Inclusiveness and the Exchange of Political Support for Rent

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ABSTRACT

In this paper, governments maximize their political support and face a trade-off between wealth creation and rent creation as sources of support. A competitive economy with low rent seeking maximizes support only if inclusiveness—defined as the share of 'outsiders' in political support—is high, and the paper examines conditions for this to occur. Depending on comparative political advantage, the quest for support can become the road to serfdom, the road to an inclusive society, or an intermediate bargaining outcome. This approach contrasts with the selectorate theory in which political advantage depends on the size of a 'winning coalition.'

JEL Classifications: D72, H00, H19.

Key Words: Rent Seeking, inclusiveness, political support, economic/political linkage, comparative political advantage.

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'Democracy is the worst possible form of government—except of course for those other forms that have been tried from time to time.'

--Winston Churchill

I. Introduction

This article is about the trade-off between wealth creation and rent creation as sources of political support, using an approach that differs from those based on the idea of a 'winning coalition.' In three classic papers, Tullock [1967], Krueger [1974], and Posner [1975] identified rent seeking as a major cause of poor economic performance. More recent studies show a negative effect of rent seeking on growth [Del Rosal 2011, pp. 316-17; Murphy, Shleifer, and Vishny 1991], and rent seeking and rent extraction are linked to economic and social ills such as corruption, protectionism, low socio-economic mobility, inequality before the law, secrecy in government, and the 'middle income trap [Gill and Kharas 2007],' which arises from restrictions on efficiency.

Here 'rent' means distributional rent, such as monopoly profit, that arises from the protections embodied in restrictions on supply, and 'rent seeking' refers to competition for these rents by rent seekers who offer political support in return. Rent seekers representing special interests trade support in the form of money, resources, information, image building, suppression of dissent, intimidation of political rivals, etc. for rent. Thus creation of distributional rent is a source of political support. However, creation of such rent also destroys wealth, and wealth creation, which destroys distributional rent, is another source of support.

Successful rent seekers are considered to be 'insiders,' and everyone else will be considered an 'outsider'. Government extracts rent from outsiders and transfers this to insiders—or gives insiders the mean to do this—in return for support. The support of insiders depends on the rents they receive, while outsiders' support depends on the income remaining after rents are extracted.

A competitive economy with low rent seeking maximizes support only when 'inclusiveness'—defined as the share, ψ, of outsiders in political support—is high. If ψ is low, secrecy, rent seeking, and protectionism will be high, as will be the cost of losing political power. Reforms that raise ψ lower rent seeking and the value of power, but raise wealth creation and efficiency. The political system with maximum inclusiveness is the other face of the economic system with maximum efficiency. In *Why Nations Fail*, Acemoglu and Robinson [2012] also associate inclusiveness with efficiency, but without defining inclusiveness in a quantifiable way (pp. 74-75; 80-81). Since the quest for support links the economic and political systems, differences in the former are often rooted in differences in the latter. If we start from a political support maximum, economic reforms are politically acceptable only when combined with political changes that make these reforms support increasing.

This paper makes two contributions. First, it derives a general support function, U, with inclusive and non-inclusive elements, and ψ as parameter. It shows how changes in ψ imply changes in economic, social, and political outcomes, which gives a way of measuring ψ. It also gives institutional requirements for inclusiveness to be high, focusing on the role of institutions of restraint. Second, it asks how the quest for support causes ψ to change. Depending on comparative political advantage—whether a government can gain support by making political reforms that raise or lower ψ—this quest can become either the road to an inclusive society or the road to serfdom. This approach contrasts with the selectorate theory of Bueno de Mesquita, Smith, Siverson, and Morrow [2003], in which political advantage depends on the size of a minimal 'winning coalition.' Criticisms of their theory suggest the approach here as an alternative.

Thus we first set out a model of political support maximization and show how inclusiveness affects this maximum. Sections on the institutional requirements of high inclusiveness, on comparative political advantage and its determinants, and on the theory of Bueno de Mesquita et. al. follow. A final section summarizes and concludes. A glossary defines the symbols used here, and an appendix solves an extended basic rent-seeking model, which is the starting point for this paper.

II. Basic Concepts

Here wealth creation will mean production of useful output in an economy producing useful output and rent seeking. Of these, only useful output is assumed to yield utility from present or expected future consumption. Let $(A^*_1 \ldots A^*_N)$ be the equilibrium rent-seeking outputs of the N active rent seekers, which sum to $A^* = \Sigma_k A^*_k$ and let $(G^*_1 \ldots G^*_N)$ be their equilibrium profits from rent seeking, which sum to $G^* = \Sigma_k G^*_k$. Let Y be the output of useful products valued in competitive prices and ψ index inclusiveness. Then A^* indexes political support provided or financed by rent seekers in return for rents, and $(Y - G^*)$ is the part of Y that is not rent-seeking profit. We take Y as numeraire.

Each contender for political power rules in such a way as to maximize its support, indexed by U, which depends on expected values of the variables above if that contender were to be the government. Given the choices available, a potential government (hereafter a government) divides G^* into $(G^*_1 \ldots G^*_N)$ and A^* into $(A^*_1 \ldots A^*_N)$ and distributes $(Y - G^*)$ in a way that maximizes U for any given G^*, A^*, Y, and ψ, assuming rent seekers to be profit maximizers who reach a Nash equilibrium, as described in the appendix. We then have $U = u[(Y - G^*), G^*, A^*; \psi]$, where u is assumed to be second-order continuous, strictly quasi-concave, homothetic, and non-decreasing in A^*, G^*, and $(Y - G^*)$, with marginal support values u_{A^*}, u_{G^*}, and $u_{(Y - G^*)}$. $u_{G^*} > 0$ is possible since increases in G^* can raise a government's support from any given A^*.

If V^*_k is the distributional rent received by rent seeker k, for $k = (1 \ldots N)$, and P_{A^*} is the price in units of Y of political support provided or financed by rent seekers, $P_{A^*}A^*_k + G^*_k = V^*_k$, since $P_{A^*}A^*_k$ is the cost of A^*_k in units of Y. Letting $V^* = \Sigma_k V^*_k$ be total distributional rent, we have:

$$V^* = G^* + P_{A^*}A^*. \qquad (1).$$

Let GDP $= P_{A^*}A^* + Y = V^* + (Y - G^*)$ be gross domestic product or national income, the sum of expenditures and of incomes in the rent-seeking and useful output sectors. Since $(\text{GDP} - V^*) = (Y - G^*)$, $(Y - G^*)$ is also GDP or national income net of distributional rent, as well as the income from producing Y. V^* is the income from producing A^*.

There are two kinds of efficiency loss from rent seeking. The direct loss is the Y that is not produced because some inputs are producing A^* instead. The indirect loss is the allocative and X-inefficiency within Y that results from the restrictions on supply and other interventions used to generate the rent that pays for A^*—see Comanor and Leibenstein [1969]. The appearance of this inefficiency is equivalent to a fall in Y valued in the former competitive prices, and we define $Y^i_{A^*}$ be the indirect change in Y from the increase in V^* when A^* increases by a unit and $MC^i_{A^*} = -Y^i_{A^*}$ to be the marginal indirect cost of this increase.

Let Y, A^*, and ψ be fixed. Then the support-maximizing division of any Y into $(Y - G^*)$ and G^* occurs where $u_{G^*} = u_{(Y-G^*)}$ if $G^* > 0$. When each Y is divided in a support-maximizing way, G^* becomes a function of Y, A^* and ψ, and $u[(Y - G^*), A^*, G^*; \psi]$ becomes $U = U(Y, A^*; \psi)$. Thus:

$$U = u[(Y - G^*), G^*, A^*; \psi] = U(Y, A^*; \psi) \text{ and } u_{G^*} = u_{(Y-G^*)} = U_Y \qquad (2).$$

at the support maximum when $G^* > 0$. For simplicity, (2) ignores the error that arises because a change in G^* is also a change in V^*, which has an indirect effect on Y. As we shall see, however, if support continues to be maximized, a change in A^* along a production frontier entails a change in G^* in the same direction. We define $MC^i_{A^*}$ to include the indirect effects on Y of both sources of change in V^*—that is, of the entire change in V^* when A^* increases by a unit.

III. The Opportunity Cost of Rent Seeking

Let TR be the production frontier in A^* and Y with marginal rate of transformation $MRT = A^*_L/(Y_L + MC^i_{A^*}A^*_L)$ when A^* is plotted on the vertical axis, where A^*_L and Y_L are the marginal products of labor in A^* and Y. Here Y_L is the marginal direct cost of transferring a unit of L from Y to A^*, and $MC^i_{A^*}A^*_L$ is the marginal indirect cost. In the short run we assume diminishing returns to labor in both sectors and in the long run different factor proportions in the two sectors, along with constant returns to scale. As a result, TR is strictly concave from below in both the long and short runs when $MC^i_{A^*}$ is non-decreasing in A^*.

Let the U-subscript denote support-maximizing value and let (Y_U, A^*_U) be the point on TR that maximizes $U(Y, A^*; \psi)$. Then the first-order condition for an internal maximum of U is:

$$MRS = U_Y/U_{A^*} = (P_{A^*})^{-1} = MRT = A^*_L/(Y_L + MC^i_{A^*}A^*_L), \quad (3).$$

where *MRS* is the marginal rate of substitution of *Y* for *A**. If $U_Y/U_{A^*} > MRT$ everywhere along *TR*, *U* is maximized at E_M, defined as the point where $A^* = G^* = 0$ and *Y* reaches its maximum value, say Y^M. This is the only efficient point on *TR*.

Because V^* = GDP – ($Y - G^*$) valued in units of *Y* is finite, there can be no support maximum where *MRT* = 0, since P_{A^*} and V^* would then be infinite because of (2). Let Y^m be the output where V^* reaches its feasible maximum, say $(V^*)^m$, and let $(A^*)^m$ and $(G^*)^m$ be the corresponding values of A^* and G^*. As shown below, when the isoquants of *U* change, V^*_U, A^*_U, and G^*_U all change in the same direction along *TR*. Thus $(A^*)^m$ and $(G^*)^m$ are also the maximum values of A^*_U and G^*_U along any *TR*, and Y^m is the minimum value of Y_U. If $Y < Y^m$, *U* will be lower than at E_m where E_m is the point $(Y^m, (A^*)^m)$. Thus all possible support maxima lie between E_m and E_M. At E_m, GDP valued in units of *Y* also reaches its feasible maximum along *TR*, owing to the strict concavity of *TR* from below. At E_M, GDP is minimized, but this perverse behavior is entirely the result of including distributional rent in GDP since ($Y - G^*$) = (GDP – V^*) reaches its maximum at E_M. Subtracting the cost of rent seeking makes all the difference, and (GDP – V^*) is a better measure than GDP of aggregate economic performance.

Figure 1(a) below shows a support maximum at E_M, Figure 1(b) shows a maximum at E_m, and Figure 1(c) shows an intermediate maximum. The portion of *TR* to the left of E_m is omitted in each of these graphs because the support maximum cannot lie there. Suppose a political change causes the isoquants of *U* to become flatter, thereby lowering *MRS* and raising $(MRS)^{-1}$, the demand price of *A**, at each (Y,*A**). From the theory of convex sets, this causes A^*_U to rise and Y_U to fall along any given *TR*. The demand for political support from rent seekers rises, and the demand for *Y* falls.

Likewise, suppose that *TR* becomes steeper for any given support function, *U*, in the sense that *MRT* rises (and $(MRT)^{-1}$, the supply price of *A**, falls) at any given A^*/Y. Then A^*_U/Y_U will again rise. Finally, Suppose that labor and capital are complementary in each sector in the sense that an increase in one raises

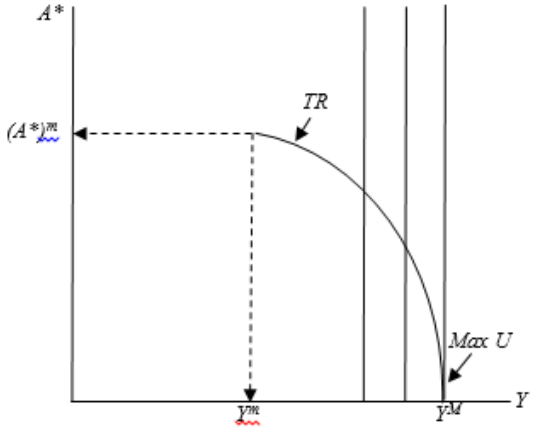


Figure 1(a)

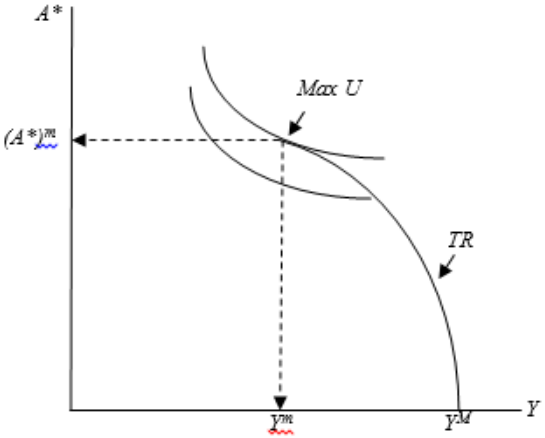


Figure 1(b)

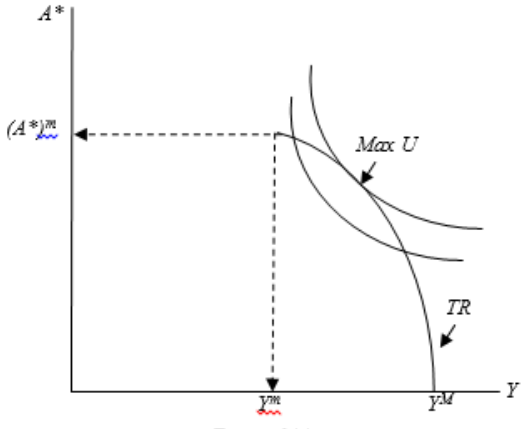


Figure 1(c)

the marginal product of the other. Then an economy with a relatively steep short-run *TR*—implying a comparative economic advantage in rent seeking vs. useful output—is one that is well endowed with capital specialized to rent seeking, reflecting a high past demand for rent-seeking support. As we shall see, this implies low past values of ψ.

When the isoquants of *U* become flatter—as in the shift from U^B to U^C in Figure 2(a)—and this change persists, a multi-fold increase in A^*_U/Y_U occurs. In the short run, the rise in the demand price of *A** moves the support maximum up a given short-run *TR* to a higher A^*_U and lower Y_U—eg., from B to C in Figure 2(a). In the long run, the share of total capital specialized to *A** rises, which lowers the supply price of *A**, causing short-run *TR* to shift, eg., from TR_2 to TR_1 in Figure 2(b). This leads to a second increase in A^*_U/Y_U, from C to D. As will be shown, further changes to the political system are then likely that make the isoquants of *U* flatter still, giving rise to further rounds of increases in A^*_U/Y_U. Inclusiveness determines how flat or steep the isoquants of *U* will be.

IV. The Effect of Inclusiveness on the Exchange of Political Support for Rent

The hallmark of a *non*-inclusive political system is an ability to divide society into insiders and outsiders in a way that allows a support-maximizing government to rely on insiders for most of its support. A government's support, *U*, is assumed to depend on ψ and to be non-decreasing in the support, U^I, from insiders and the support, U^O, from outsiders. As will be shown, when ψ is low, V^*_U will be high, implying relatively strong restrictions on supply that produce relatively high rents. When ψ is high, V^*_U will be low, and markets will be more competitive.

Assumptions (a) and (b) determine the nature of *U*: (a). U^O is an increasing function of (GDP – *V**) = (*Y* – *G**), the income from producing *Y*, with marginal support value $U^O_{(Y-G^*)}$. U^O is measured in units of *A**. U^I is a non-decreasing function of *sA**, where $s = s(G^*,A^*)$ indexes a government's success in gaining support from *A**. Here $0 \leq s \leq 1$, $s_{G^*} \geq 0$, and $s_{A^*} \leq 0$, since an increase in *A** spreads a given *G** over more

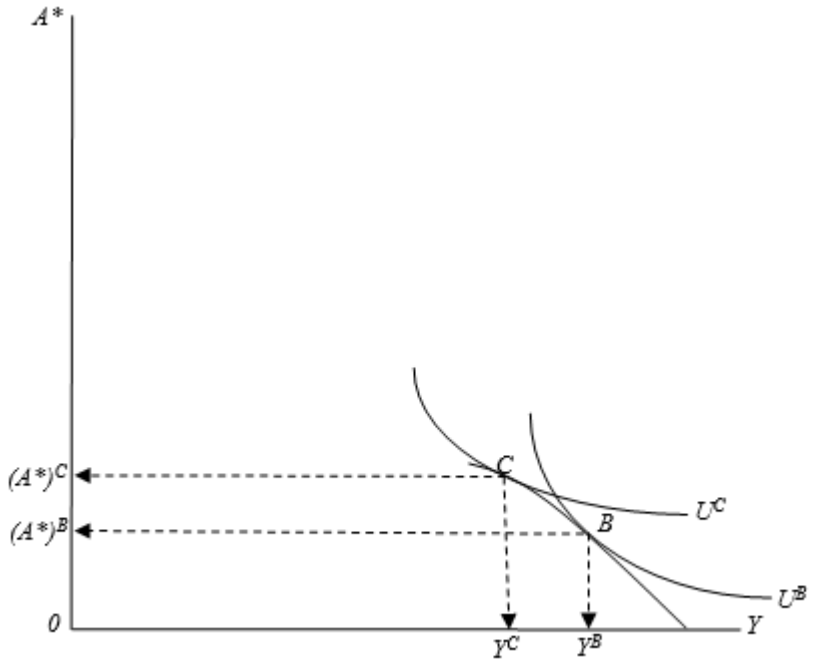


Figure 2(a)

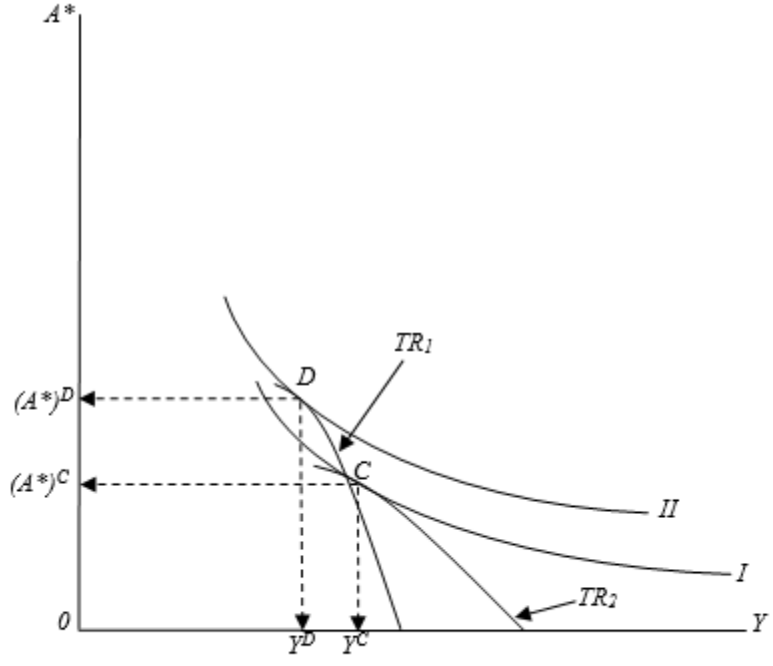


Figure 2(b)

A^*. U^I is also non-decreasing in A^* and G^* with marginal products, $U^I_{A^*} = s + s_{A^*}A^*$ and $U^I_{G^*} = s_{G^*}A^*$. $U^I_{A^*} \geq 0$ implies a loyalty requirement, $\varepsilon_{sA^*} = (s_{A^*}A^*/s) \leq 1$, at the support maximum. If A^* rises by x percent, s can fall by no more than x percent. When G^*/A^* is set to maximize support, U^I depends only on V^*. (b). Let ψ index a government's reliance on outsiders for support, interpreted as the share of U attributable to U^O. Let $(1 - \psi)$ index its reliance on insiders. Then ψ depends only on the political system.

For any given ψ, (a) and (b) imply that U is Cobb-Douglas in U^I and U^O:

$$U = u[(Y - G^*), G^*, A^*; \psi] = [U^O(Y - G^*)]^{\psi}[U^I(G^*, A^*)]^{(1-\psi)} \quad (4).$$

In the above, U is measured in units of A^*. When $\psi = 1$, $U = U^O$, and $A^*_U = G^*_U = V^*_U = 0$. U^O is U when $\psi = 1$. The support maximum is then at E_M where $(Y_U - G^*_U) = Y_U = Y^M$, the maximum value of Y and of $(Y - G^*)$ on TR. The political system with highest inclusiveness implies the maximally efficient economic system and vice versa. As ψ falls, the sensitivity of U to changes in $(Y - G^*)$ falls, since $(U_{(Y-G^*)}/U) = \psi(U^O_{(Y-G^*)}/U^O)$, and its sensitivity to changes in G^* and A^* rises. If $\psi = 0$, $U = U^I$, and $\text{GDP}_U = V^*_U$. U^I is U when all of GDP is rent. Since this is impossible in practice, however, ψ varies between ψ_m and one, where $\psi_m > 0$ is the value of ψ that gives a support maximum at E_m, the point of maximum rent extraction. Since the ability to extract rent is limited, U always depends on over-all economic performance, and never on rent alone, although the weight of $Y - G^*$ is increasing in ψ. Using (4), we can write (3) as:

$$U_Y/U_{A^*} = u_{G^*}/u_{A^*} = U^I_{G^*}/U^I_{A^*} = (P_{A^*})^{-1} = MRT = A^*_L/(Y_L + MC^i_{A^*}A^*_L), \quad (3a).$$

at the support maximum when $G^* > 0$, since $U_Y/U_{A^*} = U^I_{G^*}/U^I_{A^*}$ then holds.

A final assumption is (c). There are non-increasing returns to $(Y - G^*)$ in U^O in the sense that the second partial derivative, $U^O_{(Y-G^*)(Y-G^*)}$, is non-positive. Also G^* and A^* show diminishing returns and complementarity in U^I, in that the second partials, $U^I_{G^*G^*}$ and $U^I_{A^*A^*}$, are negative and the mixed partial, $U^I_{G^*A^*} = U^I_{A^*G^*}$, is positive. As a result, U^I is strictly quasi-concave. A government uses increases in G^* to give rent seekers stronger incentives to support it, thereby raising U^I and $U^I_{A^*}$ at each A^*.

When $\psi < 1$, (4) implies that the ratio of $u_{(Y-G^*)}$ to u_{G^*} is given by:

$$u_{(Y-G^*)}/u_{G^*} = [\psi/(1-\psi)](U^I/U^O)(U^O{}_{(Y-G^*)}/U^I{}_{G^*}). \quad (5).$$

Since $u_{G^*} = u_{(Y-G^*)}$ is necessary for dividing Y into $(Y - G^*)$ and G^* in a support-maximizing way, suppose that $u_{G^*} = u_{(Y-G^*)}$ holds initially at each (Y,A^*). As a result, $MRS = U^I{}_{G^*}/U^I{}_{A^*}$. A fall in ψ then lowers $u_{(Y-G^*)}/u_{G^*}$ at each point $((Y - G^*), G^*, A^*)$. By assumption (c) this requires G^* to rise and $(Y - G^*)$ to fall at each (Y,A^*) in order to restore equality. In turn, the increase in G^* causes $U^I{}_{G^*}/U^I{}_{A^*}$ to fall, while the decrease in $(Y - G^*)$ does not affect $U^I{}_{G^*}/U^I{}_{A^*}$. Thus a decrease in ψ lowers *MRS* at each (Y,A^*), while an increase in ψ raises *MRS*.

The new support maximum following a fall in ψ must therefore be where *MRT* is lower (where *TR* is flatter) than at the old maximum. As a result, A^*_U must rise, and Y_U must fall—the most basic effect of a fall in ψ. The isoquants of *U* become flatter in (Y,A^*) space, as in the shift from U^B to U^C in Figure 2(a), raising the demand price, $(MRS)^{-1}$, of A^*. It follows that Y_U is increasing and A^*_U is decreasing in ψ. Despite the fall in Y_U, G^*_U also rises when ψ falls, for otherwise the support-maximizing value of $U^I{}_{G^*}/U^I{}_{A^*}$ would rise, by assumption (c). Both G^*_U and A^*_U are positive when and only when $\psi < 1$. In the classical solution [Krueger 1974; Posner 1975], $G^*_U = 0$ owing to perfect competition between rent seekers. Here, however, increases in G^* have support value, and G^* is therefore positive—implying that rent seekers enjoy some protection from competition—when A^* is positive.

Because A^*_U and G^*_U are decreasing in ψ, while Y_U and MRT_U are increasing, V^*_U is also decreasing in ψ. As governments rely more on insiders for support, they need more distributional rent, which requires them to become more protectionist. Thus V^*_U, A^*_U, and G^*_U are positively correlated along any given *TR*. Since A^* has rising supply price, GDP_U valued in units of *Y* is decreasing in ψ and is maximized at E_m, the point of maximum rent seeking. Because $\text{GDP} = P_{A^*}A^* + Y = (MRT)^{-1}A^* + Y$ when (3) holds, strict concavity of *TR* from below implies that:

$d(\text{GDP}_U)/d\psi = dY_U/d\psi + A^*_U[d((MRT_U)^{-1})/d\psi] + (MRT_U)^{-1}[dA^*_U/d\psi] = A^*_U[d((MRT_U)^{-1})/d\psi] < 0, \quad (6).$

since $(MRT_U)^{-1}dA^*_U = -dY_U$ along any *TR*. If two economies, I and II, have the same *TR* frontiers, but rent seeking is higher in II, GDP will be higher in II and *Y* will be higher in I.

Let Y^F be the maximum amount of useful output that can be produced with given amounts of capital and labor using the best available technology worldwide. Then efficiency, ε_f, can be written as $\varepsilon_f = Y_U/Y^F = (Y_U/Y^M)(Y^M/Y^F)$, where Y^M is on the same *TR* as Y_U. Here Y_U/Y^M is the rent-seeking ratio. In absence of rent seeking it would equal one. Y^M/Y^F is the technology ratio, which rent seeking can also help to keep below one by protecting rents on obsolete technologies and associated skills as well as by raising the comparative economic advantage in rent seeking. Thus rent seeking keeps ε_f below one, which can be a low or middle income trap on *Y*, keeping in mind that what constitutes 'middle income' is itself rising over time. It can be a trap on GDP as well since a rising comparative advantage in rent seeking lowers P_{A^*} for any given ψ. If V^* remains close to $(V^*)^m$, moreover, growth of A^* will be constrained by the growth of *Y*.

Let $X^V = V^*/\text{GDP} = 1 - [(Y - G^*)/\text{GDP}]$ be the share of V^* in GDP. Then X^V_U is decreasing in ψ along any given *TR* since it is decreasing in $(Y_U - G^*_U)$ and increasing in GDP_U. A good estimate of how nations rank in terms of their shares of distributional rent in GDP is also a good estimate of their inverse ranking in terms of ψ. This is especially true when ψ is constant over time since past values of ψ determine the shape of short-run *TR* by determining how investment is divided between the A^* and *Y* sectors.

The relatively high value of X^V_U when ψ is low also has implications for the political and socio-economic environments in which decisions are made. First, the transfer of large rents from outsiders to insiders limits the extent to which a government can be impartial between the two groups and subordinate itself to an impersonal rule of law that treats them equally. Second, rent seekers will try to preserve their privileges into the future. This constrains equal opportunity and upward socio-economic mobility. In the same way, "good" rents resulting from entrepreneurship and innovation may be transformed into

distributional rents, which newly rich insiders try to preserve by pulling up the ladders they climbed to success in order to entrench their descendants in positions of wealth and power. This requires a fall in ψ, however, which is likely to lower the political support of a government that promotes entrepreneurship.

Third governments become more protectionist as ψ falls. Investments that raise Y_U but lower V^*_U by intensifying competitive pressures on existing rents become more and more likely to lower U. These include investment in innovation and new product R&D. Since increases in A^* imply increases in rent and in the supply restrictions that generate this rent, they crowd out innovation and new product development by lowering the return on such investment, reinforcing the low- or middle-income trap. In addition, institutions such as banks work differently when ψ is low than when ψ is high. When ψ is high, they are more likely to lend at market rates to borrowers they expect to repay. When ψ is low, more of their loans will be rents for insiders, and thus they are more likely to be "zombie" banks with large portfolios of non-performing loans.

Finally, as ψ falls and the political influence of outsiders wanes, insiders gain greater control over income and wealth. This implies growing insecurity of private and other non-state property rights held by outsiders, which further discourages innovation and new product R&D, except for projects that government explicitly approves. Further discouragement still results from the 'dictator's dilemma' described below.

Define corruption as the use of public office for personal gain. Then a polity with low inclusiveness will have relatively high levels of corruption and secrecy. Corruption is a form of rent seeking, and when ψ is low, governments will award positions with opportunities for corruption in return for political support. The support of a corrupt official or other insider is then more valuable to government than when ψ is high, while the support of outsiders who bear the cost of corruption is less valuable. Widespread corruption also gives a ruler grounds for purging insiders he wants to replace [Hillman and Schnytzer 1986].

When ψ is low, a government will be secretive in order to conceal the loss of $(Y_U - G^*_U)$ from rent seeking and extraction of rent. This loss rises as ψ falls, raising the incentive to hide the loss and to use the politics of identity to deflect blame for economic malaise toward people of different nationalities, ethnicities,

religions, ideologies, and cultures [Rodrik (2)2014]. Thus we would expect ψ to correlate positively with transparency in government across nations, giving a way of determining how nations rank in terms of ψ.

V. Institutional Requirements for Inclusiveness to be High

A 'liberal' democracy combines institutions of representation, which translate popular preferences into government policy, with institutions of restraint—such as an independent and impartial police and judiciary and a free press—that uphold basic rights and freedoms and limit government abuse of its power [Rodrik (1), 2014]. By upholding transparency and impartiality, such institutions make it harder for rent seeking to raise political support, forcing greater reliance on aggregate economic performance; they also make the link between policy and performance more evident. An autocracy may lack both kinds of institutions, whereas 'illiberal' democracies lack effective institutions of restraint.

These institutions are the backbone of an inclusive political system [Zakaria 1997]. As Rodrik notes, they can result from competition for power when such competition causes power to rotate among competing political entities. This motivates creation of institutions that protect defeated governments and their supporters from abuse of power by their successors. For any given *TR*, effective institutions of restraint raise the expected incomes in units of *Y* of government leaders and their supporters after losing power and lower their expected incomes while holding power, in the latter case by restricting government actions. Thus they lower the cost of losing power—and the gain from winning power—which makes incumbents who are losers of political competition more willing to leave office. One result is that governments will rule for shorter periods of time on average when ψ is high than when ψ is low. The lower cost of losing power and gain from winning power also helps to establish conditions for institutionalizing political competition in periodic and peaceful elections that enable power sharing via rotation of power over time.

Institutions of restraint constrain the actions of governments and strong special interests and raise the cost of maintaining secrecy. Thus when ψ is low, the level of support (*U*) for the government in power is apt

to be higher than when ψ is high, although a different government is also likely to be in place. When ψ is high, therefore, at least one major political party or coalition will need effective institutions of restraint in order to hold on to its access to power. It will therefore defend such institutions against anyone who tries to chip away at their effectiveness. This is why institutions of restraint often survive and remain effective over time. Since $(MRT)^{-1} = P_{A*}$ is increasing in A^* along any TR, the value of political support in units of Y, or $P_{A*}U$, is also higher when ψ is low. In this sense, the value of political power is higher.

Such institutions do not always require democracy. Suppose external pressures or opportunities make it impossible for a government to survive unless it maintains an efficient economy, eg., because of military competition or because it is part of a free-trade bloc. Then even a dictator will want to promote effective institutions of restraint, and ψ will be high. In this context, economies vary in terms of extractible rent. Resource rich economies often have larger potential rents relative to GDP than economies that are resource poor, with the result that the former can have higher levels of political support when inclusiveness is low—the 'curse' of being resource rich. Charisma can substitute for rent in attracting insider support—by raising s at any given A^* and G^*—but absent a charismatic leader, the combination of a high level of support, minimal inclusiveness, and low extractible rent is unachievable. A low ratio of $(V^*)^m$ to GDP at E_m implies a high ratio of $(Y - G^*)$ to V^* at any attainable point on TR.

VI. Political Stability and Competition for Political Support

A political system is stable when there is no tendency for ψ to change as a way of raising support. Whether stability will occur when ψ is high or when ψ is low depends in part on the sensitivity of political support to changes in rent and to changes in useful output. To see this, note that when $\psi < 1$, $MRS = U^I_{G*}/U^I_{A*} = (s_{G*}A^*)/(s_{A*}A^* + s)$ at the support maximum. Thus if A^*_U is high, MRT will be low, and the same is true of MRS since $MRS = MRT$ must hold. Given the loyalty requirement above, s_{A*}/s and s_{G*}/s must then be tiny in numerical value so that s is highly insensitive to changes in G^* and A^*, implying a low level

of competition for insider support, which also increases s. If s is too sensitive to such changes, $MRS = MRT$ can hold only if A^*_U is low and Y_U is therefore high along TR. If ψ is low as well, U will be moderate to low. This is a potential Achilles heel of a polity with low inclusiveness, since it can open the door to a government that wants to raise ψ.

An absence of competition for insider support and the resulting absence of choice for insiders could make s high at low values of G^* and A^* and insensitive enough to changes in these variables to allow the support-maximizing value of A^* to be high. Then $U^I = sA^*$ will be high, and Y_U and U^O will be low along any TR. A low level of ψ then makes it possible for U to be high, and a political system with low inclusiveness will be stable, provided $U^I > U^O$ then holds (on which more below). Note in this context that if s is insensitive to changes in A^*, then U^I will be sensitive to such changes and vice versa. A political system with high inclusiveness will be stable when s is sensitive to changes in G^* and A^*, provided $U^O > U^I$ holds when ψ is high. This puts a limit on competition for outsider support vis-a-vis competition for the support of insiders, since competition fragments support.

Thus a stable government when ψ is high is compatible with competition for political support—but not with too much fragmentation of outsider support relative to the fragmentation of insider support—while a stable government when ψ is low requires sharp limits on competition for insider support. A political system is most vulnerable to these requirements right after a change in ψ. If ψ then remains high, an economy will develop a comparative economic advantage in Y vis-à-vis A^* over time by accumulating capital specialized to Y. This makes TR flatter—and P_{A^*} higher—by lowering MRT at each A^*/Y. In turn this makes a highly inclusive polity easier to sustain since it makes $MRS = MRT$ easier to achieve at low values of A^*/Y and raises the need for rent to finance any given A^* and G^*. If ψ remains low, an economy will develop a comparative economic advantage in A^* vis-à-vis Y over time by accumulating capital specialized to A^*. This makes TR steeper—and P_{A^*} lower—by raising MRT at each A^*/Y. In turn this makes

a non-inclusive polity easier to sustain by making $MRS = MRT$ easier to achieve at high values of A^*/Y. It also lowers the need for rent to finance any given A^* and G^*.

Because U is always increasing in $(Y - G^*)$, complete inclusiveness ($\psi = 1$) occurs when increases in A^* are unable to raise U^I. Then a government can only maximize its support by maximizing $(Y - G^*) = (\text{GDP} - V^*)$ and Y at E_M. Since $U^I = 0$ holds, political fragmentation cannot cause $U^I > U^O$. However, the cost, say C^g, to outsiders of monitoring alternative governments well enough to choose efficiently between them must be low enough, regardless of A^* and G^*, and the utility gained from monitoring must be high enough to make informed choice consistent with utility maximization. This suggests a small number of alternatives and a simple choice procedure, such as voting. The role of institutions of restraint is to enable electoral competition—although not too much—while promoting universal suffrage, secret ballots, free and fair elections, and keeping C^g low, in part by publicizing rent extraction. Empirical evidence suggests that such publicity is a key to limiting such extraction in a democracy [Chang, Golden, and Hill, 2010].

Suppose that voters vote to maximize their expected incomes and that political support is measured in votes. Then there are three reasons why ψ may be low in a democracy: (1). Voting is selectively coerced or suppressed or otherwise not free and fair, ballots are not secret, or suffrage is not universal. An example is illiberal democracy in which repression or illegitimate voting is used to alter election outcomes. (2). Voting is not informed because C^g is too high. This allows politicians to court outsider votes by using the politics of identity. Outsiders may also be led to over-estimate their wealth—eg., via creation of asset price bubbles that are not perceived as such—resulting in a high demand for Y via the wealth effect. The bursting of these bubbles then leads to a fall in perceived wealth and thus in demand, causing a recession to follow the boom. (3). There is too much fragmentation of outsider support to allow a high value of ψ to be stable.

VII. Comparative Political Advantage

Different governments bring different skill sets to producing political support. Some are relatively good at inspiring insider loyalty while others are more charismatic and persuasive with large numbers of

voters. A government will be said to have a comparative political advantage in U^I at any point on *TR* if $U^I > U^O$ holds there when *U* is maximized. It has a comparative advantage in U^O if $U^O > U^I$. Recall that U^I and U^O are both measured in units of A^* and that U^I is defined under conditions highly favorable to rent seeking, while U^O is defined under conditions that suppress rent seeking and maximize useful output.

For any given A^*, G^*, and $(Y - G^*)$, a government with a comparative political advantage in U^I can raise its support by changing the political system in a way that lowers ψ. A government with a comparative political advantage in U^O can gain support by raising ψ. This is because $U_\psi = U[ln\ (U^O/U^I)]$, where U_ψ is the change in *U* per unit of a small increase in ψ. Subsequent changes in A^*, G^*, and $(Y - G^*)$ that further raise *U* will increase the original comparative advantage. The latter depends on initial supply conditions—notably on comparative economic advantage—and on a government's success in attracting insider support vs. its success in attracting outsider support. Comparative economic advantage reflects past investments and thus past values of ψ.

Suppose that ψ is midway between one and ψ_m when a government with a comparative political advantage in U^I comes to power. Suppose further that such a government is able to implement political reforms that lower ψ. Then in absence of external pressures or opportunities or of non-co-operative behavior by outsiders—in the form of strikes, passive resistance, riots, demonstrations, armed uprisings, etc.—that reduces *U*, the incentive to keep lowering ψ will grow stronger until $\psi = \psi_m$ is reached, as will the incentive to accumulate capital specialized to rent seeking. This accumulation raises a government's comparative political advantage in U^I. Comparative political and comparative economic advantage reinforce one another.

If a government has a comparative advantage in U^O when ψ is mid-range, the incentive to keep raising ψ will grow stronger as ψ rises until $\psi = 1$ holds, unless external pressures/opportunities or non-co-operation by insiders prevents this. Thus the quest for political support can become either the road to serfdom ($\psi = \psi_m$) or the road to an inclusive society ($\psi = 1$), depending on where the initial comparative political advantage lies. Political and economic systems that are initially similar can become quite different

in consequence. (Although support of the government in power is likely to be higher when ψ is low, for any *given* government, the reverse can easily be true.) If $U^I = U^O$, when ψ is mid-range, no comparative political advantage exists there, but equally no stable equilibrium, since any slight change of ψ will create a comparative advantage in U^I or U^O.

To incorporate a government's ability to compete for support into (4), let 'inherent' loyalty be defined as loyalty that stems from shared attributes, values, goals, experiences—more generally, from factors other than G^*. We rewrite s as $s = s(\lambda, G^*, A^*)$. For any given G^* and A^*, λ indexes the ability of a government to compete for insiders' support, which depends on how effectively it can command inherent loyalty from insiders, as well as on its ability to repress would-be competitors. Thus s is increasing in λ, as is U when $\psi < 1$, and for any given A^* and G^*. However, there is also a trade-off between loyalty and competence. When a given government raises the weight of inherent loyalty as a success criterion for insiders, thereby choosing a higher value of λ, the weight of competence is assumed to fall. Such an increase therefore shifts *TR* inward by an amount that is likely to become smaller as V^* rises, since the protections and restrictions that create rent also lower the demands on managerial and administrative ability.

Let *TR* now be the production frontier in λ, A^*, and Y and assume that (2) holds. Then the first-order conditions for maximizing U, besides (3a), are that the marginal rates of substitution between λ and A^* and between λ and Y should equal the corresponding marginal rates of transformation. In addition, λ is assumed to be a substitute for G^* and a complement with A^* in the sense that increases in λ lower s_{G^*} and raise s_{A^*}. Thus besides increasing the support-maximizing values of s and U when $\psi < 1$, they lower $MRS = U^I_{G^*}/U^I_{A^*} = (s_{G^*}A^*)/(s_{A^*}A^* + s)$. Increases in λ de-sensitize s to changes in G^* and A^*, but when λ is low, a ruler is failing to dominate competition for insider loyalties, and U will be low if ψ is low.

By contrast, suppose that lack of political competition and absence of institutions of restraint cause U^O to become insensitive to changes in $(Y - G^*)$ so that $U^O_{(Y-G^*)} = 0$, and suppose as well that λ is so high that U^I becomes insensitive to changes in G^* so that $U^I_{G^*} = 0$. Finally let A^* be high enough that $U^I_{A^*} = 0$. If

all this happens inside *TR*, U will reach a maximum there. A government able to command this much loyalty can implement policies that are self-enriching or wasteful in the sense of keeping the economy inside *TR*—eg., by subjecting it to ideological constraints—without losing support.

If θ indexes a government's ability to compete for outsider support, U^O becomes $U^O(\theta, (Y - G^*))$, where U^O is assumed to be increasing in θ for any given $(Y - G^*)$. Like λ, θ is government specific, but a given government is assumed to face a fixed value of θ. An increase in θ makes a comparative political advantage in U^O more likely, while an increase in λ makes a comparative political advantage in U^I more likely. Comparative political advantage thus depends in part on how high is θ relative to λ.

Finally, suppose that non-co-operative behavior by insiders trying to preserve their support value and rents is able to lower U. Then a government with a comparative political advantage in U^O can gain support by accepting a negotiated outcome, $\psi_N < 1$. Likewise if non-co-operation by outsiders is able to lower U, it will force a government with a comparative political advantage in U^I to accept a negotiated outcome, $\psi_B > \psi_m$. When non-co-operative behavior is a threat, the political system represents a bargaining outcome between insiders and outsiders, in which insiders negotiate to maximize U^I, since this determines their wellbeing in the new system, and outsiders negotiate to maximize U^O.

Because any government is likely to have a comparative political advantage in either U^I or U^O, efforts by governments to raise their support will move ψ away from mid-range toward either ψ_m or one unless external pressures/opportunities or non-co-operative behavior prevents this. A government with a comparative political advantage in U^I could face an opposition for which U^I would be even higher at ψ_m, but a government in power can often nullify this advantage by co-opting elements of opposition platforms or by repressing potential opposition leaders. A government with a comparative advantage in U^O may also be able to co-opt popular planks in opposition platforms.

If ψ has long been close to one, $U^O > U^I$ is likely to hold for each major contender for power since a strong comparative economic advantage in Y is likely. However, an exception could arise, once again, if the

political support of outsiders becomes too highly fragmented. Likewise, suppose ψ is close to ψ_m and initially stable, but that a change of ruler then leads to growing competition for insider loyalties, which causes *s* to fall and to become more sensitive to changes in *A** and *G**. Because loyalty based on shared attributes, values, or experiences is often hard to transfer from one ruler to another, a change of ruler often lowers λ, at least in the short run. This increases competition for power and makes purges more likely when a new ruler appears.

It also provides a potential opening for a government with a comparative advantage in U^O that wants to raise ψ. The outlook for such a government improves if external opportunities or constraints put upward pressure on ψ by raising the importance of economic efficiency to a government's survival. When ψ is low, the de-emphasis of competence as an insider success criterion makes current insiders less able to carry out reforms needed to make the economy more competitive, less able to be good administrators or managers in a competitive economy, and therefore more likely to resist these reforms.

VIII. A Contrasting View of Political Support

A contrasting view of political support is that of Bueno de Mesquita, Smith, Siverson, and Morrow [2003]. They argue that governments are more powerful and longer lasting in political systems that allow them to hold power with fewer supporters. More precisely, let *S* be the size of the 'selectorate,' or set of individuals with power to choose the government, and let *W* be the size of the 'winning coalition' or minimum number of members of *S* whose support will enable a government to hold power. Both *W* and *S* are computed as shares of the population, and members of the selectorate are considered to be completely interchangeable. The Bueno de Mesquita et. al. thesis then says that political power is a decreasing function of *W*/*S*. In fact, little changes if we replace *W*/*S* by *W* alone [Clarke and Stone 2008, p. 388, note 1].

Government power and longevity are high when *W*/*S* is low because members of *W* are then easy to replace. They have little bargaining power, and their loyalty therefore comes at low cost. Rulers always

prefer a *W/S* that is low, since a low *W/S* makes the cost to government of staying in power low, in terms of the private goods that it must provide in order to retain enough support. Because there is no need to reward or take into account the welfare of anyone outside *W*, the worst social outcome also occurs when *W*/*S* is low since there is then no incentive to keep GDP – *V** high. This outcome resembles the case above in which λ is so high that U^I becomes completely insensitive to changes in *G**. The latter is, however, a special case.

The Bueno de Mesquita et. al. thesis has not gone unchallenged—see, eg., Clarke and Stone [2008] and Gallagher and Hanson [2015]. (See as well the reply by Morrow, Bueno de Mesquita, Siverson, and Smith [2008] to Clarke and Stone.) Consider the case of autocracy. Here the absence of effective institutions of restraint raises the gain from winning power and the cost of losing it. Actual or potential rulers are therefore willing to incur higher costs to gain or hold on to power. They may have to do this because two-thirds of all leadership changes under autocracy result from non-co-operation—coup, regime change, assassination, popular uprising, or foreign intervention [Svolik 2012, p. 5; see also Gallagher and Hanson, p. 374]—and the multiple threats of power loss are costly to identify and evaluate.

Beyond some point, the likelihood of government overthrow will rise as power is concentrated into fewer and fewer hands, which is to say as *W* falls. (Alternatively, such a change will become more likely as *W*/*S* falls.) In these conditions, rulers will prefer a larger *W* (or *W/S*) than the smallest possible one unless the danger of a non-co-operative leadership change is low enough to ignore.

Thus it is the higher cost of losing power that accounts for the greater longevity of government under autocracy. To be secure in power, a dictator needs the support of many people other than those who belong to a specific 'winning coalition,' in part because of the 'dictator's dilemma.' Since an autocrat punishes criticism of his government, he does not know how much support he has among different elements of the population [Wintrobe 1998, esp. ch. 2]. Acquiring this information is costly. The desirability of solving the dictator's dilemma and of securing support from all who can threaten a dictator's power also raises the need for rent. It helps to turn the limit on feasible rent extraction into a binding constraint on the amount of support that can be bought with rent, unless non-co-operative behavior by outsiders or external

pressures/opportunities impose an even tighter constraint. This ensures a positive share in government support for GDP net of distributional rent and thus for outsiders. It leads to a government support function like (4) and to the results of this paper, given support maximization.

In addition, it is likely that the support of some members of a selectorate will be more valuable than the support of others, and that the former will be harder to replace, putting them in a position to command high prices for their support. The ability to inspire inherent loyalty then becomes a stabilizing force in a non-inclusive polity and skill differences play a role in comparative political advantage. A government that is poor at commanding the loyalty of a relatively small elite—and which must therefore pay a high price for its support—but which is charismatic with large numbers of outsiders might well prefer W to be large. Its choice will also depend on conditions of supply. In a society well endowed with effective institutions of restraint plus the human capital needed to operate these, a government can more easily gain from raising GDP – V^* and less easily gain from raising V^* than when these institutions are absent.

Like ψ, W and S are not directly observable, causing Bueno de Mesquita et. al. to use proxies, which they admit are 'crude.' Arguably, these proxies capture differences between political systems other than differences in W/S [Bueno de Mesquita et. al., pp. 133-40; Gallagher and Hanson, pp. 374-76]. Despite the argument in Morrow et. al., this may account for some of the claimed predictive power of differences in W/S in terms of political outcomes [Bueno de Mesquita et. al., chs. 4,5,7].

IX. Summary and Conclusion

No matter how socially desirable economic reforms may be, they will be adopted only if they raise a government's political support. A competitive economy with low rent seeking maximizes support only when 'inclusiveness,' defined as the share of outsiders in support, is high. For any given production frontier (TR), an increase in ψ implies a rise in useful output (Y_U) and a fall in rent seeking (A^*_U), rent-seeking profit (G^*_U), and distributional rent (V^*_U). Such an increase also lowers GDP_U, although it raises ($GDP_U - V^*_U$), arguably a better measure of macro-economic performance. Political support always depends on

(GDP – V^*), although with a weight that is increasing in ψ. No government can rely on rent alone. Nevertheless, high rates of innovation and new product development are inconsistent with support maximization when ψ is low, and the same is true of a high degree of openness and transparency.

Comparative economic advantage, reflected in the economy's endowment of rent-seeking specialized capital relative to capital specialized to useful output, also helps determine the support-maximizing outcome. These endowments depend on past demands for A^*_U and Y_U and thus on past values of ψ. The greater is an economy's comparative economic advantage in A^*, the more likely is its government to have a comparative political advantage in U^I and likewise for Y and U^O. When ψ remains constant over time, a build-up of comparative economic advantage makes the political system more stable. Finally, the higher is an economy's maximal share of rent in GDP, the greater is its government's potential support when ψ is low.

The backbone of an inclusive polity is a set of institutions of restraint that limit a government's abuse of power and make the political system more impartial and transparent, thereby lowering the support value of rent seeking. These institutions also lower the cost of losing political power. As a result, losers are more willing to leave office voluntarily, and governments tend to be shorter-lived when ψ is high than when ψ is low. This allows competition for power to become institutionalized in periodic elections, which enables peaceful power sharing between political parties over time via rotation of power. The positive correlation between transparency/openness and ψ also gives a way of ranking nations according to ψ.

Depending on comparative political advantage, the quest for support causes ψ to migrate to either the inclusive or the non-inclusive end of the political spectrum, unless non-co-operative behavior by insiders or outsiders prevents this. The best way to get to an inclusive polity is to have a government come to power with a comparative political advantage in U^O. A key that opens the door to such a government is strong competition for insider loyalties resulting from a low level of inherent loyalty to any potential government. At the other extreme, a very high degree of inherent loyalty can lead to support maximization inside TR,

allowing for waste or self-enrichment. An inclusive polity is also vulnerable to excessive fragmentation of support among outsiders, but can thrive with more political competition than can a non-inclusive polity.

Finally, rent seeking can become the road to serfdom, not just because of efficiency issues, but also because high rent seeking signals secrecy in government, inequality before the law, corruption, and unequal treatment of insiders and outsiders in the form of barriers that constrain social mobility and perpetuate greater economic opportunity for some than for others. Inclusiveness reflects the very nature of society.

APPENDIX: The Extended Basic Rent-Seeking Model and Solution

In this appendix, we assume the economy to be at a fixed point on *TR* where $MRT = P_{A^*} = 1$. The model used here is an extended version of Tullock [1980]. For any given ψ, a government creates rents with a total value of V and allocates them among N profit maximizing and risk neutral rent seekers $(1 \ldots N)$. Rent seeker k spends A_k and receives in return an expected rent of $V_k = P_k V$, where P_k is k's share of V, for $k = (1 \ldots N)$, with $\Sigma_k A_k = A$, $\Sigma_k V_k = V$, and $\Sigma_k P_k = 1$. Summation here is always from one to N, where N is assumed to be large and each P_k to be small. Each V_k is assumed to be a non-decreasing function of A_k and a non-increasing function of A_j, for each $j \neq k$. Rent seekers compete for rents by influencing the decisions of government as to their creation and allocation. For $j, k = (1 \ldots N)$, the relative expected rents of j and k are:

$$V_j/V_k = P_j/P_k = W_j A_j^{Rj}/W_k A_k^{Rk}, \qquad \text{(A1).}$$

Here $(W_1 \ldots W_N)$ are constant weights, and $(R_1 \ldots R_N)$ are 'effectiveness' coefficients, also assumed to be constant for simplicity. When $A_k = A_j = 1$, $V_j/V_k = W_j/W_k$, whereas at the profit maximum, R_k is nearly the percentage increase in V_k caused by a one percent increase in A_k. Thus relative weights give relative rents when each A_k is the same and low—and therefore measure access to rent—whereas each R_k indexes how effectively increases in A_k cause V_k to rise at the profit maximum. The parameters, $(W_1 \ldots W_N \ldots)$ and $(R_1 \ldots R_N)$, reflect the value of entry and expansion of each rent seeker to the government. For any would-be rent seeker, $k > N$, who is excluded from rent seeking, $V_k = 0$ and thus $W_k = P_k = 0$.

Since $\Sigma_j V_j = V$ or $\Sigma_j P_j = 1$, P_k is given by:

$$P_k = W_k A_k^{Rk}/A^R, \qquad \text{(A2).}$$

for $k = (1 \ldots N)$, where $A^R = \Sigma_j W_j A_j^{Rj}$. Each A_k is set to maximize $G_k = P_k V - A_k = V_k - A_k$, for given values of every A_j such that $j \neq k$. Thus rent-seeking competition leads to a Nash equilibrium with costs $(A^*_1 \ldots A^*_N)$ and expected profits $(G^*_1 \ldots G^*_N)$ for the N active rent seekers, where stars denote equilibrium values. The first-order condition for this maximization is $G_{kk} = 0$ or $V_{kk} = P_{kk}V + P_k V^{kk} = 1$, where G_{kk}, V_{kk}, P_{kk}, and V^{kk} are the increases in G_k, V_k, P_k, and V caused by a unit increase in A_k. From (A2), $P_{kk} = P_k(R_k(1 - P_k)/A_k)$, and the first-order condition becomes $V_k[(R_k(1 - P_k)/A_k) + V^{kk}/V] = 1$. Here V^{kk}/V is minuscule, the amount of rent created by a unit increase in rent seeking divided by all of the rent in the economy. Ignoring this term gives $V_k[(R_k(1 - P_k)/A_k)] = 1$ and thus $A^*_k = [V^*_k R_k(1 - P^*_k)]$. An increase in V^* causes A^* to rise. More rent implies more competition for this rent, ie., greater rent seeking.

Also $G^*_k = V^*_k[1 - R_k(1 - P^*_k)]$, and $V^*_{kk}(A^*_k/V^*_k) = R_k(1 - P^*_k)$, which nearly equals R_k, since P^*_k is small. Thus R_k measures returns to scale, or the percentage increase in V^*_k caused by a one percent increase in A^*_k. Ignoring $(1 - P^*_k)$, which nearly equals one, the requirement, $G^*_k \geq 0$, implies $R_k \leq 1$, for each $k = (1 \ldots N)$, or $V^*_{kk}(A^*_k/V^*_k) \leq 1$. Thus non-increasing returns to scale prevail in equilibrium. Since $V^*_{kk} = 1$, R_k also nearly equals A^*_k/V^*_k.

When each W_k and R_k are the same, we get the classical case in which all rent is dissipated. To see this, note that $A^*_k = [R_k P^*_k(1 - P^*_k)]V^*$ implies the solution:

$$P^*_1 = P^*_2 = \ldots = P^*_N = 1/N. \qquad \text{(A3).}$$

$$A^*_1 = A^*_2 = \ldots = A^*_N = V^* R^*(N - 1)/N^2. \qquad \text{(A4).}$$

$$A^* = \Sigma_k A^*_k = V^* R^*(N - 1)/N, \qquad \text{(A5).}$$

where R^* is the common value of $(R_1 \ldots R_N)$. Because of free entry and exit, the classical outcome is $R^* = N/(N - 1)$ and $A^* = V^*$ or $G^* = 0$. Because R^* nearly equals one, constant returns to scale prevail.

Here the outcome differs from the classical result because $G^*_U > 0$ when $\psi < 1$. This implies entry barriers into rent seeking and brings us to the case in which the weights and/or the effectiveness coefficients vary from one rent seeker to another. Would-be rent seekers whose entry is denied—that is, all $k > N$—have zero weights, as shown above. For $k \leq N$, $A^* = \Sigma_k A^*_k = \Sigma_k[R_k V^*_k(1 - P^*_k)] = V^*R^*[1 - 1/N - N\sigma^2_p]$, where R^* is defined more generally as the weighted average of $(R_1 \ldots R_N)$ given by $R^* = \Sigma_k[R_k P^*_k(1 - P^*_k)]/\Sigma_k[P^*_k(1 - P^*_k)]$ and σ^2_p is the variance of $(P^*_1 \ldots P^*_N)$. This gives:

$$A^*_k = [V^*_k R_k(1 - P^*_k)]. \tag{A6}$$

$$A^* = \Sigma_k(A^*_k) = V^*R^*[(N - 1)/N - N\sigma^2_p]. \tag{A7}$$

$$G^*_k = V^*_k[1 - R_k(1 - P^*_k)]. \tag{A8}$$

$$G^* = V^* - A^* = V^*[1 - R^*[(N - 1)/N - N\sigma^2_p]]. \tag{A9}$$

When N is large, $(N - 1)/N$ is nearly one and $N\sigma^2_p$ is small since σ^2_p is on the order of $1/N^2$. A^* then nearly equals V^*R^* and $R^* < 1$ if $G^* > 0$. Thus decreasing returns to scale prevail.

NOTE

*I am indebted to Sarah Aboul-Magd for drawing the diagrams.

GLOSSARY OF SYMBOLS IN ORDER OF APPEARANCE

ψ	Inclusiveness
U	Government support function.
Y	Useful output.
N	Equilibrium number of active rent seekers.
$(G^*_1 \ldots G^*_N)$	Equilibrium profits of individual rent seekers.
$(A^*_1 \ldots A^*_N)$	Equilibrium amounts of rent seeking by individual rent seekers.
A^*	Equilibrium total amount of rent seeking.
G^*	Equilibrium total profit from rent seeking.
$Y - G^* = \text{GDP} - V^*$	Useful output (Y) net of rent-seeking profit equals GDP net of distributional rent.
$(V^*_1 \ldots V^*_N)$	Individual equilibrium rents of the N active rent seekers.
V^*	Total equilibrium rent.
P_{A^*}	Price of A^* in units of Y.
$MC^i_{A^*}$	Marginal indirect cost of A^*.
TR	Production frontier in A^* and Y.
MRT	Marginal rate of transformation along TR.
Y_L, A^*_L	Marginal product of labor in Y and A.

U-subscript	Denotes support-maximizing value.
MRS	Marginal rate of substitution of Y for A^*.
Y^M	Maximum value of Y.
E_M	The point at which $A^* = 0$ and $Y = Y^M$.
Y^m	Minimum value of Y_U.
$(A^*)^m$, $(G^*)^m$	Maximum values of A^*_U and G^*_U.
$(V^*)^m$	Maximum feasible rent.
E_m	The point, $(Y^m, (A^*)^m)$ of maximum rent extraction.
U^O	Index of government support from useful output as a function of $(Y - G^*)$.
U^I	Index of government support from rent seeking, $U^I = sA^*$, where s indexes a government's success in gaining support from A^*, $s \leq 1$. Here, $s = s(G^*,A^*)$ and subsequently $s = s(\lambda,G^*,A^*)$.
ε_{sA^*}	$\varepsilon_{sA^*} = -(s_{A^*}A^*/s)$ is the elasticity of s with respect to A^*.
X^V	Share of V^* in GDP.
C^g	Cost of becoming an informed voter.
λ	Government's ability to compete for insiders' support.
θ	Government's ability to compete for outsiders' support.
ψ_N, ψ_B	Negotiated levels of ψ under the threat of non-co-operation.
$U_{d\lambda}$,$U_{i\lambda}$	Marginal direct and indirect changes in U owing to a unit increase in λ.
S, W	The 'selectorate' and 'winning coalition' in selectorate theory.
P_k	Rent seeker k's share of V.
$(\omega_1 \ldots \omega_N)$	Weights of individual rent seekers.
$(R_1 \ldots R_N)$	Effectiveness coefficients of individual rent seekers.
A^R	$A^R = \Sigma_j \omega_j (A_j)^{Rj}$.
R^*	Equilibrium average rent-seeking effectiveness.
σ^2_p	Variance of $(P^*_1 \ldots P^*_N)$.

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