

## **Incorporating Legislative Effectiveness into Nonmarket Strategy: The Case of Financial Services Reform and the Great Recession**

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## **Abstract**

The field of nonmarket strategy has expanded rapidly over the past 20 years to provide theoretical and practical guidance for managers seeking to influence policymaking. Much of this scholarship has built directly on spatial and “pivotal politics” models of lawmaking. While extremely helpful at identifying crucial targets for lobbying, these models treat all policymakers as identical in their abilities to advance legislative agenda items through various policymaking hurdles. We build upon these earlier models, but include policymakers who vary in their relative effectiveness at advancing measures through the legislative process. We identify how the implications of our model deviate from those of conventional (pivotal politics) analyses. We then present an empirical strategy for identifying effective lawmakers in the United States Congress, and illustrate the utility of this approach for managers developing nonmarket strategies in legislative institutions, relying on the case of banking and financial services reforms between 2008 and 2011.

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<sup>^</sup> The authors thank David Baron, Keith Krehbiel, John de Figueiredo, and an anonymous reviewer for feedback on an earlier version of this paper.

# **Incorporating Legislative Effectiveness into Nonmarket Strategy: The Case of Financial Services Reform and the Great Recession**

**Craig Volden and Alan E. Wiseman**

In many industries, whether a firm can secure and maintain a leading position in the marketplace will depend on its ability to develop a market *and* a nonmarket strategy. When a firm's nonmarket strategy involves engaging policymaking institutions, identifying policy entrepreneurs and particularly effective lawmakers becomes central to strategic management. Yet, little is known, theoretically or empirically, about such effective lawmakers – how to identify them, how they matter for policy outcomes, and how they fit into nonmarket strategy. In this essay, we develop a theory of legislative effectiveness, note how effective lawmakers can be identified, and illustrate their influence over policies of great import to firms. In short, we here make the case for incorporating legislative effectiveness into nonmarket strategy, and into the study of strategic management more broadly.

In his foundational work on competitive market strategy, Michael Porter (1980, pp. 28-29) refers to the relevance of government when he notes that “government at all levels must be recognized as potentially influencing many if not all aspects of industry structure” and that “no structural analysis is complete without a diagnosis of how present and future government policy, at all levels, will affect structural conditions.” Yet “it is usually more illuminating to consider how government affects competition through the five competitive forces [advanced by Porter] than to consider it as a force in and of itself.” While Porter does concede that “strategy may well involve treating government as an actor to be influenced,” there is effectively no guidance throughout his entire volume on the manner in which such influence might be obtained.<sup>1</sup>

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<sup>1</sup> More generally speaking, in the few instances that government is referred to in Porter's volume, he essentially treats it as a force that establishes exogenous barriers that firms must take into account when devising a successful

Needless to say, the field of management strategy has expanded substantially over the past thirty-five years to include a more formal engagement of the role of government on firms, and how managers might seek to influence the policy outputs of government institutions.

Yoffie (1988, p. 82) is blunt when he states that “ignoring Washington until you need it ... is a prescription for failure,” and he illustrates how political strategies can benefit seemingly disadvantaged firms and industries. Likewise, Yoffie and Bergenstein (1985) explore how the strategies of “corporate political entrepreneurs” created a favorable regulatory environment for firms as diverse as American Express and MCI. Moving beyond these case-based analyses, since the early 1990s, scholars of economics, politics, law, public policy, and management have explored and refined various theories of nonmarket strategy.

These theories have collectively explored how firms might (and should, from a proscriptive perspective) interact with the media (e.g., Baron 2005), interest groups (e.g., Baron and Diermeier 2007; Feddersen and Gilligan 2002; Lyon and Maxwell 2004), and a wide range of political institutions, including (but not limited to) legislatures, regulatory bodies, and electoral arenas (e.g., Baron 1999, 2001; de Figueiredo 2009; de Figueiredo and Kim 2004; de Figueirdo and Tiller 2002; Lyon and Maxwell 1999).<sup>2</sup> One of the most prominent building blocks of contemporary nonmarket strategy is the Pivotal Politics Theory (i.e., Krehbiel 1996, 1998, 1999) that explores the strategic implications of supermajoritarian institutions in lawmaking bodies for managers.<sup>3</sup> Building upon classic Median Voter Theories (e.g., Black 1948, Downs 1957), pivotal politics theories demonstrate that when supermajorities are required,

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market strategy, rather than considering the ways in which firms might (successfully) seek to influence the government-mandated rules of the playing field.

<sup>2</sup> Diermeier (2011), for example, presents a collection of theories and frameworks for managing a company’s reputational concerns, several of which provide explicit guidance for how to navigate interactions with the media, interest groups, and various political institutions and office holders.

<sup>3</sup> Brady and Volden (1998, 2006) present a theory of lawmaking with pivotal institutional actors, complementing and extending Krehbiel’s work.

policy change is limited, and particular actors (such as those needed to overcome a veto or a filibuster) become pivotal.

In advancing his theory, Krehbiel (1999, p. 64) argues that “effective nonmarket strategy in the governmental arena consists of *influence at the margin*. Therefore, the greater a manager’s understanding of essential governmental processes, the greater are his or her prospects for effectiveness at the margin.” Krehbiel’s theory helps managers identify where “the margin” is, and it provides a generic strategy for identifying pivotal voters that might then be lobbied by managers to achieve their goals. Scholars of nonmarket strategy have built upon the Pivotal Politics Theory to motivate empirical analyses, and as a foundation for richer theories of nonmarket strategy (e.g., Holburn and Vanden Bergh 2004; Baron 2005, 2014).<sup>4</sup>

While the rigor and real-world relevance of the pivotal politics theories cannot be overstated, they collectively omit certain aspects of contemporary lawmaking processes that might be deemed particularly relevant for managers. Specifically, this body of theory essentially treats all actors in the legislature (or any decision making body, more generally considered) as substantively identical in their *abilities* to advance measures through the legislative process. While certain actors clearly benefit from possessing particular parliamentary rights (e.g., the right to propose policies, veto rights, and the like), it is still the case that the success or failure of a piece of legislation is highly dependent how that bill comports with the preferences of various pivotal actors. Hence, in such theories, any legislator with access to the agenda could propose the same policy and experience the same prospects for success (or failure) as any other actor with agenda access.

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<sup>4</sup> Pivotal voters also figure prominently in Baron’s (2013, pp. 174-178) discussion of various “majority-building strategies” in government arenas.

In contrast, we argue that a crucial feature of contemporary lawmaking is that some legislators are *better* at making laws than others. Some lawmakers are better at identifying policy problems and coupling them with viable solutions, better at identifying potential coalitions and the bargains that might be necessary to bring them together, and better at packaging their proposals in such a way that they appeal to a broad network of policymakers—perhaps independent of the ideological content of the proposals. Media accounts, political biographies, and casual anecdotes often point to a well-known collection of legislators in the U.S. Congress (for example) who distinguished themselves across their careers as highly effective lawmakers. Recent large-sample empirical analyses (Volden and Wiseman 2014) also demonstrate that some legislators are generally more effective lawmakers than others; and that this variance in lawmaking skill exhibits systematic patterns.

Little theoretical scholarship, however, has engaged the manner in which lawmakers may vary in regards to their effectiveness; and this omission is particularly profound when we consider its relevance for nonmarket strategy. A manager's knowledge of the relevant pivotal actor (such as a veto player or subcommittee chair whose vote must be secured to ensure passage) is a crucial step towards facilitating a successful nonmarket strategy; but just as important is knowing *who* should be her firm's advocate inside the legislature. Not all advocates are equally skilled at advancing their proposals; and selecting the wrong advocate can easily lead to legislative failure, despite knowing which actors are *pivotal*.

While managers might be tempted to outsource political strategies to lobbyists or other agents outside of the firm, there are several reasons to be hesitant about such a plan. First, as noted by Yoffie and Bergenstein (1985), it is often not cost-effective to retain an external lobbyist, depending on a firm's size. Likewise, Yoffie (1988, 88-89) also points to how CEOs

and lower-level managers are often more likely to gain meaningful access to policymakers than lobbyists who might be representing their firms' interests. Hence, the burden is often upon managers to develop realistic and meaningful nonmarket strategies with which to engage various political arenas; and managers need to decide whether and how to spend resources on their strategic objectives. Moreover, managers must decide when to adopt an aggressive nonmarket strategy, when success can be achieved with fewer resources, and when such efforts are not worth the cost. We argue that none of those decisions can be wisely made without fundamental knowledge of legislative effectiveness.

In what follows, we develop a theory that provides insights as to how particularly effective lawmakers might succeed in bringing about policy change where others might fail, and we provide guidance on how managers can identify those most effective lawmakers, to help them advance their nonmarket strategies. Therefore, our analysis illustrates the conditions under which a misperception might arise (either from intuition or from pivotal politics theories) that nothing can be accomplished, when close work with highly effective lawmakers can, indeed, bring about policy change. Likewise, we also identify conditions under which even a highly effective lawmaker might be unable to secure policy change, and hence, a manager might want to conserve her resources.

Moving beyond theory, we illustrate our empirical approach for identifying highly effective lawmakers by presenting the legislators who were *most effective* in the 110<sup>th</sup> House of Representatives (2007-2008) at advancing legislation in a policy area that was particularly relevant to managers at that time: banking and financial services policies. We also explore the role of one particularly effective lawmaker in advancing financial services legislation in the

subsequent Congress (2009-2010), in the wake of the financial crisis. Such analysis provides insight about the practical relevance of our arguments to contemporary management strategy.

### **Pivotal Politics Theories**

The Pivotal Politics Theory generically builds on a one-dimensional spatial model of lawmaking in which actors have “singled-peaked preferences” and policymaking is subject to an “open amendment rule.” As established by Black (1948), if decisions are made by simple-majority vote, then the unique equilibrium policy outcome will correspond to the ideal point of the legislative median (i.e., the well-known Median Voter Theorem). The novel extension to Black’s canonical framework that pivotal politics theories offer is to deviate from the assumption of simple-majority voting. More specifically, in the context of the U.S. Congress, the possibility of a presidential veto requires the votes of 2/3rds of the legislature to secure override, and the possibility of a filibuster requires the votes of 3/5ths of the legislature (U.S. Senate) to invoke cloture. Together, these rules imply policy gridlock can only be overcome with the consent of a supermajority of voters.

The formal sequence of play in the Pivotal Politics Theory begins with the legislative median effectively acting as an agenda setter, in which she chooses which bill (if any) to propose as an alternative to the status quo policy.<sup>5</sup> If she proposes a bill, then a filibuster might ensue, in which opponents of the bill attempt to engage in unlimited debate. If a filibuster occurs, the “filibuster pivot” (positioned ideologically to represent approximately 2/5<sup>th</sup> of the Senate) will decide whether to allow the filibuster to stand, or whether to invoke cloture, which would allow the legislative process to progress. If a bill is ultimately adopted by the Congress, then a President might choose to veto the bill; and if he does, then it will be up to the “veto pivot”

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<sup>5</sup> For the purposes of illustration (and simplification), we analyze legislative politics within only one chamber (implicitly the Senate), rather than both chambers of the U.S. Congress.



(positioned to represent  $2/3^{\text{rd}}$  of the legislature) to decide whether to allow the veto to stand, or to vote in favor of an override, which would lead to policy change.

The equilibrium results of the Pivotal Politics game identify how current policies are mapped into new policy outcomes, as a function of the location of the status quos and their spatial relationships to the preferences of the different pivotal voters (i.e., the veto and/or filibuster pivot). A fundamental result of the Pivotal Politics Theory is the pervasiveness of policy gridlock—defined as a situation in which the status quo is retained despite a simple majority of voters who favor policy change—especially in contrast to the canonical Median Voter Theorem result (whereby all status quo policies are predicted to move to the median voter’s ideal point). Moreover, the Pivotal Politics Theory offers specific predictions regarding the scope of policy change, as well as whose preferences are influential determinants of said policy change when gridlock can be overcome.

With regards to nonmarket strategy, pivotal politics theories are particularly insightful, as they compel managers to focus their attentions beyond the preferences of the legislative median, to consider other actors whose consent must be secured to ensure that their legislative goals are recognized. While pivotal politics theories offer much value for managers who seek to devise a nonmarket strategy for navigating legislative institutions, they are collectively silent on one important feature of contemporary lawmaking processes: the identity of a legislative advocate. As noted above, pivotal politics theories essentially treat the legislative median as the agenda setter, as a consequence of the legislative process being subject to an open amendment rule. This assumption seems entirely reasonable if legislators are essentially indistinguishable from each other in their abilities to advance bills through the legislative process.

What would happen, however, if some legislators are generally *better* than others at lawmaking? What would occur if some legislators, independent of their ideologies, are more skilled than others at navigating the legislative process and bringing about the policy compromises and bargains that were necessary to secure legislative agreements? Pivotal politics theories are silent about such scenarios, but they seem particularly relevant for managers who, in addition to having to identify the scope of potential policy change as part of their nonmarket strategy, must also identify an advocate who can advance their causes in the legislature. The Legislative Effectiveness-Pivots Theory developed below addresses precisely these questions.

### **A Theory of Legislative Effectiveness with Pivotal Politics**

The model presented here, which we denote the Legislative Effectiveness-Pivots Theory, is an extension of the Legislative Effectiveness Model (LEM) advanced by Hitt, Volden, and Wiseman (2014). They analyze interactions between a legislative agenda setter (denoted  $L$ , for the *Lawmaker*) and various pivotal voters (e.g., the legislative median, committee chairs, etc.). In their model, policies (and the bills that serve as the foundations for new policies) are characterized by their spatial locations (in  $R^1$ ), and a “quality” (or valence) term. Such bill quality might be thought of as arising from an effective lawmaker matching a particularly relevant or successful solution with a pressing policy problem, from striking a less-costly compromise that eliminates opponents’ main objections, or from making a proposal in a particularly attractive manner (electorally or politically), to name but a few possibilities.<sup>6</sup> One might interpret the bill quality dimension to capture anything that policymakers agree they would

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<sup>6</sup> A rapidly developing theoretical literature has begun to explore the role of quality dimensions (i.e., valence) in electoral (e.g., Aragonés and Palfrey 2002, Ashworth and Bueno de Mesquita 2009, Groseclose 2001, Meirowitz 2008, Serra 2010, Wiseman 2005, 2006), and legislative (e.g., Hirsch and Shotts 2012, 2013) politics.

like more of, while the spatial dimension captures anything on which they differ.<sup>7</sup> Put simply, bill quality reflects the political and policy efforts of effective (or ineffective) legislative proponents, where a higher quality can be attained at a lower effort cost by a more effective lawmaker.

Analysis of the model (detailed below) yields several implications of relevance to managers devising a nonmarket strategy for legislative institutions. First, highly effective lawmakers can cultivate proposals that secure sufficient support in the chamber despite being clearly biased in favor of the proposer (and therefore potentially more favorable to the firm). Second, certain legislators will be better able to cultivate proposals benefiting the interests of managers than others who are more closely aligned with the firm but less effective as lawmakers. Third, effective lawmakers can secure policy change (in a manner that benefits a manager's interest) under conditions where we might otherwise expect that gridlock would be obtained, as described by conventional pivotal politics theories. Thus managers whose nonmarket strategies are overly beholden to traditional pivotal politics viewpoints may miss out on opportunities to secure beneficial policy change in collaboration with effective lawmakers.

Actors' preferences in the model are defined by a quadratic loss in the spatial distance between their ideal points and the policy outcome, and by an additive (separable) benefit from the chosen policy's quality. The median legislator's preferences, for example, can be represented by the following utility function:

$$U_M(y, g) = -(x_M - y)^2 + g_y,$$

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<sup>7</sup> An alternative way to model these types of interactions would be to assume that agenda setters could provide targeted benefits to individual legislators in exchange for their votes (i.e., Krehbiel, Meirowitz, and Wiseman forthcoming; Snyder 1991). While "vote-buying" might rightfully be considered among the tools available to effective lawmakers, the model that we advance here is meant to capture the idea that effective lawmakers have more tools at their disposal than only building support for their proposals individually through particularistic benefits (e.g., Volden and Wiseman 2007).

where  $x_M$  is the Median's ideal point,  $y \in \{x_b, x_q\}$  is the policy outcome in the unidimensional space, and  $g_y$  is the quality of the final policy (either the bill or the status quo), which is good for all the actors. Similar to other spatial models, we assume that  $x_M = 0$ , so the Median's utility function can be simplified to the following expression:

$$U_M(y, g) = -y^2 + g_y.$$

We assume that the Lawmaker cares about policy location and quality, and that she has the ability to add quality to a given policy proposal. While we assume that it is costless to introduce a new policy, the Lawmaker incurs a cost for any effort that she might exert to add quality to a particular policy.<sup>8</sup> More formally,  $L$ 's preferences can be represented by the following utility function:

$$U_L(y, g) = -(x_L - y)^2 + g_y - c g_b,$$

where  $x_L$  is the Lawmaker's ideal point ( $x_L > x_M = 0$ ), and  $c \geq 1$  captures the marginal cost that  $L$  must incur to add quality to a new bill ( $g_b \geq 0$ ).<sup>9</sup>

This specification implies that there is a simple linear mapping between the effort exerted by the Lawmaker and the level of quality that she adds to the bill. Hence,  $c$  essentially captures the relative effectiveness of the Lawmaker at producing bills that are generally attractive to all members, regardless of their ideological content. If  $c$  is high the Lawmaker is relatively *ineffective* at lawmaking (because producing high-quality legislation is extremely costly), whereas if  $c$  is low the Lawmaker is relatively *effective* (because producing high-quality legislation is not very costly). Note that our specification implies that the Lawmaker does not incur any costs from the

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<sup>8</sup> Such costs might be related to the time and effort that a Lawmaker must devote to bringing together pivotal decision makers to the bargaining table, gaining policy expertise, engaging in research that is then publicized to emphasize the positive aspects of the bill, and so on.

<sup>9</sup> The assumption that  $c \geq 1$  implies that the marginal costs from producing attractive legislation are at least as high as the marginal benefits that the Lawmaker receives from said bills. If this assumption did not hold and  $c < 1$ , the Lawmaker's problem would be trivial, as she would seek to exert an infinite amount of effort to maximize the quality of a new bill.

quality of the status quo policy, and we assume that the Lawmaker values quality in a similar manner to all other legislators. Note, also, that this specification does *not* imply that all legislators will be in favor of a bill because it possesses positive quality; rather, the addition of quality makes a bill somewhat more attractive to all legislators, *ceteris paribus*. As we will see below, the legislative agenda setter will leverage her ability to add quality to a bill to pass policies that are spatially favorable to her interests, by providing just enough quality to the bill to ensure that it gains sufficient support among pivotal voters in the chamber.

To facilitate clear comparisons between the Legislative Effectiveness-Pivots Theory and the standard Pivotal Politics Theory, we embrace identical assumptions about the presence of supermajoritarian institutions in the legislature. That is, we assume that there is a President (with ideal point  $x_P$ ) who has veto power, for which a  $2/3^{\text{rd}}$  supermajority is required to override his veto (as represented by the preferences of the veto pivot, with ideal point  $x_V$ ), and that the legislature allows for the possibility of “unlimited debate”—filibusters—that require  $3/5^{\text{th}}$  supermajority (as represented by the preferences of the filibuster pivot, with ideal point  $x_F$ ) to invoke cloture and cut off debate. For illustrative purposes, we assume that the configuration of the pivotal actors’ ideal points are as follows:  $x_P < x_V < x_M = 0 < x_F < 2x_F < x_L$ . That is, we assume that there is a left-of-median President, and a right-of-median Lawmaker (with ideal point  $x_L$ ), where the Lawmaker is at least twice as far to the right of the median as the filibuster pivot.<sup>10</sup>

Consistent with the Pivotal Politics Theory, we also assume that the legislature operates under an open rule (meaning that all amendments are allowed). However, only the Lawmaker

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<sup>10</sup> This is a nonessential technical assumption to allow us to focus on a relatively limited number of cases. If we assumed that the Lawmaker were less extreme than  $2x_F$ , the results that emerge would be substantively similar to the analysis presented here. Interested readers are referred to Hitt, Volden, and Wiseman (2014) for a more complete consideration of ideal point configurations in the Legislative Effectiveness Model.

can add a positive quality to a proposal. All other proposals and the status quo are assumed to have quality normalized to zero ( $g = 0$ ). Similar to the Median, preferences of the President, Veto Pivot, and Filibuster Pivot can each be represented by the following utility function:

$$U_i(y, g) = -(x_i - y)^2 + g_y, i \in \{F, P, V\}.$$

The sequence of play is as follows. In stage 1, the Lawmaker offers a proposal. If this proposal is accepted by the Filibuster and Veto Pivots, as well as the Median in stage 2, it becomes the final policy outcome. If not, the Median can offer an alternative proposal in stage 3, although with quality set equal to zero, and the Pivotal Politics subgame ensues. Put simply, the game presented here adds an earlier set of actions to the Pivotal Politics model, which allows the Lawmaker to attempt to offer a quality proposal preferred by all pivotal actors over the equilibrium proposal that would otherwise follow from the Pivotal Politics Theory.

Given this game structure, the equilibrium can be described formally as follows (with proof in the Appendix):

**Proposition 1.** *The unique subgame perfect equilibrium policy outcomes of the Legislative Effectiveness-Pivots game consists of the following spatial policy outcomes:*

$$y^* = \begin{cases} 0 & \text{if } c > \frac{x_L - x_V}{-x_V} \text{ and } (x_q \leq 2x_V \text{ or } x_q \geq 2x_F) \\ 2x_V - x_q & \text{if } c > \frac{x_L - x_V}{-x_V} \text{ and } 2x_V < x_q < x_V - \frac{x_L - x_V}{c} \\ 2x_F - x_q & \text{if } c > \frac{x_L - x_V}{2x_F - x_q - x_V} \text{ and } x_F < x_q < 2x_F - x_V - \frac{x_L - x_V}{c} \\ x_q & \text{if } c > \frac{x_L - x_V}{x_q - x_V} \text{ and } x_V + \frac{x_L - x_V}{c} \leq x_q \leq x_F \\ x_V + \frac{x_L - x_V}{c} & \text{otherwise} \end{cases}$$

While the Proposition appears somewhat cumbersome at first glance, it is important to note that the first four policy options,  $y^* = \{0, 2x_V - x_q, 2x_F - x_q, x_q\}$  comport with the equilibrium policy locations of the Pivotal Politics Theory. These all occur when  $c$  is large and

thus it is too costly for the Lawmaker to propose a quality alternative. The notable deviation from the Pivotal Politics Theory occurs when the effective Lawmaker proposes a bill with sufficient quality to yield a final policy that is located at  $y^* = x_V + \frac{x_L - x_V}{c}$ . This location is the weighted average between the Lawmaker's ideal policy and that of the Veto Pivot, where the weight is determined by the relative effectiveness ( $c$ ) of the Lawmaker. When the Lawmaker is extremely effective ( $c$  very close to 1), the Lawmaker is able to propose a policy close to her ideal point, and attach sufficient quality to it that the Veto Pivot (as well as the Median and the Filibuster Pivot) would prefer the Lawmaker's proposal compared to what would be obtained in the pivotal politics subgame. As the Lawmaker becomes relatively less effective, however ( $c$  increases above 1), her optimal proposal moves away from her ideal point and closer to the Veto Pivot, who represents the binding constraint in moving any policy away (to the right) from what would be obtained in the pivotal politics subgame. Finally, as increasing bill quality becomes prohibitively costly (i.e.,  $c \rightarrow \infty$ ), the Lawmaker essentially gives up, in that she either makes no proposal, or perhaps proposes her ideal point with zero quality (e.g., for position-taking purposes), which leads to the pivotal politics equilibrium being obtained for all status quo policies in the parameter space.

[Insert Figure 1 about here]

The intuition behind the equilibrium can be clearly gleaned by considering Figure 1, which identifies the relationship between status quo locations (the x-axis) and equilibrium policy outcomes (the y-axis) from the Legislative Effectiveness-Pivots game for the preference configuration that we consider here (i.e.,  $x_P < x_V < x_M = 0 < x_F < 2x_F < x_L$ ), and for four *kinds* of lawmakers, who vary in their relative degrees of effectiveness (as captured by the value of  $c$ ). To facilitate presentation, it is useful to focus attention on the two limiting cases: the

Highly Effective Lawmaker, as represented by the thick solid line at the top of the figure, and the Highly Ineffective Lawmaker, as represented by the thin solid line segments at the bottom of the figure. As described above, we see that the policy outcome that corresponds to the Highly Effective Lawmaker is constant in the status quo, in that for all status quo locations, the Highly Effective Lawmaker is able to obtain a policy outcome ( $y^* = x_V + \frac{x_L - x_V}{c}$ ) quite near her ideal point. She couples this spatial proposal with sufficient investment in bill quality as to make the Veto Pivot at least indifferent between this proposal and the erstwhile result of the pivotal politics subgame.

In contrast, for the Highly Ineffective Lawmaker, the final policy outcome corresponds to what would be obtained in a Pivotal Politics equilibrium. For relatively extreme status quo locations ( $x_q \leq 2x_V$  or  $x_q \geq 2x_F$ ), the equilibrium outcome corresponds to the legislative median's ideal point. For somewhat more moderate status quo locations ( $x_q \in (2x_V, x_V)$  and  $x_q \in (x_F, 2x_F)$ ) the equilibrium outcome corresponds to the reflection point of the status quo around the relevant pivot's ideal point (i.e.,  $2x_V - x_q$ , and  $2x_F - x_q$  for the Veto and Filibuster Pivot, respectively). These are the closest possible policies to the Median that will be accepted by the (now indifferent) relevant pivotal actor. Finally, for relatively centrist status quo locations,  $x_q \in [x_V, x_F]$ , policy is gridlocked, meaning that it cannot be moved, despite a (simple) majority preferring that it be changed.

Relative to the thick solid line near the top of the figure, as the costs ( $c$ ) of developing a high-quality proposal increase, the Highly Effective Lawmaker invests less in bill quality. Instead, to continue to secure the support of the Veto Pivot, she adjusts policy away from her own ideal point toward that pivot's preferred outcome. For sufficiently high costs, that compromise becomes no better than what is attained in the Pivotal Politics model without



legislative effectiveness. For example, the Moderately Effective Lawmaker, as represented by the thick dashed line, is able to obtain  $y^* = x_V + \frac{x_L - x_V}{c}$  for nearly all status quo policies, except for those that correspond to a range of status quos somewhat between  $x_M = 0$  and  $2x_F$  (centered around the filibuster pivot's ideal point,  $x_F$ ). For status quo policies in this range, the policy outcome that would be obtained in a Pivotal Politics equilibrium is actually more desirable to the Lawmaker than what would be obtained from her own proposal.

Likewise, as Lawmakers become still less effective ( $c$  increases further),  $y^* = x_V + \frac{x_L - x_V}{c}$  moves farther away from the Lawmaker's ideal point, making the pivotal politics equilibrium outcome more desirable to the Lawmaker than attaching additional quality to her policy proposal in an effort to appease the veto pivot. Such a result can be illustrated by considering the equilibrium policy locations that correspond to the Mostly Ineffective Lawmaker, as represented by the thin dashed-and-dotted line. For almost the entire parameter space, the equilibrium policy outcomes mirror those that would be obtained in the standard pivotal politics analysis. The exception to this pattern emerges for a small range of status quo locations that are symmetric around the veto pivot, where the lawmaker is able to (and prefers to) obtain  $y^* = x_V + \frac{x_L - x_V}{c}$  along with an investment in quality, rather than the Pivotal Politics equilibrium.

Hence, our analysis illustrates that, when little can be done to build up common interests and improve the overall quality of proposals (and the political benefits of supporting them), the Legislative Effectiveness-Pivots model collapses to the Pivotal Politics Model as a special case. That said, one would expect to be able to find some lawmakers and political entrepreneurs who are highly effective in many contexts; and they can therefore help overcome the gridlock so common in such models. They include the sort of policymakers who, like the late Congressman Dan Rostenkowski (D-IL), know “how to cut through the bunk, make a deal, twist an arm, do a

favor, call in a chit, and move point A to point Z without a lot of philosophical mumbo jumbo” (Royko 1994). Being able to identify and focus a nonmarket strategy around such lawmakers may be extremely valuable in strategic management, especially in an era in which policy gridlock is commonplace.

### **Who Are the Most Effective Legislators?**

In an effort to explore the causes and consequences of legislative effectiveness, Volden and Wiseman (2012, 2014) developed a methodology for cardinally ranking all members of the United States House of Representatives in their proven ability to advance their legislative agenda items through several distinct stages in the lawmaking process.<sup>11</sup> More specifically, for each two-year Congress, Volden and Wiseman identify the number of bills that each member of the U.S. House sponsored (captured in a variable labeled BILL); and the number of those bills that received action in committee (AIC), or action beyond committee (ABC) on the floor of the House. For those bills that received action beyond committee, they also identify how many of those bills passed the House (PASS), and how many subsequently became law (LAW).

To account for variation in the substantive importance of legislation, each bill is categorized as being either *commemorative* (C), *substantive* (S), or *substantive and significant* (SS) based on the following coding protocol. A bill is deemed *substantive and significant* if it had been the subject of an end-of-the-year write-up in the *Congressional Quarterly Almanac*.<sup>12</sup> A bill was deemed *commemorative* if it satisfied any one of several criteria, such as providing for

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<sup>11</sup> Other efforts to measure legislative effectiveness (building on Matthews’s 1960 study) have investigated which legislators (e.g., members of the U.S. House of Representatives) pass the greatest number of laws (e.g., Frantzich 1979, Anderson et al. 2003, Cox and Terry 2008) or have the highest bill passage rates (e.g., Hamm, Harmel, and Thompson 1983; Bratton and Haynie 1999). Scholars (e.g., Meyer 1980, Weissert 1991, Padro i Miquel and Snyder 2006) have also analyzed how the reputational rankings of legislators’ *perceived* effectiveness correlates with various personal and institutional considerations.

<sup>12</sup> It should be noted that *CQ Almanac* stories are not *ex ante* measures of bill significance, as bills that move further through the lawmaking process are much more likely to be mentioned.

a renaming, commemoration, private relief of an individual, and the like. Finally, all other bills were classified as *substantive*.

Drawing on the 139,052 H.R. bills that were introduced between 1973 and 2008, across the 93<sup>rd</sup> through the 110<sup>th</sup> Congresses (8,478 of which were commemorative, and 6,526 of which were substantive and significant), Volden and Wiseman calculate Legislative Effectiveness Score (LES), for each member  $i$  in each Congress  $t$ , as follows:

$$LES_{it} = \left[ \begin{aligned} & \left( \frac{\alpha BILL_{it}^C + \beta BILL_{it}^S + \gamma BILL_{it}^{SS}}{\alpha \sum_{j=1}^N BILL_{jt}^C + \beta \sum_{j=1}^N BILL_{jt}^S + \gamma \sum_{j=1}^N BILL_{jt}^{SS}} \right) \\ & + \left( \frac{\alpha AIC_{it}^C + \beta AIC_{it}^S + \gamma AIC_{it}^{SS}}{\alpha \sum_{j=1}^N AIC_{jt}^C + \beta \sum_{j=1}^N AIC_{jt}^S + \gamma \sum_{j=1}^N AIC_{jt}^{SS}} \right) \\ & + \left( \frac{\alpha ABC_{it}^C + \beta ABC_{it}^S + \gamma ABC_{it}^{SS}}{\alpha \sum_{j=1}^N ABC_{jt}^C + \beta \sum_{j=1}^N ABC_{jt}^S + \gamma \sum_{j=1}^N ABC_{jt}^{SS}} \right) \\ & + \left( \frac{\alpha PASS_{it}^C + \beta PASS_{it}^S + \gamma PASS_{it}^{SS}}{\alpha \sum_{j=1}^N PASS_{jt}^C + \beta \sum_{j=1}^N PASS_{jt}^S + \gamma \sum_{j=1}^N PASS_{jt}^{SS}} \right) \\ & + \left( \frac{\alpha LAW_{it}^C + \beta LAW_{it}^S + \gamma LAW_{it}^{SS}}{\alpha \sum_{j=1}^N LAW_{jt}^C + \beta \sum_{j=1}^N LAW_{jt}^S + \gamma \sum_{j=1}^N LAW_{jt}^{SS}} \right) \end{aligned} \right] \left[ \frac{N}{5} \right],$$

where the five large terms represent the member's fraction of bills (1) introduced, (2) receiving action in committee, (3) receiving action beyond committee, (4) passing the House, and (5) becoming law, relative to all  $N$  legislators. Within each of these five terms, commemorative bills are weighted by  $\alpha$ , substantive bills by  $\beta$ , and substantive and significant by  $\gamma$ . The overall weighting of  $N/5$  normalizes the average LES to take a value of 1 in each Congress.<sup>13</sup>

<sup>13</sup> As Volden and Wiseman note, because their approach generates scores separately within each Congress, over-time comparisons must be made with caution, given different agenda sizes and productivity across Congresses.

Throughout their analysis in Volden and Wiseman (2012, 2014) and in Volden, Wiseman, and Wittmer (2013), the authors assign  $\alpha = 1$ ,  $\beta = 5$ , and  $\gamma = 10$ , signifying that substantive and significant legislation exerts ten times the weight on the LES as commemorative legislation and twice as much as normal substantive legislation. While such a weighting scheme might seem arbitrary, as explicated in Volden and Wiseman (2014), the weights were chosen by the authors to reflect the view that advancing a substantive and significant bill is more difficult than moving general substantive legislation; and likewise, that advancing substantive legislation is a stronger indicator of legislative effectiveness than is moving commemorative legislation. Moreover, supplemental analysis by Volden and Wiseman demonstrate that their core results are robust to alternative weighting schemes.<sup>14</sup>

Drawing on these Legislative Effectiveness Scores, Volden and Wiseman demonstrate how the LES is positively correlated with a legislator's party status (i.e., whether she is in the majority party), seniority, committee and party leadership status, and numerous other features that might be deemed relevant to lawmaking processes. In addition, they also demonstrate (Volden and Wiseman 2014, 54-56) that accomplishments in a previous Congress, even in earlier stages of the legislative process (e.g., bill introductions), are positively correlated with the number of laws produced by a legislator in a current Congress. These results offer further justification for the decision to include all five steps in the legislative process in the LES, rather than just focusing solely on how many bills a legislator passes and/or gets signed into law.

While being able to identify which legislators are generally more successful at advancing bills through the lawmaking process might be valuable in its own right for managers who are seeking legislative advocates, Volden and Wiseman's methodology can be further refined in a

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<sup>14</sup> More specifically, Volden and Wiseman (2014, 56-58) find that the substantive effects regarding the correlates of the LES are essentially robust to alternative specifications with  $\alpha < \beta < \gamma$ .

manner to enhance its relevance to managers. More specifically, Volden and Wiseman (2011, 2014) draw on the *Congressional Bills Project* coding protocol (e.g., Adler and Wilkerson 2013) that categorizes bills into one of nineteen policy areas, and then employ their methodology to calculate “Interest and Legislative Effectiveness Scores” (ILES) which are policy issue-specific legislative effectiveness scores.<sup>15</sup> Drawing on these Interest and Legislative Effectiveness Scores, managers can identify those lawmakers who are most successful (both in a particular Congress, as well as previous Congresses) at advancing bills in specific policy areas that might be relevant to the industries in which they operate.

### **An Illustration: Banking and Finance in the Great Recession**

To illustrate the efficacy and potential usefulness of our theoretical and empirical approach, consider the state of the American economy in the 111<sup>th</sup> Congress (2009-2010). As a result of the Great Recession, a wide range of firms, ranging from financial services to consumer retail, were experiencing significant declines in their business, and were forced to lay off sizable portions of their workforces. In such an environment there was substantial clamor among politicians (and the general public) for some kind of financial services reform, to try to ensure that similar meltdowns would not occur in the (near) future and to assist those individuals and groups that had been most adversely affected by recent events. Given that the United States had just elected a Democratic President (Barack Obama) for the first time in eight years, and that both chambers of Congress were controlled by the President’s party, one might expect shifts in the identities of the relevant pivotal actors, allowing for substantial policy change.

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<sup>15</sup> The *Congressional Bills Project* draws on the coding protocol that was developed by Baumgartner and Jones (2002) as part of their *Policy Agendas Project*. The nineteen major topic categories are (in alphabetical order): Agriculture; Banking & Commerce; Civil Rights & Liberties; Defense; Education; Energy; Environment; Foreign Trade; Government Operations; Health; Housing & Community Development; International Affairs; Labor, Employment, & Immigration; Law, Crime, & Family; Macroeconomics; Public Lands; Science & Technology; Social Welfare; and Transportation.

That said, the Legislative Effectiveness-Pivots Theory suggests that identifying the appropriate legislative advocate would still be of paramount importance for managers and interest group leaders who sought to have their agenda items advanced successfully through the legislative process. Who should managers have looked to, if they hoped to achieve success in legislative items related to banking matters, and financial services more broadly considered? Some candidates for legislative advocacy are obvious. Barney Frank (D-MA) was Chair of the House Financial Services Committee in the 111<sup>th</sup> Congress, and would be expected to be at the forefront of advancing many banking and financial services bills. Likewise, Nydia Velazquez (D-NY) was Chair of the House Small Business Committee, and would therefore have significant influence over any legislation that dealt with the concerns of “small” businesses that were referred to her committee. Given that the agendas of Frank and Velazquez were likely to be clogged with a wide array of bills that constituted ordinary committee business, however, one wonders whether other legislators, with less constrained agendas, could likely serve as viable advocates for a manager with financial services interests?

In answering such questions, guidance might be gleaned by considering the Banking Interest and Legislative Effectiveness Scores (B-ILES) for those legislators who served in the preceding 110<sup>th</sup> Congress (2007-08). To illustrate this point, Table 1 presents the legislators who had the ten highest Banking ILESs in the 110<sup>th</sup> Congress, along with their party affiliations, and their committee chair or subcommittee chair status in that Congress.

[Insert Table 1 about here]

As might be expected, Representatives who chaired committees that dealt with banking and financial services matters, such as Barney Frank (Financial Services) and Nydia Velazquez (Small Business) had notably higher Banking ILESs in the 110<sup>th</sup> Congress than the average

member of the House (who had a Banking ILES of “1”). We also see that James Oberstar (D-MN), who was Chair of the Transportation and Infrastructure Committee, as well as John Conyers (D-MI), who was Chair of the Judiciary Committee, also had quite high Banking Scores, which is sensible given that many bills flowing through their committees had relevance to financial services.

Putting aside the more obvious candidates for potential advocates, the Banking ILESs point to several other legislators who were also highly effective in advancing bills relating to banking and financial services. Three of them (Bobby Rush, D-IL, Carolyn Maloney, D-NY, and Paul Kanjorski, D-NY) held subcommittee chairs; two (Michael Capuano, D-MA, and Patrick Kennedy, D-RI) were essentially rank-and-file members of the majority party; and Steve Chabot (R-OH) was actually a minority-party member (and ranking member on the Small Business Committee). Hence, even among the most highly effective legislators in banking and financial services policy, the scope of success is distributed quite widely across different institutional ranks and positions.

On a related note, Table 2 presents the minority party (Republican) legislators who had the five highest Banking ILESs in that Congress, and demonstrates that, despite lacking majority party status, several Republican Representatives were quite successful at advancing bills relating to banking and financial services matters. It is worth noting that with the exception of Chabot, none of the top 5 minority party members were ranking members of committees that would be expected to deal with financial services issues.<sup>16</sup> Hence, if managers were focusing their attention on particular minority party members, based solely on institutional positions, they would likely be lobbying the wrong people.

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<sup>16</sup> Spencer Bachus (AL-6), the ranking member of the House Financial Services Committee had a Banking ILES of 2.46 in the 110<sup>th</sup> Congress.

[Insert Table 2 about here]

Turning back to Table 1, several (non-committee-chair) Representatives emerge as potential champions for firms seeking to advance their causes in the 111<sup>th</sup> Congress. Patrick Kennedy (D-RI), Bobby Rush (D-IL), and Carolyn Maloney (D-NY) all sponsored financial-services-oriented bills that were all ultimately signed into law by President Bush (whereas the other non-chairs that received high scores all fell short of producing new laws in the 110<sup>th</sup> Congress). Of these three Representatives, Congresswoman Maloney seemed like a particularly attractive target for lobbying on financial services matters.

First elected to Congress in 1992, Maloney was representing New York's 14<sup>th</sup> Congressional District in the 110<sup>th</sup> Congress, which covered large portions of lower Manhattan, in addition to other parts of New York City. Given the high density of banking interests that resided in her district, Maloney had strong constituency-based motivations to maintain a focus on legislative developments regarding financial services policies. While not holding a committee chair in the 110<sup>th</sup> Congress, she was still a member of the House Financial Services Committee, and was the Chair of the Subcommittee on Financial Institutions and Consumer Credit, which ensured that she had significant influence over bills dealing with a wide range of issues relevant to banking and consumer credit interests. More generally, Maloney had established a reputation over more than a dozen years in office as being a focused legislator, obtaining successes through perseverance when other lawmakers chose to focus their efforts on less contentious matters.<sup>17</sup>

That she was such an effective lawmaker in the 110<sup>th</sup> Congress is particularly impressive given her ideological position vis-à-vis other members of the House. Simply stated,

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<sup>17</sup> Related to this point, Volden, Wiseman, and Wittmer (2013, 333) discuss how Representative Maloney continued to advocate for her legislative agenda items after the Republican Party took over the House in the 104<sup>th</sup> Congress (1995-1996) while other Democratic lawmakers (e.g., Chuck Schumer, NY) stopped sponsoring bills that they had previously introduced (yet had been unsuccessful in advancing) when the Democratic Party controlled the Congress.



Congresswoman Maloney was quite liberal, in comparison to the Democratic caucus, and the chamber as a whole.<sup>18</sup> Considering her ideology alone, one would not naturally expect her to cultivate and advance sufficiently centrist legislation, so as to appease the preferences of a more conservative-leaning President (i.e., George W. Bush). In our view, based on the data presented here, Maloney's success came not from her ideological position but from being a highly effective lawmaker, similar to that illustrated in Figure 1. Indeed, one might suspect that Maloney's close constituency ties to banking interests likely provided her with nuanced information about the industry that might have enhanced her legislative effectiveness in this area. Therefore, managers seeking to advance their causes in banking and financial services in the 111<sup>th</sup> Congress might have been well-served to consult with Representative Maloney about their concerns.

As alluded to above, certain aspects of the political landscape in the 111<sup>th</sup> Congress suggested that significant policy changes might be obtained. For the first time since 1994, the Congress and the White House were both controlled by the Democratic Party. The Senate had shifted from being essentially split between the parties (leaning slightly Democratic) to having a solid Democratic majority. Moreover, the Democrats had expanded their majority in the House by more than 20 seats, such that there was almost an eighty-seat difference between the parties. In the context of a pivotal politics framework, a wide range of relatively right-leaning policies that had been inherited from the previous Congress could be moved in a leftward direction, as President Obama removed the credible veto threat of his predecessor, President George W. Bush.

It should be no surprise that numerous banking and financial services proposals were advanced by different legislators in the 111<sup>th</sup> Congress. By the end of 2010, 607 bills had been introduced into the U.S. House that dealt with banking and financial services, which was more

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<sup>18</sup> Congresswoman Maloney's DW-NOMINATE score in the 110<sup>th</sup> Congress was -0.442, which was more left-leaning than the House median (-0.177) as well as the Democratic Party median (-0.406); and it placed her among the most liberal quartile of the House in the 110<sup>th</sup> Congress.

than a 20% increase over those introduced in 2007-08 (and almost a 30% increase over the number of banking-related bills introduced in 2005-06). With significant political pressure emerging to pass substantively meaningful financial services reforms, it is clear that Congress was likely to do something, and that managers would face significant competition for access to the legislative agenda. Did the most effective lawmakers in the 110<sup>th</sup> Congress continue to be among the most effective lawmakers in the subsequent Congress?

[Insert Table 3 about here]

Turning to Table 3, which identifies those Representatives with the 10 highest Banking Interest and Legislative Effectiveness Scores in the 111<sup>th</sup> Congress (2009-10), we see that six of the ten most effective Banking and Financial Services lawmakers in the 111<sup>th</sup> Congress were among the ten most effective Banking and Financial Services lawmakers in the 110<sup>th</sup> Congress. To some degree this finding is unsurprising; after all, four of these lawmakers continued to chair House committees, and two of these Representatives (Frank and Velazquez) continued to chair committees in the 111<sup>th</sup> Congress that had direct relevance to banking and financial services matters (Financial Services Committee, and Small Business Committee, respectively).<sup>19</sup>

What is notable, however, is that only one person on the top-10 list held neither a chair nor a subcommittee chair in the 111<sup>th</sup> Congress; and (ironically) she was also among the top-10 most effective banking and financial services lawmakers in the 110<sup>th</sup> Congress: Carolyn Maloney. Despite no longer chairing a subcommittee of the House Financial Services Committee, Congresswoman Maloney continued to be among the most effective lawmakers in this policy area. She was an active participant in the debates surrounding the passage of Dodd-Frank, and she introduced a dozen bills that dealt with banking and financial services matters.

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<sup>19</sup> Two new additions to the top-10 list, David Obey (D-WI) and Charles Rangel (D-NY) held influential positions on two committees that would be expected to deal with banking and financial services matters in some capacity (Appropriations and Ways and Means, respectively).

Many of these bills received some sort of action in committee, and three of them passed the House of Representatives. Maloney's crowning achievement was H.R. 627, the *Credit Card Accountability Responsibility and Disclosure Act of 2009* (popularly referred to as the "Credit Cardholders' Bill of Rights"), which was signed into law by President Obama on May 22, 2009; and her involvement in the passage of this bill serves as a nice illustration of the strategic considerations that are present in our model.

The bill amended the Truth in Lending Act, the FTC Act, and the Electronic Funds Act, to provide for numerous enhancements to standard consumer protection measures for credit card issuance and usage, which constrained creditors' activities in regards to usage and late fees, as well as mandating a wide range of information disclosures. In the context of our model, the status quo policy was clearly located to the right of the House median, which pivotal politics theories would suggest would correspond to either no policy change, or a new policy that was located at, or to the right of, the House median (depending on where the status quo was located relative to the filibuster pivot). The Legislative Effectiveness-Pivots Theory, in contrast suggests an even further policy change, due to the high effectiveness of Rep. Maloney. While it is difficult to map the location of H.R. 627 with precision, it is worth noting that the measure had a *profound* impact on the conventional practices of credit card companies and was the source of intense lobbying by credit card and consumer interests. The bill clearly represented a *substantial* leftward shift in policy from the status quo; and it was very likely to the left of the House median legislator.

It is well-documented that Maloney was the target of significant lobbying efforts by banking interests on this measure. Those managers and interest groups who had identified Maloney as a highly effective lawmaker in this area may have been well-served by their efforts.

As an effective lawmaker, the Congresswoman had significant leeway in designing the policy's specific provisions, and could therefore be open to a broad political compromise. To an extent, willingness to reach such compromises may help make a lawmaker effective in the first place. And such compromises were evident on this particular bill. For example, to the displeasure of consumer advocates, the bill allowed a nine-month lag time between when the bill was signed, and when many of its provisions were scheduled to take effect (in February 2010). Moreover, provisions relating to fees and increases in credit card interest rates were not scheduled to be implemented for at least 15 months after the passage of the Act. While several liberal legislators, such as Barney Frank, were unhappy with how Maloney supposedly caved to the pressure of big banking interests (Kaiser 2013, p. 101), as an effective lawmaker, Maloney produced a bill with broad appeal even across party lines, one that passed a typically highly polarized and partisan House by a vote of 357-70.

### **Conclusion**

Conventional analyses of competitive strategy have focused on how managers might optimize their firms' positions given the market structure that they face. A broader perspective, however, appreciates that managers can affect market structure through their nonmarket actions. That is, by passing laws and promulgating regulations, legislatures and bureaucratic agencies essentially establish the rules of the game that managers play. Hence, strategies aimed at securing and enhancing the welfare of a firm must focus on market *and* nonmarket factors to ensure that the firm is well-positioned vis-à-vis its competitors, both actual and latent.

In developing tools for nonmarket strategy, earlier theories have focused on the roles of pivotal actors in lawmaking institutions, with an eye towards cultivating sufficiently large (and often supermajority) support for a manager's policy proposals. Such theories emphasize

institutional actors in committees and political parties, as well as rules, such as those governing vetoes and filibusters. As insightful as these theories have been, they have all neglected to engage the relative efficacy of legislators as lawmakers. To the extent that one might believe that legislators vary in their lawmaking competence, these prevailing theories cannot speak to such variance. Hence, managers have received little guidance as to whom they should recruit as policy advocates for their respective causes.

In this essay we have emphasized the salience of legislative effectiveness for understanding the dynamics and determinants of contemporary lawmaking. We have argued that managers could draw on these theoretical insights to recognize potentially effective lawmakers. Moreover, we have provided an empirical strategy for identifying highly effective lawmakers, and illustrated the utility of our approach by considering the politics surrounding a particularly contentious issue (and era). As demonstrated by our analysis, differential effectiveness can be detected across lawmakers. And lawmakers who are relatively effective now are likely to be effective in the future. Therefore, managers who are seeking out advocates for their firms' causes in Congress today, for example, should look to previous Congresses to identify those lawmakers who have a track record of being successful in advancing similar causes.

Moving beyond our consideration of recent events, it is important to note that the theoretical perspective we advance is not confined to analysis of the U.S. Congress. In any collective decision making body (regulatory or legislative, partisan or nonpartisan, committee-based or broader), some participants are more skilled than others at advancing their causes. Managers who engage nonmarket institutions should recognize these differences; and they should understand when and where such highly effective policymakers will help advance their

strategic nonmarket objectives. The theory, empirical approach, and examples advanced here illustrate the benefits of incorporating legislative effectiveness into nonmarket strategy.

## References

- Adler, E. Scott, and John D. Wilkerson. 2013. *Congress and the Politics of Problem Solving*. New York: Cambridge University Press.
- Anderson, William D., Janet M. Box-Steffensmeier, and Valeria Sinclair-Chapman. 2003. "The Keys to Legislative Success in the U.S. House of Representatives." *Legislative Studies Quarterly* 28(3): 357-386.
- Aragones, Enriqueta, and Thomas R. Palfrey. 2002. "Mixed Equilibrium in a Downsian Model and a Favored Candidate." *Journal of Economic Theory* 103: 131-161.
- Ashworth, Scott, and Ethan Bueno de Mesquita. 2009. "Elections and Platform with Valence Competition." *Games and Economic Behavior* 67(1): 191-216.
- Baron, David. 1999. "Integrated Market and Nonmarket Strategies in Client and Interest Group Politics." *Business and Politics* 1(1): 7-34.
- Baron, David P. 2001. "Theories of Strategic Nonmarket Participation: Majority-Rule and Executive Institutions." *Journal of Economics and Management Strategy* 10(1): 7-45.
- Baron, David P. 2005. "Competing for the Public through the News Media." *Journal of Economics & Management Strategy* 14(2): 339-376.
- Baron, David P. 2013. *Business and Its Environment*, 7<sup>th</sup> Ed. New York: Pearson.
- Baron, David P. 2014. "Self-Regulation in Private and Public Politics." *Quarterly Journal of Political Science* 9(2): 231-267.
- Baron, David P., and Daniel Diermeier. 2007. "Strategic Activism and Nonmarket Strategy." *Journal of Economics and Management Strategy* 16(3): 599-634.
- Baumgartner, Frank R., and Bryan D. Jones (Eds.). 2002. *Policy Dynamics*. Chicago: University of Chicago Press.
- Black, Duncan. 1948. "On the Rationale of Group Decision-Making." *Journal of Political Economy* 56(1): 23-34.
- Brady, David W. and Craig Volden. 1998. *Revolving Gridlock: Politics and Policy from Carter to Clinton*. Boulder (CO): Westview Press.
- Brady, David W. and Craig Volden. 2006. *Revolving Gridlock: Politics and Policy from Jimmy Carter to George W. Bush*, 2<sup>nd</sup> Edition. Boulder (CO): Westview Press.
- Bratton, Kathleen A., and Kerry L. Haynie. 1999. "Agenda Setting and Legislative Success in State Legislatures: The Effects of Gender and Race." *Journal of Politics* 61(3): 658-679.

- Cox, Gary W., and William C. Terry. 2008. "Legislative Productivity in the 93<sup>rd</sup>-105<sup>th</sup> Congresses." *Legislative Studies Quarterly* 33(4): 603-618.
- De Figueiredo, John M. 2009. "Integrated Political Strategy." *Advances in Strategic Management* 26: 459-486.
- De Figueiredo, John M., and James J. Kim. 2004. "When Do Firms Hire Lobbyists? The Organization of Lobbying at the Federal Communications Commission." *Industrial and Corporate Change* 13(6): 883-900.
- De Figueiredo, John M., and Tiller, Emerson H. 2002. "The Structure and Conduct of Corporate Lobbying: How Firms Lobby the Federal Communications Commission." *Journal of Economics and Management Strategy* 10(1): 91-122.
- Diermeier, Daniel. 2011. *Reputation Rules: Strategies for Building Your Company's Most Valuable Asset*. New York: McGraw Hill.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper Collins.
- Feddersen, Timothy J., and Thomas W. Gilligan. 2002. "Saints and Markets: Activists and the Supply of Credence Goods." *Journal of Economics and Management Strategy* 10(1): 149-171.
- Frantzich, Stephen. 1979. "Who Makes Our Laws? The Legislative Effectiveness of Members of the U.S. Congress." *Legislative Studies Quarterly* 4(3): 409-428.
- Groseclose, Tim. 2001. "A Model of Candidate Location When One Candidate Has a Valence Advantage." *American Journal of Political Science* 45(4): 862-886.
- Hamm, Keith E., Robert Harmel, and Robert Thompson. 1983. "Ethnic and Partisan Minorities in Two Southern State Legislatures." *Legislative Studies Quarterly* 8(2): 177-189.
- Hirsch, Alexander V., and Kenneth W. Shotts. 2012. "Policy-Specific Information and Informal Agenda Power." *American Journal of Political Science* 56(1): 67-83.
- Hirsch, Alexander V., and Kenneth W. Shotts. 2013. "Competitive Policy Entrepreneurship." Unpublished Manuscript, Princeton University.
- Hitt, Matthew P., Craig Volden, and Alan E. Wiseman. 2014. "Spatial Models of Legislative Effectiveness." Unpublished Manuscript, Vanderbilt University.
- Holburn, Guy L. F., and Richard G. Vanden Bergh. 2004. "Influencing Agencies Through Pivotal Political Institutions." *Journal of Law, Economics, and Organization*. 29 (2): 458-483.



- Kaiser, Robert G. 2013. *Act of Congress: How America's Essential Institution Works, and How It Doesn't*. New York: Alfred A. Knopf.
- Krehbiel, Keith. 1996. "Institutional and Partisan Sources of Gridlock." *Journal of Theoretical Politics* 8(1): 7-40.
- Krehbiel Keith. 1998. *Pivotal Politics: A Theory of U.S. Lawmaking*. Chicago: University of Chicago Press.
- Krehbiel, Keith. 1999. "Pivotal Politics: A Refinement of Nonmarket Analysis for Voting Institutions." *Business and Politics*. 1(1): 63-82.
- Krehbiel, Keith, Adam Meirowitz, and Alan E. Wiseman. Forthcoming. "A Theory of Competitive Partisan Lawmaking." *Political Science Research and Methods*.
- Lyon, Thomas P., and John W. Maxwell. 1999. "Corporate Environmental Strategies as Tools to Influence Regulation." *Business Strategy and the Environment* 8: 189-196.
- Lyon, Thomas P., and John W. Maxwell. 2004. "Astroturf: Interest Group Lobbying and Corporate Strategy." *Journal of Economics and Management Strategy* 13(4): 561-597.
- Matthews, Donald R. 1960. *U.S. Senators and Their World*. Chapel Hill, NC: University of North Carolina Press.
- Meirowitz, Adam. 2008. "Electoral Contests, Incumbency Advantages, and Campaign Finance." *Journal of Politics* 70(3): 681-699.
- Meyer, Katherine. 1980. "Legislative Influence: Toward Theory Development through Causal Analysis." *Legislative Studies Quarterly* 5(4): 563-585.
- Padro i Miquel, Gerard, and James M. Snyder, Jr. 2006. "Legislative Effectiveness and Legislative Careers." *Legislative Studies Quarterly* 31(3): 347-381.
- Porter, Michael E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: The Free Press.
- Royko, Mike. 1994. (May 26). "Big Fish Shouldn't Be Fried This Time." *Chicago Tribune*, p. 3.
- Serra, Gilles. 2010. "Polarization of What? A Model of Elections with Endogenous Valence." *Journal of Politics* 72(2): 426-437.
- Snyder, James. 1991. "On Buying Legislatures." *Economics and Politics* 3(2): 93-109.
- Volden, Craig, and Alan E. Wiseman. 2007. "Bargaining in Legislatures over Particularistic and Collective Goods." *American Political Science Review* 101(1): 79-92.

- Volden, Craig, and Alan E. Wiseman. 2011. "Breaking Gridlock: The Determinants of Health Policy Change in Congress." *Journal of Health Politics, Policy and Law* 36(2): 227-264.
- Volden, Craig, and Alan E. Wiseman. 2012. "Legislative Effectiveness and Representation." In Dodd, Lawrence C., and Bruce I. Oppenheimer (eds.) *Congress Reconsidered, 10<sup>th</sup> Ed.* Washington, DC: CQ Press.
- Volden, Craig, and Alan E. Wiseman. 2014. *Legislative Effectiveness in the United States Congress: The Lawmakers*. Cambridge University Press.
- Volden, Craig, Alan E. Wiseman, and Dana E. Wittmer. 2013. "When Are Women More Effective Lawmakers than Men?" *American Journal of Political Science* 57(2): 326-341.
- Weissert, Carol S. 1991. "Issue Salience and State Legislative Effectiveness." *Legislative Studies Quarterly* 16(4): 509-520.
- Wiseman, Alan E. 2005. "Partisan Strategy and Support in State Legislative Elections: The Case of Illinois." *American Politics Research* 33(3): 376-403.
- Wiseman, Alan E. 2006. "A Theory of Partisan Support and Entry Deterrence in Electoral Competition." *Journal of Theoretical Politics* 18(2): 123-158.
- Yoffie, David B. 1988. "The Politics of Business: How and Industry Builds Political Advantage." *Harvard Business Review*, May-June: 82-89.
- Yoffie, David B., and Sigrid Bergenstein. 1985. "Creating Political Advantage: The Rise of the Corporate Political Entrepreneur." *California Management Review* 28(1): 124-139.

**Table 1: Ten Highest Banking Interest and Legislative Effectiveness Scores (B-ILES) in 110<sup>th</sup> Congress (2007-08)**

<b>Name</b>	<b>Party</b>	<b>Banking ILES</b>	<b>Chair</b>	<b>Subcommittee Chair</b>
Oberstar, James (MN-8)	Democrat	23.53	Yes	No
Rush, Bobby (IL-1)	Democrat	22.35	No	Yes
Chabot, Steve (OH-1)	Republican	20.72	No	No
Velazquez, Nydia (NY-12)	Democrat	20.38	Yes	No
Frank, Barney (MA-4)	Democrat	19.61	Yes	No
Capuano, Michael (MA-8)	Democrat	19.08	No	No
Kennedy, Patrick (RI-1)	Democrat	18.87	No	No
Maloney, Carolyn (NY-14)	Democrat	15.91	No	Yes
Kanjorski, Paul (PA-11)	Democrat	11.61	No	Yes
Conyers, John (MI-14)	Democrat	10.20	Yes	No

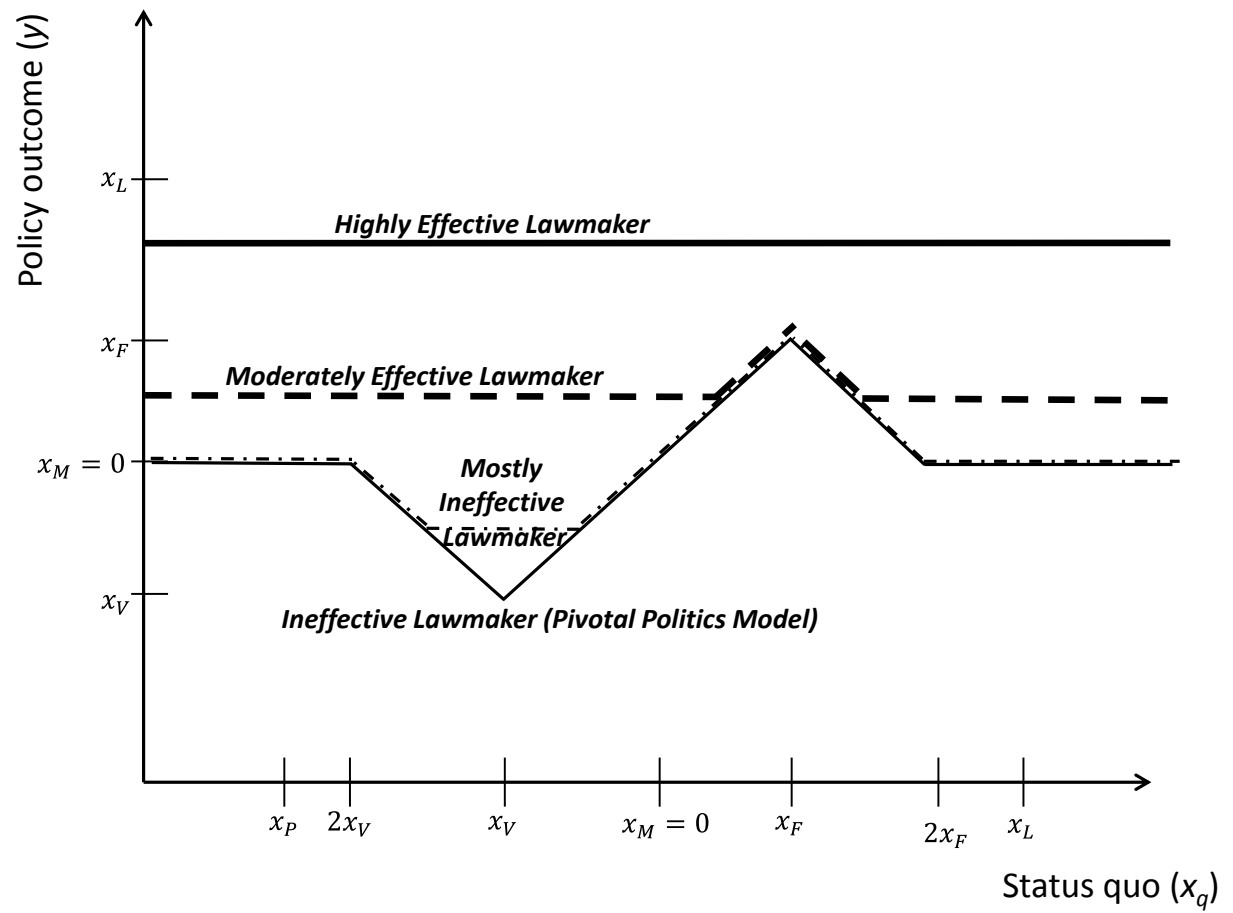
**Table 2: Five Highest Banking Interest and Legislative Effectiveness Scores (B-ILES) among Minority (Republican) Party in 110<sup>th</sup> Congress (2007-08)**

<b>Name</b>	<b>Banking ILES</b>	<b>LES</b>
Chabot, Steve (OH-1)	20.72	1.76
Gallegly, Elton (CA-24)	9.54	1.14
Garrett, Scott (NJ-5)	7.98	1.06
Fallin, Mary (OK-5)	3.68	0.59
Castle, Michael (DE-1)	2.83	1.29

**Table 3: Ten Highest Banking Interest and Legislative Effectiveness Scores (B-ILES)  
in 111<sup>th</sup> Congress (2009-10)**

<b>Name</b>	<b>Party</b>	<b>Banking ILES</b>	<b>Chair</b>	<b>Subcommittee Chair</b>
Frank, Barney (MA-4)	Democrat	34.93	Yes	No
Conyers, John (MI-14)	Democrat	22.64	Yes	No
Maloney, Carolyn (NY-14)	Democrat	20.74	No	No
Velazquez, Nydia (NY-12)	Democrat	20.52	Yes	No
Obey, David (WI-7)	Democrat	20.08	Yes	Yes
Waters, Maxine (CA-35)	Democrat	16.38	No	Yes
Rangel, Charles (NY-15)	Democrat	15.06	Yes	No
Altmire, Jason (PA-4)	Democrat	12.59	No	Yes
Kanjorski, Paul (PA-11)	Democrat	9.61	No	Yes
Oberstar, James (MN-8)	Democrat	8.66	Yes	No

**Figure 1: Equilibria in Legislative Effectiveness-Pivots Theory**



## Appendix

**Proof of Proposition 1:** We derive the subgame perfect Nash equilibrium by backwards induction. If the Lawmaker's proposal is not accepted, then the equilibrium of the subsequent subgame is the well-understood pivotal politics equilibrium. That is, for  $x_q \leq 2x_V$  and  $x_q \geq 2x_F$ , the final policy location will correspond to the Median's ideal point ( $x_M = 0$ ). For  $x_q \in (2x_V, x_V)$ , or  $x_q \in (x_F, 2x_F)$ , the final policy will correspond to the reflection of the status quo around the relevant pivot's ideal point (e.g.,  $2x_V - x_q$  for the Veto pivot), and for  $x_q \in [x_V, x_F]$ , policies will be gridlocked, meaning that the final policy will be the same as the status quo.

Hence, given that  $x_V < x_M < x_F < 2x_F < x_L$ , when the Lawmaker is considering whether to make her proposal, she knows that whatever proposal (and corresponding quality) that she might offer has to be weakly preferred by both the Median and the Veto Pivot over the equilibrium policy outcome that will ensue in the pivotal politics subgame.<sup>20</sup>

More specifically, if we consider any status quo location that corresponds to a final outcome at  $x_M$  in the pivotal politics subgame (i.e., for  $x_q \leq 2x_V$  and  $x_q \geq 2x_F$ ), for any proposed bill,  $x_b$ , with quality  $g_b$ , it must be true that:

$$-x_b^2 + g_b \geq 0$$

(i.e., the Median weakly prefers the legislative proposal to a policy located at her ideal point). It must also be true that:

$$-(x_V - x_b)^2 + g_b \geq -x_V^2$$

(i.e., the Veto Pivot weakly prefers the legislative proposal to a policy located at the Median's ideal point). Given that  $x_V < x_M = 0$ , one of the above expressions must be a strict inequality, in order for a new proposal to defeat the status quo. More specifically, the Veto Pivot's preferences represent the binding constraint, which implies that for any bill,  $x_b$ , that is proposed, the bill quality,  $g_b$ , must be equal to:  $x_b^2 - 2x_V x_b$ . Moreover, it must also be true that the Lawmaker would prefer to propose the bill (with such a quality) compared to simply proposing her ideal point with zero quality, and ending up with the Median's ideal point as the final policy. That is, it must be true that:  $-(x_L - x_b)^2 + g_b(1 - c) \geq -x_L^2$ .

Hence, the Lawmaker will choose  $x_b$ ,  $g_b$ , to maximize:

$$\begin{aligned} & -(x_L - x_b)^2 + g_b(1 - c) \\ & \text{such that: } g_b = x_b^2 - 2x_V x_b \\ & \text{and } -(x_L - x_b)^2 + g_b(1 - c) \geq -x_L^2. \end{aligned}$$

Applying the calculus and solving for the optimal bill (and quality level) yields the following equilibrium proposal, if the Lawmaker chooses to propose a bill with nonzero quality (i.e., her participation constraint is not binding):

$$(x_b^*, g_b^*) = \left( x_V + \frac{x_L - x_V}{c}, -\frac{(x_V - x_L - cx_V)(cx_V - x_L + x_V)}{c^2} \right)$$

Moreover, we can identify that the Lawmaker's participation constraint binds at  $x_L = x_V(1 - c)$ . More specifically, for  $x_L < x_V(1 - c)$ , the Lawmaker would strictly prefer to leave the lawmaking to the Median. Hence, the Lawmaker will only make the above proposal when

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<sup>20</sup> Given the assumed preference alignment, the Filibuster Pivot will support the Lawmaker's proposal if it gains the support of these more distant actors.

$x_L > x_V(1 - c)$ , and otherwise will propose her ideal point with no quality attached (leading to a final policy of  $x_M = 0$ ).

A similar logic follows for the other regions of the parameter space. As noted above, for  $x_q \in (2x_V, x_V)$ , the equilibrium policy in the pivotal politics subgame is  $(2x_V - x_q)$ ; and the Veto Pivot's preferences are (again) the binding constraint. Hence, for any proposed bill,  $x_b$ , with quality  $g_b$ , to be passed it must be true that:

$$-(x_V - x_b)^2 + g_b \geq -(x_V - (2x_V - x_q))^2$$

(i.e., the Veto Pivot weakly prefers the legislative proposal to a policy located at the reflection of the status quo around her ideal point). Given that the above inequality will be binding in equilibrium, it must be true that for any bill  $x_b$  that is proposed, the attached level of quality,  $g_b$ , must be equal to:  $x_b^2 - 2x_Vx_b + 2x_Vx_q - x_q^2$ . Moreover, it must be true that the Lawmaker would prefer to propose the bill (with quality attached) compared to proposing her ideal point with no quality attached, and ending up with  $(2x_V - x_q)$  as the final policy. That is, it must be true that:

$$-(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - (2x_V - x_q))^2.$$

Hence, the Lawmaker will choose  $x_b$  and  $g_b$  to maximize:

$$\begin{aligned} & -(x_L - x_b)^2 + g_b(1 - c) \\ & \text{such that: } g_b = x_b^2 - 2x_Vx_b + 2x_Vx_q - x_q^2 \\ & \text{and } -(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - (2x_V - x_q))^2. \end{aligned}$$

Applying the calculus and solving for the optimal bill (and quality level) yields the following equilibrium proposal, if the Lawmaker chooses to make a proposal with nonzero quality (i.e., her participation constraint is not binding):

$$(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - x_q)^2)$$

Moreover, analysis reveals that the Lawmaker's participation constraint starts binding at  $x_q = x_V - \frac{x_L - x_V}{c}$ . Hence, whenever  $x_q \in (2x_V, x_V - \frac{x_L - x_V}{c})$ , the Lawmaker will propose her ideal point with no quality attached, which will lead to the final policy being  $2x_V - x_q$ , whereas whenever  $x_q \in [x_V - \frac{x_L - x_V}{c}, x_V]$ , the Lawmaker will propose  $(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - x_q)^2)$ .

For  $x_q \in [x_V, x_F]$ , the equilibrium policy in the pivotal politics subgame is  $x_q$ , (and the Veto Pivot's preferences are still the binding constraint). Hence, for any proposed bill,  $x_b$ , with quality level  $g_b$  to be passed it must be true that:

$$-(x_V - x_b)^2 + g_b \geq -(x_V - x_q)^2$$

(i.e., the Veto Pivot weakly prefers the legislative proposal to a policy located at the status quo). Given that the above inequality will be binding in equilibrium, it must be true that for any bill,  $x_b$ , that is proposed, the attached level of quality,  $g_b$ , must be equal to:  $x_b^2 - 2x_Vx_b + 2x_Vx_q - x_q^2$ . Moreover, it must be true that the Lawmaker would prefer to propose the bill (with quality attached) compared to proposing her ideal point with no quality attached, and ending up with the status quo as the final policy. That is, it must be true that:  $-(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - x_q)^2$ .

Hence, the Lawmaker will choose  $x_b$  and  $g_b$  to maximize:

$$\begin{aligned}
& -(x_L - x_b)^2 + g_b(1 - c) \\
& \text{such that: } g_b = x_b^2 - 2x_Vx_b + 2x_Vx_q - x_q^2 \\
& \text{and } -(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - x_q)^2.
\end{aligned}$$

Applying the calculus and solving for the optimal bill (and quality level) yields the following equilibrium proposal, if the Lawmaker chooses to make a proposal with nonzero quality (i.e., her participation constraint is not binding):

$$(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - x_q)^2).$$

Moreover, analysis reveals that the Lawmaker's participation constraint starts binding at  $x_q = x_V + \frac{x_L - x_V}{c}$ . Hence, whenever  $x_q \in [x_V, x_V + \frac{x_L - x_V}{c}]$ , the Lawmaker will propose

$(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - x_q)^2)$ , whereas whenever  $x_q \in (x_V + \frac{x_L - x_V}{c}, x_F]$ , the Lawmaker will make propose her ideal point with no quality attached, which will lead to the final policy being  $x_q$ .

Finally, for  $x_q \in (x_F, 2x_F)$ , the equilibrium policy in the pivotal politics subgame is  $(2x_F - x_q)$ ; and the Veto Pivot's preferences are (again) the binding constraint. Hence, for any proposed bill,  $x_b$ , with quality level  $g_b$  to be passed it must be true that:

$$-(x_V - x_b)^2 + g_b \geq -(x_V - (2x_F - x_q))^2$$

(i.e., the Veto Pivot weakly prefers the legislative proposal to a policy located at the reflection of the status quo around the Filibuster Pivot's ideal point). Given that the above inequality will be binding in equilibrium, it must be true that, for any bill  $x_b$  that is proposed, the attached level of quality,  $g_b$ , must be equal to:  $x_b^2 - 2x_Vx_b + 4x_Vx_F - 2x_Vx_q - 4x_F^2 + 4x_Fx_q - x_q^2$ . Moreover, it must be true that the Lawmaker would prefer to propose the bill (with quality attached) compared to proposing her ideal point with no quality attached, and ending up with  $(2x_F - x_q)$  as the final policy. That is, it must be true that:

$$-(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - (2x_F - x_q))^2.$$

Hence, the Lawmaker will choose  $x_b$  and  $g_b$  to maximize:

$$\begin{aligned}
& -(x_L - x_b)^2 + g_b(1 - c) \\
& \text{such that: } g_b = x_b^2 - 2x_Vx_b + 4x_Vx_F - 2x_Vx_q - 4x_F^2 + 4x_Fx_q - x_q^2 \\
& \text{and } -(x_L - x_b)^2 + g_b(1 - c) \geq -(x_L - (2x_F - x_q))^2.
\end{aligned}$$

Applying the calculus and solving for the optimal bill (and quality level) yields the following equilibrium proposal, if the Lawmaker chooses to make a proposal with nonzero quality (i.e., her participation constraint is not binding):

$$(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - 2x_F - x_q)^2)$$

Moreover, analysis reveals that the Lawmaker's participation constraint starts binding at  $x_q = 2x_F - x_V - \frac{x_L - x_V}{c}$ . Hence, whenever  $x_q \in (x_F, 2x_F - x_V - \frac{x_L - x_V}{c})$ , the Lawmaker will propose his ideal point with no quality attached, which will lead to the final policy being  $2x_F - x_q$ , whereas whenever  $x_q \in [2x_F - x_V - \frac{x_L - x_V}{c}, 2x_F)$ , the Lawmaker will propose

$$(x_b^*, g_b^*) = (x_V + \frac{x_L - x_V}{c}, \frac{(x_L - x_V)^2}{c^2} - (x_V - 2x_F - x_q)^2).$$

The  $c$  constraints in the Proposition follow immediately from the Lawmaker's participation constraints within each region of the equilibrium.