Inclusiveness, Growth, and Comparative Political Advantage

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Abstract: This paper links political support to economic growth. Governments gain support from wealth creation and wealth redistribution, and the quest for support links differences in economic systems to differences in political systems; inefficiencies persist when they raise political support. With the wrong 'comparative political advantage,' policies that raise support lower efficiency if equilibrium growth prevails. With the right 'comparative political advantage,' the quest for support leads to inclusiveness, efficiency, and sustainable growth, a 'political invisible hand.' Low efficiency means a high cost of growth, but not necessarily low growth. The death of a charismatic ruler can cause growth to rise.

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1. Introduction: Political Support, Growth, and the Inclusiveness Parameter

Can diverse economic and political changes result from a change in a single underlying parameter? In this paper, I argue that they can if the parameter measures the 'inclusiveness' of a political system in an environment where governments obtain political support from two basic sources, wealth creation and wealth redistribution, and choose combinations of the two that maximize their support. Changes in these combinations—and thus in the way governments obtain support—cause multiple changes in social and economic variables that can change the very nature of societies.

To gain political support from wealth redistribution, a government exploits differences among individuals and organizations in ability to supply support. Let 'insiders' be those with a relatively high ability to supply (or withhold) support and 'outsiders' be those with a relatively low ability. Then government

redistributes wealth from 'outsiders' to 'insiders,' contingent on their support behavior—eg., by giving insiders monopoly/monopsony power or by taxing insiders and subsidizing outsiders. Competition for the redistributed wealth by supplying political support is a form of rent seeking, which represents an alternate use of resources to wealth creation. The more a government relies on insiders for support, the more wealth it will redistribute and the greater will be the support derived from wealth redistribution and rent seeking. Support can take the form of money, resources, campaign rallies, monitoring, delivery of votes, repression of political rivals or opposition groups, etc., depending on the political system.

Examples of insiders include the Communist Party elite in nations where it rules, the Nazi Party elite in Germany under National Socialism, and party elites in other countries where a single party tends to monopolize power. These elites are not necessarily bad by nature. In the United States, extremely wealthy individuals—sometimes referred to as the 1%—tend to have outsized political influence because of their ability to make outsized political contributions. More generally, since increases in rent can raise political support and lower efficiency, both efficiency and equality can be low at the support maximum, regardless of how good economic policy makers are. This depends on 'inclusiveness' and comparative political advantage, as defined below. A political system becomes completely inclusive when the difference between its insiders and outsiders disappears, along with the exploitation of outsiders.

Let ψ be the share of wealth creation in political support, which depends on the nature of the political system. This share is computed like the share of labor or capital in output. Changes in ψ generate a spectrum of political systems. As ψ rises, a government will rely less on rent seeking and more on wealth creation for support, causing efficiency to increase. Differences in ability to supply political support become smaller and harder to exploit; expansion of voting rights with secret ballots and the development of a free press are usually part of this. Outsiders lose from wealth redistribution, but can gain from wealth creation. Thus, as ψ rises, the support of insiders becomes less important and that of outsiders more so until the distinction between the two vanishes, and support depends only on wealth creation.

It follows that ψ indexes inclusiveness. Because governments maximize their support, the quest for support links efficiency to inclusiveness and, more generally, differences in economic systems to differences in political systems. In *Why Nations Fail*, Acemoglu and Robinson also link efficiency to inclusiveness, although without defining inclusiveness in a precise or quantifiable way. An economy with low inclusiveness and high reliance on redistribution for political support will pay a high consumption cost for growth, which is likely to be borne largely by outsiders.

The supply element linking economic growth to political support is an aggregate production function, which gives rise to a production frontier, *TR*, in rent seeking, *R*, and useful output, *Y*. Here *R* indexes political support provided or financed by rent seekers in exchange for rent, and wealth creation means production of *Y*, which we take as numeraire. Only *Y* can yield utility from present or future consumption, the way in which 'useful' output is useful. We divide *Y* into rent-seeking profit, *G*, and all other useful output, $(Y - G)$. A government's political support is given by $U = U[(Y - G), G, R; \psi]$. Economic growth is equilibrium growth if an economy stays where *U* is tangent to *TR* as *TR* shifts outward. Disequilibrium growth occurs when an economy moves inside *TR*—eg., owing to unexpected new investment opportunities, which leave it with a misallocation of resources that takes time to correct. The important difference between the two for our purposes is that an increase in *R* must lower efficiency in equilibrium growth, but may raise efficiency in disequilibrium growth.

This paper makes two contributions. First, it derives a specific political support function, *U*, with ψ as parameter and shows how changes in ψ affect rent seeking, market and political competition, efficiency, and growth, as well as secrecy in government, political stability, and corruption. It also looks at the institutional requirements for inclusiveness to be high. Second, it shows how the quest for support causes ψ to change and how this affects efficiency and growth. Depending on comparative political advantage, this quest can lead to an inclusive polity, a kind of political invisible hand, or to a polity that is far from inclusive. In each case, the paper aims at a positive rather than a normative analysis.

Questions about inclusiveness and growth recall the long-running debate in the economics literature over whether democracy raises growth. The latest entry is a paper by Acemoglu, Naidu, Restrepo, and Robinson

[2019], which answers with a resounding 'yes.' These authors also reference earlier works on the subject, several of which give negative answers. Here I note that inclusiveness differs from democracy and is neither necessary nor sufficient for democracy, although most inclusive polities are probably liberal democracies. Autocracies can be inclusive, however, under internal or external pressure to be efficient. Most democracies are illiberal, rather than liberal [Zakariah], and the former may not be inclusive (see below for the difference between the two). The basic argument for inclusiveness to raise growth is that the government of a more inclusive polity relies more on wealth creation for political support.

2. The Production Trade-Off Between Useful Output and Rent Seeking.

2.1. Production Functions and the Production Frontier

In Parente and Prescott—hereafter P & P—the aggregate production function takes the Cobb-Douglas form, with constant returns to scale and Hicks-neutral technology, which they claim provides a good empirical fit to the growth experiences of many nations. Thus, we use the Cobb-Douglas form, not only for simplicity, but also for empirical reasons. For any nation, we have:

$$\text{GDP} = Y + \pi_R R = (Y - G) + V = E^* A K^{\theta} N^{1-\theta}. \quad (1).$$

Here GDP is gross domestic product or national income, the sum of expenditures or of incomes in the useful output and rent-seeking sectors. Y is useful output valued in competitive prices, R is rent-seeking output, or the output of political support exchanged for rent, π_R is the price of R in units of Y, and V is rent, viewed as a flow, which goes to pay for political support. Thus, V equals the sum of rent-seeking cost, $\pi_R R$, and rent-seeking profit, G, or $V = G + \pi_R R$. For any given Y, there will be a support maximizing division of this Y into G and $(Y - G)$ and support maximizing values of R and π_R. This gives a support-maximizing value of V.

For simplicity, I assume that insiders supply R in exchange for V, while outsiders supply Y in return for $(Y - G)$. Since $(Y - G) = (\text{GDP} - V)$, and $(Y - G)$ is the net income from producing Y, the same is true of $(\text{GDP} - V)$, while V is the income from producing R. K is the economy's stock of physical and human capital, N is labor, A is the world's stock of technological knowledge, E^* is the efficiency with which the

economy uses technology and resources to produce GDP, and θ is capital's share of value added. E^*A is total factor productivity (*TFP*) in producing GDP. Increases in E^*A magnify output without affecting the marginal rate of substitution of N for K at any given K/N. The elasticity of substitution, ε_S, between labor and capital is constant at one, and E^* varies between zero and one. We shall encounter a case, however, in which ε_S is plausibly below one.

We can re-write (1) as:

$$Y = E^*AK^{\theta}N^{1-\theta} - \pi_R R = EAK^{\theta}N^{1-\theta}, \qquad (1a).$$

which is also the equation of *TR* for any given K, N, and A. Here E is the economy's efficiency in producing Y, with $E = (1 - S_R)E^* = S_Y E^*$, where $S_R = \pi_R R/\text{GDP}$ is the share of R in GDP and $S_Y = Y/\text{GDP} = E/E^*$ is the share of Y. When $R > 0$, $E < E^*$. With R on the vertical axis, the inverse slope of *TR* is $Y_R = E_R AK^{\theta}N^{1-\theta}$, where E_R is the change in E when R rises by a unit. Since *TR* slopes downward, $E_R < 0$ when equilibrium growth prevails. Total factor productivity in producing Y is $TFP_Y = EA$. Dividing both sides of (1a) by N gives:

$$y = EAk^{\theta}, \qquad (2).$$

where $y = Y/N$ is useful output per unit of labor and $k = K/N$ is capital per unit of labor. Here we are mainly interested in the growth of y and Y.

In (1), (1a), and (2), the values of θ and A are common across economies and are given to any single economy. Empirically, θ is .55 to .57 [P & P, pp. 47, 47n], and P & P suggest (p. 38) that the annual trend growth of A is about .8%. By contrast, E and E^* are economy specific. For given A, K, and N, the maximum value of Y worldwide is $Y^F = W(A,K,N) = AK^{\theta}N^{1-\theta}$. This is the frontier value of Y where $E = 1 = S_Y = E^*$. Over time, A is rising, and in any economy, E rises when TFP_Y grows faster than A and falls when TFP_Y grows more slowly. Thus, Y moves closer to Y^F when E is rising and further away when E is falling. If E and E^* correlate positively over time, moving away is not uncommon [eg., Salinas- Jimenez & Salinas-Jimenez, p.115; van Ark, O'Mahoney, and Timmer, p. 34; Young, p. 970], keeping in mind that Y^F is increasing as A rises.

P & P argue that differences in GDP per capita result largely from differences in *TFP*. At a point in time, these reflect differences in E^* from nation to nation. In their view, growth 'miracles' occur when efficiency rises rapidly, eg., as a result of political change or new investment opportunities that shift *TR* outward. Efficiency *levels* also affect growth by affecting the marginal products of capital and labor. The marginal product of capital in *Y* is $Y_K = (\theta Y)/K = (\theta E Y^F)/K$, which is increasing in *E* for given θ, Y^F, and *K*. The lower is *E* the lower Y_K will be and the greater will be the increase in saving required to raise *Y* by a unit ($= 1/Y_K$). Thus, the consumption cost of growth, defined as this savings increase, is decreasing in *E*.

Let the *U*-subscript denote support-maximizing value. Then $E = Y_U/Y^F = (Y_U/Y^M)(Y^M/Y^F)$, where Y^M is the maximal value of *Y* (where $R = 0$) on the same *TR* as Y_U. Without rent seeking, $Y_U = Y^M$ would hold. If this economy were on the worldwide frontier, $Y^M = Y^F$ would hold. Thus, Y_U/Y^M is the rent-seeking ratio, and Y^M/Y^F is the technology ratio. The two are interdependent because rent seeking depresses Y_U by protecting rents on obsolete technologies and associated work skills, which suppresses innovation and entrepreneurship. In an economy with a rent-seeking past, $Y^M < Y^F$ will hold, and current rent seeking will depress Y_U below Y^M. Suppression of innovation may be the biggest part of the long-term cost of rent seeking, contrary to the claimed tiny 'welfare loss from monopoly' by economists in the 1950s [Del Rosal, pp. 298-99; see also Freeland, pp. 277-286]. A low welfare loss requires protected firms to come under the control of capable entrepreneurs, whereas governments want insiders who are good at supplying political support.

2.2. The Support Maximum

Subject to *TR* and to $Y = G + (Y - G)$, a government will maximize *U*, assumed to be second-order continuous, strictly quasi-concave, and non-decreasing in *R*, *G*, and $(Y - G)$ for any given ψ. If we first maximize *U* subject to $Y = G + (Y - G)$ for any given ψ, *R*, and *Y*, the support-maximizing division of *Y* into *G* and $(Y - G)$ occurs where $U_G = U_{(Y-G)}$ when $G > 0$. Here U_G and $U_{(Y-G)}$ are the changes in *U* when, respectively, *G* and $(Y - G)$ increase by one unit. For simplicity, we ignore the error that arises because a unit increase in *G* implies a unit increase in *V*, which has an indirect effect on *Y*. When $U_G = U_{(Y-G)}$ at each value of *Y*, *U* can be re-written as $U(Y,R;\psi)$, with $U_Y = U_G = U_{(Y-G)}$.

Let MC_R be the marginal cost of R, defined as the fall in Y along TR when R increases by a unit, including both direct and indirect effects. Then TR is strictly concave from below if MC_R is rising as R increases along TR. The rationale for rising MC_R is that a government will try to minimize the loss of Y resulting from any given increase in R, but that these efforts are subject to diminishing returns as R/Y increases. Given our concavity assumptions, there will be one local maximum of U, which is also a global maximum. If MRT and MRS are the marginal rates of transformation and substitution of Y for R, and R is plotted on the vertical axis, the first-order conditions for maximizing U along any given TR are:

$$MRT = (MC_R)^{-1} = MRS = U_Y/U_R = U_G/U_R = U_{(Y-G)}/U_R = (\pi_R)^{-1} = -(Y_R)^{-1} = -(E_R Y^F)^{-1}. \quad (3).$$

In Figures 1(a) and 1(b), four maxima are shown, at A and B in Figure 1(a) and at B and C in Figure 1(b).

Let P^M be the point on any given TR where $R = G = 0$ and $Y = Y^M$. This is the point at which (GDP – V) = ($Y - G$) is maximized. Let Y^m be the output at which the support-maximizing value of $V = V^m$ (for this given Y) and let R^m and G^m be the corresponding support-maximizing values of R and G. As shown below, R_U, G_U, and V_U all change in the same direction along TR in response to a change in U. This makes R^m and G^m the maximum values of R_U and G_U and Y^m the minimum value of Y_U on any TR. Let P^m be the point (Y^m, R^m). At any point (Y,R) where Y is less than Y^m, $V \leq V^m$ must also hold. As a result, U is lower than at P^m. All possible support maxima lie between P^m and P^M.

The flatter are the isoquants of U for any given TR—and thus the higher is $(MRS)^{-1}$, the demand price of R, at each (Y,R)—the higher R_U and the lower Y_U will be in equilibrium. This is shown in Figure 1(b), where U^B leads to higher R_U and lower Y_U than U^C. Likewise, for any given support function, U, a steeper TR implies a higher value of R_U/Y_U for any given U. In Figure 1(a), TR_1 shows a higher past demand for rent seeking than does TR_2, which shows a higher past demand for useful output. Thus, a steeper TR, such as TR_1, reflects a higher build-up of physical and human capital in rent-seeking and a lower build-up in useful output than does a flatter TR, such as TR_2. If a given political system persists over time, the slope of TR will come to depend on how flat or steep are the isoquants of U, which depends on inclusiveness.

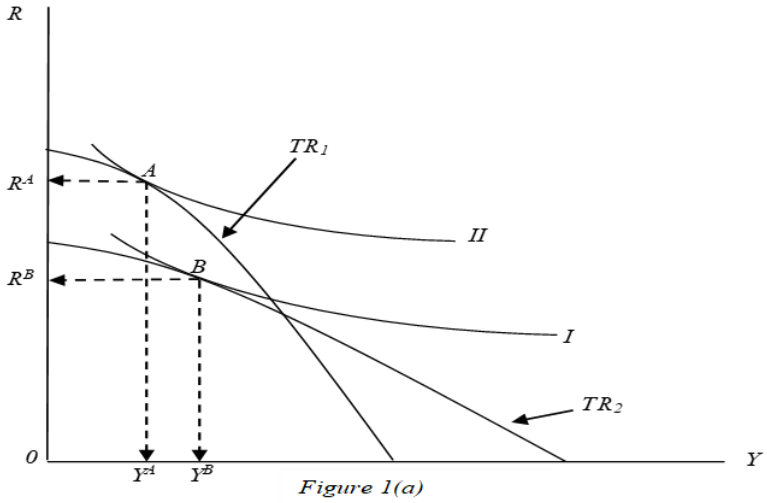

Figure 1(a)

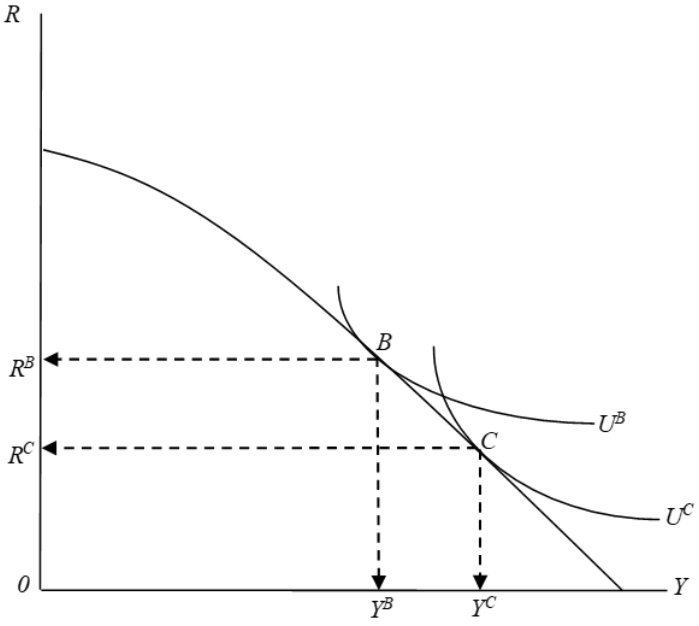

Figure 1(b)

3. The Effect of Inclusiveness on the Political Support Maximum

3.1. The Political Support Function

A government's support, U, is assumed to depend on ψ, and thus on the nature of the political system, and to be a non-decreasing function of insiders' support, U^I, and outsiders' support, U^O. Assumptions (i), (ii), and (iii) then determine the nature of U. (i). Let ψ index a government's ability to rely on U^O for support, interpreted as the share of U^O in U. Let $(1 - \psi)$ index its ability to rely on U^I. Then the political system determines ψ. For any given political system, ψ is constant, and the government maximizes U. It will also seek to change ψ in a way that raises its support, a matter to be dealt with later. (ii). U^O is increasing in (GDP $- V$) = $(Y - G)$, the income from producing Y, at a decreasing rate, with marginal support value $U^O_{(Y-G)}$. I assume that a government knows how large is U^O relative to U^I, implying that U^O can be measured in units of R.

(iii). $U^I = sR$, where $s = s(G,R)$ indexes a government's success in gaining support from any given R; s varies between zero and one. Here s is increasing in G, but decreasing in R. If s_G, and s_R are the changes in s when, respectively, G and R increase by a unit, $s_G \geq 0$ and $s_R \leq 0$, with the strict inequalities holding whenever s is not constrained by a boundary. A greater G gives a stronger incentive to support the government, while a greater R dilutes this incentive by spreading a given G over more R. In addition, U^I is increasing in R and G with marginal products, $U^I_R = s + s_R R$ and $U^I_G = s_G R$. $U^I_R > 0$ implies a loyalty requirement. If $\varepsilon_{sR} = -(s_R R/s)$ is the elasticity of s with respect to R, $\varepsilon_{sR} < 1$ holds at the support maximum. If R rises by x percent, s must fall by less than x percent. Finally, governments can compare U^I and U^O, implying that U^O can be measured in units of R.

For any given political system and ψ, (i) implies that u is Cobb-Douglas in U^I and U^O:

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

where U, U^O, and U^I are all measured in units of R. In (4), $U^I = sR$, and a simple example of U^O is $U^O = (Y - G)^{\alpha}$ for any α such that $0 < \alpha < 1$. When $\psi = 1$, $U = U^O$, and $R_U = G_U = V_U = 0$. The support maximum is at

E_M where $(Y_U - G_U) = Y_U = Y^M$, the maximum value of Y and of $(Y - G)$ on TR. Maximizing useful output then maximizes support, as well as the average living standard for a given population. Since $V_U = 0$, there are no exploitable differences in ability to supply support, suggesting a relatively equal distribution of Y when this is consistent with maximizing Y.

If $\psi = 0$ were possible, $U = U^I$ and $\text{GDP}_U = V_U$ would hold. However, V_U cannot rise above its maximum value, which we denoted by V^m, and the minimum value of ψ is therefore $\psi = \psi_m$, which gives a support maximum at P_m, defined as the point at which $V = V^m$; ψ varies between ψ_m and one. Since the ability to extract rent is limited and outsiders must receive some income (implying $\text{GDP}_U > V_U$), U always depends on over-all economic performance and never on rent alone, although the weight of $Y - G = \text{GDP} - V$ is increasing in ψ.

When ψ is low, however, there can also be indirect pressure to grow Y by shifting TR outward, which enables G/R to grow. Thus, poor macro performance can undermine a political system in which inclusiveness is low, as well as one in which inclusiveness is high. This depends on how much inherent loyalty a ruler can command, where inherent loyalty is loyalty that stems from shared attributes, values, goals, experiences, the presence of a charismatic leader, or more generally from factors other than G. A high G/R and a high inherent loyalty are substitutes; a lower inherent loyalty requires a higher G/R, and possibly a higher R, to hold power when ψ is low. This is why the death of a charismatic ruler can cause growth to increase.

3.2. How Wealth Creation, Rent Seeking, Efficiency, Regulatory Capture, Market Competition, Secrecy in Government, and Corruption Change as Inclusiveness Changes.

When $\psi < 1$, (4) implies:

$$U_{(Y-G)}/U_G = [\psi/(1-\psi)](U^I/U^O)(U^O{}_{(Y-G)}/U^I{}_G). \qquad (5).$$

Since $U_{(Y-G)}/U_G = 1$ 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,R), which implies that $MRS = U^I{}_G/U^I{}_R$. From (8), if ψ then

increases, $U_{(Y-G)}/U_G$ must rise at each point $((Y-G), G, R)$, which requires G to fall and $(Y-G)$ to rise at each (Y,R) in order to restore $U_G = U_{(Y-G)}$. From assumption (iv), the fall in G raises U^I_G/U^I_R, while the increase in $(Y-G)$ does not affect U^I_G/U^I_R. Thus, an increase in ψ raises U^I_G/U^I_R, and therefore MRS, at each (Y,R). The isoquants of U become steeper in (Y,R) space, as in the shift from U^B to U^C in Figure 1(b).

Such an increase therefore raises Y_U and lowers R_U along any TR, which means that it also lowers E. Despite the rise in Y_U, G_U must fall as well, for otherwise the support maximizing value of U^I_G/U^I_R would fall by assumption (iv), owing to the fall in R_U. Thus, G_U is decreasing in ψ. Viewed as the supply price of R, π_R correlates positively with R along any given TR so that V_U is also decreasing in ψ along any TR; markets become more competitive as ψ rises. Less inclusive governments rely more on insiders for support and therefore need to extract more rent to pay for this support, which requires greater protectionism and concentration of economic power and lower market competition. Reliance on insiders for support also makes them harder to regulate in their economic roles.

Since utility comes only from consuming Y, a government will be secretive when ψ is low to hide the loss of Y from rent seeking and extraction of rent. Secrecy also provides a favorable environment for the politics of identity and victimization—key elements of populism—and for corruption. A polity with low inclusiveness will have relatively high corruption, and governments will award positions with opportunities for corruption in return for political support. The support of a corrupt official, who is an insider, is more valuable to a government when ψ is low than when ψ is high, while the support of outsiders who bear the cost of corruption is less valuable. Pricing and access are also apt to play a role in transferring rents from outsiders to insiders when ψ is low, in part to make these transfers less transparent. Because of this, prices are likely to contain less information about marginal values of products to users and/or marginal costs of supply when ψ is low than when ψ is high, and inequality is likely to be more in terms of access to products and less in terms of income differences.

3.3. Institutions Necessary for Inclusiveness to be High

A 'liberal' democracy combines institutions of representation, which translate popular preferences into government policy, with institutions of restraint. The latter uphold basic rights and freedoms, including civil liberties and minority rights, and limit the ability of one individual or organization, including government, to exploit others [Rodrik]. Effective institutions of restraint reduce differences in the ability to supply political support and make it harder to exploit differences that remain by restraining an incumbent government in the ways it can exercise and retain power, including by extraction of rent. These institutions include an independent police and judiciary, institutions that protect voting rights, and a free press—publicity is a key to limiting the ability of politicians to extract rent [Chang, Golden, and Hill]—plus an independent and politically neutral educational system and civil service.

An autocracy may lack both kinds of institutions, whereas 'illiberal' democracies lack effective institutions of restraint, which make institutions of representation easier to undermine via measures such as voter suppression, voter deception, ballot box stuffing, non-secret ballots, etc. An illiberal democracy may choose its governments in periodic elections with universal suffrage, but inclusiveness can still be low if the cost of evaluating voting alternatives is high or if voting is not free and fair with secret ballots. In such a society, government often captures institutions that might be effective institutions of restraint if they were independent.

Institutions of restraint are the backbone of an inclusive political system [Zakaria]. Since these institutions restrain an incumbent government in the ways it can retain power, they also lower the value of incumbency in political competition. We therefore expect governments to stay in power longer, on average, when ψ is low. When ψ is high, the lower value of incumbency makes losers of political competition more willing to leave office. This helps to establish conditions for institutionalizing political competition in periodic and peaceful elections that enable power sharing via rotation of power over time.

Finally, a different government with different political skills is likely to be in power when ψ is high than when ψ is low. Thus, one or more major political parties or coalitions will benefit from effective

institutions of restraint because these institutions enable them to compete successfully for power—they raise U^O at any given $(Y - G)$. Such parties/coalitions will promote and defend these institutions, potentially enabling them to survive and remain effective over time. However, institutions of restraint are incompatible with monopolization of power and with competition that fragments power among many contenders, with the result that government is too weak to enforce the necessary restraints.

3.4. Low Inclusiveness and Loyalty

A dictator relies on an elite base of supporters [Wintrobe] to sustain him in power. These are the insiders. When $\psi < 1$, $MRS = U^I_G/U^I_R = (s_G R)/(s_R R + s)$ for any potential government. If R_U is high, *MRT* will be low, and *MRS* must therefore be low at the support maximum. There are two ways to have low *MRS* when *R* is high. The first, from assumption (iv), is insider prosperity or a high value of *G*/*R*. The other is a high inherent loyalty among insiders. $U^I_R \geq 0$ implies $\varepsilon_{sR} = -(s_R R/s) \leq 1$ at the support maximum. Thus, $-(s_R/s) \leq 1/R$ must hold, and negative s_R implies $(s_G/s) < MRT/R$. If s_R/s and s_G/s are both small in numerical value, so that *s* has a low sensitivity to changes in *G* and *R*, *MRS* can be low even if *G*/*R* is low. Low sensitivity implies a low level of competition for insider support and thus a high value of inherent loyalty, which also implies a high value of *s*. This allows *R* to be high, in which case $U^I = sR$ will be high, and *Y* and U^O will be low along any *TR*. *U* can then be high at a low value of ψ. Suppose a new ruler succeeds a charismatic dictator with strong revolutionary credentials. Inherent loyalty may then fall, forcing the new government to increase growth, rent, and insider prosperity (measured by *G*/*R*) in order to survive.

If *s* is *in*sensitive to changes in *R* and *G*, U^I is sensitive to these changes. Emphasis on loyalty as a success criterion also implies a substitution of loyalty for competence, and the protections that often accompany type (a) or type (b) growth accommodate this by lowering demands on managerial and administrative ability. Likewise, for an inclusive government to be strong and stable, U^O must be sensitive to changes in $(Y - G)$, implying a threat of losing power if $(Y_U - G_U)$ falls too far below Y^M. This can result from electoral competition, but also from the threat of forceful removal from power as a consequence of inefficiency—eg., as a result of external pressure or internal uprising.

4. Comparative Political Advantage and Changes in ψ

Thus far, we have taken the political system as given, implying a fixed ψ. However, the quest for support will motivate governments to change this system in a way that increases their support. We shall say that a government has a comparative political advantage in U^I at any (Y,R) if $U^I > U^O$ there and a comparative political advantage in U^O if $U^O > U^I$. With a comparative advantage in U^I, a government will seek to change the political system in a way that lowers ψ since this will raise U—even with no change in Y, G, or R—by raising the weight of U^I in U and lowering the weight of U^O by the same amount. When Y, G, or R then change to their new support-maximizing values, U will rise again, and the comparative advantage in U^I will increase. With a comparative advantage in U^O, a government can raise its support by raising ψ. Thus, I assume that ψ will rise when the government has a comparative political advantage in U^O and fall when it has an advantage in U^I. As ψ moves toward either ψ_m or one, the incentive to keep moving keeps increasing. In this way, political systems that are initially similar can become quite different in time.

Comparative political advantage depends on past and present values of ψ, as well as on the skill set a government brings to producing political support. Past values of ψ help to determine the present accumulation of human and physical capital specialized to rent-seeking support vs. that specialized to useful output. Suppose the support maximum for a government over all ψ is expected to stay where $\psi = \psi_m$. Then there is an incentive to accumulate capital specialized to rent seeking. This makes TR steeper, reinforcing the stability of ψ, although low efficiency can still undermine this system. An initial support maximum at $\psi = 1$ that is expected to last creates an incentive to accumulate capital specialized to Y, including institutions of restraint, which makes TR flatter, again reinforcing political stability. More generally, an increase in ψ that lasts will make TR flatter and the isoquants of U steeper, raising Y_U/R_U.

Suppose $\psi_m < \psi < 1$. Then a comparative political advantage in U^I implies that a decrease in ψ raises U, while an advantage in U^O implies that an increase in ψ raises U. The only possible support maxima over all ψ are the political extremes where $\psi = \psi_m$ and $\psi = 1$. If successful, the quest for support becomes the road either to low or to high inclusiveness, depending on whether the advantage lies with U^I or U^O. In the latter case, a government following its own self-interest will increase efficiency and welfare—an 'invisible hand' is at work. However, absence of effective institutions of restraint makes an advantage in U^I more likely.

Thus, comparative political advantage governs the movement of ψ. In this context, an inclusive polity thrives on competition for outsiders' support—as long as there are only a few main competitors—while a non-inclusive polity thrives when competition for insiders' support and market competition are low or non-existent. As ψ falls, market and political competition will fall as well if the political system remains stable, since distributional rent and inherent loyalty become more important for support. Rent, protectionism, and secrecy will rise. When ψ is low, competition for power is more like competition to become a monopolist than competition in product price and quality. Under autocracy, two-thirds of all leadership changes result from non-co-operation—coup, regime change, assassination, popular uprising, or foreign intervention [Svolik, p. 5]. Such competition can be costly in both blood and treasure.

Finally, there are factors that mitigate the tendency for ψ to move all the way to ψ_m or 1. Earlier we saw that, as ψ rises, institutions of restraint emerge and become more effective. As this happens, the advantage of incumbency in competition for power diminishes. The incumbent government faces greater competition as ψ rises, which can bring a comparative advantage in U^O to an end before $\psi = 1$ is reached. Such a government would try for an intermediate value of ψ between ψ_m and 1. This could explain why most democracies are illiberal, since these lack effective institutions of restraint.

5. The Effect of Inclusiveness on Growth

5.1. Types of Growth and the Interaction between Extensive and Intensive Growth

We define *extensive* growth of Y or y to be growth from increases in inputs, notably capital, with total factor productivity, EA, held constant. *Intensive* growth is growth from increases in EA, with inputs, K and N, held constant. The three types of growth are then: (a). *extensive*. (b). *intensive and based on technology catch-up* —that is, on imported technology that is new to the importing country, but already in use elsewhere. (c). *intensive and based on innovation—that is, on technology that is new worldwide.*

If the g superscript denotes rate of growth, equation (2) implies:

$$y^g = E^g + A^g + \theta k^g, \tag{6}.$$

Thus, y^g is the sum of extensive and intensive growth rates of y, although the two types of growth are complementary, since increases in EA raise $Y_K = y_k$, for any given k, thereby offsetting diminishing returns to capital. Since $y_k = \theta y/k$ and $y = EAk^{\theta}$, we have $y_k = \theta EA/k^{1-\theta}$. Growth of EA raises y_k at any given k, thereby raising the value of k that goes with any given y_k. In this way, increases in total factor productivity create new opportunities for extensive growth, while decreases in E owing to increases in R remove those opportunities. With $\theta = .57$, a .8% increase in EA raises the value of k corresponding to any given y_k by 1.86%.

Let $(y_k)^g$ be the rate at which y_k changes. Then:

$$k^g = y^g - (y_k)^g, \tag{7}.$$

Substituting (7) into (6) gives:

$$y^g = [(E^g + A^g) - \theta(y_k)^g]/(1 - \theta) \text{ or } (y_k)^g = ((1-\theta)/\theta)[E^g + A^g - y^g]. \tag{8}.$$

Purely extensive growth of y requires the consumption cost of growth to rise, as does any growth of y above $(E^g + A^g)$. Equation (8) becomes $y^g = k^g = A^g/(1-\theta)$ when y_k and E are constant. If $A^g = .8\%$, both k and y will then grow by 1.86% per year when $\theta = .57$. Over half of this growth is extensive, from capital deepening, the reason why all nations that have achieved modern economic growth have dramatically raised their capital-to-labor ratios. Yet, from (8), if y grows at a constant rate in an economy unable to generate

technological progress, y_k will be falling at $(1-\theta)/\theta = .79$ times that rate. The intensive part is crucial in maintaining y_k.

5.2. Equilibrium vs. Disequilibrium Growth and the Role of Rent Seeking in Growth Slowdowns

Downward sloping *TR* implies $E_R < 0$ in equilibrium growth, and increases in *R* give rise to two types of efficiency loss. First is the direct loss or amount of *Y* that the resources used to produce *R* could produce instead. Second is an indirect loss, which is the efficiency cost of the interventions used to generate *V*. This is also the cost of protecting and subsidizing insiders and giving them market power. To gain their political support, firms in sectors not prioritized for growth may receive protection from competition, and even firms in priority sectors may come to depend on subsidies and protection—or may be able to lobby successfully for their continuance beyond need. Insiders may come from either sector or from both sectors.

In equilibrium growth, a rise in *Y* requires *R* to fall when *A*, *K*, and *N* remain constant, but disequilibrium growth is another story. Suppose an economy acquires new opportunities for type (b) growth that shift *TR* outward. Then the economy is initially inside the new *TR*, and a re-allocation of resources can increase both *R* and *Y* without any increase in *A*, *K*, or *N*. This allows E_R to be positive. Subsidies, restrictions, controls, rationing of credit and resources, mobilization, and other ways of over-ruling market outcomes that also generate rent can often be used to raise *E*, at least temporarily. This would be done—eg., by speeding up the importing of new technologies and their embodiment into capital, along with the movement of resources into sectors prioritized for growth and the lowering of production costs by gaining experience using the new technologies. With type (b) growth, the economy is following a path set by others who have gone before, a crucial difference from growth of type (c).

When an economy returns to equilibrium growth, however, *E* must stop rising and start to fall if support maximization requires *R* to continue to rise. We can identify three examples of growth slowdowns (falling y^g) that result from rent seeking. (A). A falling *E* owing to rising *R* can cause k^g to fall because of a falling return on investment. (B). A transition from disequilibrium to equilibrium growth can occur in which

E is growing in disequilibrium, but then falling in equilibrium, because support maximization requires R to continue to rise. (C). In equilibrium growth, R^g changes from negative to positive, causing E to fall.

We can tie these slowdowns to a comparative political advantage in U^I, which makes a government more likely to become dependent on rent seeking and insiders for support. Such a dependency lowers y^g by lowering E^g and possibly k^g, owing to the falling marginal product of capital. A comparative advantage in U^I causes growth to slow (y^g to fall) when disequilibrium growth becomes equilibrium growth, and a change of comparative advantage from U^O to U^I causes R to turn around and start rising during equilibrium growth as support-increasing changes are adopted. In each case, a low or middle-income trap can also result because investments that would break the economy out of this trap would compete away rents crucial to political support.

With an advantage in U^I, policies designed to promote growth will give rise to more subsidies, protections, controls, rationing of credit and resources, mobilization, and other ways of over-ruling market outcomes. While these can often be used to raise E in type (b) disequilibrium growth, this is no longer possible after equilibrium growth resumes. Such interventions are often part of a growth strategy that includes import substitution and export promotion of high value-added products. One sign of a comparative political advantage in U^I is an emphasis on export-led growth, channeling entrepreneurship outward, combined with protectionism at home.

With a comparative political advantage in U^O, a government will rely more on market competition and less on state intervention that replaces market outcomes. If ψ is initially below one, it will rise, and the same is true of E. In these conditions, the transition from disequilibrium to equilibrium growth may not cause growth to fall. Such an economy will have a lower growth in disequilibrium, since it relies less on interventions that can temporarily speed growth, and a higher growth in equilibrium since R will be falling.

Moreover, the higher is ψ and the lower is the political support value of rent seeking, the more leeway a support-maximizing government will have to implement changes that raise efficiency by allowing sectors within Y to decline when demand falls, and to shift the released resources into more efficient uses or to adopt new

technologies that destroy existing rents. When ψ is high, special interests are relatively weak. When ψ is low, these interests are strong, and they will resist the decline of sectors they represent because this lowers their ability to supply political support [Acemoglu and Robinson].

5.3. Type (*c*) *Growth*

With a comparative political advantage in U^O, type (c) growth comes naturally since the political system favors innovation. With a comparative advantage in U^I, however, type (c) growth conflicts with the support need to keep V high. In type (b) growth, the technologies to be imported are understood and have known requirements for effective utilization. But in type (c) growth, the technologies are new worldwide, which makes *dirigiste* policies of doubtful value. Successful *dirigisme* requires a government to know which industries, technologies, and production methods to promote and in which specific types of human and physical capital to invest. Without observable past experience as guide, this knowledge either does not yet exist or is scattered among various agents—producers, consumers, researchers, etc.—and much of it remains tacit. An advantage of markets originally noted by Hayek is that they can work well without having to centralize this information.

Type (c) growth requires competition, well-developed financial markets, and freedom from market and trade distortions. Supply restrictions, such as those associated with credit rationing, which are endemic to type (b) growth, are a major barrier to the entry and expansion of small firms and thus to innovation and the development of technically sophisticated products [Aghion, Harmgart, and Weisshaar, esp. pp. 50-54].

Finally, let corruption be defined as the use of political office for personal gain. There is empirical support for a negative link between rent seeking and efficiency, provided rent seeking and corruption correlate positively—both over time and cross-sectionally—and E and E^* do likewise. Then E^* will vary inversely across nations with level of corruption, a finding of Salinas-Jimenez and Salinas-Jimenez; see also Keita. Corruption is a form of rent seeking, and factors that favor corruption—secrecy and lack of openness or transparency in government—also favor success of other forms of rent seeking, including lobbying. While corruption may seem worse than lobbying, each involves a transfer of wealth from outsiders to insiders, and each is likely to raise political support by more when its victims are unaware of the transfer.

6. A Brief Look at post-WWII Growth in the Soviet Union and Japan and at the 'Great Recession' in the U.S.

6.1. Inefficiency and Stagnation of the Soviet economy.

Mainly extensive growth outside the space and defense sectors was a feature of the state-managed Soviet-type economy (STE), a planned and controlled system with many quotas, restrictions, and subsidies. These probably raised the growth of Y initially by creating forced savings, rapid capital accumulation from a low base, and strong incentives for labor to migrate from agriculture to industry. In the Soviet Union, GDP per capita grew over 1928-1990 by an annual average of 2.6% to 5 times its original level [Ofer], although nearly all the sustainable growth had occurred by 1970. A key problem here was diminishing returns to capital. Weitzman documented a falling marginal product of capital as early as the 1960s.

Relative to the U.S., Soviet GDP/capita peaked at 37.5 % in 1970 [Ofer]. After 1970, the Soviet capital-to-labor ratio soared, while the marginal product of capital in terms of GNP plunged [Easterly and Fischer 1995, p. 358]. During the Gorbachev years, GNP/capita fell, as did *TFP*, assuming an elasticity of substitution equal to one. If ε_S was less than one, however, as Weitzman and Easterly/Fischer [1995] believed to be true of the Soviet economy, growth of either GDP or Y will slow more rapidly as k rises, since the greater difficulty of substituting capital for labor makes the marginal product of capital fall faster. Under constant returns to scale, $(-y_{kk}/y_k) = (1 - \theta)/\varepsilon_S k$. The lower is ε_S, the faster y_k will fall. One argument for a low ε_S is that the high rate of Soviet investment made it hard for planners to substitute capital for labor in old production units at the same time that they were building new ones. Thus, some capacity lay idle for want of labor [Ofer], which co-existed with widespread overstaffing of firms, one way in which resource allocation was poor.

Easterly/Fischer originally estimated ε_S to be .37 for the Soviet economy (pp. 355-357), later corrected to .49 [Easterly and Fisher 2008], following criticism by Beare. Using $\varepsilon_S = .49$, they estimate *TFP* growth to have been falling over 1950-1987, reaching near zero in 1987. Given that A increases at about .8%

per year, E^* is likely to have been falling well before the end of the Soviet Union, regardless of whether ε_S was below or equal to one. Tax revenues depended on the profitability of state firms and therefore on the productivity of capital. Falling productivity caused growing budget deficits, which were largely monetized, leading to rising nominal incomes and rising differences between official and demand prices, which generated rising rents. In Russia, the freeing of consumer prices in January 1992 caused them to more than double from official levels at the end of 1991.

The STEs left a legacy of resistance to market reforms in successor transition economies by those whose rents were threatened [Aslund, ch. 9]. This weakened the impact of economic reform except where a new government with a comparative political advantage in U^O could gain enough support to come to power. Because the institutions of a Soviet-type economy and those of an efficient market economy are quite different, the costs of switching were high, and this helped the STE to survive for many years despite poor performance. Over 1970-91, there was hardly any net growth of GDP per capita in the Soviet Union, and in Russia, GDP plunged by nearly 40% in 1992, the first year of transition [Ofer].

6.2. Growth Slowdown in Japan.

For many years, Japan had high rates of GDP growth and provided the growth model for much of East Asia. Japanese experience and the subsequent experiences of smaller East Asian 'tigers' suggested that government intervention in the form of industrial policy could permanently raise the growth of GDP, and several economists forecast that Japan would overtake the U.S. in terms of GDP per-capita. This was largely growth of types (a) and (b), in which government played a leading role—in facilitating technology imports, in disseminating technologies to domestic producers, in assisting their learning to use these technologies, and in channeling resources into targeted growth sectors.

Japan and other East Asian nations promoted export-led growth, building efficient export industries and achieving an economic 'miracle,' using an approach that included large public investments in infrastructure and technical education, as well as targeting of growth sectors. Targeted sectors were subsidized and protected, and received large public and private investments. This required credit rationing

that channeled loans to favored borrowers—who were initially not competitive on world markets—as well as barriers to imports, which were often tightly controlled, thereby protecting the domestic market. Many inefficient firms benefitted from this protection. Other East Asian economies also built up their human capital and shifted comparative economic advantage within *Y* toward higher value-added products that were physical or human capital intensive. Their cost advantage often rested on inexpensive human capital.

For Japan, however, the high-growth era is now a distant memory. Many resources are tied up in inefficient firms, including 'zombies' that only continue to operate because of protection and subsidies. The peak of the Japanese economic miracle occurred between the mid-1950s and the early 1970s. By 1970, Japan had the highest per-capita GDP in Asia, using purchasing power parities [APO, p. 29]. But then growth slowed, and in the early 1990s, stagnation set in, from which Japan has yet to recover. Annual growth of real GDP per capita in Japan averaged 8.2% over 1960-73 during the economic miracle, but then fell to 1.2% over 1990-2007 [U.S. Department of Labor].

Using purchasing power parities, Japan had fallen to second place in Asia in terms of per-capita GDP by 1990, behind Singapore, and by 2015, to fourth, with less than half the GDP per capita of Singapore, 71% of that of Hong Kong, and 86% of that of Taiwan [APO, p. 29]. South Korea, which had only 17% of Japan's per capita GDP in 1970, had about 85% in 2010 and 90% in 2015. Relative to the U.S., Japanese per capita GDP peaked in 1991, at 87%, according to the IMF, from which it fell to 71% in 2015. In Japan, E^* grew over 1970-90, since annual *TFP* growth averaged 1.37% [Sanchez and Yurdagul]. However, annual *TFP* growth was just .44% over 1990-2007 and .33% over 2007-2011, so that E^* fell over 1990-2007 and was well below its 1990 level in 2015. All the Asian countries that moved ahead of Japan in per-capita GDP over 1970-2015 had faster *TFP* growth, if we take into account the corrections suggested by Hsieh for Singapore and Taiwan.

Other East Asian nations are potentially vulnerable to the forces that cause political support to rely too heavily on wealth redistribution. But both Taiwan and South Korea became democracies during this period and therefore plausibly acquired more inclusive political systems. Singapore faces strong external pressures to be efficient and to maintain racial and religious harmony. Japan is a democracy, but one in which a single party is

almost always in power and in which the distributional rents of powerful special interests appear to be a dominant source of political support.

6.3. Rent Seeking in the U.S. Financial Crisis and 'Great Recession' of 2007-2009.

Government efforts to grow the economy more rapidly in the Soviet-type economies, Japan, and elsewhere worked for a time, but then gave way to growth slowdowns or stagnation. In this paper, I have offered an explanation based on linkage between the political and economic systems and government maximization of its political support. The main culprit is a comparative political advantage in U^I. This leads to a high demand for rent seeking, which crowds out innovation and builds up an economy's endowment of rent-seeking specialized capital, helping to entrench rent seeking as a source of support and to prevent reforms that could sustain or revive growth. The antidote is a government with an advantage in U^O.

However, supporters of a minimal economic role for government drew a quite different lesson from the Soviet, East European, and Japanese experiences, which reinforced their belief in the 'magic' of the market. Faith in self-regulating financial markets replaced older views, including that of Adam Smith, who had argued for government regulation to avoid 'endanger[ing] the security of the whole society [Smith, p. 324].' The resulting lack of regulation created rents, which became a source of political support, and paved the way for the Financial Crisis and Great Recession of 2007-2009.

Financial institutions controlled by insiders are harder to regulate than those controlled by outsiders, and the former have higher access to government bailouts. Thus, they have an incentive to seek higher yields by making risky loans, which can lead to a systemic crisis. Prior to the Great Recession, de-regulation led to a lending frenzy that caused rapid increases in the ratio of debt to borrowers' incomes, as well as rapidly rising property values. Borrowers were willing to take on more debt because high asset prices raised their perceived wealth. According to Mian, Sufi, and Verner, increases in the ratio of household debt to GDP over 2002-2007 by region are a good predictor of unemployment increases by region over 2007-2010.

Prior to the financial crisis, rising property values increased demand and household borrowing. Easy money and credit intensified this boost, and big lenders were able to sell low-quality mortgages at little risk

to themselves. A ready market for these 'sub-prime' and 'non-prime' mortgages relieved lenders of the cost of borrower default, which they passed on to buyers of mortgages and mortgage-backed securities. As a result, low-quality mortgage lending grew rapidly, and low-quality mortgages came to comprise over half of all mortgages. After issuing them, the issuing bank or shadow bank would either sell these mortgages or cut them into pieces to be pooled with pieces of other mortgages to produce securities that they sold.

The quasi-public mortgage giants, Fannie Mae and Freddie Mac, stood ready to buy mortgages at high prices, which they then securitized and sold. Ultimately, the lending frenzy depended on the generosity of Fannie and Freddie and on buyer over-valuation of mortgage-backed securities. Their quality was not transparent, and capture of bond-rating agencies by securities issuers resulted in ratings that were too high. The bull market spawned by easy credit and home ownership promotion also contributed to the over-valuation. Rising property values led to rising prices of mortgage-backed securities, which provided good returns to securities buyers—as long as property values kept rising. Rising asset prices also raised the supply of collateral for loans, which made lending appear less risky.

At first, monetary policy accommodated the above process, but in 2004, the Fed abruptly changed course and began tightening money and credit. It raised interest rates 17 times over 2004-2006—the discount rate rose from 1% to 5.25%—and then began lowering rates again, the discount rate falling almost to zero in December 2008. House prices peaked in mid-2006 after rising for 15 years and then began to fall. When this fall speeded up over 2007-2008, borrowers often found that they owed more on their mortgages than their properties were worth, in addition to which sub-prime borrowers faced low initial payments, which subsequently escalated. Many mortgage holders defaulted, revealing the riskiness of securities based on these mortgages. The demand for them imploded, causing the sub-prime mortgage market itself to collapse in 2007. The home ownership rate went up and back down [Callis and Kresin 2014, 2015].

Prices of real estate and securities soared initially, but these were on a bubble, which burst when mortgage borrowers began to default in numbers. The subsequent fall in values of real estate and mortgage-backed securities, aided by the Fed's temporary tightening of money and credit, put the wealth effect into

reverse and reduced the supply of collateral for loans. Lending became riskier, especially to small borrowers, many of whom were by now carrying large amounts of debt. The fall in demand for durable goods by households and small firms, which was intensified by higher borrowing costs and the virtual drying-up of credit, became the main cause of general economic decline and subsequent slow recovery. The crisis lowered employment in financial services, where rent seeking had been intense, and in sectors, especially construction, where rent seeking had buoyed demand.

The shadow banking system grew during the housing bubble to become larger than the banking system. Shadow banks avoided regulation by selling securities to access savings instead of accepting savings deposits, but also lacked the public insurance that supported banks. When the bubble burst, the shadow banks suffered the equivalent of bank runs and became the part of the financial system that shrank the most. Fannie and Freddie received government bailouts, as did private 'too big to fail' financial institutions. Interest rates have since remained low, at high cost to savers. (Most of the bail-out funds were later paid back, however, and the government has taken far more in profits earned by Fannie and Freddy than the latter received during the financial crisis.) The combination of boom and bust provided a net benefit to Americans in the top 1% of the income distribution, with most of the cost of the Great Recession falling on small lenders and mortgage holders. According to Saez and Piketty, the top 1% also received nearly all the income gains from the 2009-10 recovery [Lowery]. For further discussion of issues surrounding the Financial Crisis and Great Recession, see Krugman and Mian, Sufi, and Verner.

7. Conclusion

Rent seeking as an effective source of political support causes problems in many societies and not just because of efficiency issues. The ability to extract rent and to use it to buy political support goes hand-in-hand with secrecy in government, corruption, inequality, and barriers that constrain social mobility and the rule of law. They promote greater economic opportunity for some than for others plus concentration of economic power. Traditional economic thinking would be that over the long run, societies will choose the

more efficient alternative, which yields the highest per-capita income and is also relatively egalitarian. But without effective institutions of restraint, the control of citizens over the behavior of politicians is apt to be weak or non-existent, with the result that extracting rent and using it to buy political support remains a viable option for government.

Note:

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