

Executive Veto Power and Credit Claiming

Comparing the Effects of the Line-Item Veto and the Package Veto

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Abstract The line-item veto has often be heralded as an effective tool in reducing pork barrel spending. This paper considers a model of veto bargaining that distinguishes between public goods and pork barrel spending and allows for the possibility that legislators receive credit for putting pork barrel projects on the agenda even if they are vetoed by the executive. A comparison of the package veto and the line-item veto demonstrates that the line-item does not necessarily lead to less pork barrel spending if credit claiming incentives are present. Moreover, the executive can never obtains his preferred level of spending under the line-item veto. The effects of the line-item veto are also shown to have an ambiguous effect on the balance of power between the executive and the legislature but serves to enhance the position of agenda setters within the legislature.

Keywords Veto Bargaining · Package Veto · Line-Item Veto · Agenda Setting

CR Subject Classification C72 · D72 · D78

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1 Introduction

On August 11th, 1997, President Bill Clinton became the first U.S. President to exercise a line-item veto to strike down provisions from a legislation passed by Congress. Although U.S. presidents have long desired the power to veto individual items from legislation, the U.S. Constitution does not explicitly address whether this power exists and the president's right to a line-item veto had, until this point, remained a debate resurfacing at regular intervals.¹ The president, however, only enjoyed his enhanced veto power for a short time. The constitutionality of the line-item veto was soon contested and ruled unconstitutional by the Supreme Court on June 25th, 1998. Yet the Supreme Court's ruling has not been sufficient to prevent the president from seeking expanded veto authority. George Bush proposed a line-item veto act in 2006 and 2007 but the Senate didn't pass the bill on both occasions.²

President Ronald Reagan's announcement of his intention to seek a line-item veto authority in 1984 drew the attention of scholars to the analysis of the effects of various types of vetoes on the legislative process and its outcome. While the literature has predominantly focused on legislative vetoes in the U.S. (at the federal and the state level), presidents in other presidential systems such as Brazil, Korea and Portugal also wield veto powers.³ Where constitutions do not explicitly state the extent of the president's veto powers, as in the United States, they are prone to become a source of debate, perhaps highlighting how important executive veto powers are considered.⁴

Shugart and Carey argue that "the veto is the president's most consistent and direct connection with the legislative process" (1992: 134), but also that the president's influence on legislative outcomes will be affected by the type of veto provision. In particular, they identify three factors influencing the power of the veto. The first factor concerns how the executive can target his veto. A package veto requires the president to veto the bill as whole or live with it, whereas a line-item veto allows him to veto parts, or items, of the bill. A still stronger veto authority, at least in appearances, is the line-item reduction veto that further grants the president the right to modify the legislation before him by reducing the spending on any item. Second, the conditions for override will constrain the president's ability to use the veto strategically. Finally, a pocket veto authority refers to the president's ability to wait out the legislative session instead of promulgating or vetoing the legislation, and thereby possibly rob the legislature of its opportunity to override his veto.

On the one hand arguments for and against the line-item veto have focused on the line-item veto as a tool to reduce deficit spending, and on the other hand, on the balance of power between the legislature and the executive. Proponents of the line-item veto have emphasized its ability to unravel log-rolling and to eliminate pork barrel projects or legislative riders whereas its opponents have warned against more confrontational politics and possibly a lack of compromise in the policy process. The proponents further claim that the effectiveness of the presidential package veto has been eroded by the

¹ The item-veto authority was first proposed as a part of a bill in Congress in 1876 and was supported by Ulysses Grant. See American Enterprise Institute (1984), Mackay & Weaver (1985) and Watson (1993).

² The line-item veto act of 2006 was adopted by the House. The line-item veto act of 2007 never made it out of House and Senate committees.

³ All but one of the U.S. states grant their governor a veto power and only five governors do not have a form of the line-item veto. In Brazil the president can veto bills, articles, paragraphs, subsections or subparts and his veto can be overridden by an absolute majority of legislators in a joint session of the chambers. The Korean President has a package veto that can be overridden by a majority of two-thirds. Finally, in Portugal only an absolute majority to override a package veto except on matters of foreign policy. See Shugart & Carey (1992) and appendix in Mainwaring & Shugart (1997).

⁴ Baldez & Carey (1999) discuss this in the context of Chilean politics.

legislative practice to pass legislation late in the session and thereby raising the cost to the president of sending the entire bill back to the legislature. The ability to veto individual items allows the president to veto objectionable items from the bill, e.g., legislative riders, without facing the costs associated with stalling the legislation, e.g., the closing down of government agencies funded by the bill in question.

Opponents of the line-item veto also warn that the line-item veto creates incentives for “irresponsible” behavior on behalf of legislators who may be tempted to engage in a game of position-taking and credit-claiming. Legislators may engage in log-rolling to piece together a bill attractive to their constituency, secure in the knowledge that they can use the president as a scapegoat after he vetoes the pork barrel and yet claim credit for their efforts to serve their constituency. In the words of Sen. Lawton Chiles (D-Fla.):

We can be for a project that looks mighty good back home, knowing all the while that someone in OMB will flag it and tell the President, “You better veto that.” We will not have to worry. The President will take the heat. We will get the credit and the chance to answer mail both ways. A member can say, “I added the money for this valuable project I knew you wanted, but I am sorry the President vetoed it.”⁵

The literature has mainly focused on the side of the argument that concerns usefulness of increased veto powers in reducing deficit spending. While the theoretical literature seems to support, more or less, the notion that stronger veto powers are effective in reducing spending, the findings in the empirical literature have been far less conclusive and offer at best weak support for the hypothesis.

Several papers have modeled the different types of veto powers in order to figure out how the different veto powers affect total expenditures and the balance of power between the legislature and the executive.⁶ Mackay & Weaver (1985), Schap (1986), Carter & Schap (1987), and Kiewiet & McCubbins (1988) present similar perfect information models showing the strategic interactions that take place affect the balance of power, but that reductions in total expenditures are not guaranteed even if the executive is assumed to prefer less spending on each item than the legislators. Other issues explored within this framework include the Pareto efficiency of different veto rules (Schap, 1988), and how spending limitations may influence the effectiveness of the executive veto Schap (1990). Schap shows that “stronger” veto rules can have the somewhat unexpected consequences of being Pareto inefficient and leading to higher expenditures. Dearden & Husted (1990) consider the effects of uncertainty about the executive’s preferences in a signaling game. They find that a move from a line-item veto to an item reduction veto can result in both a worse outcome for the executive and increased expenditures under certain configuration of preferences.

The standard model of the executive veto captures only certain aspects or types of legislation and leaves out others – namely those that feature predominantly in the debate about the line-item veto, that is, pork barrel. The models assume that each item is a public good, i.e., each legislator derives some utility from a dollar spent on that item,⁷ whereas by its very nature, pork barrel legislation provides

⁵ Quote (Congressional Record, vol. 129 (October 29, 1983), p. S14948) cited in American Enterprise Institute (1984, 14).

⁶ The focus in this article is on the line-item veto but there is also a substantial theoretical and empirical literature on the package veto. Cameron (2000) and Cameron & McCarty (2004) provide excellent reviews of the literature.

⁷ This is not necessarily a feature of the formal models in the papers under criticism here, but all discussion of the models operates under assumptions of this type.

particularistic benefits to legislators and/or their constituencies. Hence, legislators that don't benefit from the pork barrel would rather be without it, unless by means of logrolling they get something for their vote. Masia (1985) recognizes the importance of this and derives conditions under which all legislators (in a two person legislature) provide pork to their constituencies and executive vetoes are exercised.

On the whole, the existing literature on executive vetoes does not offer definite conclusions about the effects of the different types of veto rules. The reason is that the policy outcome is highly dependent upon the exact configuration of the actors' preferences. When the executive is assumed to be fiscally conservative, the models generally predict that lower levels of expenditures can be expected under the line-item veto than the package veto.⁸ However, most of the work evaluating the empirical evidence finds little evidence in support of this claim. A common approach in the empirical literature is to add a variable measuring executive veto powers into a regression of state expenditures on factors believed to influence spending, such as socioeconomic characteristics and the level of federal aid. Studies that have proceeded along these lines include Abrams & Dougan (1986) and Nice (1988). Perhaps as one would expect, no evidence of the predicted effects of the line-item veto is found. This approach is methodologically unsound because the preference of the legislature and the executive are not taken into account, but as the theoretical literature has made clear, the level of spending is highly dependent on the agents' preferences. A simple example that illustrates the problem is a scenario in which executive prefers higher spending on each item than the legislature. In this case the executive never uses his veto, irrespective of the type of veto he holds, and only the legislators' preferences determine the policy outcome.

A few studies have approached the subject more carefully. Holtz-Eakin (1988) takes the political composition of the two branches into account and finds weak evidence of reduced spending in the short-run. Alm & Evers (1991) similarly consider the effects of the political composition but also try to estimate the effects the line-item veto has on the composition of the state budget. Their findings suggest that the effectiveness of the line-item veto is influenced by the political preference factors but that the effects are minor. The evidence on its impact on the composition of the state budget is weak. Dearden & Husted (1993) take a slightly different approach and use the governor's initial budget proposal as a proxy for his preferences. They find that the line-item veto increases the governors' ability to achieve a budget close to their initial proposal.

Another problematic feature models of the line-item veto share is that vetoes are never exercised. The veto's effect on the policy outcome comes about only because legislators anticipate the executive's veto strategy. Imperfect information naturally gives rise to vetoes but, as we shall see, it is by no means a necessary condition for the line-item veto to be used. The nature of the line-item veto renders the legislature unable to pass 'veto-proof' legislation that includes pork barrel spending. Models of veto bargaining don't address one of the concerns voiced by opponents of the line-item veto either – legislators' incentive to pass bills unacceptable to the president while claiming credit for doing so in their constituency. The presence of credit claiming incentives⁹ explains the executive's use of the

⁸ This normally seems to be given to mean that the executive prefers less spending on every item of the bill. Carter & Schap (1990) share this view of the theoretical literature.

⁹ Note that the use of the term 'credit claiming' does *not* correspond with Mayhew's (1974) use of the term where legislature claim credit for legislation that has been passed by Congress and signed into law by the President.

line-item (and the package) veto without assuming that legislators (e.g., Cameron, 2000; Matthews, 1989; McCarty, 1997) or voters (e.g., Groseclose & McCarty, 2000) are simply badly informed about the executive's preferences. Vetoes do occur in Magar's (2001) complete information model where the actors derive utility from taking a stand by proposing bills that will be vetoed or using vetoes that the legislature will override.

Below I take the two claims that have been central to the debate about the line-item veto and incorporate them into a model of public and private goods provision. In doing so, I evaluate the theoretical validity of these claims. The first claim focuses on pork barrel projects and how the item-veto can be used to remove riders that have been attached to legislative bills. The second claim concerns the importance of constituency service to legislators, how it manifests itself in credit claiming and may undermine the line-item veto's effectiveness. While the first claim suggests that the line-item veto will lead to reduce pork-barrel spending, the second claim suggests that these gains may be offset by a greater incentive to attach riders to legislative proposals. The model allows consideration of how these incentives interact with one another and how their importance varies across different types of vetoes.

2 A Model of Public and Private Goods Provision

Taking cue from the literature on executive vetoes, the legislative process is modeled as a process common to many presidential systems. The budgetary process enters the legislative arena with the executive submitting an initial budget proposal to the legislature. Legislative consideration of the proposal begins in a committee that submits an amended version to the floor, which is voted on after debate and, if allowed, additional amendments. After the legislature has accepted the budget, it is submitted to the executive for ratification. The executive can then veto the bill as a whole, or parts thereof, as specified by the veto rule. If the executive exercises his veto, the bill is sent back to the legislature, which may override the executive's veto by a majority (usually a super-majority) specified by the veto rule.

To analyze the use of executive veto powers and how they shape policy outcomes, I consider a model based on the process described above. The actors in the game are an executive (E), and a set, N , of n legislators. I assume that n is an odd number. Let the generic element of the set N be denoted by i . One legislator, the agenda setter, A , is chosen exogenously from the set of legislators to amend the executive's proposal and submit it to the floor under a closed rule. For the bill to pass, a simple majority of legislators has to vote for the bill submitted by A . All the players are assumed to act under complete information, i.e., they know their own ideal policy as well as those of the other players, the location of the status quo, and the sequence of play. Superscripts are used to denote a player's ideal policy, e.g., legislator i 's ideal point is denoted by z^i , whereas subscripts refer to actions or strategies of players, and items of a bill. Subscripted numbers denote the stage of the game, e.g., legislator i 's voting strategy in stage 3 is denoted b_{i3} .

A legislative proposal can include both public and private goods. A bill $x = (z, x_1, x_2, \dots, x_n)$ is a list containing the public good, $z \in \mathbb{R}$, and n private goods, $x_i \in \{0, 1\}$, where the index of the private goods corresponds to that of the legislators. Thus, x_i is an indicator for whether a particular private good is provided or not whereas z can be thought of as a level of spending on the public good. The

cost of each private good is assumed to be fixed, and is given by α_i .¹⁰ Without loss of generality, order the legislators by the cost of the private good associated with each legislator so that $i > j$ implies $\alpha_i > \alpha_j, \forall i, j \in N$. If a bill is not adopted the status quo policy is implemented. No private goods are funded under the status quo but the current level of spending on the public good, z^o , is maintained, i.e., $x^o = (z^o, 0, 0, \dots, 0)$.

Legislators are assumed to wish to maximize their reelection prospects. While the voters' behavior is not directly modeled, it is assumed to take note of two factors. First, voters care about the final policy outcome. Voters within a given constituency are more likely to reward their representative by reelecting them the more favorable the final policy outcome is to the constituency. Secondly, the voters do not only look at the final policy outcome, but also consider whether their representative has made an effort to serve their interests. Thus, if they discover that their representative has not been successful in providing private goods to the constituency they will punish him at the polls. Likewise, if the legislator's track record shows that he has tried to serve his constituency's interests by getting private goods on the agenda and having them adopted by the legislature, he will be rewarded accordingly. This will be the case even if the private good is not provided in the end, as when the executive successfully vetoes the private good.

The executive differs from the legislators in two important ways. First, his constituency is not as narrowly based as the legislators' constituencies. The executive is therefore assumed to have a bigger stake in providing public goods than private goods. Secondly, it is assumed that the executive doesn't face the same sort of incentives for credit claiming as the legislators. While, one can easily see the veto stage as presenting an opportunity for the executive take a stand, it is not clear whether the voters would perceive it in a positive or negative light. On the one hand, voters may see it as the role of the president to keep a check on wasteful spending by the legislature, which was what President Clinton appealed to as he first used his veto power, while on the other hand, the presidential veto may be seen as interfering with the more 'democratic' legislative politics, which is the light those displeased with the president's use of the veto have tried to cast on it.¹¹

I assume that the agents' preferences over the public good are single peaked and quasi-linear. Their preferences for the public good are characterized by the functions, $w_E(z)$ and $w_i(z)$, for E and all $i \in N$, respectively. The legislators' preferences over the public good are assumed to be identical, and the dependence of $w(z)$ on i is thus suppressed. Let $z^E = \arg \max_{z \in \mathfrak{R}} w_E(z)$ be E 's ideal point and $z^A = \arg \max_{z \in \mathfrak{R}} w(z)$ be the legislators' ideal point. The legislators prefer to have their own private good produced but would prefer to provide none of the other legislators' private goods. More specifically, legislator i 's utility from having his own private good provided is proportional to its cost, α_i , as is the disutility, $-\varepsilon \sum_{j \in N} \alpha_j x_j$, from producing private goods. Finally, the utility that a legislator gets from having his private good included in the bill submitted to the president is $\beta \alpha_i$. The utility function of legislator i can then be written as $U_i(x, x_{iL}) = w(z) + \alpha_i x_o + \beta \alpha_i x_{iL} - \varepsilon \sum_{j \in N} \alpha_j x_j$, where x_{iL} indicates whether or not the private good was included in the legislative bill. The executive is assumed to dislike all private goods and his disutility is linear in the cost of the private goods. His utility function is given by $U_E(x) = w_E(z) - \gamma \sum_{j \in N} \alpha_j x_j$.

¹⁰ The private goods are, thus, assumed to be chosen exogenously, e.g., if a particular private good is politically salient within each constituency at any given point in time.

¹¹ See The New York Times, Aug. 12th, 1997, p. A1 and The Economist, Aug. 16th - 22nd, 1997, p. 22-23.

The game has five stages as shown in Figure 1. The first stage is the *proposal stage* where the executive submits a bill to the legislature. E 's proposal consists of spending on a public good, and on n private goods. The spending on the public good can be any point on the real line, whereas the costs of the private goods are fixed. Intuitively, one can think of the private goods as projects that either can be funded, or not. The executive's proposal then consists of a number on the real line, z , and a $n \times 1$ vector of zeros and ones, $x_i, i \in N$, indicating whether a project gets funded or not. Each private good and the public good are separate items in the proposal. E 's strategy at the first stage, b_{E1} , is then a choice of an alternative from the policy space, $x \in X = \mathfrak{R} \times \{0, 1\}^n$.

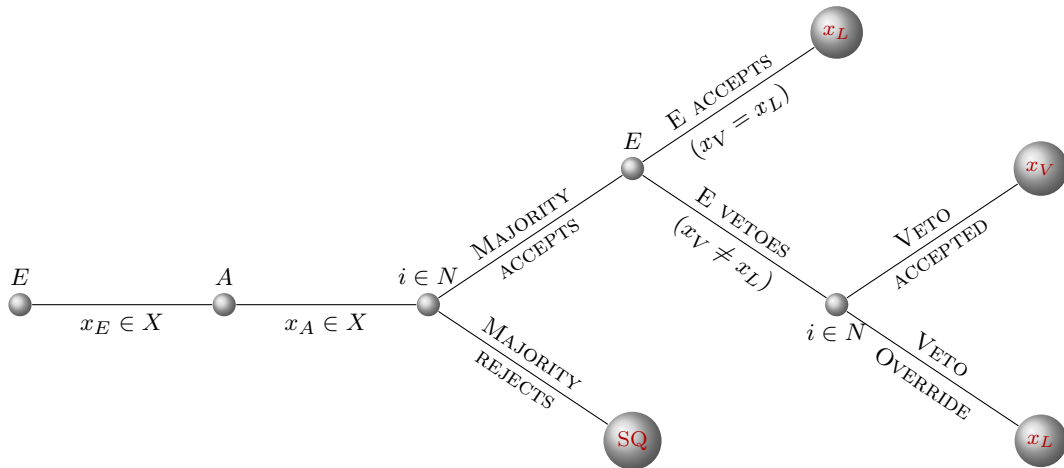


Fig. 1: THE EXECUTIVE VETO GAME.

The second stage is the *amendment stage*. The agenda setter, A , amends the executive's proposal before submitting it to the floor. A is unrestricted as to the amendments she can make so her strategy, b_{A2} , is either to offer no amendments or to select an alternative from the same choice space as the executive. A 's strategy, b_{A2} , is then a choice of $x_A \in X$. Indeed, as A is not restricted in any way by E 's choice in the first stage, and no vote is taken between the two proposals, it is immediate that the executive's proposal has no effect on the outcome of the game.

At the *voting stage* a vote is taken on A 's bill, $b_{A2} = x_A$, against the status quo, x^o . Legislator i 's strategy is to choose between x_A and x^o , $b_{i3}(x_A) \in \{x_A, x^o\}$. If a majority of the legislators votes for A 's amendment, the legislative outcome is $x_L = x_A$. If not, the game ends and the status quo remains in place. The voting stage is also the legislators' opportunity to take a stand on an issue known to their constituency. The legislative outcome, x_L , offers the legislators, at the agenda setter's discretion, utility that is independent of the final policy outcome through the mechanism of credit claiming described above. The inclusion of legislator i 's private good in a bill passed by the legislature gives him the opportunity to signal his efforts to his constituency. The legislator may have an incentive to accept proposals that he knows will get vetoed at a later stage when voters reward him for his effort. The legislative process described here comes close to that of proposals that are sent to the floor under a closed rule. It is, however, also possible to think about the two stages as a stylized bargaining process,

in which the legislators have to come to an agreement on, i.e. find majority support for, a particular proposal. The results presented here show, e.g., that the agenda setter will build the cheapest coalition of sufficient size to pass his proposal, which mimics results that obtain in bargaining models, e.g., Baron & Ferejohn (1989), that focus explicitly on legislative bargaining.

The fourth stage is the *veto stage* where the executive gets an opportunity to exercise his veto. The veto rule defines his set of actions, $V(x^o, x_L)$. Under the package veto the veto set is $V_P(x^o, x_L) = \{x^o, x_L\}$, whereas the line-item veto set is $V_I(x^o, x_L) = \{x \in X | z \in \{z^o, z_L\} \text{ and } x_j \in \{0, x_{jL}\}, \forall j \in N\}$ where j denotes private items in the bill. Intuitively, the executive has a choice between the values specified by x^o and x_L on each dimension of the policy space. If in a two person legislature, $x^o = (0, 0, 0)$ and $x_L = (1, 1, 1)$ then $V_I(x_L) = \{(0, 0, 0), (0, 0, 1), (0, 1, 0), (0, 1, 1), (1, 0, 0), (1, 0, 1), (1, 1, 0), (1, 1, 1)\}$ and $V_P(x_L) = \{(0, 0, 0), (1, 1, 1)\}$. The executive's veto strategy is denoted $b_{E4}(x_L) \in V(x_L)$ and let his choice from this set be x_V . The literature frequently assumes that the executive doesn't veto a bill when he is indifferent between vetoing or not. This assumption is not adopted here.¹² If the executive does not use his veto, i.e., $x_V = x_L$, the game ends and the policy outcome is x_L .

The last stage of the game is the *override stage*. If the executive uses his veto the bill returns to the legislature which has a choice of either accepting the executive's veto, x_V , or to override it. Legislator i 's action, $b_{i5}(x_V, x_L) \in \{x_L, x_V\}$, at this stage is then a choice between the legislative outcome, x_L , and the president's veto alternative, x_V . If a qualified majority m , as specified by the veto rule, votes for the legislative outcome, the executive veto is overridden and the final outcome is x_L . The majority required for override is usually an absolute majority, two-thirds, or three-fourths of the legislature. If a qualified majority for x_L does not exist, x_V is the final outcome.

I consider the subgame perfect Nash equilibrium of the game. The players are assumed not to play weakly dominated strategies at any stage. A strategy is weakly dominated if there exists a strategy that gives the player an equal or a higher payoff for all possible strategy profiles of the game. Eliminating weakly dominated strategies gets rid of 'peculiar' equilibrium voting behavior in the voting stages of the game, i.e. allowing weakly dominated strategies renders any voting outcome possible if no voter is pivotal.¹³ Denote the executive's equilibrium strategy as $b_E^* = (b_{E1}^*, b_{E4}^*(x_L))$, the agenda setter's equilibrium strategy as $b_A^* = (b_{A2}^*, b_{A3}^*(x_P), b_{A5}^*(x_V, x_L))$ and legislator i 's equilibrium strategy as $b_i^* = (b_{i3}^*(x_P), b_{i5}^*(x_V, x_L))$ for all $i \in N \setminus \{A\}$. Denote the equilibrium policy outcome as x^* .

Using backwards induction, the legislators face a choice between the executive veto, x_V , and the legislative proposal, x_L at the last stage of the game. Weakly dominated strategies are eliminated so the legislators simply vote 'sincerely' over the two alternatives. Let $A_i(x_L) = \{x \in X | w(z) + \alpha_i x_i \geq w(z_L) + \alpha_i x_{iL}\}$, $A_C(x_L) = \bigcap_{i \in C} A_i(x_L)$ and $A_{M-}(x_L) = \bigcup_{C \in \Lambda_{M-}} A_C(x_L)$ where $C \subset N$ and $\Lambda_{M-} = \{L \subset N \text{ such that } |L| \geq n - m + 1\}$. To clarify, $A_i(x_L)$ is the set of bill/vetoes that i weakly prefers to the legislative bill, x_L . $A_C(x_L)$ is the set of bills/vetoes that every member of the coalition C prefers to the legislative bill. Λ is the set of possible coalitions of legislators that are capable of sustaining the

¹² The intuition for assuming that the executive does not use his veto when indifferent would seem to be that the legislature prefers not to be vetoed, and that the point where the executive is indifferent between his two options represents the limit of how far the legislature can go in securing a favorable outcome. This assumption is not appropriate in the present framework as in some instances the legislature's, or the agenda setter's, interest are served when the veto is exercised.

¹³ As an example, if the weakly dominated strategies are not eliminated and the legislature faces a vote between two bills, x and z , then a vote where all the legislators cast their votes for x , even though they prefer z , is an equilibrium behavior as the individual legislator can not change the outcome by changing his vote.

executive veto and $A_{M^-}(x_L)$ is the set of bills/vetoes that are preferred by some coalition capable of sustaining the executive veto. It follows that if x_V is to be the legislative outcome, some such coalition must prefer it to x_L . A_{M^-} is the set of alternatives that are preferred to x_L by some such coalition. Then the optimal strategy for each legislator is

$$b_{i5} = \begin{cases} x_V & \text{if } x_V \in A_i(x_L) \\ x_L & \text{if } x_V \notin A_i(x_L) \end{cases},$$

and the policy outcome is

$$x_P = \begin{cases} x_V & \text{if } x_V \in A_{M^-}(x_L) \\ x_L & \text{if } x_V \notin A_{M^-}(x_L) \end{cases}.$$

Note that effects of credit claiming do not enter into the legislator's decision at the last stage.

The executive's strategy in the previous stage is to choose the x_V that gives him the highest utility given a legislative proposal, x_L , the status quo, x^o , and a veto set, $v(x^o, x_L)$ specified by the veto rule. His optimal strategy is given by $b_{E4}^* = \arg \max_{x \in V(x^o, x_L) \cap A_{M^-}(x_L)} U_E(x)$. At the voting stage each legislator faces a choice between the status quo and an outcome associated with accepting the proposal, i.e., its strategic equivalent, x_P . The legislator's optimal strategy is then:

$$b_{i3}^* = \begin{cases} x_A & \text{if } w(z_P) + \alpha_i x_{iP} + \beta \alpha_i x_{iL} - \epsilon \sum_{j \in N} \alpha_j x_{jP} \geq w(z^0) \\ x^0 & \text{else} \end{cases}. \quad (1)$$

The legislative proposal is then:

$$x_L = \begin{cases} x_A & \text{if } x_A \in A_M(x^0) \\ x^0 & \text{if } x_A \notin A_M(x^0) \end{cases}, \quad (2)$$

where $A_M(x^0)$ is defined as $A_{M^-}(\bullet)$ above except that the credit claiming incentives enter in an obvious manner and that the winning coalitions under majority rule are defined as $A_M = \{L \subset N \text{ such that } |L| \geq \frac{n+1}{2}\}$.

At the amendment stage the agenda setter's optimal choice has to take into account the optimal strategies of the other actors in the subsequent stages. The optimal strategy to pursue is $b_{A2}^* = \arg \max_{x \in A_M(x)} w(z_P) + \alpha_A x_{AP} + \beta \alpha_A x_{AL} - \epsilon \sum_{j \in N} \alpha_j x_{jP}$. The restriction of the agenda setter to $A_M(x^0)$ is not necessary but any bill that will make her better off than the status quo will have to pass the legislature. Finally, the executive's action in the first stage is irrelevant as his choice places no restrictions on the actors in the subsequent stages, i.e., the agenda setter can amend his proposal in any way she sees fit. The executive's initial proposal is merely included here for the sake of completeness.

3 The Executive Veto

Under what circumstances will the executive exercise his veto power? Will the executive target public or private goods? Does the legislature, or the agenda setter, have any means to avoid the veto or use it to its own advantage? These are some of the questions that the model is intended to answer. In this section I consider how different veto rules and the presence of credit claiming incentives interact and affect the agents' strategies and the final policy outcome.

The most frequently heard argument concerning the effects of the line-item veto is that it is an effective tool for the executive to unravel log-rolling and eliminate pork-barrel projects and thereby trim some of the fat from budget. Previous research (see, e.g., Carter & Schap, 1987) has suggested that this need not be the case, and that the move from a package veto to a line-item veto can in some instances increase spending. These models, however, have failed to take into account the special nature of pork-barrel goods, i.e., that they confer benefits upon only a small subset of the legislators. Essentially, these models have treated all goods as public goods. These models have therefore failed to address a claim central to the debate about the line-item veto. They have also not considered the possible side-effects of creating a line-item veto – the ‘irresponsible’ act of credit claiming. The question then is: Do the results hold when the special nature of the pork-barrel projects and the opportunities to claim credit are considered?

3.1 The Line-Item Veto

A logical starting point is to compare the results obtained from the present model without credit claiming with the results of the standard spatial model in the literature to provide a benchmark of sorts against which the importance of credit claiming incentives can be measured. The model of the line-item veto without credit claiming is a special case of the more general model of the line-item veto. I therefore start by deriving the equilibria that exist under the more general model and then, by setting $\beta = 0$, consider what equilibria survive when credit-claiming incentives are absent.

Throughout I assume that the executive prefers a higher level of spending on the public good than under the status quo. The executive is also assumed to prefer more of the public good than the legislators. Let H be the set of the $m - 1$ legislators with the most expensive private goods, $H = \{n - m + 2, n - m + 3, n\} \subset N$. Intuitively, the executive can always veto up to $m - 1$ private vetoes without the legislature overriding the veto. Sometimes the executive may be able to do better, i.e., if the private items she vetoes are expensive enough for some legislators to prefer the veto even if it includes their own private good. Let $\bar{K}(x_V) = \left\{ K \subset N \setminus H \mid w(z_V) - \varepsilon \sum_{N \setminus (K \cup H)} \alpha_i > w(z_L) + \alpha_i - \varepsilon \sum_{i \in N} \alpha_i x_{iL}, \forall i \in K \right\}$, and $K^*(x_V) = \max_{K \in \bar{K}(z)} \sum_{i \in K} \alpha_i$. The set $\bar{K}(z_V)$ is the set of the sets of pivotal legislators that are willing to vote to sustain the veto x_V (given that all their private goods are vetoed). That is, the cost of the items vetoed is higher than the utility that they receive from having their private good provided. The set $K^*(x_V)$ is the set in $\bar{K}(x_V)$ that maximizes the cost of the private goods vetoed. The stage is now set for stating the executive’s veto strategy.

Proposition 1 *Given a legislative bill x_L we can distinguish two cases of the optimal veto strategy x_V^* , based on the provision of the public good in the legislative proposal:*

$$i) \ z_V^* = z^o \text{ and } x_{iV}^* = \begin{cases} 0 & \text{if } i \in K^*(z^o) \cup H \\ x_{iL} & \text{else} \end{cases} \text{ if the following three conditions hold:}$$

- a) $z_L < z^o$
- b) $w_E(z_L) - \gamma \sum_{i \notin K^*(z_L) \cup H} \alpha_i x_{iV}^* > w_E(z^o) - \gamma \sum_{i \notin K^*(z^o) \cup H} \alpha_i x_{iV}^*$
- c) $\exists B^+ \subset B = \{i \in N \mid x_{iL} = 1\}$, such that $|N \setminus (B \cup B^+)| \geq n - m + 1$ and $\varepsilon \sum_{j \in B \setminus B^+} \alpha_j \geq w(z_L) - w(z^o)$

$$ii) \text{ and } z_V^* = z_L \text{ and } x_{iV}^* = \begin{cases} 0 & \text{if } i \in K^*(z_L) \cup H \\ x_{iL} & \text{else} \end{cases} \text{ if any of the conditions a), b), and c) fail}$$

The proof is straightforward and is omitted here. If i) is the executive's strategy it must be the case that: a) he prefers the status quo level of the public good to the level in the legislative proposal, b) he must prefer a veto of the public good and a 'smaller' veto of private goods over not vetoing the public good and a more extensive veto of private items, and c) there must exist at least $n - m + 1$ legislators, enough to sustain the executive's veto, that prefer the reduced cost of the bill to their preferred level of the public good. If $z_L < z^o$ the executive faces a tradeoff whether to just veto private items, or the public good and (fewer) private goods as vetoing the public good will make, in generally, the legislators less likely to sustain his veto.

Note that a) does not imply b) since the agenda setter's proposals are not restricted to proposing levels of the public good that the legislators prefer to the status quo level. It is also worth noting that condition c) implies that the executive will not choose to veto the public good, if $w(z_L) > w(z^o)$, unless he is able to veto some legislator's private good as well.

If the three conditions do not hold the executive will not veto the public good but veto as many private items as he possibly can. He needs $n - m + 1$ legislators to sustain his veto. The upper bound of his vetoes of private goods is then $m - 1$ plus the number of legislators included in the legislative bill that would rather live without their private good than bear the cost of supplying other legislators with their, $i \in K^*(z_L)$.

The most important implication of the proposition is that the executive will veto all the private items, if there are less than $m - 1$ of them, in the bill, and at least $m - 1$ if there are more. The legislature is therefore never in a position to bargain with the executive, i.e., by offering a higher level of public goods in exchange for not vetoing private items.

Before considering the equilibrium of the game, note that the agenda setter will never propose the status quo, $(z^o, 0, 0, \dots, 0)$, unless it happens to be the agenda setter's ideal policy.

Proposition 2 *The agenda setter will only propose the status quo if $w(z^o) \geq w(z)$ for all z . This holds equally for the line-item veto and the package veto.*

Proof If $w(z^A) > w(z^o)$ then the agenda setter, A , can propose the bill $(z^A, 0, 0, \dots, 0)$ which all legislators prefer to the status quo as their preferences are identical. The executive could possibly benefit from vetoing the bill if $z^A < z^o < z^E$, but the veto will be overridden by the legislature as the executive can only pit the proposal against the status quo, which has been shown to be defeated unanimously by A 's proposal. Hence, a bill including A 's preferred level of spending will always make it through the policy process and A will never realize a lower payoff than $w(z^A)$. \square

This result will be useful in proving the theorems below. If $z^o < z^A < z^E$, A is guaranteed even a higher minimum payoff under the line-item veto, or $w(z^A) + \beta\alpha_i$.¹⁴ We can therefore quickly dismiss strategies that yield a lower payoff for A . Depending on the parameters of the model, five different types of policy outcomes can occur.

¹⁴ The reason that this does not hold when the legislators' and the executive's ideal points lie on the opposite sides of the status quo is that now the executive can benefit from keeping the public good at the status quo. The executive may be able to do so if the cost that the other legislators bear from providing A with the private good exceeds the benefit from lowering the level of the public good.

Theorem 1 *Five different equilibrium policy outcomes can occur under the line-item veto (with credit claiming):*

1. *The public good gets produced at the preferred level of the legislators and only the private good associated with the agenda setter gets produced.*
2. *The public good gets produced at the preferred level of the legislators and less than $n - m + 1$ legislators, including the agenda setter, are provided with private goods.*
3. *The public good gets produced at the level of the status quo, and less than $n - m + 1$ legislators, including the agenda setter, are provided with private goods*
4. *The public good gets produced at the preferred level of the legislators but no private goods are provided. Note that there are two propositions, 6 and 7, which describe how this outcome can occur – the difference lies in the payoffs to A .*
5. *The public good gets produced at the level of the status quo and no private goods are provided.*

The proof of the theorem, along with the strategies that generate the outcomes, is given in the appendix.

The equilibrium generating the first outcome only exists if the cost of the agenda setter's private good is lower than the cost of $n - m - 1$ other legislators' private goods. If this is the case A can propose any bill that has the support of exactly m legislators, including herself, whose private goods are more expensive than x_A . These $m - 1$ legislators must also benefit enough from the public good and the ability to claim credit to make up for the cost of providing A 's private good. To be able to successfully veto items in the bill the executive must have the support of $n - m + 1$ legislators. The $n - m$ legislators who were offered no private goods clearly want the private goods to be vetoed, the additional vote to sustain has to come from one of the legislators offered a private good. Assuming that he prefers the whole bill to pass he cannot be swayed to vote for sustaining the veto unless his private good is produced. In maximizing his payoff the executive naturally chooses the spare the legislator with the lowest α from his veto – which by A 's design is herself. Hence, the veto is sustained and the final policy outcome is: $x_V = (z^A, 0, \dots, 0, \underbrace{1}_{x_A}, 0, \dots, 0)$.

The intuition behind the second equilibrium is a little bit more complex. It is not always the case that all the legislators will be ready to vote for a proposal which only provides the agenda setter with the private good while the rest must be content with their preferred level of spending on the public good (and, for some, credit claiming benefits). If the number of legislators with such preferences is small enough, less than $n - m + 1$ to be precise, A may benefit from providing them with their private goods. The $m - 1$ legislators with the most expensive private goods are out of luck and their items are always vetoed (Proposition 1). Credit claiming incentives are still crucial to the existence of this equilibrium as a simple majority of voters has to vote for the proposal at the voting stage but less than a majority of the legislators end up with their private goods funded. The only way these legislators will vote for the agenda setter's proposal is if credit claiming is more important to them than the cost of providing up to one-third of the legislators with the private good. Roughly speaking, the agenda setter's strategy can be described as structuring the legislative proposal so that it offers the private goods to the cheapest override minority, i.e., those who eventually get the goods, and then to the legislators with the most expensive private goods as they are the ones that are most likely to vote for a bill knowing that they will be snubbed in the end. It also serves the agenda setter's interest in inducing the 'correct' veto from

the executive, for example, if the executive benefits from accepting the level of public good and vetoing more of the private goods he will be less likely to do so as the cost of the private goods increases. If this is the case the agenda setter also has an incentive to include private goods for more than a bare majority of the voters in the bill. Finally, the agenda setter will only make a proposal leading to this policy outcome if he can place himself among the legislators that get provided with the private good.

Intuitively, the third equilibrium outcome is very similar to the one discussed in the previous paragraph. This policy outcome can only arise when the legislature and the executive disagree about whether spending on the public good should increase or decrease relative to the status quo. When the executive cannot be prevented from vetoing the public good, the agenda setter must rely on private goods and/or credit claiming to induce legislators to vote for his proposal. This implies that the cost of passing the bill may increase, i.e., the agenda setter may need to include more private items to guarantee enough votes for the bill to pass.

The fourth outcome corresponds to the agenda setter's minimum payoffs described in Proposition 2. Clearly a proposal containing only the legislators' preferred level of the public good will pass the legislature and is veto-proof. In some circumstance the agenda setter may be able to do better for herself by including her private good (which is subsequently vetoed) in the proposal but this is only the case if the legislators are not prepared to override the executive's veto of both items.

The fifth equilibrium policy outcome is one in which the public good is provided at the level of the status quo and no private goods are provided. The credit claiming incentives are crucial for this equilibrium which occurs only if the agenda setter stands to gain more from the credit claiming than having the public good provided at his preferred level. The equilibrium only exists if the legislators prefer a lower level of spending on public goods than under the status quo and if the legislators care more about the cost of providing A 's private good than obtaining their preferred level of spending on the public good.

If credit claiming incentives are absent, $\beta = 0$, the results are notably different as one would perhaps have expected. Under these circumstances the legislators' stand on a bill is the same at the voting stage as at the override stage as they know the structure of the game and act with perfect foresight, i.e., they know the implications of accepting a certain proposal at the voting stage.

Corollary 1 *Suppose credit claiming incentives are absent, $\beta = 0$. If*

1. $w(z^0) < w(z^A) - \epsilon\alpha_A$,
2. $\alpha_A > \epsilon \sum_{j=k+1}^{k+m} \alpha_j$ for some $k > A$, and
3. $|\{i \in N \text{ such that } \alpha_i < \alpha_A\}| \leq n - m - 1$, where $n = |N|$ and m is the number of votes needed for override,

then the unique equilibrium policy outcome is $x = (z^A, 0, 0, \dots, \underbrace{1}_{x_A}, 0, 0, \dots, 0)$. Else the equilibrium policy outcome equals $x = (z^A, 0, 0, \dots, 0)$.

The intuition behind these results is simple. The agenda setter cannot use credit claiming incentives to induce legislators to vote for her proposal. Structuring the proposal so that some other legislator obtains their private project would leave more than a majority of the legislators less inclined to support the proposal. Thus, the agenda setter only includes her own private project – provided that she prefers

overriding the veto, which results in $m - 1$ projects being funded, to accepting a veto that eliminates her project. In other words, the agenda setter's project will be funded as long as the total cost of the $m - 1$ proposed projects is not too high.

How do these results compare with the standard (perfect information) spatial models of the executive veto? In the existing literature on the line-item veto, the legislature anticipates the executive's veto strategy and as a consequence the executive never finds himself in situation in which he would prefer to use his veto. The results obtained in the model presented here indicate almost the polar opposite; the veto is almost always used. Consider first the case when credit claiming is present. The executive veto is exercised if four of the five possible equilibrium policy outcomes (1.1, 1.2, 1.3, 1.5). In the fifth (1.4), the veto is used in some circumstances, for example, if $w(z^o) < w(z^A)$.

The usefulness of the predictions can only be assessed by looking at the actual use of the line-item veto. One is, of course, tempted to look at the U.S.'s brief experience with the item veto; President Clinton used the item veto 82 times in the span of 18 months. This temptation should be resisted, not only because of the brevity of the veto's existence but also because the legislature may have been uncertain about whether the President would use it actively and whether the vetoes would hold up to constitutional challenges during this period. At the state level, where many governors have had a line-item veto for some period, the veto has been used actively although the variance across states is considerable. Reese (1997), in a study of 10 states between 1973-1992, found that the item veto was used 425 times on average (with range from zero to 1350) in the states over the time period. While the study covers only a few of the states that grant their governors item veto authority, the data suggest that use of the item veto tends to be the rule rather than the exception as suggested by the standard spatial model. One should also bear in mind that most states have restrictions on what types of bills the executive is allowed to veto, usually the veto only applies to appropriations and legislative riders.

Considering how different parameter values influence policy outcomes can be instructive. The effects of changes in the parameter values are ambiguous in some cases. In the first type of equilibrium, where the final policy outcome is: $x^* = (z^A, 0, \dots, 0, \underbrace{1}_{x_A}, 0, \dots, 0)$, the higher benefit to credit claiming (β), the lower the cost of the private goods to the legislators (ϵ), and the greater the legislators' utility increase in moving the public good from the status quo to their ideal point ($w(z^A) - w(z^o)$), the better the chances of the agenda setter obtaining his most preferred outcome. Only stronger credit claiming incentives have an unambiguous (positive) effect on the likelihood that the conditions for the second and third type of equilibrium policy outcome, where $z \in \{z^o, z^A\}$ and a small number of legislators get the private goods, are met. Stronger credit claiming incentives, however, also make it more likely that the agenda setter is the only one whose private project is funded. Thus, while credit claiming incentives make it more likely that some private goods are funded, the number of pork barrel projects declines as the incentives become stronger. The last type, $z = z^o$ and no private goods, occurs more often under parameter combination in which credit claiming benefits are high but the legislators' cost of providing private goods are high relative to their preferences over the public good. The distribution of the costs of the legislators' private goods can also be important in determining which equilibrium policy outcome is realized.

When credit claiming incentives are absent, things are a bit simpler. First of all, only two types of equilibrium policy outcomes can occur. The agenda setter can obtain his most preferred outcomes if the cost of funding his private project is not too substantial and, by the same token, if the projects vetoed

are not too expensive. The executive veto is always used when the agenda setter is able to obtain her most preferred outcome, but when the policy outcome is z^A and no private projects the veto may, or may not, be used.

We can see from this that credit claiming is not essential for vetoes to occur in equilibrium under the line-item veto as would be the case in the standard spatial model. Rather, it is the distinction between public and private goods that leads to vetoes being exercised in equilibrium. More generally, in the context of the spatial model, heterogenous preferences across issue dimensions would lead to similar outcomes. This speaks to the importance of modeling the actors' preferences correctly. If the line-item veto is indeed, as many have claimed, aimed at getting rid of pork barrel projects, or other items that serve narrow interests, it is inappropriate to use the standard spatial model to analyze veto bargaining.

Another interesting implication of the model concerns the agenda setter. As the results demonstrate, the line-item veto often places the agenda setter in a highly advantageous position. The agenda setter is often able to obtain her most preferred policy outcome, i.e., her preferred level of spending on the public good is implemented and her project is the only one funded. Given that the agenda setter's project represents all the pork-barrel spending that takes place it would appear natural to infer that pork-barrel spending is minimized when the agenda setter's project is cheap. That is only partly true as the agenda setter's favorable position depends on the cost of her private project. If the agenda setter's project is among the $m - 1$ most expensive projects it will always be vetoed and, consequently, the agenda setter has no incentive to offer a proposal, or a legislative amendment, that leads to the funding of *any* pork-barrel projects. Hence, somewhat surprisingly, less pork-barrel spending takes place when the agenda setter's preference for pork is relatively high. If, however, the agenda setter's project is among the $n - m + 1$ cheapest ones, pork-barrel spending will lower the cheaper her project is.

4 The Package Veto

To get at the issues surrounding the debate about the line-item veto it is necessary to consider what sorts of policy outcomes occur under the package veto. Does the package veto result in greater spending than the line-item veto? Is the balance of power between the two branches disrupted by a change in the veto rules? Does the package veto lead to a greater provision of private goods? As with the line-item veto, one of five types of equilibrium policy outcomes occurs under the package veto.

Theorem 2 *Under the package veto five different equilibrium policy outcomes can occur:*

1. *The public good is produced at the preferred level of the legislature and only the agenda setter is provided with the private good.*
2. *A bare majority, including the agenda setter, are provided with the private good and the public good is provided at the preferred level of the legislator or higher.*
3. *The private goods are given to m legislators, including the agenda setter, where m equals the number of legislators needed to override the executive veto. The public good is provided at the level preferred by the legislators.*
4. *The status quo prevails.*
5. *The public good is provided at the level preferred by the legislators and no private goods are provided.*

The conditions associated with each policy outcome and proofs can be found in the appendix. The circumstances under which the first type of equilibrium policy outcome occurs is one in which the agenda setter has the power to obtain her most preferred outcome: $z = z^A$ and only her private good gets produced. If the legislators' benefit from obtaining their most preferred provision of the public good is greater than the cost of providing the agenda setter's private good, the legislature can do no better than accept such a proposal. The executive cannot successfully veto the proposal because the legislature is unanimously prefers it to the status quo.

The intuition behind the second type of equilibrium, where $z \geq z^A$ and private goods are provided for the cheapest bare majority of legislators that includes the agenda setter, is that the agenda setter may be able to buy the executive off by offering him enough of the public good so that he will be indifferent between accepting the bill including the private goods and the status quo. Since the executive can now only accept the bill as a whole, or veto both the public and private goods he can do no better than accept the proposal. Note that the agenda setter doesn't need to build override majority support as in the previous theorem. The agenda setter only needs to provide a bare majority of the legislators with their private good to induce them to accept a legislative proposal that includes her private good. The first two types of equilibria thus suggest that the agenda setter only needs to please either the executive or the legislature under the package veto. In contrast, under the line-item veto, the agenda setter can never shield herself from the executive's veto by merely offering the executive his preferred level of the public good.

If in the second type of equilibrium policy outcome the agenda setter chooses to please the executive, then the third type is another case in which she allies with the legislature rather than the executive. In this case $z = z^A$ and m private goods are provided. By giving a override majority a (high) stake in the proposal the executive is powerless in preventing it from being adopted, i.e., if he chooses to veto the legislative proposal the legislature will override his veto.

The fourth possible equilibrium policy outcome is z^o and no private goods. This outcome can only occur when the agenda setter benefits more from credit claiming than moving the spending on the public good to her ideal point. If the legislature is unwilling to accept a proposal that includes the agenda setter's private good, settling for the credit claiming benefits may be the agenda setter's best alternative.

The final type of equilibrium only occurs if the agenda setter cannot benefit from having her private good produced, alone or with other private goods, or if the benefits from credit claiming do not support such an outcome.

As with the line-item veto, the results here differ from most of the existing literature in that the executive wields his veto in equilibrium.¹⁵ Vetoes occur because credit claiming incentives lead legislators to pass legislation even if they know it will subsequently be vetoed by. However, the importance of credit claiming incentives is suppressed by the package veto, which prevents the agenda setter from using the credit claiming incentives to her advantage. Under the line-item veto, credit claiming incentives can operate independently of the final outcome, i.e., the agenda setter can use the incentives to gain a legislator's support even though his private good is successfully vetoed. Under the package veto, once a private good is in the bill it cannot be removed without also vetoing the whole bill including the public

¹⁵ It is the perfect information literature, as before, that is being referred to. Work that has focused on incomplete information Dearden & Husted (1990) and reputation Matthews (1989) has shown why the veto might be used.

good. On the face of it, the predictions of the model, that vetoes do occur but not with great frequency, seem consistent with the U.S. experience with the package veto. The veto was exercised 2,238 times in the history of the United States up to the year 1966. In the period 1889 – 1968, the average percentage of legislative bills that were vetoed was 2.5. The presidents from Eisenhower through Carter used the package veto 181 times which is about 1.6 percentage of all legislative bills passed during their tenure.¹⁶

Compared with the line-item veto, there is a greater propensity for private goods to be provided to a larger number of legislators under the package veto. Private goods may be provided to more than half of the legislature (and up to the number of votes required to override a veto) under the package veto whereas under the line-item veto at most $n - m + 1$ pork barrel projects are funded and in many circumstances the agenda setter see to even fewer projects being funded. This does not necessarily imply lower spending under the line-item veto as it is possible that neither of the high-cost equilibrium outcomes occurs under the package veto, and the high-cost outcome occurs under the line-item veto. It is, however, possible to consider examples based on specific parameter values and compare equilibrium policy outcomes. If, for instance, $w(z^A) - \epsilon\alpha_A > w(z^o)$ and $A > n - m + 1$ then Proposition 9 applies under the package veto, but Proposition 11 under the line-item veto and spending is reduced by α_A in moving away from the package veto. On the other hand, it is not difficult to construct an example where spending is higher under the line-item veto.

Suppose that the conditions $w(z^A) - \epsilon\alpha_A \geq w(z^o)$ and $\epsilon \sum_{j=A+1}^{A+m-1} \alpha_j > w(z^A) - w(z^o)$ hold. Then there exists a preference configuration such that the policy outcome under the package veto is $(z^A, 0, 0, \dots, 0, \underbrace{1}_{x^A}, 0, 0, \dots, 0)$ but under the line-item veto the policy outcome is $(z^o, \underbrace{1, 1, \dots, 1}_{n-m+1}, 0, 0, \dots, 0)$.

Holding preferences fixed and only changing the veto rule from a package veto to a line-item veto not only increases the number of private goods produced dramatically but also keeps the legislators from having the public good produced at their most preferred level. If $z^E > z^A$, as we have assumed throughout, then the bill passed into law under the line-item veto is associated with a greater level of spending than the bill accepted under the package veto. An example of parameter values that lead to an outcome such as this is given in Example 1. Thus, it is not possible to make general statements about the effectiveness of the line-item veto in cutting pork barrel projects and constraining spending. Rather, the effectiveness of the two veto powers are highly contingent on the actors' preferences over the public good, the private goods and credit claiming. Any evaluation of the two veto powers must, therefore, be preceded by careful examination of the actors' preferences.

One of the central claims made by proponents of the line-item veto is that it changes the balance of power between the legislature and the executive in favor of the latter. While the line-item veto will allow the executive to benefit from the ability to trim private goods from bills, Example 1 shows that the agenda setter's anticipation of the executive's action can result in more, and not less, private goods being provided. Comparing the two outcomes in the example, we can see that whether the executive prefers the line-item veto to the package veto depends on the intensity of his preferences over the public good.

It is not only the balance of power between the executive and the legislature that is affected by the type of veto. In contrast with most models of the veto, the legislature is not modeled as an unitary actor here as the legislators' preferences over private goods differ. More importantly, legislative

¹⁶ American Enterprise Institute (1984, p. 2-3).

procedures treat legislators differently. A single legislator is assumed to hold agenda setting powers that, unsurprisingly, enable her to obtain favorable policy outcomes. However, the type of executive veto power has substantial consequences for the agenda setter. Under the package veto, agenda setting powers always offer the opportunity for log-rolling and, importantly, the resulting bill always includes the agenda setter's project (if any). In line with the common wisdom, the line-item veto allows the executive to unravel attempts at log-rolling although he is constrained by the override provision. The constraint on the executive's strategy generated by the override provision has substantial consequences for the agenda setter. Under the line-item veto the agenda setter has greater flexibility in putting together legislative proposals that benefit her. This ability stems from the fact that she can de facto hand out the benefits associated with the credit claiming, i.e., without incurring the cost of supplying the private goods, and thus garner support for bills that otherwise would not be adopted by the legislature. However, the greater flexibility only benefits the agenda setter if the cost of her project is sufficiently low (i.e., is one of the $n - m + 1$ cheapest projects) as the executive will always veto the most expensive projects. If that is the case, the agenda setter is generally in a strong position. However, if the agenda setter's project is one of the $m - 1$ most expensive projects then it will never be included in the version of the bill that is adopted. Moreover, as the agenda setter has no incentive to provide other legislators with their projects, her proposal will never lead to any projects being funded.

5 Conclusions

The model presented here deviates in two important ways from the standard framework for analyzing the effects of different kinds of veto rules. First, the model takes into account the different types of incentives that legislators face. Legislators care about their reelection prospects and therefore wish serve the interests of their constituents – or at least give the appearance of doing so. This provides legislators with an incentives to sponsor legislation and amendments that signal those efforts. Legislation and amendments that are adopted by the legislature provide even a stronger signal of their effort. Thus, legislators have an interest in having their efforts documented by being adopted by the legislature – even if they anticipate the subsequent veto of their pork barrel projects, in which case the executive can take the blame. Secondly, the model distinguishes between public and private goods to better evaluate claims about the effects of the line-item veto which more often than not have focused on pork barrel projects or items concerned with special interests.

The results allow comparisons with both the existing literature and across types of veto powers. First, the executive veto is exercised under both the line-item and the package veto – a result that doesn't obtain in other perfect information models.¹⁷ Whether the executive uses his veto depends, naturally, on the configuration of the actors' preferences. The conditions under which the veto is used under the line-item veto are weak – the executive will be able to veto some items as long as a bill contains any private good. Vetoes are less likely under the package veto but they are nevertheless possible. If the legislators care enough about credit claiming but the cost they incur from providing private goods are relatively high they will be satisfied with passing legislation that will subsequently be vetoed. Note that while vetoes occur under the package veto because of the assumptions made about the legislators' preference for credit claiming that is not the case under the line-item veto. Line-item

¹⁷ See, however, Magar (2001) for an exception.

veto occurs because the legislature cannot propose ‘veto-proof’ legislation that includes private goods – the line-item veto is exercised in equilibrium because of the structure of the policy space, i.e., the presence of private goods.

Second, the results suggest that the case for the line-item veto is not as clear cut as often is assumed. However, the claim about its usefulness in cutting pork barrel spending is substantiated if credit claiming is absent. When legislators are not concerned with credit claiming, at most the agenda setter is provided with the private good. The public good is provided at the preferred level of the legislature. It bears noting that as the legislature was assumed to prefer less spending on public goods than the executive, the result does not say anything about whether the line-item serves to increase or decrease spending on public goods. In the same circumstances under the package veto, at least as many projects are funded. Thus, in the absence of credit claiming incentives, the line-item veto does help reduce pork barrel spending.

In contrast, when legislators engage in credit claiming, the number of private goods provided under the line-item veto may increase up to $n - m + 1$. The number of private goods provided under the package veto can be substantially higher – as many as the number of votes, m , needed to override the executive’s veto. However, as demonstrated by Example 1, in the previous section, a switch to the line-item veto can result in greater pork barrel spending. Hence, in the presence of credit claiming incentive, one cannot make general statements about the relative effectiveness of the two veto rules in reducing pork barrel. Even though the conditions under which the package veto outperforms the line-item veto appear somewhat restrictive, one cannot infer that the line-item veto is more effective without careful consideration of what the actors’ actual preferences are.

Third, the model demonstrates how the different types of vetoes influence the balance of power in the policy making process. The line-item veto has usually been considered to affect the balance of power between the executive and the legislative branches. The line-item veto has the appearance of being the ‘stronger’ type of veto as it offers the executive a greater flexibility in choosing what to veto. An assessment of the executive’s veto power must, however, consider that the legislature anticipates the executive’s veto strategy and chooses its strategy accordingly. Sometimes less flexibility has its advantages. The package veto, for example, offers the legislature a chance to propose a compromise – proposing a higher level of spending on the public good in exchange for some pork barrel projects. Under the line-item veto such compromise is impossible as the executive cannot credibly commit to not vetoing the private goods in the bill. Consequently, the level of spending on the public good never exceeds the legislature’s preferred level under the line-item veto. The policy outcome may thus remain inefficient even if the configuration of preferences is such that the line-item veto reduces pork barrel spending, i.e., the line-item veto rules out Pareto improving compromises between the executive and the legislature. With respect to spending on private goods, the effect of the line-item veto is ambiguous as the discussion about pork barrel spending above suggests. On the whole, then, a switch from a package veto to a line-item veto does not have clear cut effects on balance of power between the two branches.

Veto powers can, however, have significant effects on the balance of power within the legislature. Legislative agenda setters are generally in a privileged position that helps them to have their pork barrel projects funded. The model highlights how under the line-item veto they can structure legislative proposals to obtain a favorable policy outcome in which fewer of the other legislators’ projects are

funded. The positive effect of the line-item veto on the agenda setters' ability to obtain a more favorable outcome is, however, conditional on two factors. First, credit claiming incentives must be present in order to induce the legislature to accept the agenda setters' proposals. Second, the agenda setters' projects must be cheap relative to those of the other legislators as otherwise the executive will target the agenda setters' projects. If either of these conditions is not met, the agenda setters' proposal power doesn't acquire greater significance.

Note also that the same conditions are important for evaluating the veto powers' effect on pork barrel spending. If, under the line-item, the agenda setter cannot propose a bill that leads to his private good being funded, she will propose a bill that doesn't include any (successful) private goods. Thus, if the conditions do not hold, the claims of the line-item veto's proponents hold up. This naturally begs the question whether the conditions are likely to hold. The question whether legislators face credit claiming incentives is an empirical question. There is some anecdotal evidence suggesting that credit claiming incentives are important but limited experience with the line-item veto makes systematic study difficult. Perhaps the more relevant question to ask is whether it is reasonable to assume that the cost of the legislators' projects is exogenous. The assumption is undoubtedly a poor description of reality but it serves well to highlight how the agenda setter must position herself to avoid having her project vetoed. The agenda setter would face the same incentives if the cost of the legislators' projects was endogenous, i.e., she would seek to include a number of projects in her proposal that were more expensive than her project. Thus, one would expect the second condition to be met if agenda setting powers are non-negligible.

The model considered here has demonstrated that correctly specifying the structure of the policy space and accounting for legislators' credit claiming incentives has significant implications for the evaluation of the effects of different veto powers on pork barrel spending. The presence of credit claiming is shown to complicate the comparison of the package and the line-item vetoes – only in the absence of credit claiming can the line-item veto be shown to produce less pork barrel spending. The veto powers' effect on the balance of power between the executive and the legislature is clearest with regard to the level of public goods provided – the executive can only hope to reach his ideal level of spending on the public good under the package veto. Interestingly, veto powers also affect the distribution of power within the legislature. If the line-item veto leads to a reduction in pork-barrel spending it will benefit the agenda setter. In those instances the agenda setter will structure the legislative proposal so that her pork barrel project is funded while few others are.

A Appendix

Theorem 1 *Five different equilibrium policy outcomes can occur under the line-item veto (with credit claiming):*

1. *The public good gets produced at the preferred level of the legislators and only the private good associated with the agenda setter gets produced.*
2. *The public good gets produced at the preferred level of the legislators and less than $n - m + 1$ legislators, including the agenda setter, are provided with private goods.*
3. *The public good gets produced at the level of the status quo, and less than $n - m + 1$ legislators, including the agenda setter, are provided with private goods*
4. *The public good gets produced at the preferred level of the legislators but no private goods are provided. Note that there are two propositions, 6 and 7, which describe how this outcome can occur – the difference lies in the payoffs to A.*

5. The public good gets produced at the level of the status quo and no private goods are provided.

Proof The proof to the theorem is offered as six separate propositions where five different equilibrium policy outcomes are given. We consider them in turn.

Proposition 3 *If the following conditions hold:*

- i) $A < n - m + 1$
- ii) $w(z^A) - \varepsilon\alpha_A + \beta\alpha_{\lceil n - \frac{n}{2} \rceil} \geq w(z^o)$
- iii) $\alpha_A \geq \varepsilon \sum_{j=A}^{A+m} \alpha_j$
- iv) if $w_E(z^A) < w_E(z^o)$ then $\varepsilon \sum_{j=A+1}^{A+m} \alpha_j < w(z^A) - w(z^o)$

then A proposes (z^A, x_P) where $x_{iP} = \begin{cases} 1 & \text{if } i = A \\ 1 & \text{if } i \in B, B \subset \{i \in N \mid i > A\} \text{ such that } |B| = m - 1. \\ 0 & \text{else} \end{cases}$. The executive vetoes the $m - 1$ most expensive private items. His veto is sustained and the final policy outcome is $(z^A, 0, 0, \dots, 0, x_A, 0, 0, \dots, 0)$. A 's payoff is $w(z^A) + (1 + \beta - \varepsilon)\alpha_A$.

Proof Working from the last stage up, the executive's veto of the $m - 1$ most expensive private goods is sustained as the $n - m + 1$ legislators without private goods prefer the bill without the $m - 1$ private goods, and A votes to sustain as well. At the veto stage, given (z^A, x_P) , condition iii) and iv) and Proposition 1 the executive can do no better than veto the $m - 1$ private goods. More specifically, condition iii) guarantees that A would vote to override were his private item vetoed, and condition iv) ensures that if E prefers (z^o) to (z^A) the legislators vote to override, i.e., they prefer taking on the cost of providing m legislators with the private good than live with the status quo. The proposal passes the legislature if condition ii) holds. A 's proposal is clearly optimal as the policy outcome represents A 's most preferred outcome. \square

Proposition 4 *Let $H = \{i \in N \mid i > n - m + 1\}$ and $H^+ = \left\{ i \in H \mid w(z^A) + \beta\alpha_i - \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \geq w(z^o) \right\}$. If*

there $\exists S \subset N \setminus H$ such that:

- i) $A < n - m + 1$
- ii) $2n - \lceil \frac{n+1}{2} \rceil - m + 2 \in H^+$
- iii) $\alpha_i \geq \varepsilon \sum_{j \in S \cup \{A\} \cup H} \alpha_j, \forall i \in S \cup \{A\}$
- iv) if $w_E(z^A) < w_E(z^o)$ then $w_E(z^A) - w_E(z^o) \geq \varepsilon \sum_{j \in H} \alpha_j$
- v) one of conditions ii) - iv) of Proposition 3 fails
- vi) one of conditions ii) - vii) of Proposition 5 fails

then A proposes (z^A, x_P) where $x_{iP} = \begin{cases} 1 & \forall i \in S \cup \{A\} \cup H \\ 0 & \text{else} \end{cases}$ and $S = \min_{S \subset N} \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j$ such that $w(z^A) + (1 + \beta)\alpha_i - \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \geq w(z^o), \forall i \in S \cup \{A\}$. The proposal is then accepted by the legislature and the executive vetoes $m - 1$ items from the bill. The executive's veto is sustained and the final policy outcome is (z^A, x_V) where

$x_{iV} = \begin{cases} 1 & \forall i \in S \cup \{A\} \\ 0 & \text{else} \end{cases}$ and A 's payoff equals $w(z^A) + (1 + \beta)\alpha_A - \varepsilon \sum_{j \in S \cup A} \alpha_j$.

Proof By $|S \cup \{A\}| = n - m + 1$, the veto is sustained. The veto is optimal by Proposition 1 and condition iv) which guarantees that the legislators in the sustaining coalition can commit to override if their item is vetoed. The executive can only veto the public good if the reduced utility to the legislators from accepting the status quo is less than the gain from having the $m - 1$ private items cut from the bill. Condition iv) rules that possibility out. The proposal is accepted at the legislative stage by conditions ii) and iii). The agenda setter's action is optimal, as he can not attain his most preferred outcome by condition vi) and by condition iii) the equilibrium outcome here is preferred to those she would achieve by using a strategy that led to the outcomes described in Propositions 6-8. Finally, condition vi) states that either A prefers the present outcome to that achieved under proposition 5, or the outcome under proposition 5 is not attainable. \square

Proposition 5 Let $H = \{i \in N \mid i > n - m + 1\}$ and $H^+ = \left\{ i \in H \mid \beta\alpha_i \geq \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \right\}$. If $\exists B \subset N$ such that $H \subset B$ and $S \subset B \setminus H$ and the following conditions hold:

- i) $A < n - m + 1$
- ii) $w_E(z^A) < w_E(z^o)$
- iii) $2n - \lceil \frac{n+1}{2} \rceil - m + 2 \in H^+$
- iv) $(1 + \beta)\alpha_i \geq \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j, \forall i \in S \cup \{A\}$
- v) $w(z^A) - w(z^o) \leq \varepsilon \sum_{j \in B \setminus S \cup \{A\}} \alpha_j$
- vi) $w(z^A) + \alpha_i \leq w(z^o) + \varepsilon \sum_{j \in B \setminus S \cup \{A\}} \alpha_j, \forall i \in B \setminus (H \cup S \cup \{A\})$
- vii) $w_E(z^A) - \gamma \sum_{j \in B \setminus K_L^*} \alpha_j \leq w_E(z^o) - \gamma \sum_{j \in S \cup \{A\}} \alpha_j$
- viii) One of conditions ii) – iv) of Proposition 3 fails
- ix) One of conditions ii) – v) of Proposition 4 fails
- x) All of conditions i) – iii) of Proposition 6 fail or $w(z^o) + \alpha_A - \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \geq w(z^A)$
- xi) $w(z^o) + (1 + \beta)\alpha_A - \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \geq w(z^A)$
- xii) $\alpha_A \geq \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j$

Proof By $|S \cup \{A\}| = n - m + 1$, and condition v) the veto is sustained. The executive's veto is optimal by Proposition 1 and conditions ii), vii) and viii). If condition vii) holds the executive is better off vetoing the public good than vetoing only the potentially larger number of private items from the bill. If condition viii) holds, any veto targeting a member of $S \cup \{A\}$ will lose in a vote to override it and also, the $m - 1$ legislators that have their items vetoed vote to override. Hence, the executive cannot successfully veto any other items. Condition iii) is necessary implies that there are enough legislators willing to vote for the bill even though their private goods will not be produced. All legislators not included in the bill will vote against it, as they will be worse off than under the status quo. Hence, only legislators receiving the private goods and those receiving benefits from credit claiming will potentially vote for the bill. As $n - m + 1 < \lceil \frac{n+1}{2} \rceil$, and, by Proposition 1, the executive can always veto $m - 1$ private items not all of the legislators voting for the bill can receive the private goods. Condition iii) therefore simply guarantees that there are enough legislators valuing the credit claiming incentives enough to vote for the bill for it to pass. By condition iv) the members of $S \cup \{A\}$ will vote for its passing. Finally, conditions viii)-xii) simply ensure that other policy outcomes are either unattainable or are less preferred. \square

Proposition 6 If any of the following conditions hold:

- i) $w_E(z^A) \geq w_E(z^o)$,
- ii) $w(z^A) - w(z^o) \geq \varepsilon\alpha_A$,
- iii) $\exists C \subset N$ such that ^{a)} $|C| \geq m$, ^{b)} $\forall i \in C, w(z^A) + \alpha_i - \varepsilon \sum_{j \in C} \alpha_j \geq w(z^o)$, ^{c)} $\forall i \in C, \alpha_i \leq \varepsilon \sum_{j \in C} \alpha_j$ and, ^{d)} $D \subset C, |D| \geq |C| - m + 1$ such that $w(z^A) - w(z^o) \leq \varepsilon \sum_{j \in C \setminus D} \alpha_j$.

And all of the following conditions hold:

- iv) One of conditions i) – iv) of Proposition 3 fails
- v) One of conditions i) – v) of Proposition 4 fails
- vi) One of conditions i-vii) of Proposition 5 fails or $w(z^o) + \alpha_A - \varepsilon \sum_{j \in S \cup \{A\}} \alpha_j \leq w(z^A)$

then A proposes (z^A, x_P) where $x_{iP} = \begin{cases} 1 & \text{if } B \cup \{A\}, B \subset N, |B| < m - 1 \\ 0 & \text{else} \end{cases}$, the executive vetoes all private goods, and the final policy outcome is $(z^A, 0, 0, \dots, 0)$ and A 's payoff equals $w(z^A) + \beta\alpha_A$.

Proof By $|B \cup \{A\}| < n - m + 1$ the executive's veto is sustained. By Proposition 1 and conditions *i*), *ii*) or *iii*), the executive's veto is optimal, i.e., the legislature would rather pay the cost of *A*'s private good than accept the status quo. In voting for *A*'s proposal the legislature is indifferent between voting for a bill containing the public good and no private items and a bill containing the public good and only a private item for *A*, hence condition *ii*). Anticipating the veto of *A*'s private good, all legislators are better off voting for *A*'s proposal. Finally, *A* can only increase her payoff by having her private good produced and the necessary conditions for that to happen are described in Propositions 3, 4, and 5. If conditions *iv*)-*vi*) hold, either the subgame following *A*'s action as proposed in these proposition does not constitute an equilibrium or come at too great a cost. \square

Proposition 7 *If the following conditions hold:*

- i*) $w(z^A) - \epsilon\alpha_A < w(z^o)$,
- ii*) $w_E(z^A) < w_E(z^o)$,
- iii*) *One of conditions i) – iv) of Proposition 3 fails*
- iv*) *One of conditions i) – v) of Proposition 4 fails,*
- v*) *One of conditions i) – vii) of Proposition 5 fails or $w(z^o) + (1 - \beta)\alpha_i - \epsilon \sum_{j \in S \cup \{A\}} \alpha_j \leq w(z^A)$*
- vi*) $w(z^A) - w(z^o) \geq \beta\alpha_A$

then A proposes $(z^A, 0, 0, \dots, 0)$ which is accepted by the legislature and is veto-proof. The final policy outcome is $(z^A, 0, 0, \dots, 0)$ and A's payoff equals $w(z^A)$.

Proof The legislative bill $(z^A, 0, 0, \dots, 0)$ can clearly not be vetoed. It is also self-evident that the proposal passes the legislature, as it is an improvement over the status quo. Note that all the conditions are essentially on *A*'s preferences. As Lemma 1 implies that *A* can always attain this outcome. Conditions *i*) and *ii*) prevent *A* from achieving the payoff from Proposition 6. Conditions *iii*)-*v*) ensure that if the agenda setter proposes his private good along with the preferred level of the public good, it is vetoed by *E* and the veto is sustained by the legislatures. Condition *vi*) requires that *A* prefers $w(z^A)$ to the credit claiming incentives alone – the outcome of Proposition 8. \square

Proposition 8 *If the following conditions hold:*

- i*) $w(z^A) - w(z^o) \leq \beta\alpha_A$,
- ii*) $w(z^o) > w(z^A) - \epsilon\alpha_A$,
- iii*) $w_E(z^A) < w_E(z^o)$,
- iv*) *One of conditions i) – iv) of Proposition 3 fails,*
- v*) *One of conditions i) – v) of Proposition 4 fails,*
- vi*) *One of conditions i) – vii) of Proposition 5 fails or $\alpha_A \leq \epsilon \sum_{j \in S \cup \{A\}} \alpha_j$*
- vii*) $w(z^o) + \beta\alpha_A \geq w(z^A)$

then A proposes (z^o, x_P) where $x_{iP} = \begin{cases} 1 & \text{if } B \cup \{A\}, B \subset N, |B| < m - 1 \\ 0 & \text{else} \end{cases}$, which is accepted by the legislature and consequently vetoed by the executive. The final policy outcome is $(z^o, 0, 0, \dots, 0)$ and A's payoff equals $w(z^o) + \beta\alpha_A$.

Proof As in the previous proposition all the conditions are essentially on *A*'s preferences. By condition *ii*) and $|N \setminus B| > n - m$, the executive veto is sustained. By Proposition 1, the executive veto is optimal. The legislators can accept *A*'s proposal as they are indifferent between the proposals $(z^o, 0, 0, \dots, 0)$ and $(z^o, 0, 0, \dots, 0, x_A = 1, 0, 0, \dots, 0)$ as the executive will clearly veto *A*'s private good. *A* can also make a majority of the legislators better off by including them in the proposal, and thus induce strict preferences for the bill. The optimality of *A*'s action is analogous to that of the previous proposition. \square

Theorem 2 *Under the package veto five different equilibrium policy outcomes can occur:*

1. *The public good is produced at the preferred level of the legislature and only the agenda setter is provided with the private good.*
2. *A bare majority, including the agenda setter, are provided with the private good and the public good is provided at the preferred level of the legislator or higher.*

3. The private goods are given to m legislators, including the agenda setter, where m equals the number of legislators needed to override the executive veto. The public good is provided at the level preferred by the legislators.
4. The status quo prevails.
5. No private goods are provided and the public good is provided at the level preferred by the legislators.

The proof of the theorem is stated in five propositions.

Proposition 9 *If $w(z^A) - \epsilon\alpha_A \geq w(z^o)$ then the following paths of play constitute equilibria:*

Stage:

- II. $b_{A2}^* = (z^A, 0, 0, \dots, 0, x_A = 1, 0, 0, \dots, 0) = x_P$.
- III. $\forall i \in N, b_{i3}^* = x_P$, and $x_L = x_P$.
- IV. $b_{E4}^* \in \{x_L, x^o\}$ i.e. the executive can either exercise his veto or not, in which case the game ends.
- V. If $b_{E4}^* = x^o$ then $\forall i \in N, b_{i5}^* = x_L$, i.e. the legislators override the executive veto unanimously.

The final policy outcome is: The public good is provided at z^A , and the agenda setter is the only one given a private good. A's payoff equals $w(z^A) + (1 + \beta - \epsilon)\alpha_A$.

Proof At stages III and V the legislator face the same choice and as they value the public good higher than the cost they have to bear from A's private good, they vote unanimously for the proposal and then against the override if the executive vetoes. The executive cannot have an effect on the outcome so his response is optimal regardless of his action. The agenda setter's choice in the second stage must be optimal as she receives her highest obtainable payoff in the game. \square

Proposition 10 *Let \bar{z} s.t. $w_E(\bar{z}) - \gamma \sum_{j \in B} \alpha_j = w_E(z^o)$ and let $\hat{z} = \begin{cases} z^A & \text{if } w_E(z^A) - \gamma \sum_{j \in B} \alpha_j \geq w_E(z^o) \\ \bar{z} & \text{else} \end{cases}$. Let*

$$\bar{B} = \left\{ B \subset N \mid w(\hat{z}) + (1 + \beta)\alpha_i - \epsilon \sum_{j \in B} \alpha_j \geq w(z^o), \forall i \in B, \{A\} \in B, \text{ and } |B| = \lceil \frac{n+1}{2} \rceil \right\}. \text{ Let } B^* = \arg \max_{B \in \bar{B}} w(\hat{z}) + (1 + \beta)\alpha_A - \epsilon \sum_{j \in B} \alpha_j.$$

If the following conditions hold:

- i) $w(z^A) - \epsilon\alpha_A < w(z^o)$,
- ii) $\bar{B} \neq \emptyset$
- iii) Either $\bar{D} = \emptyset$ or $w(z^A) - w(\hat{z}) \leq \epsilon \sum_{j \in D^* \setminus B^*} \alpha_j$ where \bar{D} and D^* are defined as in Proposition 11.
- iv) $w(\bar{z}) + \alpha_A - \epsilon \sum_{j \in B^*} \alpha_j \geq w(z^o)$, v) $w(\bar{z}) + (1 + \beta)\alpha_A - \epsilon \sum_{j \in B} \alpha_j \geq w(z^A)$,

then the following path of play constitutes an equilibrium:

Stage:

- II. $b_{A2}^* = (\hat{z}, x_1^*, x_2^*, \dots, x_n^*) = x_P$, where $x_i^* = \begin{cases} 1 & \forall i \in B^* \\ 0 & \forall i \notin B^* \end{cases}$
- III. $b_{i3}^* = x_P$ for all $i \in B^*$. The legislature adopts the proposal, $x_L = x_P$, as $|B^*| = (n + 1)/2$.
- IV. $b_{E4}^* = x_L$, i.e. the executive does not exercise his veto and the game ends.

The final policy outcome is: The public good is provided at \hat{z} , and private goods are provided for a bare majority, B^ , which includes A, of the legislators with the cheapest private goods. A's payoff equals $w(\bar{z}) + (1 + \beta)\alpha_A - \epsilon \sum_{j \in B} \alpha_j$.*

Proof Considering the last stage first, the executive is at least, depending on the parameters of the model, as well off by not vetoing the legislative proposal as by vetoing it. This is a result of the agenda setter choosing a level of the public good specifically to make the executive at least as well off by not vetoing – see definition of \bar{z} in condition ii). Hence, the executive's action is optimal. The cost of providing a private good to the bare majority of the legislators, including A, not being prohibitive, which by condition ii)^{a)} holds. Note that it is not necessarily the case that all the legislators would vote to override an executive veto. Condition ii), however,

is sufficient to prevent an attempt to veto by the executive. Finally, we must show that A 's action is optimal. First, note that A can always obtain a payoff of both $w(z^A)$ or $\beta\alpha_A$. Hence, the payoff from playing the strategy described here must exceed $w(z^A)$ and $\beta\alpha_A$, and if conditions *iv*) and *v*) hold, it does. Secondly, A must not be able to benefit from providing private goods to an override majority. This is guaranteed by condition *iii*); if $\bar{D} = \emptyset$ this option is not open to the agenda setter and else the payoff from taking the path described in the proposition here is higher. Third, since A has the support to pass the proposal he cannot benefit from offering private goods to more legislators. Finally, A cannot benefit from offering private goods to fewer legislators. If she does, $\exists C \subset B^*$ such that $w(\bar{z}) - \varepsilon \sum_{j \in C} \alpha_j \geq w(z^o)$, i.e. otherwise there does not exist a bare majority for the bill, which implies that $w(z^A) - \varepsilon\alpha_A > w(z^o)$ and we have a contradiction. Hence, all the actors' actions are optimal. \square

Proposition 11 Let $\bar{D} = \left\{ D \subset N \mid w(z^A) + \alpha_i - \varepsilon \sum_{j \in D} \alpha_j \geq w(z^o), \{A\} \in D, \text{ and } |D| = m \right\}$ and let $D^* = \max_{D \in \bar{D}} w(\hat{Z}) + (1 + \beta)\alpha_i - \varepsilon \sum_{j \in D} \alpha_j$. If the following conditions hold:

- i) $w(z^A) - \varepsilon\alpha_A < w(z^o)$,
- ii) $\bar{D} \neq \emptyset$,
- iii) Either $\bar{B} = \emptyset$ or $w(z^A) - w(z^o) \geq \varepsilon \sum_{j \in \bar{D} \setminus B^*} \alpha_j$ where \bar{B} and B^* are defined as in Proposition 10.
- iv) $(1 + \beta)\alpha_A \geq \varepsilon \sum_{j \in D^*} \alpha_j$,

then the following paths of play constitute an equilibrium:

Stage:

- II. Then $b_{A2}^* = (z^A, x_1^*, x_2^*, \dots, x_n^*) = x_P$, where: $x_i^* = \begin{cases} 1 & \forall i \in D^* \\ 0 & \forall i \notin D^* \end{cases}$.
- III. $b_{i3}^* = x_P$ for all $i \in D^*$. The legislature adopts the proposal, $x_L = x_P$, as $|D^*| = m > (n + 1)/2$.
- IV. $b_{E4}^* \in \{x_L, x^o\}$ i.e. the executive can either exercise his veto or not, in which case the game ends.
- V. If $b_{i5}^* = x^o$ then $\forall i \in D^*, b_{i5}^* = x_L$, i.e. the legislators override the executive veto as $|D^*| = m$.

The final policy outcome is: The public good is provided at z^A , and private goods are provided for the override majority, which includes A , of the legislators with the cheapest private goods. A 's payoff equals $w(z^A) + (1 + \beta)\alpha_A - \varepsilon \sum_{j \in D} \alpha_j$.

Proof The actions of the legislature at the last stage are optimal as overriding the veto gives a higher utility to all legislators included in the bill by condition *ii*). When this is the case, the bill is veto-proof, i.e. the final outcome is unaffected by the executive decision to attempt a veto. At the voting stage, the legislators offered private goods vote for the proposal face, essentially, the same choice as in the last stage of the game. Hence, by condition *ii*) they vote for the proposal. It only remains to show that the agenda setter cannot do better for herself. By condition *i*) she is not better off making a proposal such as the one given in Proposition 9. Condition *ii*) also ensures that the agenda setter prefers b_{A2}^* to offering a proposal that will get vetoed by the executive and sustained by the legislature. Offering private goods to more legislators, or changing the allocation among them, will still lead to the adoption of the proposal but will result in a lower utility for the agenda setter by condition *ii*). Offering any fewer private goods would either make the executive veto potent, or $\exists B^* \subset N$ satisfying the condition of Proposition 10. Condition *iii*) rules that possibility out – if $\bar{B} = \emptyset$ such B^* does not exist and if it does the outcome here is preferred. Offering any fewer private goods will not generate enough support for the bill unless the condition of Proposition 9 is satisfied thus violating condition *i*) here. Thus, the path of play described is in equilibrium as each of the agents' actions are optimal. \square

Proposition 12 If the following conditions hold:

- i) $w(z^A) - \varepsilon\alpha_A < w(z^o)$,
- ii) Either $\bar{B} = \emptyset$ or $w(z^o) \geq w(\hat{z}) + \alpha_A - \varepsilon \sum_{j \in \bar{B}^*} \alpha_j$ where \bar{B} and B^* are defined as in Proposition 10,
- iii) Either $\bar{D} = \emptyset$ or $w(z^o) \geq w(z^A) + \alpha_A - \varepsilon \sum_{j \in \bar{D}^*} \alpha_j$ where \bar{D} and D^* are defined as in Proposition 11,
- iv) $w(z^A) \leq w(z^o) + \beta\alpha_A$.

then the following paths of play constitute an equilibrium:

Stage:

- II. Let $S \subset N$, $\|S\| < m - 1$. Then $b_{A2}^* = (z^o, x_1^*, x_2^*, \dots, x_n^*) = x_p$, where: $x_i^* = \begin{cases} 1 & \text{if } i \in S \cup \{A\} \\ 0 & \text{if } i \notin S \cup \{A\} \end{cases}$.
- III. $\forall i \in N, b_{i3}^* = x_p$, and $x_L = x_p$.

IV. $b_{E4}^* = x^o$.

- V. If $b_{E4}^* = x^o$ then $\forall i \notin C, b_{i5}^* = x^o$, i.e. the legislators sustain the executive veto as by definition, $|N \setminus S \cup \{A\}| \geq n - m + 1$.

The final policy outcome is: The public good is provided at z^o and no private goods are produced. A 's payoff equals $w(z^o) + \beta\alpha_A$.

Proof Intuitively, as the agenda setter prefers her proposal to be vetoed, she can safely make a proposal to any coalition that cannot, or will not, override the executive veto. Any coalition of $m-1$, or fewer, legislators will do. The agenda setter is indifferent about how many private goods are included in the proposal if it gets vetoed. At the override stage, legislators from the set $N \setminus C$ sustain the veto by as they prefer to not provide the other legislators with the private goods by condition *i*). The executive veto is clearly optimal as he dislikes private goods. At the voting stage all legislators in C accept the agenda setter's proposal, because they benefit from the credit claiming and the rest are indifferent. Condition *ii*) ensures that the agenda setter does better with the proposal x_p than by the one given in Proposition 10 (making the executive indifferent between veto and accepting). Condition *iii*) similarly states that the agenda setter does not do better with a proposal as the one given in Proposition 11 (override majority support). Condition *iv*) states that her benefits from getting the public good, $w(z^A) - w(z^o)$, are outweighed by the benefits from getting the opportunity to claim credit, $\beta\alpha_A$. The agenda setter can not obtain both her preferred levels of both the public and private goods as the legislators would sustain the executive's veto, by *i*). Finally, consider the case where A has included m private good in her proposal. We have already established that A prefers the proposal to vetoed, by condition *ii*), and she will therefore support the executives veto. So will any legislator who's α is lower than α_A . A will not allow the proposal to pass by offering the private goods to m legislators that would prefer the proposal to pass, but can unafraid include legislators that prefer the veto in the proposal. \square

Proposition 13 *If the following conditions hold:*

- i*) $w(z^A) - \epsilon\alpha_A \geq w(z^o)$,
- ii*) Either $\bar{B} = \emptyset$ or $w(z^A) \geq w(z^o) + (1 + \beta)\alpha_A - \epsilon \sum_{j \in \bar{B}^*} \alpha_j$ where \bar{B} and \bar{B}^* are defined as in Proposition 10,
- iii*) Either $\bar{D} = \emptyset$ or $\epsilon \sum_{j \in \bar{D}^*} \alpha_j \geq (1 + \beta)\alpha_A$ where \bar{D} and \bar{D}^* are defined as in Proposition 11,
- iv*) $w(z^A) \geq w(z^o) + \beta\alpha_A$

then the following paths of play constitute an equilibrium:

Stage:

II. $b_{A2}^* = (z^A, 0, 0, \dots, 0) = x_p$.

III. $\forall i \in N, b_{i3}^* = x_p$, and $x_L = x_p$.

IV. $b_{E4}^* = x_L$ or x^o .

- V. If $b_{E4}^* = x^o$ then $\forall i \in N, b_{i5}^* = x_L$, i.e. the legislators vote to override the executive veto as by definition they prefer z^A to z^o .

Proof The legislative bill is clearly veto-proof, i.e., whether the executive attempts a veto or not makes no difference. The legislators also clearly prefer the proposal to the status quo. The three conditions are sufficient for the agenda setter to either prefer the outcome here to the ones in Propositions 10-12, or make them unattainable. Including her own private good in the legislative bill is futile by condition *i*), $w(z^A) - \epsilon\alpha_A < w(z^o)$. \square

References

- Abrams, B. A. & Dougan, W. R. (1986). The effects of constitutional restraints on governmental spending. *Public Choice*, 49(2), 101–116.
- Alm, J. & Evers, M. (1991). The item veto and state government expenditures. *Public Choice*, 68(1), 1–15.
- American Enterprise Institute. (1984). *Proposals for Line-Item Veto Authority*. Washington, DC: American Enterprise Institute for Public Policy Research.
- Baldez, L. & Carey, J. M. (1999). Presidential agenda control and spending policy: Lessons from general Pinochet's constitution. *American Journal of Political Science*, 43(1), 29–55.
- Baron, D. P. & Ferejohn, J. A. (1989). Bargaining in legislatures. *American Political Science Review*, 83(4), 1181–1206.
- Cameron, C. & McCarty, N. (2004). Models of vetoes and veto bargaining. *Annual Review of Political Science*, 7, 409–435.
- Cameron, C. M. (2000). *Veto Bargaining: Presidents and the Politics of Negative Power*. Cambridge: Cambridge University Press.
- Carter, J. R. & Schap, D. (1987). Executive veto, legislative override, and structure-induced equilibrium. *Public Choice*, 52, 227–244.
- Carter, J. R. & Schap, D. (1990). Line item veto – where is thy sting? *Journal of Economic Perspectives*, 4(2), 103–118.
- Dearden, J. A. & Husted, T. A. (1990). Executive budget proposals, executive veto, legislative override and uncertainty: A comparative analysis of the budgetary process. *Public Choice*, 65, 1–19.
- Dearden, J. A. & Husted, T. A. (1993). Do governors get what they want?: An alternative examination for the line-item veto. *Public Choice*, 77, 707–723.
- Groseclose, T. & McCarty, N. (2000). The politics of blame: bargaining before an audience. *American Journal of Political Science*, 45(1), 100–119.
- Holtz-Eakin, D. (1988). The line item veto and public sector budgets: Evidence from the states. *Journal of Public Economics*, 36(3), 269–292.
- Kiewiet, D. R. & McCubbins, M. D. (1988). Presidential influence on congressional appropriations decisions. *American Journal of Political Science*, 32, 713–736.
- Mackay, R. J. & Weaver, C. L. (1985). The power to veto. Manuscript presented at the Hoover Institution Seminar in Collective Choice, Stanford University.
- Magar, E. (2001). *Bully pulpits: posturing, bargaining, and polarization in the legislative process of the Americas*. Phd thesis, Univ. Calif. San Diego.
- Mainwaring, S. & Shugart, M. S. (1997). *Presidentialism and Democracy in Latin America*. Cambridge: Cambridge University Press.
- Masia, N. A. (1985). *Essays on the Political Economy of Government Spending*. Phd thesis, Univ. Rochester.
- Matthews, S. A. (1989). Veto threats: Rhetoric in bargaining games. *Quarterly Journal of Economics*, 104, 347–367.
- Mayhew, D. R. (1974). *Congress: The Electoral Connection*. New Haven, CT: Yale University Press.
- McCarty, N. (1997). Presidential reputation and the veto. *Economics and Politics*, 9, 1–27.
- Nice, D. C. (1988). The item veto and expenditure restraint. *Journal of Politics*, 50(2), 486–499.
- Reese, C. C. (1997). The line-item veto in practice in ten southern states. *Public Administration Review*, 57(6), 510–516.
- Schap, D. (1986). Executive veto and informational strategy: A structure-induced equilibrium analysis. *American Journal of Political Science*, 30, 755–770.

Schap, D. (1988). In search of efficacious executive veto authority. *Public Choice*, 58, 247–257.

Schap, D. (1990). Executive veto and spending limitation: Positive political economy with implications for institutional choice. *Public Choice*, 65, 239–256.

Shugart, M. S. & Carey, J. M. (1992). *Presidents and Assemblies: Constitutional Design and Electoral Dynamics*. Cambridge: Cambridge University Press.

The Economist. (1997). Line-item laughs. August 15th - 22nd.

The New York Times. (1997). President makes first use of new veto. August 12th.

Watson, R. A. (1993). *Presidential Vetoes and Public Policy*. Lawrence, KS: University Press of Kansas.

Example 1

Consider a seven person legislature, $N = \{1, 2, \dots, 7\}$, with $A = 1$, $m = 5$, and the following preference parameters:

- $\alpha_1 = \alpha_2 = 2$, $\alpha_3 = \alpha_4 = \alpha_5 = 3$, $\alpha_6 = \alpha_7 = 7$
- $w(z^A) - w(z^o) = 1$
- $w_E(z^A) < w_E(z^o)$
- $\beta = 1/17$
- $\epsilon = 1/10$

Then the equilibrium agenda setter proposal is: $(z^A, 1, 1, \dots, 1)$.

The executive vetoes $m - 1$ of the most expensive private items and the public good and the veto is sustained by the legislature. The policy outcome is: $(z^o, 1, 1, 1, 0, 0, 0)$.