

**From royal to parliamentary rule without revolution,
the economics of constitutional exchange
within divided governments¹**

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Abstract. This paper provides an economic explanation for the tax veto authority of medieval parliament and for the gradual and peaceful shift of policymaking authority from kings to parliaments that occurred in the nineteenth century. The domain of possible power assignments within a divided government is multidimensional and essentially continuous. This allows policymaking authority to be distributed in many ways and also allows constitutional exchange to take place along many margins of power. The consequent internal “market for authority” over budgets and public policies allows constitutional and quasi-constitutional reforms to be adopted without threat of civil war or violent revolution. Examples from English history are used to demonstrate the relevance of the analysis.

Key Words: Constitutional Exchange, Tax Constitution, Divided Government, Market for Power, Public Choice, Dictatorship, Democracy, Division of Power, Credible Commitment, Constitutional Evolution, Veto Players, King and Council, Rise of Parliament

JEL Classification: D7, D6, H1, N4

1. Introduction: constitutional exchange as a mechanism for institutional change

The most common form of government within medieval Europe was the “king and council,” which divided policymaking power between a royal monarch and a council of state or parliament (Congleton 2001). These nascent national and regional parliaments generally had veto power over new taxes (subsidies), but little or no legislative authority, and their members were generally selected from the wealthiest families in the domain. During the nineteenth century, many of these long-standing systems of government underwent a series

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of reforms that increased their parliaments' authority over public policy and changed the rules for selecting members of parliament. These reforms were not revolutionary insofar as they largely preserved the medieval king and council template, but cumulatively they radically changed the assignment of policymaking authority between the crown and parliament. By the beginning of World War I, parliaments had generally obtained more or less complete control of public policy, although the king and council template was retained. This could be said, for example, of the constitutional monarchies of Great Britain, Sweden, Norway, the Netherlands, Belgium, Denmark, Italy, and Japan. This paper provides an economic explanation for the initial membership of the medieval parliaments and for the gradual shift of policymaking authority from the king to parliament that took place in the nineteenth century.

Contemporary analytical research on pure forms of governance is extensive, but there is relatively little analysis of governments in which policymaking authority is divided, and even less on how that authority comes to be distributed.² For example, Schap (1986), Carter and Schap (1987), and Hammond and Miller (1987) demonstrate that an executive veto can affect the decisions of the legislature and policy outcomes in general. Persson, Roland, and Tabellini (1997) demonstrate that electoral feedback can induce a divided government to adopt policies that are more favorable to voters than are adopted by unified governments. Dixit, Grossman, and Faruk (2000) analyze self-enforcing divisions of political or economic surplus between two parties within a democracy that interact repeatedly through time and note that stable rules for dividing a nation's resources can emerge in a divided government that is entirely self-interested, but whose relative power shifts randomly through time. Tsebe-

Nuffield College in 2004 improved the historical foundations of the analysis. An early version of the paper was presented at the 2002 ASSA meetings.

² Wintrobe (1998), Tullock (1987), and Olson (2000) collectively provide a good overview of the rational choice literature on dictatorship. Mueller (2003) and Persson and Tabellini (2000) provide comprehensive discussions of the main strands of the analytical democracy literature. Bipolar and polycentric representations of government and their associated policymaking procedures are mentioned only in passing in these extensive surveys. (The original concept of polycentric governance is often attributed to Ostrom, Tiebout and Warren (1961).)

lis (2002) demonstrates how the number of veto players can affect political decisionmaking across institutional structures.

These models of divided governance, however, generally assume that the division of policymaking power between the executive and parliament is exogenous for the period of interest. This is a reasonable assumption in the short run, but less so for long-run analysis, because in the long run policymaking authority can be reassigned through constitutional reform. There is also a small rational choice–based literature on institutional reform that shows that revolutionary threats can induce political reform. For example, Tilly (2004), Grossman (1991), and Acemoglu and Robinson (2000) suggest that the threat of civil war can account for many changes in constitutional design, because such threats provide political elites with reasons to revise policymaking procedures in order to avoid economic losses associated with revolution. Voigt (1999) and Congleton (2003), however, note that on many occasions constitutional reforms are adopted peacefully without obvious credible threats of revolt, although they do not provide a clear model of constitutional bargaining.

It seems clear that peaceful methods of constitutional reform can be important. Significant changes in parliamentary procedures have been widely adopted throughout Europe, North America, and in Asia in the past two centuries during times when threats of revolution were minimal. For example, twenty-five of the twenty-seven formal amendments to the American Constitution took place at times of peace rather than during civil war or just prior to obvious threats of civil warfare. (Indeed, the “Civil War amendments” took place after, rather than before or during, the American civil war.) The European Union has been created through peaceful means, although marked by occasional (largely) peaceful public demonstrations for and against further centralization.

This paper develops a model of constitutional reform based on bargaining and exchange within divided governments. It uses rational choice models from public choice and game theory to explore circumstances under which constitutional gains to trade may exist within governments based on the “king and council template” (Congleton 2001). Gains to trade are possible within such divided governments, because the authority to make public

policy is not a binary all-or-nothing variable, but rather a multidimensional continuum. Political authority can be distributed in many ways among the chambers of governance.

The analysis is organized to parallel the political history of northern Europe, although its relevance is not limited to European constitutional history. Section II explores fiscal incentives for a secure monarch to provide a parliament of taxpayers with significant veto power over taxation. Section III explores how different assignments of veto and agenda control over expenditure domains can affect the feasible range of policy outcomes and thereby the cost of transferring such powers to parliament. The analysis demonstrates that veto power and agenda control can be reassigned to parliament at a surprisingly low cost to the king in settled times, which implies that such powers tend to be less valuable to parliament in settled than in unsettled times. Section IV characterizes circumstances in which a king may find it advantageous to trade agenda-setting or veto power to parliament for additional or more secure tax revenues. Section V summarizes the argument and suggests extensions. Proofs of the most technical points are developed in footnotes.

Examples from British history are used to illustrate the relevance of the analysis. Many other historical cases from North America, Europe, and Japan could also have been used, but the British cases are sufficient to demonstrate the relevance of the model. (A book-length treatment of this and other cases is well underway.)

2. Why a secure king might grant veto power over taxes to parliament

As a point of departure, consider a polar case of the king and council template: one-man rule with an advisory council. Suppose that the king is completely secure in his authority and chooses public policy to maximize his own welfare. For purposes of analysis, assume that the king has a utility function defined over his own private consumption, X , and two government services, guns, G_1 , and butter, G_2 :

$$U = u(X, G_1, G_2) \tag{1}$$

The king's budget is determined by his own household wealth, W , and the lump-sum taxes that he levies, T . Because the king can collect any tax that he wishes and spend the money as he sees fit, the feasible range of services and his personal consumption is determined by the

cost of government services, $c(G_1, G_2)$, and the price of personal consumption. The council's role is strictly advisory, which initially might involve advice about the production of public services or taxes schedules. This is the familiar leviathan model of government developed by Brennan and Buchanan (1980) and extended by Mancur Olson (2000).

Using personal consumption as the numeraire good allows the king's budget constraint to be written as $T + W = X + c(G_1, G_2)$ or

$$X = T + W - c(G_1, G_2) \quad (2)$$

where c is a separable convex cost function for the two government services. Substituting for personal consumption and differentiating with respect to the control variables T , G_1 , and G_2 yields first-order conditions that characterize the king's preferred fiscal policy:

$$U_{G1} - U_x C_{G1} = 0 \quad (3)$$

$$U_{G2} - U_x C_{G2} = 0 \quad (4)$$

$$U_x = 0 \quad (5)$$

The first two first-order conditions imply that the king chooses public service levels so that the marginal utility of the service equals its marginal cost in terms of his diminished consumption of the private good. The third implies that lump-sum taxes will be collected until the marginal utility of his additional personal consumption falls to zero.

Note that the latter can be satisfied as an equality only if the king has sufficient household and tax revenue to *achieve satiety in all goods*. (Equation 5, $U_x = 0$, implies that both U_{G1} and U_{G2} also equal zero at the utility-maximizing public policy.) Whether satiety is feasible or not depends on the king's preferences, his wealth, and the extent to which tax revenue may be "squeezed" from the kingdom. If the king's tastes are monotone increasing in private consumption and public services, as normally assumed in economic models, satiation will not occur, and the secure king will be disposed to use lump-sum taxation to collect the entire economic surplus of the kingdom (above subsistence) as tax revenue.

A. Leviathan's revenue dilemma

Unfortunately for the king, even lump-sum taxes may have an excess burden, although this tends to be neglected in most public finance texts. Forward-looking subjects would anticipate the confiscatory lump-sum tax and produce no taxable surplus. In this case, the king's tax revenue is zero in equilibrium, and taxpayers live at subsistence income levels, albeit with plentiful leisure.³

In exchange for a royal commitment to replace confiscatory lump-sum taxes with a proportional tax limited to a specific fraction of output above subsistence, it is clear that the subjects would produce a larger tax base, and the king and taxpayers would be better off.⁴ However, a secure king's fiscal promises are not entirely credible, as emphasized by Weingast and North (1989), because a secure king may simply rewrite the tax code whenever he pleases. It takes more than a new tax code to realize this particular Pareto superior move.

B. Parliamentary tax veto as a solution to leviathan's revenue dilemma

One institutional device that makes the king's announced tax schedule credible is to grant veto power to a parliament or tax council representing taxpayer interests over future tax increases. To illustrate how such a system might work, suppose that the king agrees to replace the present lump-sum tax system with a proportional tax on income and adopts the tax rate that maximizes the present value of royal revenues from the existing national econ-

³ Consider a typical farmer-taxpayer whose utility is $U = u(L, Y)$. U is assumed to be monotone increasing, twice differentiable, and concave. After tax personal income is $Y = f(H-L, G_1, G_2) - T$, under lump-sum tax T , where f is the taxpayer's strictly convex production function of farm output, L is leisure, and H is the available hours in the day. $H-L = W$ is the number of hours spent producing the consumption good (perhaps farming for food). Y can be regarded as income greater than subsistence income if H is defined as the net of subsistence time constraint. The individual taxpayer works $H-L^*$ hours, where L^* satisfies $U_L - U_Y F_W = 0$.

Note that if a confiscatory level of taxation is adopted, $T=f(H-L, G_1, G_2)$, and a corner solution is chosen with $L^{**} = H$, because $U(L^{**}, 0) > U(H-L^*, 0)$ for $L^{**} > L^*$. (Note this inequality is also true for "almost" confiscatory taxes as well, insofar as taxpayers must sacrifice a lot of income for just a bit of income.)

omy. He “promises” not to impose other lump-sum taxes or to raise the tax rate above this level for any reason and grants parliament the power to veto any revenue-increasing changes in the tax code.

This fiscal constitution creates a four-stage game. In state one, the “permanent” tax schedule is announced. In stage 2, economic production takes place. In stage 3 the king collects tax revenue. If the tax schedule is higher than promised, the tax council vetoes (and refunds) any new taxes collected in stage 4.⁵ Under the new division of policymaking power, the king's announced tax policy is entirely credible, because a council representing taxpayer interests will veto subsequent tax increases in period 4, barring unanticipated emergencies.⁶

Under this fiscal constitution, royal revenues are not truly maximized, because a proportional income tax generates less revenue alone than when combined with a lump-sum tax system.⁷ However, the new tax constitution for leviathan is clearly Pareto superior to the unconstrained setting. The subjects produce more output and pay greater taxes than they would have in the absence of the parliamentary veto, because they are now guaranteed a positive share of their production. In this manner, parliamentary veto power over tax reform makes both king and kingdom wealthier.

⁴ In this case $Y = (1-t) f(H-L, G_1, G_2)$ and L^* is such that $U_L - (1-t)U_Y F_W = 0$. As long as $t < 100\%$, the usual assumptions about utility and production functions imply that $L^* < H$, thus above subsistence output is produced.

⁵ Additional “modest” lump-sum taxes could produce more revenue and could be added to an income tax system to increase revenues. The king would, thus, always have a private incentive to add such taxes to the system. It is such “tax reforms” or “surcharges” that the parliament would have to veto for the new system to be successful.

⁶ Taxpayer utility always diminishes as t increases if tax receipts are increased to support additional private consumption for the royal household. Given $U = u(L, Y)$ and $Y = (1-t)f(H-L, G_1, G_2)$, after tax utility can be written as $U^* = u(L^*, (1-t)f(H-L^*, G_1^*, G_2^*))$. The envelope theorem implies that $U^*_t = U_Y [(-1)f(H-L^*)] < 0$.

⁷ Buchanan and Brennan (1980) analyze taxpayer interests in constraining the tax power of leviathan at a time when the fundamental institutions of governance are adopted by a constitutional convention. They do not, however, address the problem of enforcing the tax constitution, nor explain why a preexisting leviathan would accept a tax constitution that constrains his power to tax.

It bears noting that *no vetoes will be observed* when the tax-veto system is working smoothly, and consequently, such parliaments will appear to be “toothless,” as is often reported of medieval parliaments. Nonetheless, in the absence of the council's veto power over new taxes, both the king and the kingdom would have been substantially poorer. Authority to veto future tax increases creates credible tax laws, rather than vetoes when this tax constitution is working well.

C. The durability of a parliamentary tax veto

This fiscal constitution tends to be a stable institution once implemented, because the king cannot reduce the veto power of the council without undermining his tax base. Nor can the king simply add another stage to the game in which the king can accept or reject the council's veto of tax increases. In such a game, a utility-maximizing king would be tempted to impose confiscatory taxes (at least occasionally) in period 3 and then overturn the council's period 4 veto in a new period 5, taking the entire surplus through confiscatory lump-sum taxes. Production would again fall below levels that maximize long-term government revenues under the proportional tax, because such policies increase anticipated tax burden.⁸ In such cases, the assignment of veto power to parliament or a council of taxpayers is stable once in place because the *institutional* game is subgame perfect. It is sufficient for the purposes of this paper that conditions exist under which continued adherence to the tax constitution is in the king's interest.⁹

⁸ Clearly, taxpayers would take account of any new or conditional tax, whether imposed in perpetuity or temporarily. Under a composite system of proportional and lump-sum taxes, the first order condition for taxpayer leisure remains $U^*_L = U_Y [(1-t)f_W(H-L^*)]$, but the f. o. c. is now evaluated at a lower net of tax income level. In cases in which the after-tax surplus is small, the initial corner solution reemerges.

The effect of the lump-sum tax on leisure is determined by the sign of $U_{LY}(-1) + U_{YY}F_W$ at L^* , which depends on the slopes of the marginal utility and production functions. As in the original case, the king would be tempted to take the entire untaxed surplus with supplemental lump-sum taxes. The corner solution of subsistence production is chosen by taxpayers if $U(L^{**}, 0) > U(H-L^*, (1-t)f(H-L^*) - T)$ with $L^{**} > L^*$.

⁹ It also bears noting that the institution of the tax council, itself, increases political resistance to changing the fiscal constitution, because it reduces the cost of collective action for those represented on the council. Meetings of the council allow members to affirm their common

D. A short history of medieval tax constitutions

History suggests that such conditions are commonplace, insofar as fiscal arrangements similar to those described above often remained in place for centuries after their initial adoption. In order to secure a larger and more predictable tax revenue stream, medieval kings in the thirteenth and fourteenth centuries often created councils representing major taxpayers (wealthy businessmen and land owners) and vested those councils with veto power over new taxes.¹⁰ These medieval parliaments, assemblies, and councils of state lasted for many centuries, as did their veto power over new taxation. Similar veto powers were also obtained by many of the colonial governments in North America, which allowed elected and/or appointed colonial legislatures to exercise considerable control over tax and government expenditures from the mid-seventeenth century onward.¹¹

For the most part, the early parliaments were not “self-calling” and met only when called by the crown. The royal household normally had its own “customary” revenue

interest in resisting tax increases and to organize opposition to any new taxes imposed by king over the parliament’s veto. Once organized, “tax revolts” of major taxpayers can choose among a variety of peaceful and violent means. For example, parliament can threaten to return the kingdom to the original subsistence level equilibrium if their veto power is undermined.

¹⁰ In the British case, this power is first specified in writing in the Magna Carta. Similar political arrangements were also peacefully adopted in France, Spain, Germany, and Sweden during the thirteenth and fourteenth centuries (Palmer and Colton 1965, 29–31). In the English colonies in North America, revenue concerns and interests were also part of the justification for the representative assemblies elected by property-owning adults during the seventeenth century. Many of these fiscal constitutions were adopted peacefully, although in the English case, veto power was initially obtained, because of a threat of insurrection generated by excess royal taxation (that is, in violation of preexisting tax norms and institutions).

¹¹ It bears noting that not all tax councils and parliaments emerge from king dominated systems of governance. In some cases, the council initially dominates policy formation, and the kings who were delegated policymaking authority. For example, in the early middle ages, grand councils, assemblies, and tings of various forms often *elected kings* who served for life, under good behavior. The dominant-council case, however, shares many of the same properties as developed below for king-dominated governments. There will, for example, be periods in which kings obtain additional policymaking authority from the council as gains from constitutional exchange emerge. Through such means, royal governance can emerge gradually and more or less peacefully from council-dominated systems of governance, through a series of peaceful, albeit occasionally bold, bargains.

sources, which were not subject to parliamentary review. Consequently, the tax councils were called for the most part on occasions when the king or queen thought it possible to secure new taxes. Assemblies were, for example, routinely called on the eve of warfare, because increases in taxes (subsidies) were more acceptable to council during national emergencies, at which point temporary increases in taxes were often adopted. (Other requests for subsidies were occasionally made, but routinely rebuffed.) The medieval constitution did not generally affect other aspects of public policy, although parliaments often secured specific policy changes or somewhat enhanced authority during the course of negotiations for “royal subsidies,” which is one of the reasons why their parliaments were not called more often.

During the seventeenth century, several European kings attempted to circumvent their long-standing fiscal constitutions by increasing their personal revenues in various ways, as with colonial enterprises and the sale of monopoly patents, which increased royal revenues and often allowed many years to pass between meetings of parliament. However, in only one significant case was a national parliament disbanded rather than uncalled. Denmark formally disbanded its royal council (Rigsraad) in 1665 and did not create analogous representative assemblies until 1831 (Danstrup 1947: 94). In absolute France, the Estates General were not formally disbanded, but were simply not called between 1614 and 1789, until a fiscal crisis required it. The Stuart kings of England also attempted to use other revenues to avoid calling parliament, but these unconstitutional practices led to two civil wars, which produced two restorations of England’s medieval tax constitution.

Parliament and Charles II agreed to a restoration of the medieval constitution in 1660 after the failure of the first civil war to establish a durable alternative to the medieval constitution (Cromwell’s republic). However, Parliament’s veto power over new taxes was soon circumvented by Charles II and his brother James II, who found ways to increase royal household’s revenues and reduce the cost of government services in order to avoid parliament’s veto power over new taxes. Late in 1688, Willem/William III, at the invitation of several members of the English Parliament and with the assistance of 21,000 members of the Dutch army, induced James II to abandon the crown and flee to France. By Christmas, London was completely in control of William’s Dutch forces (Claydon 2002: 28-9; Israel 1995: 852). A

special session of Parliament was called early in 1689, and negotiations between William III and Parliament yielded a formal agreement that again restored the long-standing English constitution, which has come to be known as the English Bill of Rights. Under its terms, William III and his wife Mary received the crown and Parliament obtained the restoration of the medieval fiscal constitution with its veto power over new taxes.¹²

What is of interest for the next part of this paper is that William and Mary proceeded to trade their medieval fiscal powers to Parliament in exchange for new revenues during the next decade. These were used for the most part to finance military campaigns on the continent against the French. However, the fiscal bargains were not entirely motivated by external threats.¹³

William's gain from constitutional exchange with Parliament is evident in the enormous funding that Parliament provided him for his war with France. The tax base was expanded, and tax rates were increased. Tax receipts more than doubled relative to those of James II, rising from 2 million to more than 5 million pounds in 1694 (Claydon 2002: 125–6). Expenditures rose even more rapidly, with the consequence that British debt expanded to unprecedented levels (North and Weingast 1989), accomplished in part via the Dutch method of earmarking some taxes for debt service and repayment (Stasavage 2003: 74–8). Central government employment tripled in size from 4,000 under James II to 12,000 under William, while the British army and navy approximately doubled in size during the nine years war (Claydon 2002: 126). The price paid for Parliament's fiscal support during the nine years

¹² The Bill of Rights clearly states as much: “[Parliament] do pray that it may be declared and enacted that *all and singular the rights and liberties asserted and claimed in said declaration are the true ancient and indubitable rights and liberties of the people of this kingdom.*” Other rights were also restored, although these are less relevant for the present analysis. A complete copy of the English Bill of Rights can be found at: http://www.constitution.org/eng/eng_bor.txt.

¹³ William III was not the usual English heir to the throne. He was not an inexperienced English nobleman raised in a royal and sovereign English household, waiting for his inheritance, but rather an experienced middle-aged man from the most distinguished family in the Netherlands, a major power, and the wealthiest state in Europe at that time. As King of England, William clearly had the long-standing Dutch conflict with France on his mind, and he focused most of his attention on raising English support and money for a continental war

war with France (1688-97) is also clear. Parliament advanced William the traditional customs duties for life, but all other taxes were extended for short periods between one and four years. In 1694, William accepted a new Triennial Act, which required parliaments to be called at least once every three years and limited the terms of Parliament to three years. The Triennial Act, together with Parliament's new short-term tax policies, made the House of Commons more independent of the crown and made the crown more dependent on Parliamentary revenues. Resistance, at this point, would have undermined William's efforts to raise money for his continental military campaigns (e.g., to pay the English and Dutch armies) and to build a more powerful British navy to confront France in Europe and abroad.

For the most part, these relatively small constitutional bargains were not created by rising costs associated with military innovations nor credible threats of revolution, and were only partly a response to new security threats from the deposed king's alliance with France.¹⁴ After the Stuart forces were eliminated from Ireland and Scotland, constitutional bargains between William and Parliament continued for several years. The most notable of the later bargains was the Civil List Act of 1698. It assured William III of new tax revenue for life, more than secured by any previous king, but included a novel revenue constraint. If the new royal tax produced revenues of more than £700,000/year, the additional revenues could only be used with the approval of parliament.

The enhanced tax veto power agreed to by William and Parliament inadvertently provided the institutional framework through which British parliamentary democracy emerged peacefully and gradually during the course of the next two centuries.

3. Transforming a tax council into a legislature through constitutional exchange

The next analytical step is to model circumstances in which parliaments may peacefully obtain policymaking authority from the king. This requires exploring in some detail

with France. He spent his first several summers as king on the battlefield against the French and wintered in London when weather was less conducive for warfare (Claydon 2002: 37).

¹⁴ Ferguson (2002), for example, argues that the rising cost of warfare is a major cause of fiscal and political innovation. The analysis below allows this possibility and provides analytical foundations for some of Ferguson's discussion, but suggests that it cannot by itself explain the shift of authority from kings to parliament.

how power can be divided and reassigned within the king and council template, and the extent to which the interests of the crown or council are affected by alternative assignments of policymaking authority. The analysis is developed in a parallel structure, with the prose providing the intuition behind a series of diagrams and mathematical footnotes providing rigorous foundations for the diagrams.

To represent circumstances in which gains from constitutional exchange are possible, clearly more than one dimension of veto power and agenda control has to be analyzed. (In a one-good world, there are very few opportunities for voluntary exchange.) A multidimensional policy space, however, allows the possibility of minor adjustments in the distribution of policymaking authority and also the possibility of unrealized gains to trade. As in ordinary markets, it is the multiplicity of tradable goods that allows the possibility of mutual gains from trade. There are three parts to the analysis. First, the effects of shifting veto power and/or agenda control over services levels are characterized. Four partial transfers of policymaking power to parliament are analyzed: (i) veto power over some policy proposals, (ii) veto power over all proposals, (iii) agenda control over some policy proposals, and (iv) complete agenda control. Second, given these effects, circumstances are characterized in which a king or queen will trade some agenda control or veto power over legislation to parliament in exchange for tax revenues. Third, a special case in which a series of constitutional bargains leads to parliamentary dominance is developed.

A. The absence of constitutional reform in stable political and economic circumstances

For purposes of analysis, it is assumed that kings and queens are ordinary persons with more or less commonplace desires for fame, fortune, and personal consumption. Kings and queens, however, have uncommon means for advancing those goals. Under the tax constitution developed above, a secure king can use “his” revenue to purchase his ideal combination of public services, given his veto-constrained tax revenue, T^0 , and his own household income, Y^0 . Substituting the veto-constrained tax revenue into the budget constraint allows the king’s indirect utility function to be written as:

$$U = u(T^0 + Y^0 - c(G_1, G_2), G_1, G_2) \quad (6)$$

which has two control variables, G_1 and G_2 , and has two first-order conditions similar to those above:

$$U_{G1} - U_x C_{G1} = 0 \quad (7)$$

$$U_{G2} - U_x C_{G2} = 0 \quad (8)$$

Together the first-order conditions imply that the king's optimal policies are determined by royal income and the constraints imposed by the fiscal constitution. As long as the king's personal income and the tax constitution are stable, the expenditure policies characterized above, $G^{1*} = g(Y^0 + T^0)$ and $G^{2*} = h(Y^0 + T^0)$, are ideal for the king.

The members of parliament, however, may prefer a different combination of services to the one adopted by the king (and his executive branch), which implies that there may be unrealized gains to fiscal or constitutional exchange. With this mind, parliament might offer additional revenue sources in exchange for a new pattern of expenditures. If parliament's offer is sufficient to compensate the king for a "suboptimal" pattern of services, he accepts the new fiscal arrangements and agrees to adopt the new service levels.

The king's promise of new services are, unfortunately, not entirely credible. The king may accept a permanent increase in tax revenue through new lump-sum taxes or an expanded tax base, but fail to change public policies once he obtains the new tax authority. New institutions may be necessary to support such fiscal exchanges between taxpayers and the king. However, granting parliament partial or full veto power over service levels is not always sufficient to make the king's promise regarding new services credible.

For example, in stable circumstances, the king's ideal service combination is the status quo, and thus, the king can grant the parliament veto power over changes in public service levels at no cost. If no new government service levels are proposed, *the parliament has nothing to veto*. Nor is agenda control sufficient to warrant the king's promise of new services. If the status quo service levels remain the king's ideal, the parliament may propose a new pattern of expenditure and the king will simply veto it, leaving the policy status quo in place, while devoting the increased revenues to royal consumption activities such as refurbishing the palace. Neither parliamentary veto power nor agenda control is sufficient to secure the king's promise in a stable setting in which existing public services are already optimal for the king.

It is also clear that such partial transfers of “power” would generate little of value for the parliament in stable political and economic circumstances. As long as the status quo remains in the interest of the king, a transfer of complete or partial veto power or agenda control over spending to the parliament generates little beyond additional prestige for parliament members. In stable circumstances, some form of revolutionary threat might be necessary to induce shifts of legislative authority from the crown to parliament. However, political and economic circumstances are not always stable, nor are changes entirely predictable. This, as demonstrated below, increases the value of such policymaking authority and the likelihood of constitutional exchange.

B. The welfare effects of partial and complete veto power in unstable settings

It is clear that granting parliament veto power or agenda control tends to be more costly for the king and more valuable to members of parliament if the king's ideal policy combination has changed or is expected to change. For example, new bargaining possibilities may arise just before, or immediately after, a new person becomes king, or when status quo policies become infeasible or less desirable for technological, economic, or political reasons. Not all of a king's preferences are institutionally induced. Moreover, the sophistication and cost of “serviceable” palaces and warships may increase, or lines of credit may diminish. New tax bases or external threats may emerge, and others may disappear. Fiscal reform is possible whenever circumstances change and the parliament or the king can fully compensate the other for anticipated losses from new procedures and constraints. The level of compensation (tax increase or services rendered) required for a particular shift of policymaking authority to parliament rises with the losses anticipated by the king.

The royal cost of vesting parliament with partial veto power

Consider, for example, the case in which the king's ideal combination of government services changes, and the parliament desires veto power over changes in service G_2 . Parliament's partial veto power (over policy G_2) implies that the king's new policies must make the pivotal member of parliament at least as well off as he is at the preexisting service level of G_2 . Consequently, the king faces two constraints in this new institutional setting: his budget constraint, $T^0 + Y - c(G_1, G_2) = C$, and a new procedural constraint, $W(X^c, G_1, G_2) -$

$W(X^c, G_1, G_2) \geq 0$, where W is the utility level (welfare) of the pivotal member of parliament, X^c is that member's after-tax consumption, and superscript "0" denotes the initial status quo policies.

Policies that maximize the king's welfare, while preserving the status-quo level for parliament, are characterized by differentiating the Kuhn-Tucker control function

$$U = u(T^0 + Y - c(G_1, G_2), G_1, G_2) - \lambda [W(X^c, G_1, G_2) - W(X^c, G_1, G_2^0)] \quad (9)$$

with respect to public service levels. The tangency solution(s) requires G_1 and G_2 such that:

$$U_{G_1} - U_x C_{G_1} - \lambda (W_{G_1} - W_{G_1}^0) = 0 \quad (10)$$

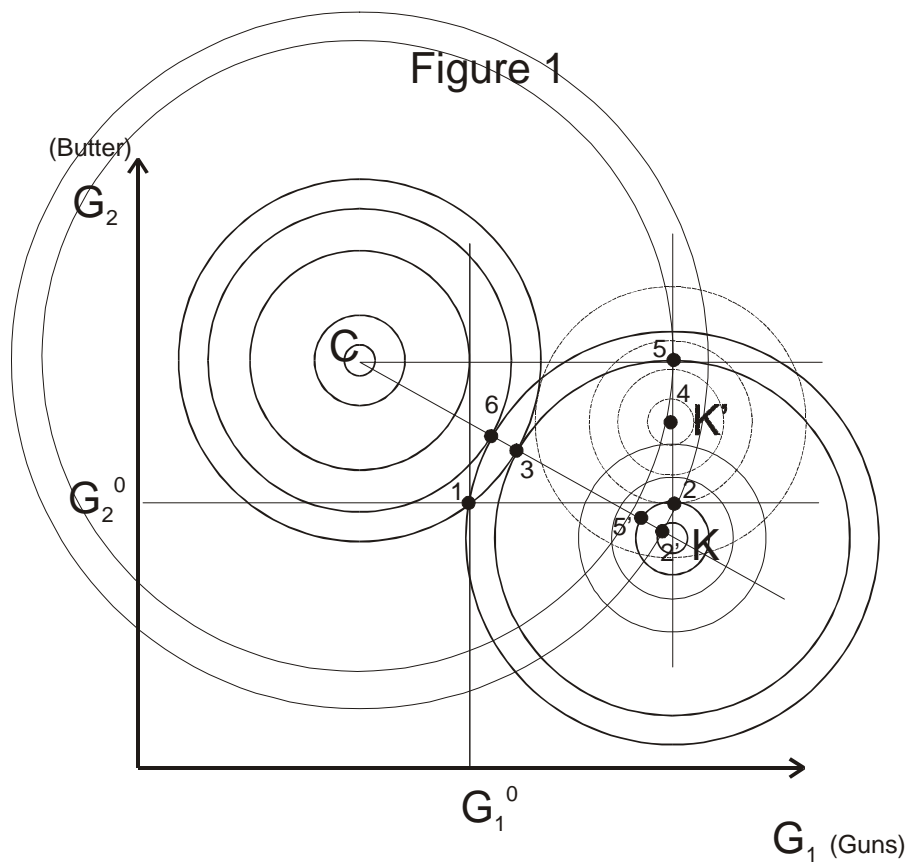
$$U_{G_2} - U_x C_{G_2} - \lambda (W_{G_2}) = 0 \quad (11)$$

$$W(X^c, G_1, G_2) - W(X^c, G_1, G_2^0) = 0 \quad (12)$$

Policy combinations that satisfy these first-order conditions simultaneously are Stackelberg equilibria of this noncooperative policy game.

Figure 1 illustrates the geometry of the Kuhn-Tucker solutions that can arise when the parliament has partial veto power. For purposes of illustration, the pseudo-indifference curves of both the king and pivotal parliament member in the $G_1 \times G_2$ plane are represented as concentric circles, as generally assumed in spatial voting models and in work relying on quadratic loss functions. These iso-utility lines are not conventional indifference curves, because changes in private consumption associated with changes in public service levels are accounted for by the shape of the indifference curves. This is an implicit assumption in spatial voting models, but in this case it is a direct consequence of the three-dimensional choice setting examined. As in a spatial voting model, the "ideal points" characterize the public service combinations that the pivotal member of parliament and the king would select if they could allocate the tax revenue without binding procedural constraints.¹⁵

¹⁵ The assumed trace of the king's utility function in the $G_1 \times G_2$ plane is assumed to be $U = U^* - (G_1^c - G_1)^2 - (G_2^c - G_2)^2$. Given values of T^0 and Y , both the pivotal parliament member and the king have a wealth-constrained ideal policy combination in that plane.



The geometry of figure 1 demonstrates that this and other intermediate reassignments of power yield policies that are not simply convex combinations of the royal and parliamentary ideal points—as is often assumed in analyses of divided government. Consider the effect of a change in the king's tastes or circumstances that cause him to prefer the service combination labeled K to status quo combination 1. If the king had both agenda and veto power over guns and butter, he would simply adopt policy K . However, if the king has granted the parliament veto power over one of the policy dimensions, here G_2 , he may not be able to adopt K , because his ideal policy combination can be partially blocked by the parliament.

In such cases, neither λ nor W_{G_2} is equal to zero in the equations above, and the tangency result no longer holds. In the case depicted, the king can only achieve policy combination 2 if parliament has partial veto power, because his new policy has to make the pivotal member of the parliament at least as well off as he (or she) would have been at the status

quo level of the service over which they exercise veto power, (G_1, G_2^0) . Policy combination 2 is “veto proof,” because service 2 remains at the status quo level, which leaves the parliament nothing to veto.¹⁶

The mathematics of the tangency solution appears to suggest that the king can do a bit better than this by proposing policy combination 2', which makes the pivotal member of the parliament as well off as he would have been at policy 2. However, both inspection and mathematics imply that this is not so, because the veto player chooses last. Policy 2' would be vetoed by the parliament in order to realize a policy outcome that is a bit better than either 2' or 2 from its point of view, although worse than 2' or 2 for the king. The king recognizes this and will propose policy combination 2, which is the best that the king can achieve in this new political setting.

Granting the parliament veto power over G_2 tends to make the king a bit worse off, although it does not necessarily do so. For example, if the king's preferred policy combination changes from K to K' , his new ideal policy combination, 4, would be acceptable to the parliament, because policy combination 4 is preferred by parliament's pivotal member to

¹⁶ The Kuhn-Tucker conditions for this case are derived from the following maximand:

$$K = U^* - (G_1^K - G_1)^2 - (G_2^K - G_2)^2 - \lambda [(G_2^C - G_2^0)^2 - (G_2^C - G_2)^2]$$

Differentiating with respect to G_1 , G_2 , and λ yields the following first-order conditions:

$$-(G_1^K - G_1) \leq 0 \text{ with } G_1 \geq 0 \text{ and } G_1 [(G_1^K - G_1)] = 0$$

$$-(G_2^K - G_2) + \lambda (G_2^C - G_2) \leq 0 \text{ with } G_2 \geq 0 \text{ and } G_2 [(G_2^K - G_2) + \lambda (G_2^C - G_2)] = 0$$

$$[(G_2^C - G_2^0)^2 - (G_2^C - G_2)^2] \geq 0 \text{ with } \lambda \geq 0 \text{ and } \lambda [(G_2^C - G_2^0)^2 - (G_2^C - G_2)^2] = 0$$

The first of the KT first-order conditions implies that $G_1^* = G_1^K$ or $G_1^* = 0$. Whether the procedural constraint on good 2 is binding or not, the king sets service level one equal to his ideal level, G_1^K , or equal to zero. The second of the first-order conditions similarly implies that if the procedural constraint is not binding, $\lambda = 0$, and $G_2^* = G_2^K$ or $G_2^* = 0$. However, in the case in which the constraint is binding, the threat of veto affects his policy options, $\lambda \neq 0$, and the third condition implies that $G_2^C = G_2$. Consequently, there are just two equilibrium strategies for the king away from the lower bound. In both cases, the king sets policy one at his new revenue-constrained ideal $G_1^* = G_1^K$. If the veto threat is not binding, he also sets the veto-constrained service at his ideal level, G_2^C , otherwise he sets service level 2 equal at the status quo level, $G_2^C = G_2^0$.

policy combination 2. Partial veto power does not constrain the king in every case, even in settings in which the king's preferred policy changes from time to time.

The royal cost of vesting parliament with complete veto power

Granting the parliament veto power over both policy dimensions has similar, although somewhat more constraining effects on the king. The procedural constraint under complete veto power is: $W(X^c, G_1, G_2) - W(X^c, G^0_1, G^0_2) \geq 0$, and the Kuhn-Tucker first-order conditions describing the best feasible policy along this procedural constraint are:

$$U_{G1} - U_x C_{G1} - \lambda (W_{G1}) = 0 \quad (13)$$

$$U_{G2} - U_x C_{G2} - \lambda (W_{G2}) = 0 \quad (14)$$

$$W(X^c, G_1, G_2) - W(X^c, G^0_1, G^0_2) = 0 \quad (15)$$

Only the procedural constraint differs, and the new constraint may or may not be binding, as in the previous case.

Note that both this and the previous result differ from the usual Stackelberg equilibrium in which the second mover's interests always affect the first mover's choice. Only when the procedural constraint is binding does parliament's complete veto power make the king worse off relative to the unconstrained and partial veto power cases.

This possibility can also be illustrated with figure 1. Given complete veto power, the parliament can now reject any policy combination that makes them worse off than the status quo. Consequently, complete veto power can be substantially more constraining than partial veto power over policy changes. The king cannot obtain a policy combination outside the decisive parliament member's iso-utility line passing through the status quo policy, 1 at (G^0_1, G^0_2) . For example, if the king's new circumstances lead him to prefer policy combination K, the best that he can now achieve is policy combination 3, which is inferior to policy combination 2 for the king. Policy 2 is now vetoed by parliament, because the pivotal member of parliament prefers the status quo combination of services, 1, to policy combination 2. Note also that a parliament with complete veto power also constrains the king if his prefer-

ences shift from K to K' , whereas, as shown above, his policy would not have been constrained by a parliament with only partial veto power.¹⁷

Parliament is potentially better off with complete veto power than with partial or no veto power, and it cannot be worse off. The king, on the other hand, is potentially worse off, and he cannot be better off. Consequently, the king demands a higher price for complete

¹⁷ The king's ideal public policy combination in figure one moves from (G^0_1, G^0_2) to (G^{K_1}, G^{K_2}) , and the king's best feasible policy is derived from the following Kuhn-Tucker maximand, given parliament's veto power:

$$K = U^* - (G^{K_1} - G_1)^2 - (G^{K_2} - G_2)^2 - I[(G^C_1 - G^0_1)^2 + (G^C_2 - G^0_2)^2 - (G^C_1 - G_1)^2 - (G^C_2 - G_2)^2]$$

Differentiating with respect to G_1 , G_2 , and I , yields the following first-order conditions:

$$-(G^{K_1} - G_1) + \lambda(G^C_1 - G_1) \leq 0 \quad \text{with } G_1 \geq 0 \text{ and } G_1 [(G^{K_1} - G_1) + \lambda(G^C_1 - G_1)] = 0$$

$$-(G^{K_2} - G_2) + \lambda(G^C_2 - G_2) \leq 0 \quad \text{with } G_2 \geq 0 \text{ and } G_2 [(G^{K_2} - G_2) + \lambda(G^C_2 - G_2)] = 0$$

$$[(G^C_1 - G^0_1)^2 + (G^C_2 - G^0_2)^2 - (G^C_1 - G_1)^2 - (G^C_2 - G_2)^2] \geq 0$$

$$\text{with } \lambda \geq 0 \text{ and } \lambda [(G^C_1 - G^0_1)^2 + (G^C_2 - G^0_2)^2 - (G^C_1 - G_1)^2 - (G^C_2 - G_2)^2] = 0$$

The first of the Kuhn-Tucker first-order conditions implies that if the procedural constraint is not binding and $\lambda = 0$, then $G_1^* = G^{K_1}$ or $G_1^* = 0$. The king either sets service level one equal to his ideal or equal to zero. The second of the KT first-order conditions similarly implies that $G_2^* = G^{K_2}$ or $G_2^* = 0$. In the case in which parliament's veto power is not a binding constraint, the king selects his ideal service levels or his best corner solution.

In the case in which the procedural constraint is binding, $\lambda \neq 0$, and the third constraint implies that either the status quo is chosen, $G_1 = G^0_1$ and $G_2 = G^0_2$, or both G_1 and G_2 lie along the parliamentary indifference curve passing through the status quo position (G^0_1, G^0_2) .

There are, thus, three possible interior equilibrium strategies for the king in this setting according to the location of the king's new ideal point. If the veto power threat is not binding because his new ideal point is closer to the parliament's ideal than the original policy combination, he proposes service levels at his new ideal levels, (G^{K_1}, G^{K_2}) . If the procedural constraint is binding and his ideal point would be vetoed, the king will either choose a combination of G_1 and G_2 where his iso-utility curve is tangent to that of the pivotal member of parliament's iso-utility curve passing through the original policy combination or he may set both service levels at their status quo levels, (G^0_1, G^0_2) .

veto power than for partial veto power, and the parliament is willing to pay a higher price for complete than for partial veto power at times when the king's policy preferences or circumstances have changed or are expected to change.

C. Partial and complete agenda control granting parliament partial agenda control

Agenda control is another institutional device through which authority can be shifted from the king to parliament. Partial agenda control allows the pivotal member of parliament to propose a service level to the king, which the king may or may not veto. The equilibrium outcomes of assigning partial agenda control to parliament can be characterized using mathematics similar to that developed above for the king. Given agenda control over G_2 , the pivotal member of parliament will choose G_2 to maximize his utility given the veto threat of the king and the king's choice of G_1 :

$$W = w(X^c, G_1, G_2) - I[u(T^0 + Y - c(G_1, G_2), G_1, G_2) - u(T^0 + Y - c(G_1, G_2^0), G_1, G_2^0)] \quad (16)$$

and the Kuhn-Tucker tangency solution implies that parliament will suggest a level of G_2 that satisfies:

$$W_{G_2} - I [U_X(-C_{G_2}) + U_{G_2}] = 0 \quad (17)$$

while the king sets the policy that he fully controls, G_1 , to maximize:

$$U = u(T^0 + Y - c(G_1, G_2), G_1, G_2) \quad (18)$$

which requires:

$$U_{G_1} - U_X C_{G_1} = 0 \quad (19)$$

given G_2 . Policy combinations that satisfy both sets of first-order conditions simultaneously are the Stackelberg equilibria of this noncooperative policy game.

The effects of granting partial agenda control to a utility-maximizing parliament are illustrated in figure 1. As in the previous cases, the veto-player goes last and has complete knowledge of the proposal of the agenda setter. Were it not for the veto power of the king, the equilibrium to this policymaking game would resemble policy combination 5 in figure 1, at which the king and the parliament secure their preferred level of the service over which they exercise agenda control. However, given complete veto power, the king can do better

than policy combination 5 by vetoing the parliament's proposed level of service 2, "butter." The result in the case illustrated is policy combination 2, which combines the king's ideal level of "guns" with the status quo level of "butter."

Anticipating this, the parliament might be tempted to moderate its proposal for "butter" service levels, but in the present case no proposal above G_2^0 is acceptable to the king, and no service level below G_2^0 is a better policy combination for parliament if the king keeps G_1 at his preferred level (which under the assumed geometry is his dominant strategy). In this special case, granting agenda control to the parliament leads to the same policy as a grant of partial veto power to the parliament.¹⁸

This equivalence of partial veto and agenda control is not universal, but depends on the preference shifts of the king. For example, if the king's ideal point subsequently shifts to K' , parliament can do better under partial agenda control than under partial veto power. For example, it can propose service combination 5, which makes parliament better off than policy combination 2, but leaves the king no worse off and thereby avoids the royal veto. In this case, partial agenda control makes the parliament better off than partial veto power, because parliament prefers policy combination 5 to the combination achieved under partial veto power, 4.¹⁹ Consequently, the king tends to be somewhat worse off and the parliament tends

¹⁸ Gains to fiscal exchange exist at policy combination 2, but the agenda setter cannot capture these potential gains to trade. If the parliament suggests the "butter" service level required for policy 5', the king would accept this, but still opt for his preferred level of "guns." Under the procedural institutions in place, the potential gains from this fiscal exchange cannot be realized, although they might induce mutually advantageous constitutional exchange.

¹⁹ The Kuhn-Tucker conditions for parliament with partial agenda control can be derived from the following maximand:

$$K = W^* - (G_1^C - G_1)^2 - (G_2^C - G_2)^2 - \lambda[(G_2^K - G_2^0)^2 - (G_2^K - G_2)^2]$$

Differentiating with respect to G_2 and λ yields the following KT first-order conditions for parliament:

$$-(G_2^C - G_2) + \lambda(G_2^K - G_2) \leq 0 \quad \text{with } G_2 \geq 0 \text{ and } G_2 [(G_2^C - G_2) + \lambda(G_2^K - G_2)] = 0$$

$$[(G_2^K - G_2^0)^2 - (G_2^K - G_2)^2] \geq 0 \quad \text{with } \lambda \geq 0 \text{ and } \lambda [(G_2^K - G_2^0)^2 - (G_2^K - G_2)^2] = 0$$

to be somewhat better off with partial agenda control than with partial veto power in unsettled circumstances.

Vesting the parliament with complete agenda control

Finally, consider the complete transfer of agenda control from the king to the parliament. In this case, parliament proposes a policy combination that maximizes:

$$W = w(X^c, G_1, G_2) - I[u(T^0 + Y - c(G_1, G_2), G_1, G_2) - u(T^0 + Y - c(G_1^0, G_2^0), G_1^0, G_2^0)] \quad (20)$$

and the Kuhn-Tucker tangency solution requires:

$$W_{G_2} - I [U_X(-C_{G_2}) + U_{G_2}] = 0 \quad (21)$$

$$W_{G_1} - I [U_X(-C_{G_1}) + U_{G_1}] = 0 \quad (22)$$

At the tangency solution, the parliament chooses its utility-maximizing combination of guns and butter along the king's iso-utility line passing through the initial policy combination.

The first of the first-order conditions implies that if $I = 0$, parliament proposes either its ideal policy, $G_2^* = G^{C_2}$, or its best corner solution, $G_2^* = 0$, because the king's veto power is not a concern in this case.

In the case in which the king's veto threat is binding, $\lambda \neq 0$, and the second constraint implies that the status quo is chosen, $G_2 = G^{0_2}$. The king's optimization problem is not procedurally constrained with respect to service level one, but is constrained by the agenda chosen by the parliament for service two, which he can choose to veto or not. He chooses service one, G_1 , to maximize:

$$K = U^* - (G_1^K - G_1)^2 - (G_2^K - G_2)^2$$

which requires: $-(G_1^K - G_1) = 0$ or $G_1^K = G_1$.

The king sets service level one at his ideal level regardless of what the parliament chooses for service level 2. There are, thus, two possible equilibrium patterns of public expenditures in this setting according to the location of the king's new ideal point. If the king's veto power threat is not binding, the parliament proposes its own ideal service level for G_2 , $G_2^* = G^{C_2}$. If the king's veto power is binding, the parliament proposes the status quo level of service two, $G_2^* = G^{0_2}$. The separability of spatial utility functions implies that in equilibrium the king always chooses his ideal level of service 1, $G_1^K = G_1$ and, given the sub-game perfect parliamentary proposal, never vetoes parliament's proposal.

In the case in which the king's ideal policy shifts to K in figure 1, the new equilibrium of the policy game is policy combination 6. This Stackelberg equilibrium is the most favorable for the parliament and the least favorable for the king. It is the mirror image of the case in which the king had complete agenda control and the parliament complete veto power. The vesting parliament with complete veto power generated policy combination 3 as the equilibrium of the resulting policymaking game, which was better for the king but worse for parliament.²⁰

Given complete agenda control, changes in the king's preferences cannot make the pivotal member of the parliament worse off, because the pivotal member of parliament can always propose the continuation of the status quo, which is veto proof. *However, nearly every*

²⁰ The Kuhn-Tucker conditions for parliament with complete agenda control can be derived from the following KT maximand:

$$W = W^* - (G^C_1 - G_1)^2 - (G^C_2 - G_2)^2 - \lambda[(G^K_1 - G^0_1)^2 + (G^K_2 - G^0_2)^2 - (G^K_1 - G_1)^2 - (G^K_2 - G_2)^2]$$

Differentiating with respect to G_1 , G_2 , and λ yields the following first-order conditions:

$$-(G^C_1 - G_1) + \lambda(G^K_1 - G_1) \leq 0 \quad \text{with } G_1 \geq 0 \text{ and } G_1 [-(G^C_1 - G_1) + \lambda(G^K_1 - G_1)] = 0$$

$$-(G^C_2 - G_2) + \lambda(G^K_2 - G_2) \leq 0 \quad \text{with } G_2 \geq 0 \text{ and } G_2 [-(G^C_2 - G_2) + \lambda(G^K_2 - G_2)] = 0$$

$$[(G^K_1 - G^0_1)^2 + (G^K_2 - G^0_2)^2 - (G^K_1 - G_1)^2 - (G^K_2 - G_2)^2] \geq 0$$

$$\text{with } \lambda \geq 0 \text{ and } \lambda [(G^K_1 - G^0_1)^2 + (G^K_2 - G^0_2)^2 - (G^K_1 - G_1)^2 - (G^K_2 - G_2)^2] = 0$$

The first of the first-order conditions implies that if $I = 0$, then $G_1^* = G^C_1$ or $G_1^* = 0$. Similarly, the second of the first-order conditions implies that if $I = 0$, then $G_2^* = G^C_2$ or $G_2^* = 0$. If the constraint is not binding, then either the parliament proposes service levels equal to its ideal or its best corner solution.

In the case in which the king's veto power is a binding constraint, $I \neq 0$, and the third constraint implies that either the status quo is chosen, $G_2 = G^C_2$, or both G_1 and G_2 lie along the indifference curve passing through the initial policy position (G^0_1, G^0_2) .

There are three possible equilibrium strategies for a parliament with complete agenda control according to the location of the king's new ideal point. If the king's veto power threat is not binding because his new ideal point is closer to the parliament's ideal than to the original policy combination, parliament proposes service levels at their ideal point, (G^C_1, G^C_2) . If the procedural constraint is binding, for example, parliament's ideal point would be vetoed, the parliament may propose a combination of G_1 and G_2 such that pivotal member's iso-utility curve is tangent to the king's iso-utility line passing through the original policy combination. If no such tangency point exists that yields higher utility than the status quo, the parliament will propose service levels at the status quo levels, (G^0_1, G^0_2) .

change in the king's preferred policy makes parliament better off. Consequently, the king tends to be worse off granting parliament complete agenda control than complete veto power over legislation and so has a higher reservation price for shifting complete agenda control to parliament than any of the other divisions of authority examined.

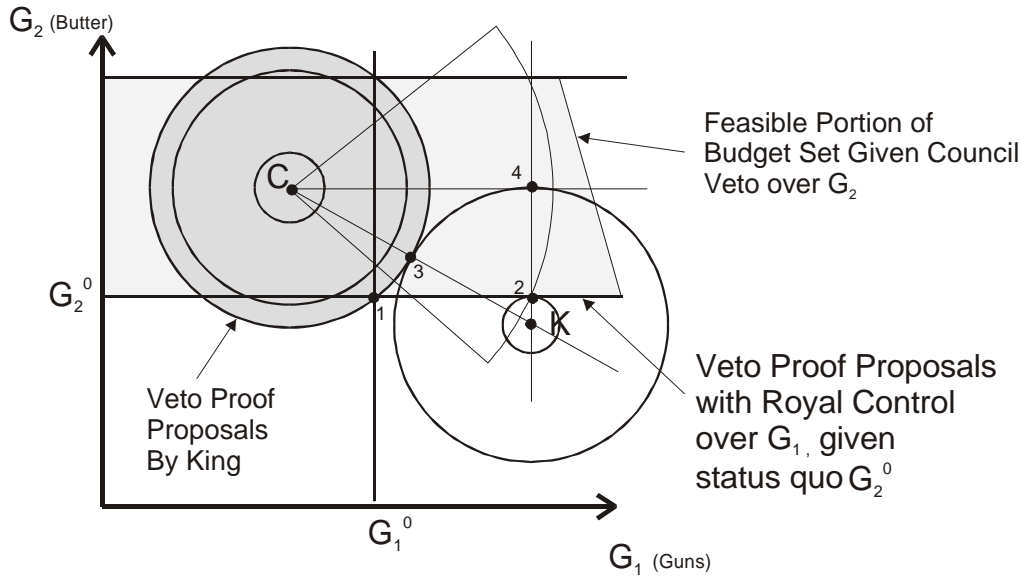
4. Trading policymaking power for tax revenue

The above analysis implies that there are two reasons why parliaments are willing to purchase additional legislative authority from the king in uncertain settings. First, members of parliament have a direct interest in institutional arrangements that allow them to secure policies that better advance their own interests. Second, additional policymaking authority reduces policy risks in an uncertain world in a manner analogous to insurance. If the anticipated policy risks (changes) are negligible, the value of veto and agenda control also tends to be negligible. When times are more uncertain and the stakes are higher, increased policymaking authority becomes more valuable.

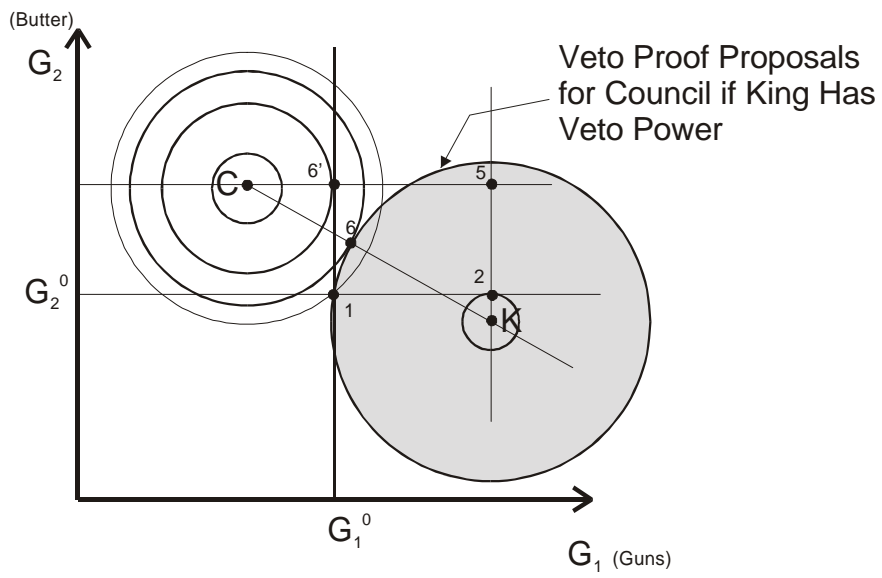
Figured 2A and 2B characterize the sets of possible outcomes under various assignments of policymaking authority, for a given status quo. Both the range of possible outcomes and their probabilities affect the reservation prices of the king and council for agenda and veto power. For example, in the case in which probabilities are uniformly distributed over the sets of possible outcomes, as under diffuse Bayesian priors, the broader the range of possible outcomes, the greater is the uncertainty faced by both the king and council. The same logic and geometry tends to apply to many other widely used distributions as well. As in the case of veto power over taxes, transfers of policymaking power to parliament can reduce risks and achieve better outcomes for parliament (and taxpayers), although it tends to increase the risks and worsen policy outcomes for kings.

Figure 2

(A: Partial and Complete Veto Power)



(B: Partial and Complete Agenda Control)



A. Schedules of reservation values and the price of policy authority

The reservation “supply” cost for royal shifts of policymaking power to the parliament and the reservation “demand” price for such shifts of power to the parliament can be assessed, given a probability density function that describes likely shifts in the king's policy preferences with and without procedural bounds on policies. Let $j(G_1, G_2)$ be the density function that describes the range of policies that the king will adopt if he may allocate the budget as he likes and $k(G_1, G_2, R_i)$ describe the policies adopted under procedural restraint R_i as characterized above. The lowest offer, P^k , that the king would accept to adopt constitutional reform R_i satisfies:

$$\begin{aligned} \partial \partial j(G_1, G_2) u(T^0 + Y^k - c(G_1^{**}, G_2^{**}), G_1^{**}, G_2^{**}) dG_1 dG_2 - \\ \partial \partial k(G_1, G_2, R_i) u(T^0 + P^k + Y^k - c(G_1^*, G_2^*), G_1^*, G_2^*) dG_1 dG_2 = 0 \end{aligned} \quad (23)$$

Similarly, the highest price, P^c , that the pivotal member of parliament or a tax council would be willing to pay for constitutional reform R_i is

$$\begin{aligned} \partial \partial j(G_1, G_2) w(Y^c - T^0 - c(G_1^{**}, G_2^{**}), G_1^{**}, G_2^{**}) dG_1 dG_2 - \\ \partial \partial k(G_1, G_2, R_i) w(Y^c - T^0 - P^p - c(G_1^*, G_2^*), G_1^*, G_2^*) dG_1 dG_2 = 0 \end{aligned} \quad (24)$$

in cases in which policies are initially at the king's ideal for the policies of interest, as developed above.

For bounded and continuous probability and utility functions, the implicit function theorem can be applied to equation 23, which allows the lowest offer that the king is willing to accept for a particular shift of authority, R_i , to be written as a continuous function:

$$P^k = s(R_i, T^0 + Y^k) \quad (25)$$

and similarly, from equation 24, the highest price that the parliament is willing to pay for that authority as:

$$P^p = d(R_i, T^0 + Y^c) \quad (26)$$

For a wide range of probability functions, it is clear that the rank order of these reservation prices will parallel the restrictiveness of the procedural constraints developed above.

The royal supply schedule for possible reforms can be obtained by ranking royal reservation prices from low to high. The parliamentary demand schedule is its mapping of res-

ervations prices for these same reforms. Figure 3 illustrates such demand and supply schedules for various combinations of veto and agenda control across policy areas, which determine “political authority.” As in ordinary markets, constitutional exchange in king and council systems occurs when the reservation price of the party demanding more authority exceeds that of the party that currently possesses it.

Equilibrium distributions of authority between the king and parliament can be represented geometrically as the intersection of the royal and parliamentary reservation price schedules over various assignments of agenda setting and veto power. Such equilibrium constitutional arrangements account for the accepted range and probability of future circumstances. New constitutional bargains between the king and parliament may arise when new circumstances alter the positions of one or both reservation price schedules.

Political bargaining equilibria can be disrupted by exogenous shocks of various kinds. For example, equations 25 and 26 imply that unanticipated economic changes can generate such opportunities for constitutional exchange. A decline in the king's wealth causes his reservation price to fall.

$$-P^k_{Yk} = [\partial \partial j(G_1, G_2) u_{Yk} - k(G_1, G_2, R_i) u_{Yk} dG_1 dG_2] / -[U^e_{CC}] < 0 \quad (27)$$

Similarly, an increase in the parliament's wealth causes its reservation price for political power to increase.

$$P^p_{Yc} = [\partial \partial j(G_1, G_2) w_{Yc} - k(G_1, G_2, R_i) w_{Yc} dG_1 dG_2] / - [W^e_{CC}] > 0 \quad (28)$$

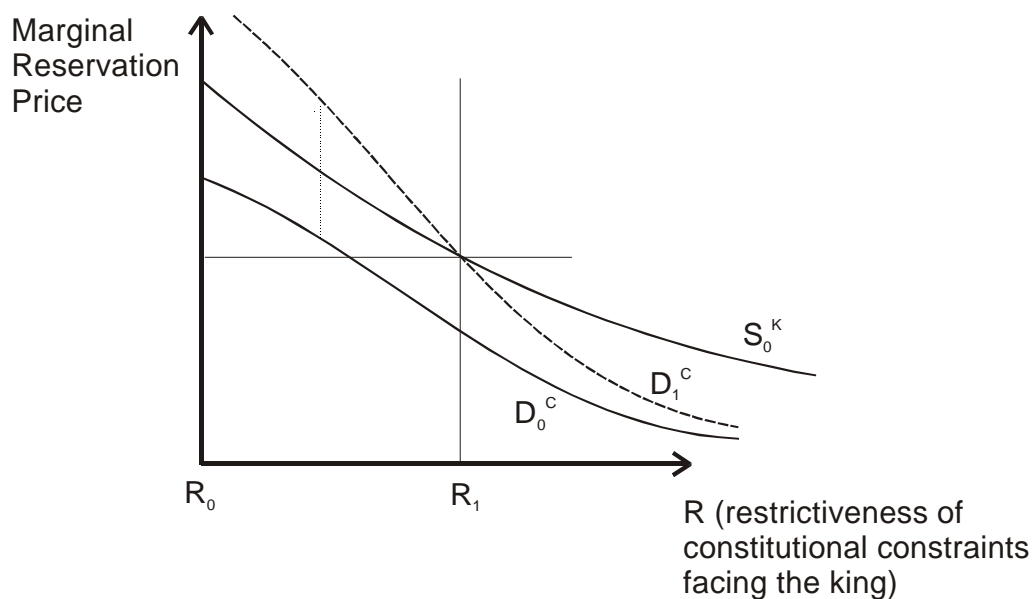
Consequently, an economic or political shock that increases parliament's wealth relative to that of the king can produce opportunities for constitutional exchange.

Note, however, that the possibility of corner solutions implies that *polar forms of the king and council template may be “sticky”* once reached, because the supply and demand schedules may no longer intersect in the positive quadrant. Extreme divisions of agenda and veto powers, consequently, tend to be relatively stable bargaining outcomes that require significant changes in circumstance to induce reform. For example, in the initial position assumed above, the king has complete power over spending, which implies that his reservation price for transfers of legislative power to the parliament is initially greater than parliament's will-

ingness to pay, whether in taxes or other in-kind services to the crown. In this medieval range, small shocks do not always generate shifts of policymaking authority from the king to council. Constitutional exchange in such cases requires a series of political or economic shocks or a major shock sufficient to cause the reservation price schedules to intersect in the positive quadrant.

Such an increase in parliament's reservation price schedule from D_0^c to D_1^c is illustrated in figure 3. Within the context of the model, payment for new legislative authority is accomplished by modifying the fiscal constitution. The tax code may be extended to previously untaxed activities, or new lump-sum taxes may be permitted. In exchange, parliament receives additional veto or agenda powers.

Figure 3



If relative wealth changes, but lacks a systematic trend, the distribution of policymaking authority oscillates between king and council within this intermediate division of authority. If relative wealth continues to shift in favor of parliament, however, parliamentary powers and royal tax revenues may increase until no further purchases of policymaking power

are possible. At this point, parliamentary dominance occurs, and the distribution of authority is again locally stable for small economic and political shocks.

B. The market for political power in 19th century England

The bargaining model developed above suggests that constitutional exchange is most likely to be observed during unsettled times. In the late eighteenth century, European economic and political circumstances became noticeably unsettled. Watts patented new more efficient steam engines in 1774 and 1781. The American colonists declared independence in 1776. The French Revolution transformed the continental balance of power during the 1790s. All three of these shocks tended to increase parliament's bargaining position, because the Industrial Revolution created new sources of income and wealth, which increased the potential tax base and demands for infrastructure projects; while the threat of war and revolution abroad increased royal demands for revenues for internal security and external military purposes.²¹

Indirect evidence of the long sequence of the constitutional bargains predicted by the above analysis is provided by formal and informal shifts of authority, and by occasional royal or parliamentary vetoes that reveal the distribution of veto power to political outsiders.²² Consistent with the above analysis, constitutional bargaining in Great Britain took place in numerous dimensions of policy. Many major proposals for reforms of parliament were offered and defeated, including one by Prime Minister Pitt in 1784. Others minor ones were accepted, including ones that temporarily strengthened the crown during the French revolu-

²¹ Although, the interplay between economic developments and ideology are beyond the scope of the present paper, it is also clear that as the idea of popular sovereignty expanded within England in particular and Europe in general, the relative importance of the House of Commons and their continental counterparts increased as well. See Congleton (2004) for analysis of such interdependencies in the context of suffrage reform.

²² The English royal veto threat over policy continued to exist well into the nineteenth century and in other countries into the early twentieth century. During the eighteenth and early nineteenth centuries, kings and sovereign queens had significant control over the composition of parliament through patronage, purchase, and other appointment powers in addition to control the make up of the cabinet. Nonetheless, occasionally policies not to their liking would be proposed.

tion. Consistent with the above analysis, the preexisting tax veto power of parliament often played a direct role in the bargains reached.

It is sometimes argued that royal veto power disappeared in England during Queen Anne's reign. The need for secure majorities in Parliament to obtain tax revenues had clearly increased the importance of political parties and the leaders of those parties after William's bargains, insofar as they could deliver the majorities required for new taxes. However, veto power is rarely used in equilibrium, as noted above, and thus its absence can easily be mistaken for its end. It seems clear that royal veto over major policies continued to constrain the British parliament well into the nineteenth century. For example, that Minister Pitt's considerable authority over public policy was still constrained by George III became evident 1801, when the Pitt cabinet resigned over the king's *threatened veto* of the cabinet's proposed Catholic Emancipation legislation (Hill 1996, 157). The British crown clearly retained, although it did not often exercise, veto power. It could directly reject parliamentary policy recommendations and it could also assemble "court majorities" in both the Houses of Commons and Lords using its various powers of appointment.

Parliament's veto power over taxation in combination with other reforms that reduced customary sources of royal income gradually provided it with the fiscal means to obtain complete veto power over the appointment of cabinet ministers and thereby executive policy. In 1809, Curwen's Act made the sale of seats in parliament illegal. In 1832, most of "rotten seats" in the House of Commons were eliminated (those selected by very few voters). Internal and external free trade reduced the customary customs duties and agricultural income of the royal family, which made income taxes an increasingly important source of royal revenues. For example, the protectionist Corn Laws were effectively repealed in 1846. Together with increased commerce and industrialization, this implied that more and more of the royal household's own revenues were provided by temporary tax bills that had to be renewed to keep it and the government up and running. The king or queen continued to appoint ministers, but the royal cabinet was increasingly hemmed in by parliament's budgetary authority. By refusing to approve new taxes and other policies, Parliament could shut government (and the royal household) down.

The cumulative effects of these minor shifts in revenues and policymaking authority became obvious in 1858. In that year, the liberal government headed by Palmerston resigned and was replaced with a minority Tory government preferred by Queen Victoria. Unfortunately, Victoria's favored Tory coalition lost the 1859 elections. Queen Victoria did not care for Palmerston, whose Liberal coalition had won the election, and reappointed Derby. However, her preferred prime minister could not assemble a majority to pass legislation or taxes. Given the necessity of Parliament's continuing financial support, Victoria grudgingly accepted Palmerston and subsequently Gladstone in 1860 (Pugh 1999: 96). New cabinets could be appointed, but they could not govern without parliamentary support.

Consistent with the analysis above, a series of minor quasi-constitutional reforms had gradually increased Parliament's control over public policy. These were partly a consequence of increased bargaining power generated by changes in customary sources of royal income and changes in the distribution of wealth between the crown and parliament. British GDP rose from 534 million pounds in 1850 to 765 million in 1859, and government expenditures rose from about 133 million pounds in 1856–57 to 143 million pounds in 1859–60 (*Historical Statistics of Europe 1750–1988*). A rapid expansion of the potential tax base is evident from all accounts of this period.²³

The details of procedural bargains regarding domestic policies or the selection of the cabinet and prime minister were rarely formally codified in constitutional documents or new legislation. However, the results were often very durable and had significant effects, because

²³ For example, data for the English experience are developed by Lindert (1986). Lindert's table 1 indicates that the value of noble estates averaged 2032£ in 1810 had risen to 9,855£ in 1875. Merchant estates averaged 608£ in 1810—far less—but had risen to 11,804£ in 1875, both in constant 1875 British pounds sterling. Other classes/occupations also had significant increases in wealth, although not as great as that of merchants or the "titled persons." Overall, it is clear that the fraction of wealth controlled by those *outside the royal family* increased substantially during this period. The population of nobles was essentially stable between 1810 and 1875 (rising from 22 to 25 thousand), while that of merchants and professionals, and members of the industrial and building trades increased substantially—rising from 42,000£ to 61,000£ and from 638,000£ to 2,835,000£, respectively.

the bargains proved to be self-enforcing. Parliament's veto power over government revenues supported, and continues to support, the transfer of ministerial agenda control and veto power to Parliament.

It bears noting that these transfers of policymaking authority and similar ones in Northern Europe's other constitutional monarchies took place without significant internal revolutionary threats or external military threats. They reflected tough opportunistic bargaining by parliaments with their sovereigns.

C. Sub-Game perfection of the initial grant of veto power over taxation

Given the emergence of parliamentary dominance in the nineteenth and twentieth centuries, it might be questioned whether the initial fiscal constitution that granted veto power over new taxation to parliament could ever be fully rational for the crown. This, of course, depends partly on the nature of expectations and royal discount rates, and partly on the timing of the final transition. Clearly, if the possibility of parliamentary dominance was considered to be very unlikely at the time veto power over taxation was granted, the original analysis can be applied essentially without significant change. Very unlikely or distant future costs would have little effect on the expected net benefits of the initial constitutional bargain. In the historical setting of interest here, the six-century transition to parliamentary rule was by no means inexorable or fully predictable. The final shift of policymaking authority from the king to parliament was very gradual, as unanticipated shocks associated with the Industrial Revolution and international politics changed royal and parliamentary circumstances. Except perhaps in England, the eventual emergence of parliamentary dominance might plausibly been considered a very unlikely outcome well into the nineteenth century.

If, however, eventual parliamentary dominance was regarded to be a likely consequence of granting parliament veto power over taxation, as might have been argued in mid-eighteenth century England, it remains possible that the value of additional revenues for the crown in the short run exceeded the discounted value of expected losses associated with giv-

Similar changes in the distribution of wealth were underway in much of Europe, although in most cases the expansion of commerce and industry came a bit later than that in England and the increase in parliamentary power, consequently, occurred somewhat later.

ing up his or her ideal combination of public services in the long run. Even after a trend toward parliamentary rule became clear, it bears noting that the royal families of constitutional monarchies continued to live at a level of luxury that only the very wealthiest of entrepreneurs could rival, that is to say, “like kings.” Given the length of time between the original grant of veto power and the emergence of parliamentary rule, the evidence suggests that the original fiscal contract would have remained an attractive bargain for the crown given any reasonable dynastic discount rate and assessment of losses from “suboptimal” public services in the long run. (Indeed, William III had no heirs when he died unexpectedly in 1702.)

5. Conclusion: constitutional exchange and the continuum between dictatorship and democracy

This paper has argued that constitutional reform can be analyzed in much the same manner as exchange in private markets. Constitutions define *political* property rights in much the same manner that civil law defines private property rights. After a “bargain” is struck, one of the parties *controls* something that it previously did not, and the other often has money to allocate for his or her own purposes. Constitutional exchange reallocates veto and agenda control, rather than goods, but often in exchange for tax revenues. Other bargains resembling barter transactions are also possible. In some circumstances, as demonstrated above, policymaking authority may be ceded in exchange for more or less permanent sources of tax revenues or political support.

The continuum of policymaking authority within divided governments implies that minor changes in the distribution of policymaking power can be negotiated without major institutional innovations, violent revolutions, or bloody civil wars; without violating constitutional procedures and constraints; and without fundamentally changing the template of governance. Were the institutional extremals of pure democracy and pure dictatorship the only possible forms of governance, constitutional exchange would be far more difficult to negotiate and enforce, and revolutions might well be necessary for constitutional reforms to be adopted. However, as modern political data bases affirm, pure forms of governance are not the only possible ones. Moreover, the authority to make public policy is also normally divided within modern democratic parliamentary and presidential systems. Such divisions of

authority imply that minor constitutional reforms can be negotiated without solving new Olsonian organizational problems or devising a new social compact.

The model of constitutional exchange developed in this paper provides an economic explanation for several important features of medieval governance, for the timing of the shift from royal to parliament dominated systems of governance, and for the continued existence of monarchies in many contemporary parliamentary systems. Medieval parliaments consisted largely of major taxpayers. Transitions to parliamentary dominance occurred during unsettled periods, as during the Industrial Revolution, because it is during such times that new gains from constitutional exchange are likely to emerge. Many constitutional monarchies remain in place, because constitutional bargains that completely eliminate monarchy are unlikely to be accepted by kings or queens. Indeed, the continued existence of monarchies provides the most obvious evidence that many transitions to parliamentary dominance in Europe were the results of constitutional bargains rather than revolutions.

The model of constitutional exchange developed above also applies to many constitutional transitions beyond nineteenth century Europe. For example, Meiji Japan experienced a similar shift of authority between 1880 and 1925, although policymaking authority subsequently shifted back to the crown (Congleton 2006). Recent transitions to parliamentary systems in Korea and Taiwan were also gradual and associated with periods of rapid industrialization, rather than with civil war or clear revolutionary threats. These and other cases clearly demonstrate that the cumulative effect of a series of modest constitutional reforms can radically transform divided systems of governance, lawfully, and without existential threats.

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