

Separate Powers and the Political Economy of Resource Dissipation¹

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Abstract

Politics dissipates resources for two reasons: politicians trade inefficient policies for political support, and governments with a monopoly on the use of force will use this power to extract rents, regardless of the resulting economic externalities. This paper employs a contest model to explore both sides of the politics of extraction, and asks whether a system of separate powers can mitigate the inefficiencies that arise due to dissipative conflict. We find that resource dissipation arises in proportion to the mismatch between a government's economic and political sources of support. We find that separation of powers in itself is not sufficient to ensure greater efficiency; it must be accompanied by a fixed sharing rule in order to avoid a common pool resource problem from developing among the various branches of government.

1 Introduction

Clausewitz famously remarked that war is merely the continuation of politics by other means. This may well be the case, but it is also true that politics is the continuation of war by other means: governments employ their monopoly on the use of force to extract resources, often with economically disastrous consequences. Indeed, recent World Bank estimates put the economic costs of misgovernance in the trillions of dollars annually. A central question of political economy, then, and a crucial one in an era when many countries are actively seeking to change their constitutional structure, is why do politicians engage in economically inefficient activities, and to what degree can political institutions mitigate their incentives to do so?

Two key aspects to “politics” have been identified as leading to economically inefficient outcomes. First, politics often involves the trading of rents for political support; lobbying models such as those of Bhagwati (1982), Findlay and Wellisz (1982), and Grossman and Helpman (1994, 1995) have established that competition among groups for these rents often leads to economically misguided policies and resource dissipation. Second, these rents are extracted because the state has the power to extract them — that is, property rights are not perfectly secure, so resources are spent in the protection (or creation) of property rights as in Grossman (1991, 1995) and Grossman and Kim (1995, 1996).

In this paper we consider both aspects of politics simultaneously, using techniques recently developed by Hirshleifer (1991; 1993), Findlay (1994), Garfinkel (1994), and Skaperdas (1995), among others, to study the allocation of resources to conflict. The government in our model chooses the level of resources it plans to use to extract rents, aware that while increased rents are good for the government, they come at the cost of lower political support. Moreover, attempts

at rent extraction are matched with wasted resource expenditure by the groups whose assets are under attack; higher extraction is thus met with larger efforts at protection. We examine both the impact of a predatory government on economic efficiency and the ability of political institutions, such as the separation of powers among various branches of government, to mitigate the inefficiencies that arise in such a system.

Our approach synthesizes recent work on comparative political institutions being developed in both economics and political science (Shugart and Carey 1992; Huber 1996; Besley and Coate 1997; 1998; Persson, Roland and Roubini 1998; Rosendorff 2000; and Diermeier and Feddersen 1998, for example) with the more traditional literature on politics, markets, and economic growth (North and Thomas 1973; North 1981; Bates 1981; Przeworski 1991).¹

We establish in this paper that a single authority who has the power to extract productive resources will maximize the extraction possibilities, and that outcomes are inefficient to the degree that the autocrat receives his political and economic support from different segments of society. Furthermore, if there are two (or more) extractors that must allocate resources to a contest, the benefits from which are shared according to some fixed rule, the resources spent by one have a public good type externality. Each extractor then under-allocates to contest, lowering the dissipation of productive resources in equilibrium; total resource dissipation then falls. If, on the other hand, the rents extracted are shared according to the contributions to the contest, a common pool resource problem develops, each extractor will over-allocate to contest, and society is worse off under the separation of powers. So separation of powers is not sufficient to ensure less dissipation; the institutions that govern the bargaining between branches also matter. If

¹Grossman (1999) explores the timing of successful revolutions as a game between rival “kleptocrats”; here the two kleptocrats co-exist. We call them branches of government.

interbranch relations are governed by clearly delineated rules on the allocation of revenue then outcomes are more efficient, but if interbranch competition devolves into a free-for-all in taxing productive resources, then separate powers is less efficient than a single extractive autocrat.

The following section explains the basic workings of our model, after which we derive equilibria in systems with one autocrat, with separate powers and a fixed sharing rule, and separate powers with a proportional sharing rule, respectively. The final section concludes and points to directions for future research.

2 Model

We model a country with two (productive) groups in society, the owners of capital (K) and the owners of labor (L). Production (of a single good) occurs with a standard constant returns to scale technology $F(K, L)$. Labor, which is not taxed, is supplied inelastically at any wage, which we set equal to 1. The units of the output are chosen such that the price is also 1. Then workers supply labor L and receive earnings L . The residual R accrues to the capital owners, where

$$R = F(K, L) - L.$$

R can thus be interpreted as the earnings of capital relative to labor.²

Utility for capital owners is expressed as after-tax income:

$$U^K(k) = (1 - t)R - k. \tag{1}$$

²Capital is exogenously supplied and there is no alternative use to which this capital can be put that yields a positive return.

where t is the tax rate (determined endogenously), and k is a measure of the allocation of resources by the K -owners to political contest; that is, the struggle between the government and producers over the level of taxation.

Labor receives income L which is not taxed; its utility is

$$U^L = L. \tag{2}$$

Government is concerned with *political support*, garnered from the two productive groups, capital owners and labor owners; it also has the ability to extract *rents* from the capital owners. The need for political support may derive from a variety of sources: it may reflect electoral support within a set of democratic institutions; it might reflect a desire to reward friends in one sector or another of the economy in return for political and financial support, a la crony capitalism; it may reflect the desire of the ruler to ward off insurrection, an event more likely as welfare falls (this is explored in relation to the transition away from apartheid in Rosendorff (1998)). Future work could explore these foundations in greater detail; here, we leave the support function as general as possible. The ruler is also able to tax the capital owners – this may reflect actual physical expropriation, or its threat (for example under systems of taxation), or perhaps contributions and payments made by capital owners to deflect expropriatory pressure.

The tax rate is determined in a political contest between the government and the owners of capital. The government balances the desire for political support (M) against the gains from

(net) rent extraction, N :

$$U^G(g) = M + \alpha N \tag{3}$$

$$= \beta U^K + (1 - \beta) U^L + \alpha (tR - g), \tag{4}$$

where $\beta \in (0, 1)$ is an exogenous measure of the relative weight of the interests of capital owners relative to labor in government's political support function, $\alpha > 0$ is the relative weight placed on net rents, and g is a measure of the resources that government must allocate to political contest. In various contexts, β could stand for votes derived from the two sectors; it might denote the armed strength of each sector or a more general capacity for armed disruption through riots and work stoppages; or it might denote racial or ethnic factors leading one group to support the government at a higher rate; α is the value in terms of political support of a dollar of net rents.³

The tax rate is determined as the outcome of a contest: the government attacks the earning of capital by spending g on the contest. Capital owners defend themselves against this predation by spending k . Labor is not taxed; it is assumed that the rents in this sector are marginal compared with the capital sector, so that it is not worth the government's while to establish a tax collection system here. The share of the earnings of capital that is extracted by government is given by the contest success function:

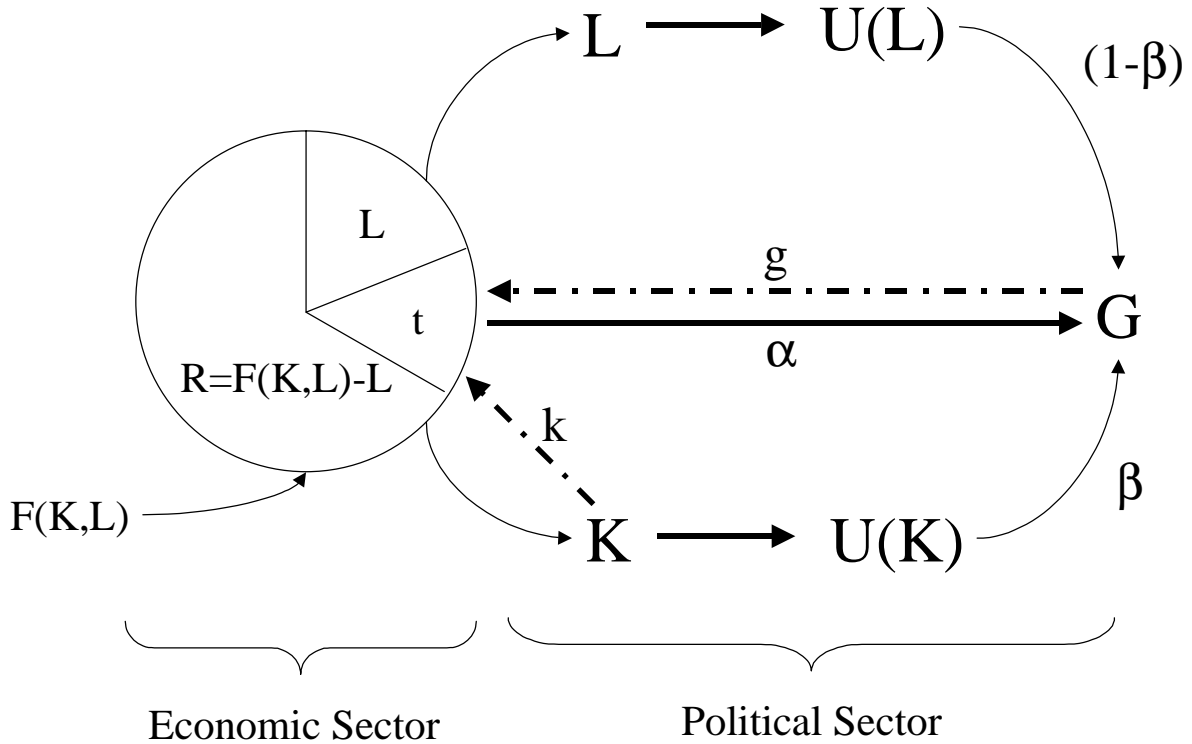
$$t(g, k) = \frac{g}{g + k}. \tag{5}$$

In its simplest form, this contest function could represent the result of actual armed conflict

³The objective function in equation (3) is consistent with those used in models of the political determination of policy variables. See Grossman and Helpman (1994) in the case of tariff formation, and Hillman (1989) in the case of protection for declining industries.

between the sovereign and capital owners, as might have been the case in medieval times, substituting land for capital, when kings waged wars against the barons. In a slightly more civilized vein, resource extraction might take place under cooperative Nash bargaining, with the threat point determined by the expected outcome of a war, which in turn depends on the relative armories at each side's disposal. More bloodless still, rulers might have a monopoly on the use of force, but capital owners can protect their assets, at some cost, through such devices as offshore bank accounts, large sunk-costs investments in machinery, or creative accounting. Nor are contest elements completely absent in advanced industrial democracies; governments recruit large armies of bureaucrats to regulate and tax businesses, while capital owners dissipate resources hiring accountants of their own and lobbying government actors to reduce the effective tax incidence on their firms. The common thread through all these interpretations is that each side can influence the outcome of the contest at the margin by expending more resources, and that resources thus spent are not available for directly productive activities.

Figure 1: Production and Utilities



The mechanics of our model are displayed in schematic form in Figure 1. The economic sector produces output of size $F(K, L)$, which is divided between owners of capital and labor. A slice t of capital's share of this pie goes to taxes, where t is endogenously determined by the amounts g and k that the government and capital, respectively, contribute to the contest. Labor's utility is factored into the government's utility with a factor of $(1 - \beta)$, while capital's utility receives a factor of β . The amounts g and k represent utility losses to government and capital and, finally, tax revenue factors into the government's utility with a weight of α .

3 Autocracy

We next proceed to examine the behavior of this basic model under a variety of institutional settings, to investigate its equilibrium properties and to see under which conditions autocracy as opposed to separate powers yields more efficient outcomes. Consider first a political environment in which there is a single extractor, called an autocrat A , who spends resources a on the contest. Then $U^A(a) = \beta U^K + (1 - \beta) U^L + \alpha(tR - a)$. Substituting equations 1, 2, and 5 into this expression, we have

$$U^A(a; \beta, R) = \beta \left(\left(1 - \frac{a}{a+k} \right) R - k \right) + (1 - \beta) L + \alpha \left(\frac{a}{a+k} R - a \right),$$

and

$$U^K(k; R) = \left(1 - \frac{a}{a+k} \right) R - k. \tag{6}$$

Both players choose their contest levels taking the behavior of the other as given, bearing in mind the effect of the outcome of the contest on the tax rate and hence on each of the players' earnings. The equilibrium is calculated by deriving the reaction functions of each player A and K to contest expenditures by the other. Capital owners maximize (6) subject to a non-negativity constraint ($k \geq 0$) and a "budget" constraint (it can't spend resources on conflict that it doesn't expect to own in equilibrium), i.e. $U^K(k; R) \geq 0$.

For the capital owners, the first order condition (when a and k are non-zero) is:

$$\frac{d}{dk}U^K(k; R) = -\frac{-aR + a^2 + 2ak + k^2}{(a + k)^2} = 0.$$

Solving for k , and checking the second order condition, we get:

$$k(a; R) = -a + \sqrt{aR}. \tag{7}$$

For the autocrat, solving for a (and checking the second order condition) we get

$$a(k, R, \beta) = -k + \sqrt{Rk\theta}, \tag{8}$$

where $\theta \equiv 1 - \frac{\beta}{\alpha}$ is a measure of the relative importance of tax revenue to the autocrat. Clearly, α must be greater than β for θ to be positive, and it approaches 1 as α becomes large. Solving equations (7) and (8) simultaneously and simplifying, we find the Nash equilibrium pair of actions

$$a^A = R \frac{(\alpha - \beta)^2}{(2\alpha - \beta)^2} \text{ and } k^A = \alpha R \frac{\alpha - \beta}{(2\alpha - \beta)^2}$$

or: choose!!!

$$a^A = R \frac{\theta^2}{(1 + 2\theta)^2} \text{ and } k^A = \alpha R \frac{\theta}{(1 + 2\theta)^2}$$

i think get rid of theta.

whenever $\alpha > \beta$; $a^A = k^A = 0$ otherwise. That is, resources are expended in contest only

when $\alpha > \beta$, or when the elasticity of substitution between political support and net rent is larger than the relative influence of capital owners on political support. Otherwise neither side spends resources on contest and the equilibrium tax rate is 0. So autocrats sensitive to their political constraints will enact efficient policies; it is the politically secure autocrats who care more about extraction that produce the greatest welfare loss.

Also, the expenditures by both the autocrat and the capital owners rise with R , the capital-labor earnings ratio. Note too that R rises with K ; therefore expenditures by both groups rise as there are more earnings to be taxed—as the pie gets bigger.

The equilibrium tax rate is

$$t^A = \frac{a^A}{a^A + k^A} = \frac{\alpha - \beta}{2\alpha - \beta} > 0 \text{ if } \alpha > \beta,$$

which depends only on the relative political support that the autocrat receives from capital and labor, and tradeoff between net rents and political support, and not on R (or K). When $\beta = 0$, so that the autocrat places all his utility weight on labor, both the autocrat and capital owners devote resources $\frac{R}{4}$ to the contest in equilibrium and the tax rate is $\frac{1}{2}$. When $\beta = 1$, so that the autocrat cares only about capital, then, as would be expected, neither devotes any resources and the tax rate is 0. Importantly, then, the autocrat in this model is never maximally extractive; even when he derives all his political support from labor, the equilibrium tax rate is bounded above by $\frac{1}{2}$. This derives from the fact that each marginal unit of taxation brings the autocrat extra income of $(\alpha - \beta)R$, which is constant in a , and costs him $\frac{(a+k)^2}{k}$ in utility to extract, which is rising in a . Even when the ruler does not care politically about the capital sector's lost utility, then, past a certain point the extra income gained through higher taxation is dissipated

in collection costs.

Figure 2: Political Equilibrium

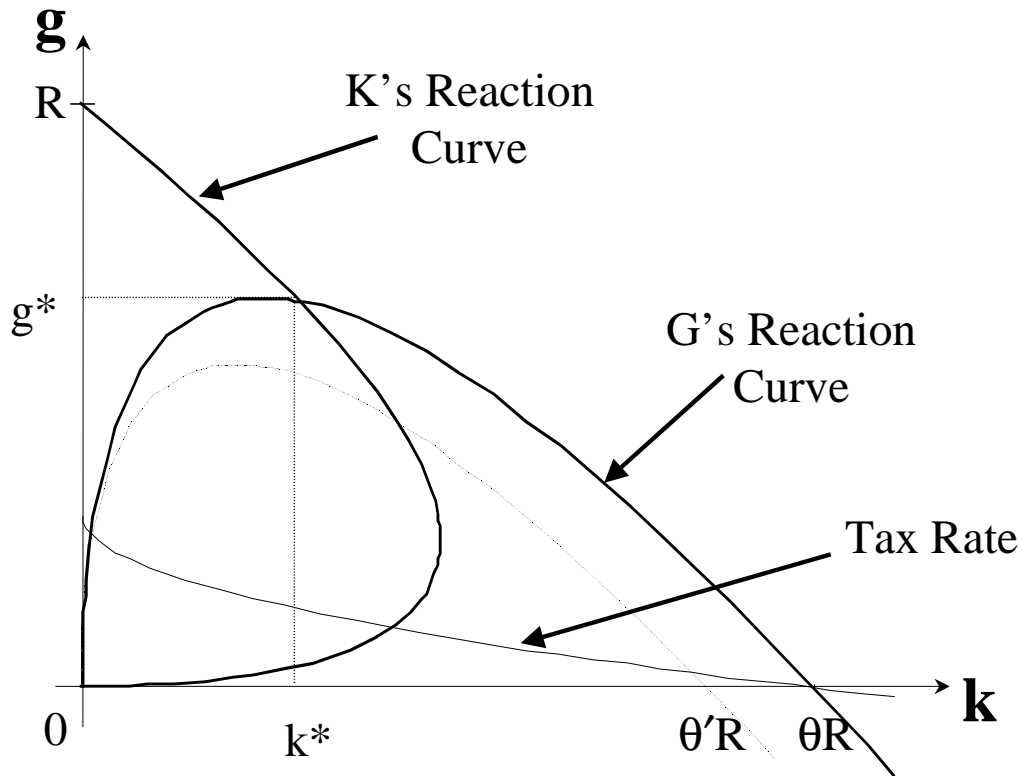


Figure 2 displays the equilibrium graphically. Typical reaction curves of capital owners and the government are indicated, as well as the resulting contest equilibrium. Note that K's reaction function crosses the y-axis at R , while G's reaction function crosses at θR . As the value of θ declines to θ' , so that tax revenues are less important to the autocrat relative to political support, the curve moves down, indicating that the autocrat expends fewer resources on the contest for any given level of k . The figure also makes it clear that as R grows, each of the reaction curves moves outwards proportionally, so that the level of contest spending rises, but not the equilibrium tax rate, which is determined by the curves' intersection relative to the origin.

The total resources dissipated on contest activities (labelled D^A) will be the sum of attack

and defense expenditures:

$$D^A = a^A + k^A = R \frac{\alpha - \beta}{2\alpha - \beta}.$$

Notice that $D^A = Rt^A$, so that the economic inefficiency generated within the system is equal to the total taxes collected. This is not surprising; the government in our model does nothing welfare-enhancing with its tax receipts, so all revenues collected come from resources that could be used productively instead.⁴

Notice that we can specify the conditions under which an autocrat is extractive, and alternatively the conditions under which the autocracy is benevolent, or non-extractive.

Lemma 1 *An autocracy is extractive whenever $\alpha > \beta$. Otherwise it is non-extractive.*

Proof. $D^A > 0$ whenever $\alpha > \beta$; $D^A = 0$ otherwise. ■

Summarizing the results of this section, autocrats will extract rents through contest activities, but their proclivity to do so will be restrained by three factors: their desire for political support from certain segments of the population; the loss in economic efficiency resulting from the extraction of resources; and capital owners' defense of their earnings through counteractive contest spending. Our model can thus provide a rationale for the phenomenon noted, for instance, by Bates (1981), in which governments engage in economically unsound policies in order to shore up their political support among certain key groups; here, a government which draws backing from labor groups will tax capital at a higher rate. To put it another way, economic inefficiency

⁴In the present model, this dissipation comes directly from after-production capital income; but the same qualitative conclusions would hold true as well in a model where resources spent on contest were diverted from other productive employment.

arises here from a mismatch of economically productive resources and political alliances. Were the government aligned with capital owners instead—the taxable sector—then no waste on contest would result. But to the degree that governments derive tax revenues and political power from different sources, they will engage in directly unproductive extraction contests, to the greater social detriment.

4 Separation of Powers

Now consider the possibility that the government is itself divided into two or more branches, each of which can engage in contest activities. We will denote these branches here as a President and Congress, but they may equally be thought of as central government and state actors in a federalist system, multiple bureaucracies with overlapping jurisdictions, or any other set of governmental actors with the ability to regulate and tax private industry. The question is the degree to which political institutions can alleviate the inefficiencies derived in the previous section.

4.1 Fixed Revenue Sharing

First, we assume that the division of revenues between the branches goes by a fixed formula; for simplicity, we assume that revenues are equally shared. This approach would apply to situations in which the allocation of tax revenues is known in advance, say through a budget or a fixed tax-sharing formula between the central government and states.

There are two identical players in government, labelled P and C . They both contribute

resources to contest (p and c), and the equilibrium tax rate is now

$$t(p, c, k) = \frac{p + c}{p + c + k} \quad (9)$$

In this section, assume that any tax revenues are distributed evenly between P and C . Then substituting equation (9) into (3)

$$U^P(p, c; \beta, R) = \beta \left(\left(1 - \frac{p + c}{p + c + k} \right) R - k \right) + (1 - \beta) L + \alpha \left(\frac{p + c}{p + c + k} \frac{R}{2} - p \right); \text{ and}$$

$$U^C(c, p; \beta, R) = \beta \left(\left(1 - \frac{p + c}{p + c + k} \right) R - k \right) + (1 - \beta) L + \alpha \left(\frac{p + c}{p + c + k} \frac{R}{2} - c \right);$$

and as before

$$U^K(k; R) = \left(1 - \frac{p + c}{p + c + k} \right) R - k.$$

Solving for the Nash equilibrium, capital owners will allocate contest resources so that:

$$\frac{d}{dk} U^K(k; R) = -\frac{-Rp - Rc + p^2 + 2pc + 2pk + c^2 + 2ck + k^2}{(p + c + k)^2} = 0.$$

Solving for k we get

$$k(p, c) = -(p + c) + \sqrt{R(p + c)}.$$

For both P and C , we have

$$\frac{d}{dp}U^P(p, c; \beta, R) = -\frac{1}{2} \frac{2\beta kR - \alpha Rk + 2\alpha p^2 + 4\alpha pc + 4\alpha pk + 2\alpha c^2 + 4\alpha ck + 2\alpha k^2}{(p + c + k)^2} = 0$$

Solving for p , we get

$$p(k, c) = -(k + c) + \frac{1}{2\alpha} \sqrt{2kR\alpha(\alpha - 2\beta)}, \text{ and}$$

$$c(k, p) = -(k + p) + \frac{1}{2\alpha} \sqrt{2kR\alpha(\alpha - 2\beta)}$$

which has a solution only if $\alpha > 2\beta$. Compare this with the necessary condition under autocracy for contests to emerge, which was $\alpha > \beta$. Under separate powers, then, the actors must have more intense preferences for wealth as opposed to political support for resource dissipation to occur in equilibrium; this should not be too surprising, since in this modified game the president and Congress split the rents from extraction equally.

Since P and C are identical in this game, $p = c$, and therefore the three reaction functions reduce to two: $k = -2p + \sqrt{2pR}$ and $p = -(k + p) + \frac{1}{2\alpha} \sqrt{2kR\alpha(\alpha - 2\beta)}$. Solving simultaneously we find

$$p^S = c^S = \frac{1}{2} R \frac{(2\beta - \alpha)^2}{(2\beta - 3\alpha)^2}.$$

Solving for k , we have:

$$k^S = 2R\alpha \frac{\alpha - 2\beta}{(3\alpha - 2\beta)^2}$$

and total resource dissipation is:

$$R^S = p^S + c^S + k^S = R \frac{\alpha - 2\beta}{3\alpha - 2\beta}$$

and the equilibrium tax rate is

$$t^S = \frac{p^S + c^S}{p^S + c^S + k^S} = \frac{\alpha - 2\beta}{3\alpha - 2\beta}$$

As before, the amount spent on the contest by each player rises with the amount of resources R that are being fought over, but the equilibrium tax rate depends only on the politicians' relative preferences for political support and personal economic gain. Notice that total resource dissipation under separation of powers is

$$D^S = \sqrt{2Rp^S}. \tag{10}$$

Proposition 2 $D^S \leq D^A$ for all $\alpha, \beta \in [0, 1]$

Proof. For $\alpha \leq \beta$, $D^S = D^A = 0$. If $\alpha \in (\beta, 2\beta)$, $D^S = 0 < R \frac{\alpha - \beta}{2\alpha - \beta} = D^A$. If $\alpha > 2\beta$ then $D^S = R \frac{\alpha - 2\beta}{3\alpha - 2\beta} < R \frac{\alpha - \beta}{2\alpha - \beta} = D^A$ iff $\frac{\alpha - 2\beta}{3\alpha - 2\beta} < \frac{\alpha - \beta}{2\alpha - \beta}$ iff $\frac{\alpha^2}{(2\alpha - \beta)(3\alpha - 2\beta)} > 0$ which is true for all $\alpha > 2\beta$.

■

This is the main result; separate powers can decrease total resource dissipation. Interestingly,

the tax rate under separation of powers is lower as well, as shown in the following proposition.

Proposition 3 $t^S \leq t^A$ for all $\alpha, \beta \in [0, 1]$

Proof. For $\alpha \leq \beta, t^S = t^A = 0$. If $\alpha \in (\beta, 2\beta)$, $t^S = 0 < \frac{\alpha-\beta}{2\alpha-\beta} = t^A$. If $\alpha > 2\beta$ then $t^S = \frac{\alpha-2\beta}{3\alpha-2\beta} < \frac{\alpha-\beta}{2\alpha-\beta} = t^A$ iff $\frac{\alpha-2\beta}{3\alpha-2\beta} < \frac{\alpha-\beta}{2\alpha-\beta}$ iff $\frac{\alpha^2}{(2\alpha-\beta)(3\alpha-2\beta)} > 0$ which is true for all $\alpha > 2\beta$. ■

Thus separate powers with fixed revenue sharing offers the possibility of saving on resources dedicated to contest activities. Before exploring this result in more detail, we first analyze another flavor of separate powers; one in which the various branches of government themselves fight over the spoils extracted from economic actors.

4.2 Conflict over Distribution

Assume now that the two players P and C divide the gains from extraction according to their relative shares in the contest. That is if $t(p, c, k) = \frac{p+c}{p+c+k}$ then of each dollar of tax revenue accumulated, P earns $\frac{p}{p+c}$, and C earns $1 - \frac{p}{p+c}$. The objective functions for the two branches now take the form

$$U^P(p, c; \beta, R) = \beta \left(\left(1 - \frac{p+c}{p+c+k} \right) R - k \right) + (1-\beta)L + \alpha \left(\frac{p+c}{p+c+k} \frac{p}{p+c} R - p \right) \text{ and}$$

$$U^C(c, p; \beta, R) = \beta \left(\left(1 - \frac{p+c}{p+c+k} \right) R - k \right) + (1-\beta)L + \alpha \left(\frac{p+c}{p+c+k} \left(1 - \frac{p}{p+c} \right) R - c \right).$$

This would be the case if two independent entities were taxing capital, with the relative allocation of the revenues themselves divided according to the collection effort that each branch

had exerted. Then the president will solve:

$$\frac{d}{dp}U^P(p, c; \beta, R) = -\frac{\beta kR - \alpha Rc - \alpha Rk + \alpha p^2 + 2\alpha pc + 2\alpha pk + \alpha c^2 + 2\alpha ck + \alpha k^2}{(p + c + k)^2} = 0,$$

and similarly for Congress, yielding

$$\begin{aligned} p &= -(k + c) + \sqrt{\frac{R}{\alpha}(k(\alpha - \beta) + \alpha c)} \\ c &= -(k + p) + \sqrt{\frac{R}{\alpha}(k(\alpha - \beta) + \alpha p)} \\ k &= -(p + c) + \sqrt{R(p + c)} \end{aligned}$$

Since P and C are identical, $p = c$. Then we have

$$2p + k = \sqrt{\frac{R}{\alpha}(k(\alpha - \beta) + \alpha p)} \text{ and } 2p + k = \sqrt{R2p}. \quad (11)$$

This yields $k = p \frac{\alpha}{\alpha - \beta}$ and substituting this back into equation (11), we have $p^D = c^D = 2R \frac{(\alpha - \beta)^2}{(3\alpha - 2\beta)^2}$

and therefore $k^D = 2\alpha R \frac{\alpha - \beta}{(3\alpha - 2\beta)^2}$; and

$$t^D = \frac{p + c}{p + c + k} = 2 \frac{\alpha - \beta}{3\alpha - 2\beta} \text{ whenever } \alpha \geq \beta.$$

Finally,

$$D^D = p + c + k = 2R \frac{\alpha - \beta}{3\alpha - 2\beta}.$$

Proposition 4 $D^D \geq D^A \geq D^S$ for all $\alpha, \beta \in [0, 1]$

Proof. If $\alpha \geq 2\beta$, then $D^D = 2R \frac{\alpha-\beta}{3\alpha-2\beta} > R \frac{\alpha-\beta}{2\alpha-\beta} = D^A$ iff $\frac{\alpha(\alpha-\beta)}{(3\alpha-2\beta)(2\alpha-\beta)} > 0$ which is true for all $\alpha > 2\beta$. If $\alpha \in (\beta, 2\beta)$, $D^D = 2R \frac{\alpha-\beta}{3\alpha-2\beta} > 0 = D^A$; if $\alpha \leq \beta$, $D^D = D^A = 0$. An earlier proposition (Proposition ??) established $R^S \leq R^A$ over the same intervals. ■

What we have found is that when the contest allocations determine the share of the tax revenue, each player over-invests in contest. If on the other hand the shares are divided according to a rule that is independent of the contest allocation, free-riding dominates, and each player under-invests in contest.

5 Discussion

This paper examined the impact of politics on economic efficiency, employing a theoretical model in which tax rates are endogenously determined via a contest between government actors and their constituents. The taxed sector, capital in our model, must divert otherwise productive resources towards fending off the government’s “grabbing hand”, in the terminology of Shleifer and Vishny (1998). We investigated three variations on the basic model: one in which the government is represented by a single individual, or autocrat, another in which the government is characterized by separate powers and all tax revenue is shared between the branches in a fixed proportion, and a third in which interbranch revenue sharing was proportional to the amount of resources expended by each branch extracting revenue.

Our results indicate, somewhat surprisingly, that the introduction of separate powers does not always guarantee more efficient outcomes; in particular, separate powers with fixed sharing is more efficient than autocracy, but under proportional sharing it is less efficient. From an

economic perspective, this is a statement about the fundamental game being played between the branches: with fixed sharing, resource extraction is a prisoners' dilemma, leading to free riding and relatively less effort devoted to resource extraction. With proportional sharing, the game becomes a common pool problem, leading the branches to devote "too many" resources to the contest.

From a political perspective, our findings lend a new perspective to the problem of transitions from autocracy. Our results imply that political institutions can help restrain government and hence improve economic efficiency, but only if they are well-regulated in the sense of having an enforceable, predetermined allocation of tax revenues. Absent these types of background institutions, autocracy may well be economically more efficient than separate powers. If governments are just mafias, that is, extracting whatever they can from the productive sectors of society, and the choice is between a single extractor or multiple extractors, then a single autocratic extractor is more efficient.

Just as interesting as our findings on inefficiency are the conditions under which politicians extract nothing from the economy. This could result, in the first case, if politicians' taste for personal gain is low relative to their preferences for political support (α is small compared with β). Hence even dictators will leave the market sector alone if their economic returns at the margin mean less to them than the loss of political support from their favored group(s). Conversely, the worst situation economically occurs with a politically secure autocrat who can turn all his energies towards extracting resources for personal benefit.

The economy also becomes efficient if the government receives its support from the taxable sector, capital in our example. Resource dissipation is therefore a symptom of a mismatch

between the economically productive segments of society and the politically influential sectors. This tension, when it arises, encourages politicians to interfere in markets, taxing those who matter less in their political calculus.

A number of extensions to our basic model come readily to mind. One could allow the president and Congress to receive different levels of support from different sectors of society, leading to interbranch conflict not only over spending on contest activities but also on which sector should be taxed in the first place. One could ask under what circumstances the autocrat derives higher utility from a separate powers regime than from autocracy; this could lead to a theory of endogenous transitions away from dictatorships. Or one could have the government play a direct role in the market in one stage, and then tax it in the next, so as to be able to address questions about the circumstances under which privatization is efficient. As usual, we leave these possibilities to future work.

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