payoffs that are similar in form to the policy-maker and special interest group. She starts the game working for the group and decides whether to take a job in government. We denote her decision about whether to enter government by $e \in \{0, 1\}$. After the industry insider chooses whether to enter government, the rest of the model proceeds as before.

3.1 Special Interest Influence after the Industry Insider Enters Government

We first examine how the industry insider's decision to enter government affects special interest influence over policy. As we did in the core policy-making model we analyzed above, we will continue to assume (albeit more explicitly) that policy-making choices are centralized within organizations so that organization $j \in \{P, G\}$ centrally determines x_j and q_j and individual employees unflinchingly work to implement them. We accordingly assume away intra-organization agency and coordination problems. While the industry insider does not directly influence an organization's decisions about policy-making in our model, she can indirectly influence organizations' decisions about policy-making by deciding where she wants to work.

In principle, there are two primary ways that the industry insider's decision could affect the policy-making environment. First, the industry insider's entry into government might shift the

policy-maker's ideological objectives, pulling its ideal point further toward the special interest group. As we discussed in the introduction, this kind of ideological co-optation is the predominant conventional wisdom about how the revolving door affects policy-making. Second, the industry insider's entry into government might shift policy-making capacity from the special interest group to the policy-maker, potentially shifting the bargaining environment over policy. Our major contribution is to show how this kind of capacity shifting alters the conventional wisdom about the revolving door that has emerged from ideological co-optation accounts.

Before turning to our main analysis of capacity shifting, we briefly describe what would happen in our model if entry caused ideological co-optation (see Appendix B of the Supplemental Information, beginning on page A12). In this account, if the industry insider decides to enter government, it distorts the policy-maker's ideal point by some amount $g > 0$ (pulling it closer to the special interest group). Assuming that the special interest group still wishes to participate in policy-making, then the industry insider's ideological co-optation of the policy-maker allows the special interest group to induce the policy-maker to accept a policy proposal that is closer to what the special interest group wants, making the special interest unambiguously better off. Moreover, to the extent that the preferences of the unco-opted policy-maker reflected the "public interest," the industry insider's entry into government almost always makes the public worse off when her entry causes ideological co-optation (see Lemma A17).

Now consider what happens when the industry insider's entry affects the policy-maker's capacity instead of its ideology. We model this idea in a tractable manner by assuming that the industry insider's entry into government lowers the policy-makers costs by a factor $\pi \in [0, 1)$, and increases the special interest group's cost by a factor $\gamma \geq 1$. So, if the industry insider enters government, the policy-maker's cost for producing quality declines from $C_P(q_P; h)$ to $(1-\pi)C_P(q_P; h)$ and the special interest group's cost for producing quality increases from $C_G(q_G)$ to $\gamma C_G(q_G)$.[3] Substan-

3. Note that we scale P's costs by $1 - \pi$ for expositional clarity so that a larger π represents a larger increase in the policy-maker's capacity.

tively, this reflects the idea that the industry insider has valuable technical skills, and her entry into government brings those skills to the policy-maker and deprives the group of one of its productive employees.

We model this capacity shift in a flexible manner by allowing the size of the benefit to the policy-maker (*i.e.*, as reflected in π) to differ from the size of the loss to the special interest group (*i.e.*, as reflected in γ). Given the differences between the shape of the two players' cost functions, it's difficult to directly compare the magnitude of π and γ. What is crucial is that $\pi < 1$ (the policy-maker gains capacity) and $\gamma \geq 1$ (the group loses capacity). Since we study policy environments in which important technical expertise largely resides outside government (see our discussion in Section 1), our model encompasses the substantively realistic possibility that the loss to the special interest may not be as severe as the benefit to the policy-maker. Moreover, this capacity shift only occurs if the policy-maker has invested in the initial capacity to make use of the industry insider.

We accordingly modify the utility functions for the policy-maker and the special interest group as follows, explicitly writing them as a function of the industry insider's entry decision:

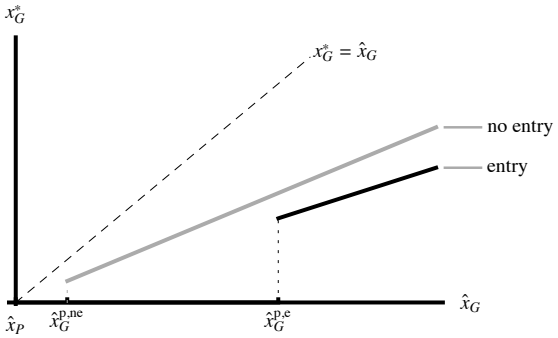
$$u_P(x, q; e) = bq - \alpha_P(\hat{x}_P - x)^2 - (1 - pa)(1 - e + e(1 - \pi))C_P(q_P; h) - hk$$
$$u_G(x, q; e) = bq - \alpha_G(\hat{x}_G - x)^2 - pa(1 - e + e\gamma)C_G(q_G)$$

The industry insider's entry into government affects policy outcomes in two ways. The first is relatively straight forward: it changes the ideological location (x) and/or quality (q) of policy outcomes. Since the industry insider's entry into government boosts the policy-maker's marginal capacity (*i.e.*, lowers its costs), this forces the group to bid up its policy proposal to make it more attractive to the newly empowered policy-maker. As a result, if the group still wishes to influence policy, it ends up proposing a more ideologically moderate policy (closer to $\hat{x}_P$).

The second way the industry insider's entry into government affects policy-making is more dramatic. Her decision may change whether the policy-maker or the special interest group develops

policy in the first place. First, when the industry insider goes into government, it may increase the policy-maker's bargaining leverage so much that the special interest group no longer wants to influence policy. That is, her entry into government may cause the special interest group to shut down its policy influence operations. Second, gaining the industry insider's expertise may lower the policy-maker's costs sufficiently that it goes from being low capacity to high capacity (by way of its investment decision). Taken together, these two effects imply that there will be less special interest influence over policy after an industry insider enters government. We depict these two effects in Figure 2.

Figure 2: *We plot the special interest group's equilibrium policy proposal x_G^* as a function of its ideal point $\hat{x}_G$ if the industry insider does not enter (thick gray line) and if she does (thick black line), holding fixed all other parameter values. Note that for $\hat{x}_G$ sufficiently small, the group makes no policy proposal, as discussed above. The figure demonstrates how the industry insider's entry into government reduces the group's influence over policy since: (1) the group influences policy less often after entry (i.e., entry increases $\hat{x}_G^p$ from $\hat{x}_G^{p,ne}$ to $\hat{x}_G^{p,e}$) and its policy proposal is more moderate when it does influence policy (i.e., x_G^* is closer to $\hat{x}_P$).*



Parameter values: $\alpha_P = \alpha_G = b = 1$, $\hat{x}_P = 0$, $\hat{v}_P = 1/(4(1-\pi))$, $C_G(q_G) = 2\gamma q_G$, $\pi = 0.94$ and $\gamma = 1.3$.

By disaggregating the special interest group and conceiving of it as a collection of individuals who may freely choose where to work, we highlight a new mechanism by which an industry insider's entry into government influences policy-making. Counter to conventional wisdom, we demonstrate that it may actually weaken the ideological influence of special interest groups in the policy-making process. As a result, the industry insider's entry into government makes the policy-maker better off and the special interest worse off (which we show formally in Appendix A.2). An

immediate real-world implication of our model is that placing restrictions on the hiring of industry insiders can actually make a policy-maker worse off. For example, this may offer one explanation for why presidential administrations often grant ethics waivers to former lobbyists working in government, freeing them from stringent restrictions on their employment and duties (see, for example, Lipton and Ivory 2017).

3.2 Entering Government

An important question remains. If the industry insider is ideologically aligned with the special interest group, then why would she want to enter government when doing so reduces the special interest's ideological influence over policy? As we will show, the answer lies in the fact that by entering government, she may improve policy-making capacity so much that her ideological losses are offset by higher quality policy. This reinforces why it is important to consider the strategic incentives of industry insiders separately from the organizations they work for.

Three assumptions will create a hard test for our argument. First, as before, we assume she cannot ideologically co-opt the policy-maker when she enters government. Second, we assume that the industry insider is perfectly ideologically aligned with the special interest group. Formally: $\hat{x}_I = \hat{x}_G$. As a result of these two assumptions, the industry insider in our model has no ideological incentive to work for government, and would prefer policy located closer to $\hat{x}_G$ (and further from $\hat{x}_P$), all else equal. Moreover, given these assumptions, her incentive to enter government will be at its weakest when doing so reduces the special interest's influence over policy.

Third, we completely assume away any pecuniary incentives that could explain the industry insider's interest in taking a job in government. More specifically, we will implicitly assume that both the special interest group and the policy-maker pay wages that exactly compensate employees for their effort. Two practical results of this assumption are that (1) the industry insider in our model is motivated purely by policy, and we need not consider her wage in our analysis, and (2) the cost of crafting policy is fully captured by the organizations' objective functions (as opposed

to the industry insider's objective function).

This assumption is important in light of the fact that a very common explanation for the revolving door is that it allows individuals to "cash in" on their government experience. In these accounts, individuals go into government to bid up their future wage in the private sector. However, our assumption means that she decides whether to enter government based only on how her decision affects policy. A contribution of our model is that we provide a novel explanation for revolving doors that does not hinge on a employee's ability to reap pecuniary rewards. In Section 3.3, we briefly consider what would happen if the special interest group were to pay a wage premium to prevent its employee from going into government in the first place.

With these assumptions in hand, we can write the industry insider's utility function as:

$$u_I(x, q) = bq - \alpha_I(\hat{x}_G - x)^2$$

Let $x^*(e)$ and $q^*(e)$ denote equilibrium policy outcomes as a function of whether the industry insider enters government. In order for it to be optimal for the industry insider to enter government, her utility from doing so must be greater than her utility from remaining with the special interest group. Formally:

$$bq^*(1) - \alpha_I \left(\hat{x}_G - x^*(1)\right)^2 > bq^*(0) - \alpha_I \left(\hat{x}_G - x^*(0)\right)^2$$

Rearranging yields the following

$$\underbrace{b\left(q^*(1) - q^*(0)\right)}_{\text{quality gain}} > \underbrace{\alpha_I \left(\left(\hat{x}_G - x^*(1)\right)^2 - \left(\hat{x}_G - x^*(0)\right)^2\right)}_{\text{ideological loss}} \qquad \text{(EC)}$$

This condition highlights a potential benefit and a cost to the industry insider for entering government. The first term reflects a potential increase in quality that occurs when the industry insider enters government. The second term (to the right of the inequality) reflects a potential ideolog-

ical loss. Recall that we are explicitly ruling out short- or long-term professional and pecuniary incentives as an explanation for why industry insiders might find entering government lucrative. Whether the industry insider finds it advantageous to enter government (*i.e.*, whether the condition holds) depends on the extent to which the industry insider's entry into government improves the policy-maker's bargaining position relative to the special interest group. There are three cases.

Case 1: Weak Policy-Maker The first case, which we call the *weak policy-maker* case, occurs if the policy-maker is so weak (in the sense of having a high investment cost k) that it does not invest in (initial) policy-making capacity regardless of whether the industry insider enters. As we discussed above, its decision about whether to invest is a function of $\hat{v}_P$, which is larger if the industry insider enters than if it doesn't.[4] If we explicitly write $\hat{v}_P(e)$ as a function of e, then the weak policy-maker case arises if $k > \hat{v}_P(e = 1) > \hat{v}_P(e = 0)$.

Recall that if the policy-maker does not invest in capacity, then it cannot produce policy quality on its own: $q_P = 0$ if $h = 0$. So, in the weak policy-maker case, the special interest group influences policy regardless of whether the industry insider enters. However, the policy that the special interest group proposes after the industry insider enters government is weakly worse both for the special interest group and for the industry insider. The industry insider does not find it optimal to enter government in this case ($e^* = 0$) since the industry insider's only way to gain from entering government is if her move substantially increases the policy quality (recall from condition EC).

Case 2: Group Shut Down The second case, which we call the *group shut down* case, occurs if the industry insider's entry into government causes the special interest group to decide to stop influencing policy. This occurs when the industry insider is an especially high value asset for the policy-maker, increasing its (marginal) policy-making capacity by so much that the special interest group finds it too costly to continue to influence policy. For example, the industry insider could

4. To see this, note that after entry, P maximizes $bq_P - (1 - \pi)C_P(q_P)$, yielding a higher $\hat{q}_P$ and a higher $\hat{v}_P$.

be one of the few people who can carry out a specific task (perhaps because she invented a secret and complex procedure), which forces her former company to shut down when she takes a job in government.

Formally, this case requires π to be sufficiently close to 1. In this case, the industry insider will sometimes be worse off if she enters government, but not always. Specifically, when her entry causes the special interest group to shut down, the industry insider will only enter government if doing so dramatically reduces the policy-maker's costs (π is *very* close to 1). In this situation, when the industry insider leaves the special interest, the special interest no longer influences policy, but the policy-maker benefits so much from the industry insider's expertise that the policy-maker's in-house policy provides a very high level of quality anyway. This level of quality can be so high that it completely compensates the industry insider for its (potentially huge) ideological losses.

Case 3: Competitive Influence The third case, which we call the *competitive influence* case, occurs if, after the industry insider enters government, the policy-maker invests in initial capacity and the special interest group continues to influence policy. This case is a little more complicated to describe, as we detail in the Supplemental Information.[5] Suffice to say, when this case arises, it is optimal for her to enter government as long as doing so sufficiently boosts the policy-maker's ability to produce quality (*i.e.*, π is sufficiently large) without hobbling the special interest group too much (*i.e.*, γ is sufficiently small). We can capture this condition by a threshold that we formally characterize in Lemma A13.

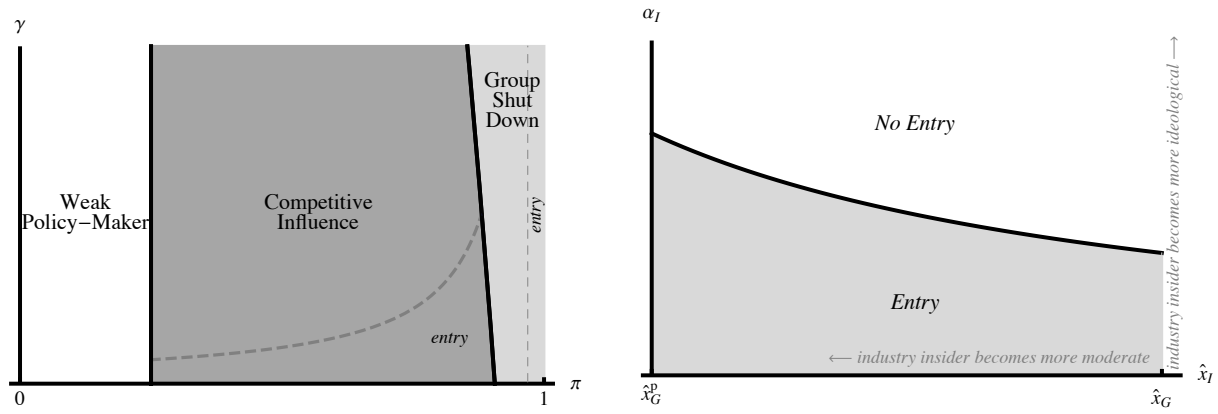
Whenever the industry insider finds it optimal to enter government in the competitive influence case, her entry induces the special interest group to bid up its policy proposal, offering the policy-maker ideological concessions and increased policy quality in exchange for its continued influence over policy.[6] As our analysis reveals, whether the industry insider actually wants to go

5. Briefly, we have to place upper bounds on both k and γ in order for this case to arise.

6. One way to think of special interest groups needing to give government more (because government needs them less) is in terms of special interests needing to give government larger "legislative subsidies" (Hall and Deardorff 2006) in order to gain informal agenda-setting power.

into government depends on the bargaining environment shifting in such a way that intensifies the "competition" among the policy-maker and the special interest group over the content of policy. This competition benefits the policy-maker, whose bargaining position is improved after hiring the industry insider.

Figure 3: *Left panel: this figure plots π against γ (fixing other parameter values) and depicts when the industry insider will enter government in the three cases described in text. Right panel: this figure plots $\hat{x}_I$ against α_I (fixing other parameter values) and depicts that the industry insider has a stronger incentive to enter as she becomes more moderate or as she cares less about ideology.*



Parameter values: $\alpha_P = \alpha_G = \alpha_I = b = 1, \hat{x}_P = 0, \hat{v}_P = 1/(4(1-\pi)), C_G(q_G) = 2\gamma q_G$, $k = 1/3$ and for the right plot $\pi = 0.8$ and $\gamma = 1.1$.

We depict these three cases in the left panel of Figure 3, which plots π on the x-axis and γ on the y-axis and sets the non-varying parameters to specific values. The weak policy-maker case arises in the white region of the plot, and as our discussion above demonstrates, there is never entry in this case. The group shut down case arises in the light gray region of the plot, and as our analysis above demonstrates, entry only occurs if π is sufficiently high (depicted here as the area to the right of the dashed line). Finally, the competitive influence case arises in the dark gray region of the plot, and as our analysis above demonstrates, entry only occurs if π is sufficiently high and γ is sufficiently low (depicted by the area southeast of the dashed line inside the dark gray region).

Our main analysis focuses on a hard case for generating an incentive for the industry insider to enter government—*i.e.*, that the industry insider is perfectly aligned with the special interest group.

As a result, our findings characterize minimum conditions for entry into government. However, suppose we relax our assumption that the industry insider is perfectly ideologically aligned with the special interest. In the right panel of Figure 3, we plot $\hat{x}_I$ against α_I, fixing other parameter values (see also Lemma A14). Note that entry becomes "more common" as she becomes less ideological (α_I declines) or more moderate ($\hat{x}_I$ declines).

Taken together, our analysis demonstrates that the industry insider's incentive to enter government depends on the way it affects the bargaining environment between the policy-maker and the special interest group. We thus provide an explanation for industry insiders to endogenously enter the government that does not depend on one of the typical explanations: (1) pecuniary concerns, (2) professional development (*i.e.*, acquiring expertise or building professional networks), or (3) ability to change the policy-maker's objectives or preferences.

The opportunity for "policy arbitrage" by the industry insider extends from the fact that she can freely choose where to work. And in the policy-making context in which she operates, her individual, private incentives sometimes conflict with those of her special interest group employers. From the perspective of the industry insider, the allure of entering government comes from the policy-maker's formal authority to decide which policy is ultimately adopted. Individual industry insiders can benefit from this in ways that the special interest group—which is always constrained to be outside the formal decision-making context—cannot. A major contribution of our model is to underscore an under-appreciated limit to a special interest group's power to influence the policy-making process: they are sensitive to the employment decisions of their workers and have limited tools for controlling where they work.

Our analysis also complements Hirsch and Shotts (2018), which demonstrates how the policy-maker's decision to invest in capacity can (at least partially) insulate it from the special interest group. We show that capacity investments by a policy-maker may have important second order effects since they may induce industry insiders to pursue positions in government. As we showed above, this makes the policy-maker even better off than it would if it had only invested in capacity

(without hiring the industry insider). In other words, disaggregating the special interest group reveals an important source of bargaining leverage for the policy-maker.

A key factor driving the entry dynamics in our model is the policy-maker's authority over policy, and more specifically, that the policy-maker could credibly put the industry insider to work producing a high quality policy to the policy-maker's own liking. In equilibrium, this is what forces the special interest group to make policy concessions to the policy-maker (and explains why there is no entry in the weak policy-maker case). In line with prior research that centers capacity-building accounts of policy-making (and most notably Hirsch and Shotts 2018), our model focuses on the policy-maker's capacity investments as the key driver of entry dynamics. However, alternative accounts are equally plausible. For example, the policy-maker's credibility may not result from an *ex ante* capacity investment, but could instead derived from the fact that she has to satisfy some other veto player or overseer inside government, or pay some cost to move a status quo policy.

3.3 Potential Concerns

We now briefly discuss four potential concerns with our model, which we argue do not pose substantial challenges to our main conclusions. (For more detail, see Appendix C beginning on page A14 of the Supplemental Information.)

Reserve candidates We assume there are no "reserve candidates" with technical expertise that are available to take the job if the industry insider does not. Since the industry insider cannot ideologically co-opt the policy-maker in our model (as discussed above), neither the policy-maker nor the special interest group is better off with an industry insider that has a different ideological bias. However, suppose there were several industry insiders working for the special interest group who vary in their technical qualifications.[7] (Specifically, they induce different values of π.) As

7. Things become more complicated if we allow for the possibility of multiple special interest groups. This is beyond the scope of this paper because it would require us to fully model the policy competition between the groups in our baseline model (as in Hirsch and Shotts 2015).

is intuitive, the policy-maker is better off hiring a more qualified industry insider and the special interest group is worse off when one of its more qualified industry insiders goes into government (see Lemma A9). More interestingly, whenever the industry insider has an incentive to go into government, she typically prefers that one of her more qualified colleagues were hired by government instead of herself (see Lemma A15).[8] That said, this does not alter our main take-away that special interest influence over policy declines when government hires an industry insider.

Commonly valued quality In our model, we assume players commonly value higher quality policies and receive the same payoff of $bq \geq 0$ from q level of quality. However, our main insights do not hinge on this stark assumption. What matters is that there exists a second dimension of policy that presents an opportunity for policy bargaining. There are potentially many ways to formally model this notion beyond our simple framework, but the basic intuition that policy-making occurs across multiple dimensions is fairly uncontroversial. For example, it is common for political actors to exploit multi-dimensional policy issues to construct effective policy log-rolls.

In Appendix C.1 of the Supplemental Information, we explore what happens when players value quality differently. We show two things. First, the group will always influence policy if it is extreme enough, regardless of how much it values quality and even when it gets *disutility* from quality. And second, the industry insider's incentives to enter government strengthen as the magnitude of her marginal payoff from quality increases. This suggests that while a second policy-making dimension is crucial for our model to work, there are potentially other ways to capture qualitatively similar bargaining dynamics that do not rest on our substantively motivated interpretation of this second dimension as commonly-valued "quality" (see, for example, Grossman and Helpman 1994, which studies policy bargaining over ideology and campaign contributions).

8. One exception arises if hiring her more qualified colleague causes the special interest group to stop influencing policy.

Exit and capacity investments Much of the prior research on the revolving door has focused on how lobbyists can cash in on their government experience by taking jobs with private sector employers—or lobbying firms—after their public service. This is lucrative because these individuals bring useful skills and/or a rolodex of important contacts to their private sector employers (LaPira and Thomas 2017; McCrain 2018). This suggests it is important to ask whether the industry insider has a long term incentive to return to the special interest after having spent some time working in government.

A full exploration of this issue would require a different model with an detailed set of assumptions about how the industry insider acquires skills and expertise as she moves in and out of government. Even so, our model offers two observations about the incentives of the industry insider to exit government to return to the special interest. First, recall that the industry insider enters government whenever it sufficiently shifts the bargaining environment to favor the policy-maker without hobbling the special interest. So, whenever the industry insider in our model finds it optimal to go into government, her incentive to *remain* in government does not diminish if the special interest's costs decline (*i.e.*, γ declines) as a result of the industry insider's newly formed connections from her time in government. In other words, an increase in her value to the special interest is not enough to induce her to move back to the special interest group in our model.

Second, under some conditions, the industry insider may wish to exit government and return to the special interest group after the policy-maker invests in capacity. While our game sequence does not allow for this option, if it did, then this kind of premature exit would cause the (forward-looking) policy-maker to avoid investing in initial capacity, in turn inducing the industry insider not to enter. In other words, the industry insider would have a commitment problem. However, as we show in Appendix C.2 of the Supplemental Information, as long as a "strong entry condition" is satisfied, then the industry insider would never wish to exit government in our model, and the potential commitment problem disappears.

Retention offer One final potential objection to our model is that since we assume away the industry insider's pecuniary incentives, we unduly constrain the special interest group in a way that prevents it from retaining its valuable employees. Indeed, we show how losing the industry insider can be costly for the special interest group. This fact may actually provide an incentive for the special interest group to pay the industry insider more in order to prevent this loss. In Appendix C.3 of the Supplemental Information, we consider this possibility by assuming that the special interest group may preemptively make a retention offer to the industry insider before she decides whether to quit and enter government. Formally, we do not alter the game sequence except to add one step at the beginning where G offers I a performance-based retention offer of rq_G where $r > 0$. Importantly, we model this offer as a function of the level of quality the special interest group is able to produce, which captures the idea that her effort and skill set is important for special interest to achieve its policy objectives.

Our analysis demonstrates that allowing the special interest to bid up the industry insider's pay to retain her does not dramatically alter our main qualitative conclusions. This is because offering a higher wage to retain the industry insider also raises the special interest's costs, just as losing her to government does. Thus, the retention offer causes the group to moderate its ideological influence over policy, just as losing the industry insider to government does. The special interest group cannot get around the fundamental challenge it faces—*i.e.*, the industry insider's ability to freely move between jobs in order to exploit her leverage in the policy bargaining environment.

4 Conclusion

In this article, we show that an industry insider's entry into government can lead to less ideologically distorted policy outcomes. This is because when an industry insider enters government, she increases the capacity of government relative to the special interest group, and thus affects the bargaining environment in a way that limits the ideological influence of the special interest. It is

this ability to affect the bargaining environment over policy that incentivizes policy-motivated individuals to enter government, even though they receive no pecuniary benefits and the resulting policy entails ideological loss. Our findings suggest that the normative implications of the revolving door are not always negative, so it's not clear that limiting the revolving door always limits special interest influence. Furthermore, the continued participation of special interest groups in policy-making following an industry insider's entry into government is not necessarily evidence of favoritism toward the special interest by a policy-maker.

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