# Policy Failure and Political Survival

## THE CONTRIBUTION OF POLITICAL INSTITUTIONS

BRUCE BUENO DE MESQUITA
JAMES D. MORROW
*Hoover Institution*
*Stanford University*
RANDOLPH M. SIVERSON
*Department of Political Science*
*University of California, Davis*
ALASTAIR SMITH
*Department of Political Science*
*Yale University*

The authors advance a theory of the effects of political institutions on state policy. The theory explains how political institutions affect the ability of leaders to maintain themselves in office, why some political systems are more prone to policy failure than others, and why autocrats create mass political systems. The key characteristics of institutions in this theory are the sizes of a polity's selectorate and winning coalition. The authors derive hypotheses from the theory and test those hypotheses using a data set covering more than 2,700 leaders from all states in the period from 1816 to 1990. The statistical tests demonstrate that (1) large winning coalitions are associated with enhanced economic growth, (2) tenure is shortened by a large winning coalition but lengthened by a large selectorate, and (3) in the face of policy failure, leaders with a large selectorate are more likely to survive than those in systems with a large winning coalition. The authors conclude by discussing the implications of these results.

Policies that promote peace and prosperity are, by almost any observer's yardstick, successful policies. Because politicians are ever eager to retain high office once having achieved it, incumbents must be eager to enhance their nation's welfare, thereby enhancing their own chances for continuing in office. Put differently, it seems obvious that leaders who ruin their country's economy lead their country into disastrous military defeat, and those who fail to provide for the welfare of their citizens must have poor prospects of staying in power.

Only one impediment stands in the way of these seemingly obvious claims: they are not always true. We argue that this is so because the institutional context in which the

AUTHORS' NOTE: This research was partially supported by National Science Foundation grant SBR-9709454. For their helpful comments, the authors thank the participants at the Conference on Democratic Transitions, Claremont Graduate University, April 24, 1998, and the two anonymous referees.

JOURNAL OF CONFLICT RESOLUTION, Vol. 43 No. 2, April 1999 147-161

leader holds power influences his or her concerns for the welfare of the citizens of the state, and so the truth of these claims depends on the character of the political system that chooses a nation's leader. As we demonstrate below, in some instances, even small failures of policy will lead to the removal of the leader, but in others, seemingly endless blunders have little or no consequence for the leader's retention in office.

How do those responsible for policy failure survive? We argue that variations in the size of the selectorate and the size of the winning coalition explain this, while also providing insights into the political economy of peace and prosperity. By the selectorate, we mean all those people in a country who have an institutionally granted right or norm that gives them a say in choosing the government.[1] By the winning coalition, we mean those members of the selectorate whose support is essential to keep the incumbent leadership in office. These concepts are explained more fully below.

Three closely related questions are at the center of our inquiry. First and most generally, how do political institutions influence longevity in political office? Second, and following from this, why do some political systems seem more prone to policy failure than others? Finally, why do some autocratic leaders (i.e., those leaders in systems with a small winning coalition) deliberately create a large selectorate?

Our analysis of these questions is presented in five parts. First, we delineate an institutional theory of politics that provides resolutions of the three puzzles posed above. The mathematical details of the theory may be obtained through the Internet.[2] Second, we explain the intuition behind the theory and extract testable hypotheses. Third, we explain the measurement procedures for the preliminary testing of the hypotheses, and then we offer the preliminary empirical evidence for our claims. Finally, we draw together our answers to the questions posed above with some surprising, even disturbing, results.

## THE THEORY

The population of a state falls into a series of nested groups.[3] The largest group is the set of all citizens. A subset of the citizenry has an institutionally legitimate right to participate in choosing the country's political leadership. This subset is the selectorate. Identifying the membership of the selectorate is a political choice that represents one of the fundamental institutional decisions in a sovereign state. In contemporary universal adult suffrage systems, the selectorate consists of all adult citizens, but in King John's England of 1199, the selectorate was made up of 197 barons who alone had an institutional say in deciding who would be king. The selectorate, then, can be very

1. Our usage is broadly consistent with the notion of the selectorate developed by Shirk (1993, 71) in her analysis of economic reform in the People's Republic of China, except that we assert that all political systems may be understood as having this group and not just communist states. It is also consistent with Deutsch's (1961) analysis of social mobilization.

2. www.ssds.ucdavis.edu/bdm2s2/

3. A technical development of the game-theoretic reasoning behind this model is presented in the Web site appendix. Here we focus on an exposition of the basic logic and intuition behind our model.

small, very large, or anywhere in between. Those not in the selectorate are disenfranchised.

Any incumbent leader relies on a subset of the selectorate to maintain his or her position in office. It is sufficient that if any member of this group, which we call the winning coalition, defects to a rival leader, then the incumbent leadership is deposed. In majoritarian systems, like most modern democracies, the size of the winning coalition is functionally tied to the size of the selectorate through electoral rules. For simplicity's sake, we can say that the winning coalition in modern democracies is about equal to one half of the selectorate plus one additional voter, that is, the number of voters needed to win an election. In typical autocracies, the size of the winning coalition is not tied to the size of the selectorate except for the restriction that it cannot be larger than the selectorate. Autocrats may be able to control the size of their winning coalition as well as who exactly falls into that group. In this discussion, we take the size of the selectorate and winning coalition as fixed and given, although when we talk about optimal institutional arrangements, we hint at strategic decisions over the size of these institutions.[4]

Politicians attract a winning coalition and retain its support by distributing things of value. Put coarsely, they "buy" office. Broadly, the goods used to do this take two forms, and their relative value depends on the institutional arrangements of the state. Some are distributed in the form of private goods, such as special privileges, access to graft and bribes, favorable tax terms, favorable contracts, judicial favoritism, and the like. These private goods are allocated only to the members of the winning coalition whose continued support is essential for the incumbent to remain in office.[5] Other goods take the form of public policies that affect the welfare of everyone in the state. The provision of political freedoms, national security, general economic growth policies that lift the total size of the pool of resources in the state, and the like are examples of such public policies that affect citizens of the state.[6]

The total income of a society can be divided into three pools of resources. One pool is the untaxed resources that remain in the hands and at the discretion of each individual citizen. These resources include at a minimum the amounts required for food, clothing, shelter, and other individual necessities. The government takes the remainder of the national income as direct and indirect taxes and divides the taxed portion into two further pools. One pool is distributed as private goods to members of the winning coalition; the other pool is used to advance public policy. All citizens retain some resources for their own discretionary use, and everyone values a mix of private and public goods over receiving all benefits solely in the form of private benefits. All care about public policy at least to the extent that the government must provide some minimal security to protect the opportunity of citizens to enjoy the benefits associated with

4. It is beyond the scope of this article to show that institutional arrangements are endogenous. We leave that for subsequent research on the model examined here.

5. In reality, of course, some private goods may be obtained by nonessential supporters of the incumbent leadership. For simplicity's sake, we assume here that such goods go only to essential supporters as a reward for their support.

6. We treat these as pure public goods, lumping their divisible and excludable components into the private goods portion of utility calculations.

whatever private goods they receive and whatever income they retain. A society cannot persist in a completely lawless state.[7]

Leaders face two problems with respect to these goods: one of distribution and one of credible commitment. The distributional problem concerns how to divide the proceeds from taxes into private goods and public policy to reward the winning coalition. The credible commitment problem concerns the believability of promises of goods and policy. Candidates for leadership can promise anything to gain power, but the selectorate need not believe such promises. We focus on the distributional problem in this article; because of space limitations, we only touch on the credible commitment problem, deferring a fuller discussion for subsequent presentation.

To hold on to power, a leader must provide sufficient benefits to the winning coalition so that the least satisfied member still prefers to support the incumbent rather than defect to a rival. Rivals, who are assumed to exist at all times, can also promise anything. For the promises of incumbents and rivals to be credible, however, they must be visibly related to the available pool of resources and to one another. Competition for office ensures that fully informed incumbents equal or surpass the deals promised by their challengers. Competition also ensures that leaders or rivals who do not turn out to make credible promises will lose office (North, Summerhill, and Weingast 1998; Root and Nellis 1998). Of course, both the coordination and distributional aspects of credible commitment are important to a fuller understanding of how institutions shape political choices.

Rivals for leadership have an incentive to offer a better mix of valued goods than what the incumbent is providing. By doing so, they can gain office. They face a problem, however. The incumbent has an incentive to provide a mix of goods that is as attractive to his or her supporters as an offer made by a rival. Such an offer does not require the incumbent to pay out as much as the rival promises to those who support the rival. Because private goods get divided among the members of the winning coalition, the rival cannot credibly promise such goods to more than the minimal number who would constitute the new winning coalition. Every potential defector from the current winning coalition faces the risk that he or she will not be essential to the new coalition and so might be excluded from receiving any of its private goods. For the sake of simplicity, we assume that the probability of being essential to the successor winning coalition increases as the size of the winning coalition increases and decreases as the size

7. We define utility functions for members of the winning coalition ($I \in W$) and for citizens not in the winning coalition, but in the selectorate ($I \notin W$), we use Cobb-Douglas functions with the following characteristics:

$$U_i(x, g, 1_i) = \left(k + \frac{g}{w}\right)^{\alpha} x^{\beta} \text{ if } i \in W(1_i = 1); U_i(x, g, 1_i) = k^{\alpha} x^{\beta} \text{ if } i \notin W(1_i = 0), \alpha, \beta > 0,$$

where $k$ is the resources retained for an individual's use (the first pool of resources), $g$ is the pool distributed as private goods by the leader, $W$ is the size of the winning coalition, and $x$ is the value of public policies created by government action. We define the gross domestic product (GDP) of a country as equal to $kN + R$, where $R$ consists of the part of the GDP taxed by the government. $R$ is then spent partially as public goods ($x$) acquired at price $p$ and as private goods ($g$).

of the selectorate increases. That is, the more people whose support is required to form a winning coalition, all else being equal, the better the chances of being in the winning coalition, but the more people who form the pool available to be in the winning coalition, the worse any one individual's chances are. One simple representation of this notion is that the chance of making it into the successor winning coalition is equal to the size of the winning coalition divided by the size of the selectorate ($W/S$). Because challengers cannot guarantee private goods when they are trying to build a coalition, they are at a disadvantage against incumbents. An incumbent who wants to stay in office only has to offer its winning coalition enough to hold their loyalty.[8] Because any member of the winning coalition considering defecting to a rival cannot be certain that he or she will be included in the rival's winning coalition, the incumbent need not offer as much in private goods as the rival does. Members of the current winning coalition then expect to receive more under the current regime than under the rival once we consider the risk that a member of the current winning coalition may be left out of a new winning coalition.

Any resources left over that could have been allocated to members of the winning coalition become the private, discretionary funds of the incumbent. These rents can be the basis for funding Swiss bank accounts and lavish lifestyles, or they could be used to promote pet projects. The size of the rents can readily be shown to depend on the institutional arrangements, but we do not pursue this point formally here. However, there is no need for the incumbent to pay out that much in private goods. He or she can give quite a bit less and still provide enough to keep the winning coalition's loyalty.

The general principle is straightforward. When the winning coalition gets bigger, private goods get spread more thinly, and so they less easily can make up for failed public policies. As the selectorate shrinks, the risks from defection drop off, making the incumbent's advantage from using private rewards smaller and smaller. So, the greatest incumbency advantage in using private goods to satisfy constituents belongs to leaders of political systems that have small winning coalitions and large selectorates. This makes the value of current private goods high for the average supporter and makes the expected value of private goods following a political defection small. It also means that the incumbent can, if so inclined, cull lots of the private goods budget for his or her own ends.

We will show that the distribution of goods depends on the size of the winning coalition and the size of the selectorate. In the process of explaining this dependence, we will resolve the three puzzles with which we began.

8. The incumbent needs to beat

$$(k)^{\alpha}\left(\frac{R_c}{p_c}\right)^{\beta} \text{ if } W \geq \frac{R}{k}\frac{\alpha}{\beta} \text{ or } \beta^{\beta} p_c - \beta\frac{W^{2-\alpha}\alpha^{\alpha}k + W^{1-\alpha}\alpha^{\alpha}R_c + k^{\alpha}(kW+R_c)^{\beta}S - k^{a}(kW+R_c)^{\beta}W)}{S} \text{ if } W < \frac{R}{k}\frac{\alpha}{\beta}$$

to stay in power and fend off the challenge from a rival.

## THE LINK BETWEEN POLITICAL INSTITUTIONS AND POLICY SUCCESS

The larger the winning coalition in a country, the thinner must be spread the private goods that are available with which to purchase political loyalty. For a fixed quantity of resources devoted to private goods, then, it gets harder to buy loyalty with private goods as the size of the winning coalition gets larger.[9] At the same time, the value of putting government resources into public policy does not change with the size of the winning coalition. As the winning coalition increases in size, it is more attractive to incumbents to pour resources into public policy pursuits rather than private goods. If the institutionally mandated size of the winning coalition is large enough, then there is no incentive at all for incumbents to provide private goods. Of course, such a large winning coalition may never arise in reality, but it can be approached.[10]

The proportion of the winning coalition to the selectorate motivates the willingness of members of the winning coalition to support a rival and a leader's attention to the success of public policy. Supporters of a leader under universal suffrage democracy face a relatively low risk in defecting to a challenger. Their chance of receiving private goods under a rival government is high. They are free to defect to a rival if the incumbent fails to produce successful policy. In other systems, current supporters are very likely to lose the private goods the leader provides if the leader is replaced by a rival, increasing their loyalty to the current leader regardless of the success of his or her policies. Majoritarian systems, in effect, induce a norm of disloyalty by supporters in the face of policy failure by the incumbent. Their loyalty is not easily purchased with private goods because those must be spread too thinly. They face a relatively low risk of losing the private goods they receive as members of the winning coalition if they defect to the challenger. Consequently, if they do not obtain public policies to their liking, they abandon the incumbent. Majoritarian systems, then, provide a stronger incentive for leaders to maximize good policy than other systems with smaller winning coalitions. Challengers to the leadership will also focus their promises on public policy rather than private goods in majoritarian systems. To the extent that peace and prosperity are widely valued, leaders of systems with large winning coalitions and a large selectorate have incentives to succeed at providing these goods. Their rivals strive to bid up the quality of policy at the margin to enhance their own chances of gaining power within the existing institutional framework. Poor policy performance is an invitation to be overthrown in democratic systems. We equate good policy with policies that satisfy essential constituents more than the policies promised by their

9. That is, $g/W$ gets smaller as $W$ gets larger.

10. If $W \geq (R/k)(\alpha/\beta)$, then all available resources are spent on public policy. If $W$ is less than this quantity, then some resources are allocated to private goods. Notice that $\alpha/\beta$ depends on the preference members of the selectorate have for income versus policy. As $R$ decreases, it is likely that $\alpha$ increases and $\beta$ decreases, making it hard even when $R$ is small and $W$ is large for $W$ to be greater than the right-hand expression. Note also that if the correlation between $\alpha/\beta$ and $R$ is relatively weak, then the model provides an explanation for the exceptional policy performance of some small, relatively open states such as Hong Kong before 1997, the Netherlands, Luxembourg, and so on. We do not pursue this line of argument here.

rivals. Note that policies that promote peace and prosperity need not be satisfactory to constituents.[11]

Even if leaders pursue "good" policies, they may suffer policy failure as a result of circumstances they cannot control, such as a downturn in a business cycle, economic problems with a trading partner, or even drought and floods that are beyond the foresight of leaders. Furthermore, well-intentioned social programs may backfire, leading to increased poverty, unemployment, social dislocation, crime, and so forth. Here the leader's policies have genuinely failed, even though the leader was trying to institute good policy. Losing office is more likely following policy failure than after policy success, but how likely it is varies with institutional arrangements. What, from a leader's point of view, is the institutional combination that best protects longevity in office in the face of policy failure?

We already know that as the winning coalition decreases in size, more resources are devoted to private goods. Holding the size of the selectorate constant, decreasing the size of the winning coalition increases the loyalty of members of a leader's winning coalition because the chance that a defector will be left out of the rival's winning coalition is greater. Smaller winning coalitions then help leaders hold office. Furthermore, the challenger has a harder time attracting defectors from the winning coalition as the selectorate increases in size. Holding the size of the winning coalition constant, increasing the selectorate reduces the chance that a defector will be in the rival's winning coalition. Again, members of the current leader's winning coalition will be more loyal as the size of the selectorate increases. Combining both effects, the safest system for a leader includes a large selectorate and a small winning coalition, the system that Lenin created in the Soviet Union. Consequently, Leninist-style systems induce a norm of loyalty by supporters to the leadership even when policy performance is not very good. It simply gets easier to stay in power when the pool of possible supporters—the selectorate—is large and the number of supporters needed to maintain power—the winning coalition—is small. Both of these changes direct the competition over office away from policy and toward the provision of private goods to the winning coalition. In such circumstances, there is no need to commit many resources to seeking and implementing effective policies. Private goods, not public policies, are crucial for political survival in such systems.

Political systems with small winning coalitions and small selectorates, like monarchies or military juntas, derive only one side of the loyalty benefits that Leninist-style authoritarian regimes enjoy. In monarchies and juntas, it is easier to compensate for policy failures with private goods than in democratic systems because the coalition is small. At the same time, the selectorate is also small, making the chance of receiving private goods after defecting from the winning coalition larger than is true in Soviet-style systems. From a leader's point of view, the Bolsheviks clearly had improved on

11. Barro (1998) demonstrates that open electoral systems may foster redistributive policies that slow economic growth, although usually only after a substantial level of national wealth has been attained. There are, after all, on average, more voters below the mean national income than there are above it. Yet, this inhibition to growth is a matter of degree. We should not lose sight of the fact that policies that protect property rights, foster competition, and protect access to markets tend to be policies that satisfy large numbers of citizens and foster economic success.

monarchy. Monarchies, juntas, and other regimes with similar institutional characteristics do not induce nearly as strong a norm of loyalty following policy failure as does an authoritarian structure that has a small winning coalition and a large selectorate.

A political system with small winning coalitions and a large selectorate (usually implying rigged elections[12]) is quite beneficial for leaders. It helps them keep their jobs and their access to private benefits, even when they perform poorly in the policy arena. It also induces loyalty on the part of their key backers. That is a solution to our first puzzle. Furthermore, it tells us that if leaders get to choose institutional arrangements, they would prefer to choose autocratic systems with small winning coalitions and large selectorates. If, however, members of the winning coalition get to choose institutions, then they would prefer monarchic-style regimes with small winning coalitions and a small selectorate or more democratic systems. If the disenfranchised or members of the selectorate not in the winning coalition get to pick, they are more likely to want democratic-type governments with large winning coalitions and large selectorates according to the logic of our model.

The endogenous norm of loyalty induced by autocratic structures also helps explain our third puzzle—namely, why some authoritarian leaders enjoy such longevity in office. Policy failure is not the dimension on which leaders are measured in systems with small winning coalitions, especially when the selectorate is large. It is also clear that systems with small coalitions provide substantial personal benefits for the essential supporters of the incumbent.

Keeping the winning coalition small makes monarchy and authoritarian systems attractive to the privileged few who are essential players in the political survival game. Making the selectorate large may benefit the members of the winning coalition as well by increasing the likelihood that no one will defect, all else being equal. The norm of loyalty that large selectorates help induce protects the supporters of the incumbent as well as protecting the incumbent.

Even the members of the masses can derive a benefit from having a large selectorate in an otherwise authoritarian system. In monarchies, despotisms, or military juntas, only a privileged few ever have any chance of gaining access to private goods. Most citizens are in the disenfranchised group and can do nothing to improve their situation. But in an authoritarian system with a large selectorate, the disenfranchised group is small. Everyone has a chance, albeit a very small chance ($W/S$), of becoming a recipient of valuable private goods. Of course, the access to private benefits for the masses is not nearly as great as the comparable prospect of benefits in a democratic system, but for the lucky few, the value of those benefits is much larger. Authoritarian systems offer a long shot at big gains; much as buying a lottery ticket offers a small chance to win millions. In that way, authoritarian structures offer a promise of upward mobility similar to a lottery, with similar limitations and attractions. The odds are long, but the rewards are great. The Soviet system exemplified this benefit. Figures such as Stalin, Khrushchev, and Brezhnev would have had essentially no chance to gain high office or

12. By rigged elections, we mean either that there is no significant choice for the voter, as in the case of the Soviet Union, or that the votes are not counted honestly, as in the case of Mayor Richard Daley's Chicago; Daley, it is worth noting, was mayor from 1955 until his death in 1976.

private benefits during the czarist period. These men rose from common origins to positions of great power and privilege. They are exemplars of how the system Lenin devised provided a small chance—but greater than the chance under the monarchy—for anyone to gain valuable benefits. This makes the Leninist-style system initially attractive compared to a monarchy or a petty despotism even to the masses and even if the elections, per se, are meaningless.

The norms of conduct toward leaders induced by democracy and autocracy are radically different. Autocracy induces a norm of loyalty, but democracy induces disloyalty by backers when faced with policy failure. Put differently, retrospective voting makes sense in democracies but is likely to be a minor factor in autocracies. All else equal, democratic leaders facing policy failure can expect to survive in office for a shorter time than authoritarian heads of systems with small winning coalitions and large selectorates faced with a similar crisis in policy. Furthermore, when the size of the winning coalition is small, private goods more easily compensate supporters for utility losses derived from poor policy performance by the incumbent. Because leaders of systems with small winning coalitions reward their supporters primarily with private goods, which induces loyalty in their supporters, they need not be especially attentive to their policy choices. So, leaders in political systems with small winning coalitions are unlikely to invest heavily in advisers and bureaucrats responsible for evaluating and choosing policies with an eye to satisfying key constituents. Being less attentive or informed about policy matters, authoritarians are likely to perform rather poorly compared to their counterparts in systems with large winning coalitions and large selectorates. These implications, derived from our theory, provide an explanation for the three puzzles with which we began. We restate the implications now as the hypotheses to be tested here:

*Hypothesis 1:* Economic growth increases as the size of the winning coalition increases.
*Hypothesis 2:* Survival in office decreases as the size of the winning coalition increases.
*Hypothesis 3:* Survival in office increases as the size of the selectorate increases.
*Hypothesis 4:* Given poor policy performance, survival increases as the size of the selectorate increases.

## THE DATA AND MEASUREMENTS

To test the hypotheses, we draw on the Polity III data set (Gurr 1990). We have added to these data our own assemblage of leadership information, including the name and date of entry and exit for each head of government in each country, as available, for the years between 1816 and 1993. These data were derived primarily from Spuler, Allen, and Saunders (1977). These data were checked against the historical chronology given in Langer (1972), Bienen and van de Walle (1991), and Crystal (1990, RR 42-67). Post-1965 data were also checked against the *Facts on File World Political Almanac* (Cook 1992). The leadership data, which have been merged with the Polity data set, include information on the terms of 2,700 leaders from every continent and for every state in the Correlates of War list of states between 1816 and 1990.

We begin by constructing indicators of winning coalition size ($W$) and selectorate size ($S$) as well as of policy failure, our core independent variables. Admittedly, the indicators are only crude approximations, and our tests should be viewed as tentative rather than definitive. Still, we do not believe there are any inherent biases in the measures we use that would systematically distort the results in favor of our theory.

The Polity data include a number of institutional variables, of which four provide a reasonable basis for constructing an index of the size of the winning coalition ($W$). A fifth variable, legislative selection, seems to be a good indicator for the size of the selectorate ($S$). We discuss the latter first. The legislative selection variable measures the breadth of the selectiveness of the members of each country's legislature. In Polity III, this variable is coded as a trichotomy, with 0 meaning that there is no legislature. A code of 1 means that the legislature is chosen by heredity, ascription, or is simply chosen by the effective executive. A code of 2, the highest category, indicates that members of the legislature are directly or indirectly selected by popular election. It is evident that the larger the value of legislative selection, the more likely it is that $S$ is large. We add 1 to this indicator, so that it varies between 1 and 3, and refer to this variable as $S$.

To estimate the size of the winning coalition, $W$, we construct a composite index based on the variables Regtype, Xrcomp, Xropen, and Parcomp in Polity III. When Regtype is not missing data and is not equal to codes 2 or 3 in the Polity data set, so that the regime type was not military or military/civilian, we award one point to $W$. When Xrcomp, which indicates the competitiveness of executive recruitment, is larger than or equal to 2, then another point is assigned to $W$. Xrcomp identifies the manner of executive selection. When it is coded 1, it means that the chief executive was selected by heredity or in rigged, unopposed elections. Code values of 2 and 3 refer to greater degrees of responsiveness to supporters, indicating a larger winning coalition. Xropen, the openness of executive recruitment, contributes an additional point to $W$ if the executive is recruited in a more open setting than heredity (i.e., the variable's value is greater than 2). Finally, one more point can be contributed to the index of $W$ if Parcomp, the competitiveness of participation, is coded as 5, meaning that "there are relatively stable and enduring political groups which regularly compete for political influence at the national level" (Gurr 1990, 18). Again, we add 1 to the indicator so that it varies between 1 and 5. The values on the index are distributed such that 5.1% of cases equal 1, 31.7% equal 2, 21.4% equal 3, 25.0% equal 4, and 16.8% equal 5 (based on 13,667 leadership years as observations in the data set we used). The correlation between $W$ and $S$ is .42 ($N$ = 9,520 cases without missing data, with an $R^2$ of .18), so we can be confident that $W$ and $S$ are measuring different characteristics of political systems.[13]

13. We evaluated how good $S$ and $W$ are as surrogates for the size of the selectorate and the size of the winning coalition, respectively, by constructing three dummy variables called large, small, and mixed. Large is coded as 1 if the index for $W$ is greater than 2 and legislative selection is equal to 2. Small is coded as 1 if the index for $W$ is less than or equal to 2 and legislative selection is less than 2. Finally, mixed is coded as 1 if the index for $W$ is less than or equal to 2 and legislative selection is equal to 2. To evaluate the reliability of the index for $W$ and legislative selection as surrogate indicators for $W$ and $S$, we correlated large, small, and

TABLE 1
Ordinary Least Squares Results of the Effects of Institutions on Economic Growth ($N$ = 2,160)

| *Variables* | *Coefficient* | *Probability (one-tailed)* |
|---|---|---|
| $W$ | 0.012 | 0.03 |
| $W^2$ | –0.002 | 0.02 |
| $S$ | 0.074 | 0.01 |
| $S^2$ | –0.017 | 0.02 |
| Constant | 0.036 | 0.00 |

NOTE: Dependent variable is growth.

To measure policy performance, we examine domestic economic growth. To measure this, we rely on data reporting annual growth in gross domestic product from 1961 through 1988 for all countries (Summers and Heston 1988; Fischer 1993).

Political survival is measured through two variables. The first is Finalyr. It is coded 1 in the year a leader leaves office and 0 otherwise.[14] Tenure, the second variable, measures for any year the number of years that the leader has been in office.

## TESTING THE PREDICTED INSTITUTIONAL EFFECTS

To test the theory, we first show that $W$ has the anticipated effects on growth. Following the redistributive argument in Barro (1998), we examine the expectation that winning coalition size increases the growth rate up to some limit and then, when the society is wealthy enough, the growth rate, while still high, diminishes somewhat as policy turns more toward the redistribution of wealth; we capture this possible nonlinearity by squaring both $W$ and $S$. Table 1 shows the results of the regression analysis.

It is clear that the results support the first hypothesis and are consistent with results reported by Barro (1997). Figure 1 depicts the effect graphically, showing, as the theory leads us to expect, that political systems with larger winning coalitions produce significantly higher annual growth for their nation. The growth rate difference between systems with the smallest winning coalitions and those with the largest such coalitions is dramatic. On average, the difference is about 2% per year between systems with authoritarian winning coalitions and those with larger coalitions. Compounded over a decade, this is equivalent to a difference of nearly 22% in growth. Over

mixed with Polity III's coding of democraticness (Demo) and autocraticness (Auto), each on an 11-point scale. The Polity III data also identify states as being or not being monarchies. We correlated large, small, and mixed on a dummy variable coded as 1 if the state was described in the Polity III data as a monarchy. If our indicators are good surrogates, then Demo should have its highest positive correlation with large, Auto with mixed, and monarch with small. The results, too lengthy to report here, strongly support our expectations and are available in detail upon request.

14. We censored leaders who were still in office in 1990 and those who died of natural causes. Operationally, this means that their codes for Finalyr are all 0.

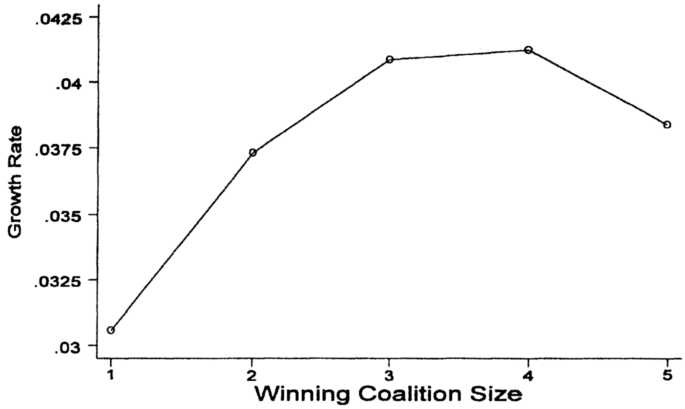


**Figure 1: Winning Coalition Size and Economic Growth**

TABLE 2
Cox Proportional Hazards Results of the Effect of Institutions on Leader Survival: All Cases and When Policy Performance Is Poor

| | *All Cases* | | *When Policy Performance Is Poor* | |
|---|---|---|---|---|
| | *Hazard Ratio* | *Probability (one-tailed)* | *Hazard Ratio* | *Probability (one-tailed)* |
| *W* | 1.09 | 0.00 | 1.08 | .11 |
| *S* | 0.91 | 0.02 | 0.75 | .02 |
| *N* | 9,502 | | 915 | |

50 years, the span of the post–cold war era, it is equivalent to a difference of nearly 270% in growth. To put this in perspective, the results suggest that the institutional differences between East Germany and West Germany could account for the large difference in their respective wealth at the end of the cold war, although they started out in 1945 in fairly comparable circumstances.

Now we can examine our remaining hypotheses, all of which address the effect of institutions and growth on political survival. Column 1 of Table 2 shows the Cox proportional hazards results from estimating the effect of winning coalition size and selectorate size on the length of leaders' tenure. The coefficients are reported as hazard ratios. A hazard ratio above 1.0 reflects an increasing chance of being out of office, and a ratio below that reflects a decreasing chance of being out of office. The absolute difference between the coefficient and 1.0 expresses the change in the odds (increasing or decreasing) of losing office. Column 1 of Table 2 clearly supports the hypotheses that survival is enhanced by a large selectorate and shortened by a large winning coalition. Each increase in the size of the winning coalition increases the odds by just under 10% that a leader will be out of office by the end of the year. Conversely, increases in the size of the selectorate decrease those odds by about 8%.

We turn now to the question of policy performance and survival. We construct a variable called poor, which is coded as 1 if the economic growth rate in the year prior to the year under observation was negative and 0 if the growth rate was positive. Obviously, negative growth is poor performance compared to positive growth. Poor performance should hasten leadership termination faster when the winning coalition is large and should slow termination when the selectorate is large. The effects just outlined are precisely the conditions we predicted regarding supporter loyalty that make autocratic, Leninist-style rule so attractive from a leader's point of view.

Using Cox proportional hazards regression, column 2 of Table 2 reports the hazard ratios for leadership survival when policy performance is poor. Under conditions of poor policy performance, the hazard ratio produced by large winning coalitions remains about what it was in the previous analysis, but note that the estimate is not statistically significant. However, the effect of a large selectorate is, from an incumbent's perspective, markedly improved. The change in the hazard ratio is a decrease from .91 to .75, almost tripling the odds of survival. This paradoxical result in which leaders with a large selectorate fare better under circumstances of poor policy performance than under the baseline case is, we argue, explained by our theory. This analysis makes quite clear why small winning coalitions and large selectorates appeal to autocrats and why they can survive in the face of poor policy performance.[15]

The difference in political survivability given policy failure is the product of the differences in political institutions. If one leads a system with the "right" political institutions, one can gain insurance against removal. Put differently, longevity can be enhanced by the right political institutions even though one fails dismally at policy making. Big winning coalitions pressure leaders to perform especially well on public policy issues. These leaders have the greatest incentive to provide prosperity for their citizens. Small winning coalitions coupled with large selectorates reward leaders who provide their core constituents with private goods, not public policies. These leaders are rewarded for fostering corruption and economic uncertainty not because that is what they want, but because their support stems from the transfer of resources to key supporters at the expense of economic efficiency or social justice. These leaders have

15. A cautionary note must be made about this analysis. The poor policy performance that is observed is in $t-1$, so that a leader must have been in office in $t-1$ for that to have been seen and attributed to him or her. However, many leaders are not in office that long. The effect of our design, consequently, is that the estimates are for leaders who have been in office 2 years or more. We can estimate how much of a difference this procedure makes by coding poor policy performance for $t$ or $t-1$. Under this procedure, the hazard ratio for the effect of $W$ remains unchanged (but is significant at less than .01), but the effect of $S$ rises to .82 (and is similarly significant). Overall, including all the short-tenure leaders in the data still shows a doubled effect on survival for increasing $S$. We also note that the results shown in Tables 1 and 2 obtain as well under Weibull regression.

little incentive to worry about the general welfare of their society when doing so takes resources away from their critical need to provide private benefits to the essential few.

## CONCLUSIONS

We began with three puzzles. Why design a political system that has a small winning coalition and a large selectorate? How do political institutions influence longevity in office? Why do some political systems seem more prone to policy failure than others? We have provided initial answers to each of these puzzles consistent with our theoretical expectations.

We formally identify the type of political system more prone to policy failure than others because in such systems, policy failure does not represent a major threat to the political survival of the leadership. In others it does. Systems that are typical of autocracies, with small winning coalitions and a large selectorate, are especially well designed from a leader's point of view. These systems induce a norm of loyalty by members of the winning coalition toward their leaders, even when essential backers find themselves confronted with policy failure. That endogenous norm of loyalty allows such leaders to be relatively inattentive to their policy performance and to have a high probability of survival following policy failure. At the same time, these systems provide ample private benefits to essential backers. These private rewards make such systems attractive from the perspective of members of the winning coalition. Even members of the masses can find such systems relatively attractive if their alternative is to live in a system in which they are disenfranchised. At least autocratic governments with large selectorates hold out a nonzero chance that any citizen will some day gain access to private benefits. Few citizens in such systems can hope to rise to the level of prominence of Stalin or Khrushchev, but a small chance is better than none at all.

Political systems with large winning coalitions and, therefore, with large selectorates, as is typical in democracies, do not encourage political loyalty. Quite the contrary. They encourage a norm of punishment toward leaders whose policies fail. Essential backers of the government are relatively quick to defect in the face of policy failure. They have a high probability of making it into the successor winning coalition and, in any event, derive a relatively large portion of their utility from the government's policy performance rather than its allocation of private goods. This means that leaders in such systems have great personal incentives to be attentive to their policy performance. Poor policy performance heightens their risk of being ousted, creating an incentive to work hard to avoid policy failure. Such a system is certainly not optimal from a leader's point of view, but it is from the perspective of the citizenry. They may get little utility from private rewards, but they are likely to be well rewarded as a consequence of the system's imperative to seek out good policies. And when the policies fail, they can expect that the rascals will be thrown out.

Monarchy is a tenuous compromise between a large-$S$/small-$W$ autocracy and large-$S$/large-$W$ democracy. In a monarchy, the norm of loyalty by essential backers toward their leaders is stronger than in a democracy but weaker than in an autocracy. For average citizens, monarchy is least attractive. Most citizens are disenfranchised, with little hope of gaining access to private goods. Most citizens are best off with democracy but are better off with an autocracy based on a large selectorate than they are with a monarchy or a military junta. Leaders are best off with a Leninist-style autocracy and worst off with democracy. So which type of political system is chosen probably depends on who gets to make the choice: leaders, regime supporters, or the citizenry.

## REFERENCES

Barro, Robert J. 1997. *Determinants of economic growth: A cross-country empirical study.* Cambridge, UK: Cambridge University Press.

———. 1998. Democracy and the rule of law. In *Governing for prosperity,* edited by Bruce Bueno de Mesquita and Hilton L. Root. New Haven, CT: Yale University Press.

Bienen, Henry, and Nicholas van de Walle. 1991. *Of time and power.* Stanford, CA: Stanford University Press.

Cook, Chris. 1992. *Facts on File world political almanac.* 2d ed. New York: Facts on File.

Crystal, David. 1990. *The Cambridge encyclopedia.* Cambridge, UK: Cambridge University Press.

Deutsch, Karl W. 1961. Social mobilization and political development. *American Political Science Review* 55:493.

Fischer, Stanley. 1993. The role of macroeconomic factors in growth. *Journal of Monetary Economics* 32:485-512.

Gurr, Ted Robert. 1990. *Polity II: Political structures and regime change, 1880-1986.* Ann Arbor: Inter-University Consortium for Political and Social Research, University of Michigan.

Langer, William L. 1972. *Encyclopedia of world history.* Boston: Houghton-Mifflin.

North, Douglas, William Summerhill, and Barry Weingast. 1998. Order, disorder and economic change. In *Governing for prosperity,* edited by Bruce Bueno de Mesquita and Hilton L. Root. New Haven, CT: Yale University Press.

Root, Hilton L., and Nahalel Nellis. 1998. The compulsion of patronage: Political sources of information asymmetry and risk in developing country economies. In *Governing for prosperity,* edited by Bruce Bueno de Mesquita and Hilton L. Root. New Haven, CT: Yale University Press.

Shirk, Susan L. 1993. *The political logic of economic reform in China.* Berkeley: University of California Press.

Spuler, Bertold C., G. Allen, and Neil Saunders. 1977. *Rulers and governments of the world.* Vol. 3. London: Bowker.

Summers, Robert, and Alan Heston. 1988. A new set of comparisons of real product and prices. *Review of Income and Wealth* 34:1-26.