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Foreign Aid and Policy Concessions

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We model foreign-aid-for-policy deals, assuming that leaders want to maximize their time in office. Their actions are shaped by two political institutions, their selectorate and winning coalition. Leaders who depend on a large coalition, a relatively small selectorate, and who extract valuable policy concessions from prospective recipients are likely to give aid. Prospective recipients are likely to get aid if they have few resources, depend on a small coalition and a large selectorate, and the policy concession sought by the donor is not too politically costly. The amount of aid received, if any, increases as the recipient leader's coalition increases, the selectorate decreases, the issue's salience increases, and the domestic resources increase. The theory explains why many Third World people hate the United States and want to live there. Empirical tests using the U.S. Agency for International Development data for the post–World War II years support the model's predictions.

Keywords: foreign aid; political economy; policy concessions; USAID

Introduction

The provision of foreign aid poses four puzzles: (1) who gives aid? (2) how do donors determine how much aid to give? (3) who gets aid? and (4) how much aid does each recipient get? To answer these questions, we derive a theory that links aid allocations with the survival of political leaders. We posit two political institutions: the "selectorate" and the "winning coalition." The latter, loosely speaking, is the set of people whose support is essential to keep a leader in office. The former—the selectorate—is the pool of potential supporters from which these essential backers are drawn to form a winning coalition. These two political institutions shape the desirability of trading foreign aid for policy concessions. We show that making policy concessions in exchange for aid is incentive compatible for leaders who depend

251

on a small coalition. However, within relatively small coalition polities (e.g., autocracies, juntas, monarchies), the larger the coalition, the greater the aid that must be granted in exchange for policy concessions. Additionally, we show that purchasing such concessions with aid is incentive compatible for leaders whose survival in office depends on a large coalition. When politicians depend on a large group, citizens gain from paying for foreign aid. When recipient politicians depend on a small coalition, their citizens may be harmed by aid. They get policies they do not like, and their leaders remain in office through corruption and rent seeking rather than by producing effective public policy. We test implications of the theory in the process offering evidence for the theoretical claims regarding who gives and who gets aid, and how much money donors give and recipients receive.

The article proceeds as follows. In the second section, we review the relevant literature, making clear the contending arguments and evidence marshaled by others. In the third section, we examine the selectorate model of politics introduced by Bueno de Mesquita et al. (2003). We discuss the underlying logic as to how political institutions shape the policy choices of leaders and the ease with which they survive. The fourth section develops a model of foreign aid within the context of the selectorate theory. The leader of nation A can offer the leader of nation B aid in exchange for policy concessions. We characterize a Markov perfect equilibrium (MPE), in which aid transfers depend on the institutional arrangements in both the donor and recipient countries. We then examine the comparative static implications of the equilibria with respect to the likelihood and size of aid transfers and the effect of aid transfers on the survival of leaders. In this way, we suggest answers to who gives aid? how much do they give? who gets aid? and how much do they get? The fifth section describes the data and variables we use, while the sixth section presents the empirical tests. The seventh section offers conclusions and draws out policy implications, in the process providing an explanation for the seemingly puzzling regularity with which many poor people in the world simultaneously hate the American government and wish they lived in the United States.

Literature

The literature on foreign aid divides fairly clearly along two dimensions: aid as an instrument of national policy and aid as an instrument of humanitarian concerns. Morgenthau (1962) was among the first to argue vigorously that aid is unlikely to alter political and social conditions in recipient countries. He contended that such changes are undesirable from the perspective of leaders in recipient countries. Morgenthau concluded that in light of the status quo orientation of recipient leaders, the United States needs to be clearer about its own political objectives in giving foreign aid. McKinlay and Little (1977, 1978) tested the apparent motivations behind American (1977) and British (1978) aid giving. They found that donor

interests dominate recipient needs. Cingranelli and Pasquarello (1985) advanced the analysis of aid dispersion by distinguishing between whether aid is received at all and, if so, how much is received. They report that the human rights record of potential recipients has little influence over the likelihood of getting aid but, subject to receiving aid, good human rights performance is rewarded. This appears to be a more nuanced account than McKinlay and Little's (1977, 1978) finding that donor giving is driven by national security concerns. However, an extensive literature has emerged that is critical of Cingranelli and Pasquarello's (1985) analysis. That literature takes issue with their sampling procedures and other significant aspects of their model specification (e.g., McCormick and Mitchell 1988). Others argue that aid given by states other than the United States is substantially motivated by humanitarian concerns (Lumsdaine 1993). Maizels and Nissanke (1984) distinguish the degree of humanitarian motivation as a function of whether aid is bilateral or multilateral. While some aid might be distributed to alleviate poverty and suffering, the poorest states do not receive the most aid (McKinlay and Little 1977, 1978); neither does it seem that aid is effective at ending poverty or promoting development (Easterly 2002; Boone 1996). Burnside and Dollar (2000), however, report that while aid allocations are not strongly influenced by the quality of development policies, good development policies in conjunction with aid lead to better economic performance. Alesina and Dollar (2000) press the issue of aid benefits further. They contrast the flow of aid with that of foreign direct investment. They find a sharp distinction between the use of foreign direct investment and foreign aid. Countries with good economic policies tend to attract significant foreign investment. Foreign aid in contrast is allocated largely without regard to economic policy and very much in regard to the political and strategic considerations of the donor.

Recently, the literature has examined more closely the presumed distinction between American strategic aid giving and humanitarian aid given by other states. Although some contend that Scandinavian countries give aid for humanitarian purposes (Lumsdaine 1993; Noel and Therien 1995), the first systematic empirical study of this question finds otherwise (Schraeder, Hook, and Taylor 1998). Schraeder, Hook, and Taylor (1998) report that Swedish aid is strongly motivated by prosocialist ideology and trade benefits aimed at countries where the Swedish impact can be large rather than in response to humanitarian need. Hook and Zhang (1998) similarly report that even after the Japanese government announced that it would give aid for democratization, human rights, and restraint in military spending (p. 1051), its aid giving is still dominated by self-interest rather than altruism.

The literature to date has done a careful job of assessing the empirical evidence. However, the evidence has not been tied to an explicit, general theory that also can explain aid giving and getting. We attempt to build on the important insights from the empirical literature by constructing a formal model that helps sort out the fundamentals of aid while also leading to novel, testable hypotheses.

The model we offer proposes that aid giving and getting is a strategic process in which donors purchase policy support from recipients who use at least some of the assistance to ensure that they are securely ensconced in power. In this view, aid is not expected to flow to countries whose leaders naturally favor policies that are important to the donor. Nor is aid expected to flow to countries whose leaders cannot afford politically to adopt the policies sought by a prospective donor. Rather, aid is expected to flow to countries whose leaders do not inherently support the policies of a prospective donor but are willing to back those policies in exchange for aid sufficient to improve their political and economic welfare relative to survival prospects for the recipient states' leaders in the absence of aid.

A Selectorate Model of Political Survival

We consider aid transfers between a potential donor, state A, and a potential recipient, state B. Decisions are not made by nations but rather by leaders, in this case AL and BL. Political competition within each state is modeled using the selectorate theory (Bueno de Mesquita et al. 2003, 2002, 1999), which focuses on how political institutions shape government allocations between private, g, and public goods, x. We assume there are policy differences between the two nations. In particular, the citizens of nation A would benefit from a policy concession from nation B. AL, the leader in nation A, can use aid transfers to buy such a policy concession from nation B. For example, during the cold war, such a policy request from the American president to the leader of Zaire might have been to adopt an anticommunist stance. Alternatively, an American president or French premier might have sought permission for U.S. or French corporations, respectively, to exploit mineral rights or run a pipeline across country B. Rai (1980) shows U.S. aid is used as an inducement to obtain favorable United Nations votes. We refer to such policy concessions as pro-A policies.

If BL accepts the aid-for-policy deal, then the aid is transferred. Aid transfers are fungible for the recipient and can be thought of as adding to BL's resource base (Feyzioglu, Swaroop, and Zhu 1998) but at the cost of a policy concession. Leader BL decides whether to implement the agreed policy concessions, and leaders AL and BL are subject to domestic political competition. The fundamental feature of our model is that leaders make aid and policy decisions with an eye to how they influence political survival. Decisions are not taken to improve the welfare of the people unless coincidentally, this simultaneously aids survival. As we shall see, under inclusive political institutions (i.e., a large winning coalition system, denoted as W) enhancing leader survival is typically synonymous with promoting public welfare. In contrast, in more exclusionary systems (small W), there is a disconnect between the policies that promote the public's welfare and those that enhance a leader's survival.

Central to our model is the credibility of BL's willingness to implement pro-A policies. In particular, having received aid on the promise of implementing a pro-A policy, leader BL prefers not to implement the policy and would prefer simply to pocket the aid money. We model the credibility of BL's promise to implement the pro-A policy using McGillivray and Smith's (2000, 2004, 2006) concept of a leader-specific punishment within the context of an infinitely repeated game.

If leader BL agrees to deliver a pro-A policy in return for aid but reneges after receiving the funds, then BL is said to lose her integrity. Once leader BL loses her integrity, she is deemed untrustworthy by the current and future leaders in nation A, who refuse to offer her any future aid. However, the loss of integrity and the removal of future aid are attached to the dishonest leader and not to the nation she represents. If the dishonest leader is deposed, then nation B is again eligible for aid since its new leader arrives with her integrity intact.

Selectorate Politics

Before turning to the question of foreign aid, we articulate a simplified version of the selectorate approach to provide an account of the domestic political survival of leaders. The selectorate, S, is the set of people with a potential say in who is to be leader. The essential feature of the selectorate is that it is the pool of individuals from which a leader draws supporters to form a winning coalition, W. An incumbent leader must maintain the support of her winning coalition or else she is deposed.

The size of both the winning coalition and the selectorate can vary enormously across political systems. In democratic states, the selectorate is typically all adult citizens, and the winning coalition is a relatively large proportion of this selectorate. The exact proportion of the selectorate that a leader requires to retain power depends on the electoral rules. For example, in a two-party directly elected presidential system, 50 percent of the selectorate constitutes a winning coalition. In contrast, a leader in a single-member district, parliamentary system only needs 25 percent support to control the government. In monarchies or military juntas, selectorates and winning coalitions are much smaller than in democracies, typically being composed of aristocrats or military elites and key bureaucrats. Autocratic states generally have relatively small winning coalitions, although selectorate size can vary greatly. Rigged electoral systems, for instance, have a small coalition but often have a large selectorate. Although standard regime type classifications are associated with particular configurations of selectorate and coalition size, W and S are inherently continuous measures. Thus, they not only allow us to distinguish between broad and somewhat arbitrary regime classifications, they also allow, in principle, distinctions between the institutions within each classification; as illustrated by our comparison of presidential and parliamentary democracies.

Political leaders have two mechanisms to reward supporters: public goods (x) and private goods (g). Policies, such as national defense and public health, with a high public goods component, provide rewards to all residents of the nation. In contrast, private goods are allocated only to members of the winning coalition.

Of course, in reality, no policies provide purely private or public goods. However, as we will show, the relative mix of public and private goods provided by government is strongly driven by coalition size. National defense provides an interesting policy arena to consider this relative focus. While defense satisfies the classic public goods definition of a nonexcludable and nonrival good, its provision provides private goods to members of the military and to defense contractors. Political leaders might use defense spending to provide lavish officers quarters and bloated procurement contracts. Alternatively, funds might be spent on the optimal combination of equipment and training, with all contracts given out through competitive bidding. While these alternatives each provide some private and some public goods, the former has a much greater private emphasis than does the latter.

We assume all residents of a country have a basic utility function $V(x, g)$ over public and private goods. This utility function is increasing and concave in both arguments. Although the characterization of the aid equilibrium below holds for concave functions, to ease the signing of several of the comparative static results, we utilize the specific utility function $V(x, g) = \sqrt{x} + \sqrt{g}$.

We assume leaders are primarily driven by office holding. For each period in office, a leader receives a payoff of Ψ. Furthermore, leaders gain from any national resources that they can retain for themselves. The state produces R resources in each period. If the incumbent leader survives in office having decided to spend M resources on x public and g private goods, then her payoff for that period is $\Psi + R - M$. If she is deposed, then she receives a payoff of zero. Following deposition, the challenger is relabeled as the incumbent, and a new challenger is selected (from an infinite pool of potential challengers).

In addition to these direct payoffs, we assume that each leader and challenger has an idiosyncratic affinity ordering over all selectors. Ex ante, all possible affinity orderings are equally likely. Leaders are not driven primarily by these affinity concerns. However, all else being equal, as a secondary consideration, leaders prefer a coalition of selectors with whom they have high affinity compared to a coalition of low affinity selectors.

Initially, a challenger's affinities are unknown; however, should the challenger attain office, then the challenger's affinities are revealed and become common knowledge. Although by necessity, a challenger needs to attract the support of members of the incumbent's coalition to come to power, once established in office, a leader can rearrange the new winning coalition around selectors with the highest affinity. This creates a risk for members of the incumbent's coalition who contemplate defection to the challenger. Although in the current period, the challenger might offer them greater benefits than the incumbent, on attaining power, if the challenger has

greater affinity for other selectors, then some supporters risk being replaced. While a selector's support might have been vital in bringing the challenger to power, that supporter is not guaranteed a place in the challenger's long-term coalition and therefore, the private benefits that come with such membership are at risk.

The selectorate politics game is infinitely repeated. All players have a common discount factor δ. The stage game is as follows:

1. The incumbent forms a coalition with the W highest affinity selectors. The challenger forms a coalition of size W, which includes at least one member of the incumbent's coalition.
2. The incumbent, L, and the challenger, C, each propose public and private goods allocations (x_L, g_L and x_c, g_c, respectively) subject to the budget constraint $px + Wg \leq R$.
3. The selectors choose between the incumbent and the challenger. If the incumbent retains the support of her W supporters, then she retains power; otherwise she is removed.
4. The affinity order of the leader (either the existing incumbent or the challenger if the incumbent were deposed) is revealed.

The challenger's objective is to attain office. Given the budget constraint $px + Wg \leq R$, in the current period, the challenger can do no better than offer to maximize the rewards she offers her supporters: $\max_{g \in R^+, x \in R^+} V(x, g)$, subject to $px + Wg \leq R$. The variable p is the price of public goods. Coalition size, W, serves the role of an effective price for private goods, since it indicates the number of individuals who receive private benefits. Let x^* and g^* be the levels of public and private goods that satisfy this maximization. For interior solutions (on which we focus), this implies the first order condition $\frac{V_x(x^*, g^*)}{p} - \frac{V_g(x^*, g^*)}{W} = 0$, which yields Bueno de Mesquita et al.'s (2003, 2002) primary result concerning coalition size and the public/private focus of policy. As the size of the winning coalition (W) increases, then leaders produce more public goods. A quick insight into this result can be obtained by remembering that coalition size is effectively the price of private goods. As this price increases, leaders substitute public goods to replace the now relatively more expensive private goods.

Next, we define the indirect utility function $v(m, W)$ as the utility level that leaders provide to their coalition given that they spend m resources on a coalition of size $W : v(m, W) = \max_{g \in R^+, x \in R^+} V(x, g)$, subject to $px + Wg \leq m$. Given the associated optimal public and private goods allocations, it is also useful to define $u(m, W)$ as the utility level from receiving only the public goods portion of this optimal allocation: $u(m, W) = V(x^*, 0)$. This payoff, $u(m, W)$, is the value of the benefits received by those outside the winning coalition.

Bueno de Mesquita et al. (2003) characterize a Markov perfect equilibrium in which the incumbent leader survives and spends m^* resources optimally rewarding her coalition in each period. To characterize m^*, we start by considering the best possible offer that a challenger can make in attempting to attain power. In the

current period, the challenger can offer no more than to spend all available resources optimally on her coalition. This produces the immediate rewards of $v(R, W)$. Should the challenger succeed in bidding for power, then in the next period, the challenger becomes the new incumbent and spends m^* resources on the W selectors with the highest affinity. Since comparatively little is known about the challenger's affinities, supporters in the current winning coalition have only a $\frac{W}{S}$ chance of being included in the challenger's long-term coalition. That is to say, each selector has a $\frac{W}{S}$ chance of being one of the W highest affinity types in the selectorate S. Since the challenger will spend m^* resources in each future period, then the net present value of defecting to the challenger is $v(R, W) + \frac{\delta}{1-\delta} \left[\frac{W}{S} v(m^*, W) + (1 - \frac{W}{S}) u(m^*, W) \right]$.

In contrast to the challenger, the incumbent does not face a commitment problem with respect to future inclusion in the winning coalition. Since the incumbent's affinities are known and the incumbent is already selecting her highest affinity selectors, members of her coalition know they will continue to receive private goods. This creates an incumbency advantage. While the incumbent can promise access to private goods with certainty, the challenger can only offer private goods probabilistically (with probability $\frac{W}{S}$ to be specific). The size of the incumbency advantage depends on the value of private goods and the risk of exclusion from future private goods. When W is small, allocations emphasize private goods, making them particularly valuable. Additionally, when W is small and S is large, the prospects of obtaining these valuable rewards under the challenger become remote, and so supporters of the incumbent become loyal.

We started our analysis of selectorate politics by supposing the incumbent spends m^* resources in each period and survives. We now calculate the size of this resource expenditure. For members of the incumbent's coalition, retaining the incumbent is worth $v(m^*, W) \frac{1}{1-\delta}$. Provided that this level of rewards is at least as great as the challenger's best offer, then the incumbent survives. In particular, since the incumbent wants to minimize expenditures, she spends just enough to equal the challenger's best offer. This yields the following incumbency condition:

$$v(m^*, W) \frac{1}{1-\delta} = v(R, W) + \frac{\delta}{1-\delta} \left[\frac{W}{S} v(m^*, W) + \left(1 - \frac{W}{S}\right) u(m^*, W) \right] \qquad (1)$$

This incumbency condition provides the basis for the analysis that follows, so we pause to examine it in more detail. Equation 1 ensures that the incumbent just matches what the challenger can offer. If the incumbent spends less, then the challenger could offer L's supporters greater expected value and they would defect. If the incumbent spends more than m^*, then she wastes resources that she could have retained for her own discretionary uses.

Unlike incumbents, challengers cannot commit to retain all members of their transition coalitions once the challengers learn affinities. Consequently, the change in leader creates a risk for members of the new coalition that they will be excluded

in the future. The fear of exclusion and the consequential loss of private goods if one is dropped from the coalition enable incumbents to spend less than challengers and still survive. The amount of discretionary resources that the incumbent can retain, $R - m^*$, provides a useful metric for the ease of political survival. When coalition size is large and hence private goods are relatively unimportant, then the incumbency advantage, $R - m^*$, is small. There is little slack in the system, so even a relatively modest exogenous shock could leave the incumbent in a position of no longer being able to match the challenger's best offer.

In contrast, when W is small, private goods are more important relative to public goods. This engenders a loyalty norm, particularly when S is large, since the prospects of obtaining private goods through long-term membership of the challenger's coalition become more remote. Under this circumstance, the incumbent spends less resources and retains more discretionary resources for herself; that is, $R - m^*$ is large. This large difference between what the incumbent must pay out (m^*) and available resources (R) means the incumbent can survive even relatively large shocks, since there is sufficient slack in the system to allow for additional compensation (Bueno de Mesquita et al. 2003).

Foreign Aid in Selectorate Politics

Nations A and B have leaders, AL and BL, and challengers, AC and BC. In addition to the private (g) and public (x) goods of the selectorate model, we model a single addition policy choice, z, in nation B. This policy can take two values, $z \in \{0, 1\}$, where we might think of $z = 1$ as a pro-A policy and $z = 0$ as the default policy that everyone in nation B prefers. Specifically, we assume that in addition to rewards from public and private goods, all selectors in nation B receive a payoff of $\sigma_B > 0$ from their preferred policy of $z = 0$. If, however, their leader adopts a pro-A policy, they do not receive this additional benefit. If nation B adopts a pro-A position, $z = 1$, then all selectors in nation A receive σ_A.

We assume leader BL receives a payoff of Σ_B for implementing her nation's preferred policy ($z = 0$), and leader AL receives a payoff of Σ_A should BL implement a pro-A policy. We might think of Σ_i as simply σ_i; alternatively, we might suppose leaders get additional psychic value from being responsible for implementing their nations' preferred policies. None of our analyses rest on this distinction between selectors and leaders' payoffs for policy. For the comparative statics, we assume $\frac{d\Sigma_i}{d\sigma_i} = \xi > 0$.

In the basic selectorate model, the Markovian state variable describes the affinity ordering of the leader. In the aid game, we extend the state space to encompass the affinity ordering of both nations' leaders and an additional state variable that describes the integrity of leader BL: $X = A_A \times A_B \times I$, where $\alpha_{AL} \in A_A$ is an affinity ordering over all members of the selectorate in nation A for leader AL,

$\alpha_{BL} \in A_B$ is the affinity ordering of BL, and I represents the integrity of BL. Until a leader comes to power, all affinity orderings are equally likely. Hence, if α_{Ac} is the challenger in nation A, then $\Pr(\alpha_{Ac} = a) = \Pr(\alpha_{Ac} = a')$ for all a, a' in A_A. The situation in nation B is analogous.

The third component of the state variable refers to the integrity of leader BL: $I = \{H, D\}$. Initially, all leaders are assumed to be honest or have integrity, $I = H$. However, if leader BL accepts aid in an aid-for-policy deal but then fails to implement the pro-A policy, leader BL loses her integrity, $I = D$. Once her integrity is gone, BL remains dishonest for the rest of the game, $I = D$. To preserve the focus on leaders, we assume that the aid for policy deal is strictly between BL and AL. The deal is not inherited either by a replacement leader in A or in B. Should leader AL be removed, then any agreement dies with AL, and BL is free to implement any chosen policy without jeopardizing her integrity. Alternatively, we might have supposed that BL is obligated to nation A rather than to AL per se.

The game is infinitely repeated with a common discount factor δ. The stage game is given below:

1. AL offers aid: AL offers BL an aid-for-policy deal. Such a deal is a transfer of ρ resources in exchange for a pro-A policy, $\rho \geq 0$.
2. BL accepts or rejects the aid offer: If BL accepts ρ, then the aid transfer is made, $r = \rho$. Otherwise, no aid transfer is made and $r = 0$.
3. Domestic competition in nation A: AL forms a coalition with the W_A highest affinity members of the selectorate S_A. The challenger forms a coalition of size W_A, which includes at least one member of AL's coalition. Leader AL and challenger AC propose policy and spending levels, (x_{AL}, g_{AL}) and (x_{Ac}, g_{Ac}), respectively, subject to the budget constraint $px_i + g_i W_A \leq R_A - r$ for $i = AL$, AC. Selectors in A pick a leader (either incumbent AL or the challenger AC). The incumbent is deposed if any member of her coalition supports the challenger; otherwise, she survives.
4. Domestic competition in nation B: BL forms a coalition with the W_B members of the selectorate with whom she has the highest affinity. BL offers g_{BL}, x_{BL}, z_{BL} subject to the budget constraint $W g_{BL} + p x_{BL} \leq R_B + r$. BC forms a coalition of size W_B, which includes at least one member of BL's coalition. BC offers g_{Bc}, x_{Bc}, z_{Bc}, subject to budget constraint $W g_{Bc} + p x_{Bc} \leq R_B + r$. The selectors in B choose. The incumbent, BL, is deposed if any member of her coalition supports the challenger; otherwise, she survives.
5. Update state variables: The affinities of each leader are revealed. Should a challenger come to power, the successful challenger is relabeled AL or BL, as appropriate, and a new challenger is chosen from an infinite pool. Furthermore, the integrity of leader BL is updated according to the following rule. If the incumbent, BL, is replaced, then integrity is restored to honesty: $I = H$. If incumbent leader BL is dishonest and she survives, then she remains dishonest, $I = D$. If leader BL is initially honest, $I = H$, then BL remains honest unless BL accepts aid from leader AL, leader AL survives, and BL fails to implement the pro-A policy. Under this latter contingency, leader BL becomes dishonest, $I = D$.

A Foreign Aid Equilibrium

We characterize a Markov perfect equilibrium utilizing leader-specific punishments, in which leader AL transfers r^* resources to BL, and both leaders survive in office. We characterize the conditions under which such aid transfers are possible.

Although the formal statement of the equilibrium is complex, the underlying ideas are straightforward. Provided that BL is honest ($I = H$), AL offers $\rho = r^*$ aid, which is accepted. Following the aid transfer, BL implements the pro-A policy $z = 1$, and AL and BL spend m_{Ar^*} and m_{Br^*}, respectively. The spending levels m_{Ar^*} and m_{Br^*} represent the minimum amounts that AL and BL must spend to satisfy the incumbency constraint, analogous to that in equation 1, following an aid transfer of r^*, given that leader BL has honest integrity.

If leader BL is dishonest ($I = D$), then AL never offers aid, $\rho = 0$. If ever offered any aid, then a dishonest BL accepts the aid but never implements the pro-A policy. The threat of aid withdrawal is leader specific. If leader BL is deposed, then the challenger that replaces her is regarded as honest ($I = H$). The challenger becomes more attractive to the selectors if he reestablishes integrity. Following the replacement of a dishonest leader with an honest challenger, aid transfers resume, swelling the pool of resources from which supporters are rewarded. The desire to maintain future aid is what ensures that the incumbent BL implements the pro-A policy, having accepted an aid-for-policy deal.

Aid transfers take place only when they are in the political interests of both leaders. As in the basic exposition of the selectorate model above, we characterize leaders' survival interests as the differences between their available resources and the amount of resources they must spend to meet the incumbency constraint. The size of aid and the conditions under which aid transfers take place require a characterization of the spending requirements by leaders AL and BL to meet the incumbency constraint under different contingent circumstances. It is useful to introduce the notation we use in characterizing the equilibrium stated below.

We let m_{Ar} represent the minimal spending by leader AL required to satisfy the appropriate incumbency constraint following an aid transfer of size r, given that leader BL has an honest reputation. m_{Ar^*} represents this minimal spending constraint, given the equilibrium aid transfer, r^*. If nation A makes no aid transfer, then AL must spend m_{A0} to survive in office. Should leader B have a dishonest reputation and no aid transfer is made, then m_{AD0} represents AL's minimum spending required to survive. If AL gives r aid to a dishonest nation B, then she must spend m_{ADr} to survive. We use parallel notation for leader B, with the subscript D denoting when leader B has a dishonest reputation and subscript r for the size of any aid transfers. Each of these spending levels is characterized by the appropriate incumbency constraints, which are derived below: equations 2, 9, 4, 3, and 10 in the case of leader AL.

In the equilibrium, four conditions govern the range of parameters for which aid-for-policy deals occur. The resources that AL offers in any aid-for-policy deal must satisfy the criteria that BL wants to (1) accept the deal offered (Condition $K(r^*) \geq 0$), and (2) having accepted the deal, BL must prefer to implement the deal rather than renege (Condition $J(r^*) \geq 0$). As we derive below, condition K ensures that leader BL prefers to accept the current deal rather than decline aid and play the selectorate game without a larger resource pool. By the term *prefer*, we mean that the slack between BL's available resources and required spending following aid transfer, $R + r^* - m_{Br^*}$, is greater than the corresponding slack without an aid transfer, $R - m_{B0}$. Condition J, which is again formally derived below, ensures that once BL accepts the aid deal, she prefers to implement the pro-A policy rather than renege, lose her integrity, and thereby play all future interactions of the game without access to foreign aid.

Leader AL offers the smallest aid package that satisfies these criteria of acceptability and implementability. Conditions J and K characterize the smallest aid deal that BL will accept and credibly implement. In equilibrium, one of the conditions K or J is a binding constraint and so is satisfied with equality. These conditions characterize the minimum aid donation required to obtain the desired pro-A policy concession from BL. The conditions $O(r^*) \geq 0$ and $L(r^*) \geq 0$, derived below, ensure leader AL wants to make the required resource transfer in the form of aid. If condition O is not satisfied, then in the long run the aid-for-policy tradeoff is not beneficial for leader AL. Condition L ensures that in the immediate period, AL prefers to make the aid-for-policy deal rather than postpone the deal until the next period. These four constraints directly address the four puzzles with which we began.

Selectorate institutions (W_B and S_B) and other parameters (R_B and σ_B) in the model shape the size of the aid payment required for BL to accept and implement the pro-A policy: conditions K and J. Institutions (W_A and S_A) also shape whether AL is willing to pay these costs to obtain pro-A policy concessions: conditions O and L. Therefore, by characterizing the equilibrium and examining its comparative statics, we obtain predictions as to how much aid is given (if it is given: conditions K and J) and whether aid is given at all (conditions O and L).

Proposition 1: There exists a Markov perfect equilibrium with r^* aid utilizing leader-specific strategies if $O(r^*) = m_{AD0} - r^* - m_{Ar^*} + \Sigma_A \geq 0$, $L(r^*) = m_{A0} - r^* - m_{Ar^*} + \Sigma_A \geq 0$, $K(r^*) = r^* - m_{Br^*} + m_{B0} - \Sigma_B \geq 0$, $J(r^*) = \delta r^* - m_{Br^*} + (1 - \delta)m_{BDr^*} - \Sigma_B + \delta m_{BD0} \geq 0$, and one of the constraints $K(r^*) = 0$ or $J(r^*) = 0$ holds with equality, where

$$v(m_{Ar^*}, W_A) + \sigma_A + \frac{\delta}{1-\delta} v(m_{Ar^*}, W_A) + \frac{\delta}{1-\delta} \sigma_A - v(R_A - r^*, W_A) - \delta Z_{AC} = 0 \quad (2)$$

$$v(m_{AD0}, W_A) + \frac{\delta}{1-\delta} v(m_{AD0}, W_A) - v(R_A, W_A) - \delta Z_{ACD} = 0 \quad (3)$$

$$v(m_{A0}, W_A) + \frac{\delta}{1-\delta} v(m_{Ar^*}, W_A) + \frac{\delta}{1-\delta} \sigma_A - v(R_A, W_A) - \delta Z_{AC} = 0 \qquad (4)$$

$$v(m_{Br^*}, W_B) + \frac{\delta}{1-\delta} v(m_{Br^*}, W_B) - v(R_B + r^*, W_B) - \sigma_B - \delta Z_{BC} = 0 \qquad (5)$$

$$v(m_{B0}, W_B) + \frac{\delta}{1-\delta} v(m_{Br^*}, W_B) - v(R_B, W_B) - \delta Z_{BC} = 0 \qquad (6)$$

$$v(m_{BDr}, W_B) + \frac{\delta}{1-\delta} \sigma_B + \frac{\delta}{1-\delta} v(m_{BD0}, W_B) - v(R_B + r, W_B) - \delta Z_{BC} = 0 \qquad (7)$$

$$v(m_{BD0}, W_B) + \frac{\delta}{1-\delta} \sigma_B + \frac{\delta}{1-\delta} v(m_{BD0}, W_B) - v(R_B, W_B) - \delta Z_{BC} = 0 \qquad (8)$$

$$Z_{AC} = \frac{1}{1-\delta} \left(\frac{W_A}{S_A} v(m_{Ar^*}, W_A) + \left(1 - \frac{W_A}{S_A}\right) u(m_{Ar^*}, W_A) + \sigma_A \right),$$

$$Z_{ACD} = \frac{1}{1-\delta} \left(\frac{W_A}{S_A} v(m_{AD0}, W_A) + \left(1 - \frac{W_A}{S_A}\right) u(m_{AD0}, W_A) \right),$$

and

$$Z_{BC} = \frac{1}{1-\delta} \left(\frac{W_B}{S_B} v(m_{Br^*}, W_B) + \left(1 - \frac{W_B}{S_B}\right) u(m_{Br^*}, W_B) \right).$$

Corollary: The equilibrium has the following characteristics.

BL honest ($I = H$): If leader BL is honest ($I = H$), then leader AL offers leader BL aid transfer $\rho = r^*$, which leader BL accepts. If AL offers $\rho = r$, such that either $(J(r) \equiv -(1-\delta)m_{Br} + \delta r^* - \delta m_{Br^*} + (1-\delta)m_{BrD} - \Sigma_B + \delta m_{BD0} \geq 0$ and $K(r) = r - m_{Br} + m_{B0} - \Sigma_B \geq 0)$ or $(J(r) < 0$ and $K(r) - J(r) \geq 0)$, then BL accepts the offer. Otherwise aid is rejected.

If no aid transfer takes place ($r = 0$), then BL implements policy $z = 0$, and leaders AL and BL spend m_{A0} and m_{B0}, respectively. If BL accepts aid r and leader AL is removed, then BL implements policy $z = 0$, and BL spends m_{BHr}. If BL accepts aid r and leader AL is not removed, then if $J(r) \geq 0$, BL implements policy $z = 1$ and AL and BL spend m_{Ar} and m_{Br}, respectively, and if $J(r) < 0$, then BL implements policy $z = 0$ and AL and BL spend m_{ADr} and m_{BDr}, respectively.

BL dishonest ($I = D$): If leader BL is dishonest ($I = D$), then leader AL offers no aid. Should any aid be offered, then leader BL accepts the aid but does not implement the pro-A policy. Given no aid, leaders AL and BL spend m_{AD0} and m_{BD0}, respectively, which solves equations 3 and 8. If r aid is transferred, then leaders AL and BL spend m_{ADr} and m_{BDr}, respectively, which solves equations 10 and 7.

$$v(m_{Ar}, W_A) + \sigma_A + \frac{\delta}{1-\delta} v(m_{Ar^*}, W_A) + \frac{\delta}{1-\delta} \sigma_A - v(R_A - r, W_A) - \delta Z_{AC} = 0 \qquad (9)$$

$$v(m_{ADr}, W_A) + \frac{\delta}{1-\delta} v(m_{AD0}, W_A) - v(R_A - r, W_A) - \delta Z_{ACD} = 0 \qquad (10)$$

$$v(m_{Br}, W_B) + \frac{\delta}{1-\delta}(v(m_{Br*}, W_B)) - \sigma_B - v(R_B + r, W_B) - \delta Z_{BC} = 0 \qquad (11)$$

$$v(m_{BHr}, W_B) + \frac{\delta}{1-\delta}(v(m_{Br*}, W_B)) - v(R_B + r, W_B) - \delta Z_{BC} = 0 \qquad (12)$$

Proof: Before characterizing the above equilibrium, we discuss a few general features of our approach that will reduce unnecessary notation. First, optimality in dynamic programming means that only single-move deviations followed by subsequent play, as specified by the equilibrium path, are the only deviations that need consideration (Chiang 2000). Given this, we do not index states, strategies, or payoffs by time. Second, we do not characterize the policy choices of leaders explicitly. Rather, we characterize their spending via the indirect utility function $v(M, W)$, which assumes the optimal mix of public and private goods for the given coalition size. Third, we consider a selectorate strategy that picks the incumbent over the challenger provided that the expected payoffs from the incumbent are at least as large as the expected payoffs from the challenger: such a strategy is a best response. In the equilibrium we characterize, the incumbent spends just enough to match the best possible offer that the challenger can make. This behavior creates incumbency conditions 2 through 12, analogous to equation 1, which characterize the spending decisions of leaders under all contingent circumstances. By setting spending to match the challenger's best offer, the incumbent survives and controls the slack between the available resources and the level of spending required to survive $(R - m^*)$. Finally, in characterizing spending decisions off the equilibrium path, we assume that the leader can always survive. Since the leader can survive on the equilibrium path, any defection that has the leader removed obviously cannot be a best response.

Dishonest state $(I = D)$: We start by considering the case in which the current incumbent is dishonest, $I = D$. Following aid transfer r, the available budget in nation B is $R_B + r$. Consider the best possible offer the challenger can make to depose the incumbent. Given that in future periods any challenger who succeeds in coming to office will form a winning coalition with the W_B, most preferred supporters from S_B, each selector has a W_B/S_B chance of being included in future winning coalitions. On coming to office, the challenger's integrity is intact $(I = H)$. Therefore, in future periods, he will be offered r^* aid and will accept it, implementing policy $z = 1$ and spending m_{Br*} resources to reward his coalition. The best possible offer that the challenger can make in the current period is to spend all $R_B + r$ resources optimally and implement the selectors' most preferred policy $z = 0$. This largest possible offer has expected value for coalition members of $v(R_B + r, W_B) + \sigma_B + \delta Z_{BC}$, where $Z_{BC} = \frac{1}{1-\delta}(\frac{W_B}{S_B}v(m_{Br*}, W_B) + (1 - \frac{W_B}{S_B})u(m_{Br*}, W_B))$.

If dishonest BL is not deposed then, given that $I = D$, in every future period BL receives no offers of aid and will spend m_{BD0} on the coalition and provide the

selectors with their most preferred policy ($z = 0$). The continuation value for current members of the coalition associated with retaining the incumbent is $v(m_{BDr}, W_B) + \sigma_B + \frac{\delta}{1-\delta}(\sigma_B + v(m_{BD0}, W_B))$. Given the selectors' strategy of retaining the incumbent unless the challenger offers higher expected rewards, the incumbent survives provided that

$$v(m_{BDr}, W_B) + \sigma_B + \frac{\delta}{1-\delta}(\sigma_B + v(m_{BD0}, W_B)) \geq v(R_B + r, W_B) + \sigma_B + \delta Z_{BC}.$$

Since BL maximizes her payoff by satisfying this incumbency constraint with equality, m_{BDr} is characterized by equation 7. If BL implements a pro-A policy, she must spend additional resources to satisfy the incumbency condition. Since this does not affect her integrity, it cannot be a best response. If no aid transfer is made ($r = 0$), then equation 7 solves for the spending level m_{BD0} (equation 8). Despite her tarnished record ($I = D$), leader BL survives provided that $m_{BD0} \leq R_B$ and $m_{BDr} \leq R_B + r$. If these conditions are not met, then BL spends all available resources optimally.

AL strategy given ($I = D$): We now consider leader AL's strategy when BL is dishonest, $I = D$. We focus only on the case in which BL can survive ($m_{BD0} \leq R_B$ and $m_{BDr} \leq R_B + r$) despite being dishonest. The case in which BL cannot survive follows by a similar argument.

Suppose no aid transfer has been made, $r = 0$. Given BL's dishonest status, BL will never implement a pro-A policy, and no aid transfers occur in future periods. What does this imply for AL's survival in office? Should AC come to power, he will choose the W_A selectors with the highest affinity to form his coalition. For a selector in AL's coalition, the probability of inclusion in a future winning coalition is W_A/S_A. Hence, challenger AC's best possible offer is to spend all available resources optimally: $v(R_A, W_A) + \delta Z_{ACD}$, where $Z_{ACD} = \frac{1}{1-\delta}\left(\frac{W_A}{S_A}v(m_{AD0}, W_A) + \left(1 - \frac{W_A}{S_A}\right)u(m_{AD0}, W_A)\right)$. To match this best possible challenge while minimizing spending, AL will choose m_{AD0} given by equation 3.

In the event that leader BL could not survive the current period then country B's new leader will have an honest integrity and AL's incumbency constraint, equation 3, will be modified to $v(m_{AD0}, W_A) + \frac{\delta}{1-\delta}v(m_{Ar^*}, W_A) - v(R_A, W_A) - \delta Z_{ACD} = 0$, where $Z_{ACD} = \frac{1}{1-\delta}(\sigma_A + \frac{W_A}{S_A}v(m_{Ar^*}, W_A) + (1 - \frac{W_A}{S_A})u(m_{Ar^*}, W_A))$.

Now suppose AL offered aid $\rho = r$ to a dishonest BL, who then accepts the offer. The available resources in nation A become $R_A - r$. BL does not implement pro-A policy now or in the future. Hence, to survive, AL spends m_{ADr}, which just matches the best possible offer by the challenger, as given by the incumbency constraint in equation 10.[1]

Taking these considerations into account, we see that offering aid is never optimal when BL is dishonest. If AL offers aid, $\rho = r$, then it is always accepted by BL, but dishonest BL never implements a pro-A policy. Hence, AL's payoff from

offering r aid is $\Psi + R_A - r - m_{ADr} + \frac{\delta}{1-\delta}(\Psi + R_A - m_{AD0})$, where m_{ADr} is given by equation 10. Concavity in $v(m, W)$ ensures that AL's payoff is decreasing in r. Therefore, AL never makes offers to dishonest BLs. As an aside, we now consider a no-aid equilibrium. The logic developed above ensures the existence of an MPE in which no aid transfers take place. In the no-aid MPE leader, AL never offers aid, and leader BL always accepts aid but never implements pro-A policy. Such an equilibrium exists under all conditions, and the spending levels on the equilibrium path $\underline{m_{A0}}$ and $\underline{m_{B0}}$ are given by the following incumbency constraints:

$$v(\underline{m_{A0}}, W_A) + \frac{\delta}{1-\delta}v(\underline{m_{A0}}, W_A) - v(R_A, W_A)$$
$$- \frac{\delta}{1-\delta}\left(\frac{W_A}{S_A}v(\underline{m_{A0}}, W_A) + \left(1 - \frac{W_A}{S_A}\right)u(\underline{m_{A0}}, W_A)\right) = 0$$

and

$$v(\underline{m_{B0}}, W_B) + \frac{\delta}{1-\delta}v(\underline{m_{B0}}, W_B) - v(R_B, W_B)$$
$$- \frac{\delta}{1-\delta}\left(\frac{W_B}{S_B}v(\underline{m_{B0}}, W_B) + \left(1 - \frac{W_B}{S_B}\right)u(\underline{m_{B0}}, W_B)\right) = 0$$

Honest BL ($I = H$): In this case, on the equilibrium path, A offers aid $\rho = r^*$, which BL accepts. If AL survives, then BL implements a pro-A policy, spends m_{Br^*}, and survives as well. We start by characterizing the challenger BC's best possible offer following aid transfer r. This best offer is to spend all available resources optimally and implement nation B's preferred anti-A policy ($z = 0$). Should BC become leader in the next period, he will be offered r^* aid, which he will accept and form a coalition of the W_B highest affinity selectors. Hence, for every selector in BC's transitional coalition, the expected value of BC coming to power is $v(R_B + r, W_B) + \sigma_B + \delta Z_{BC}$, where

$$Z_{BC} = \frac{1}{1-\delta}\left(\frac{W_B}{S_B}v(m_{Br^*}, W_B) + \left(1 - \frac{W_B}{S_B}\right)u(m_{Br^*}, W_B)\right).$$

To survive, BL must match the challenger's best possible offer:

$$(m_{Br}, W_B) + \frac{\delta}{1-\delta}(m_{Br^*}, W_B) \geq v(R_B + r, W_B) + \sigma_B + \delta Z_{BC}.$$

This yields equation 11, which when equated at $r = r^*$, yields equation 5.

We now examine the minimum spending that is necessary by BL to survive under each possible contingency. First, suppose no aid ($r = 0$) transfer occurred. Under this circumstance, BL's integrity is not affected by her policy choice. She chooses $z = 0$, since this is the policy she prefers and it reduces what she must spend on her supporters. In particular, BL spends m_{B0} given by equation 6.

Suppose aid transfer r has occurred, and leader AL survives. If BL implements the pro-A policy $z = 1$, then she retains her integrity. She then offers to spend m_{Br},

the minimum expenditure to match the best possible offer of the challenger. This yields a payoff of $\Psi + R_B + r - m_{Br} + \frac{\delta}{1-\delta}(\Psi + R_B + r^* - m_{Br^*})$, where m_{Br} satisfies equation 11.

If following transfer r leader AL survives and BL implements policy $z = 0$, then BL destroys her integrity and will never be offered aid again ($I = D$ in all future periods). The maximum payoff she can receive under this scenario is $\Psi + R_B + r - m_{BDr} + \Sigma_B + \frac{\delta}{1-\delta}(\Psi + R_B - m_{BD0} + \Sigma_B)$, where m_{BDr} satisfies equation 7. Hence, having accepted aid transfer r and if AL survives, BL implements pro-A policy iff $-m_{Br} + \frac{\delta}{1-\delta}(r^* - m_{Br^*}) \geq m_{BrD} - \frac{1}{1-\delta}\Sigma_B + \frac{\delta}{1-\delta}m_{BD0}$. We write this as the constraint $J(r) \equiv -(1-\delta)m_{Br} + \delta r^* - \delta m_{Br^*} + (1-\delta)m_{BrD} - \Sigma_B + \delta m_{BD0} \geq 0$.

If following aid transfer r leader AL with whom BL made the deal is removed, then by our assumption that deals are between leaders, BL is no longer obliged to implement a pro-A policy to retain her integrity. Thus, BL sets policy to $z = 0$ and minimizes spending to m_{BHr}, which satisfies equation 12.

Note that since leader AL is never deposed in the equilibrium we characterize, the assumption that BL's obligation is to AL rather than nation A is moot. Alternatively, if we assumed that B's obligation were to nation A, the characterization of B's behavior would be unchanged.

Next, we consider BL's decision to accept the foreign aid offer $\rho = r$. If BL accepts the offer and $J(r) \geq 0$, then BL maximizes her payoff by just matching the best offer her challenger can make. BL spends m_{Br}, as given by equation 11. This yields a payoff of $\Psi + R_B + r - m_{Br} + \frac{\delta}{1-\delta}(\Psi + R_B + r^* - m_{Br^*})$.

Alternatively, if BL rejects the aid offer then her payoff is $\Psi + R_B - m_{B0} + \Sigma_B + \frac{\delta}{1-\delta}(\Psi + R_B + r^* - m_{Br^*})$. Therefore, if $J(r) \geq 0$, then BL accepts aid if $K(r) = r - m_{Br} + m_{B0} - \Sigma_B \geq 0$.

If $J(r) < 0$, then, having accepted aid, BL implements $z = 0$ and loses her integrity. Under this circumstance, BL's payoff from accepting aid is $\Psi + R_B + r - m_{BrD} + \Sigma_B + \frac{\delta}{1-\delta}(\Psi + R_B - m_{BD0} + \Sigma_B)$. Therefore, if $J(r) < 0$, BL accepts aid iff $K2(r) \equiv r + m_{B0} - m_{BrD} + \frac{\delta}{1-\delta}(\Sigma_B - m_{BD0} + m_{Br^*} - r^*) \geq 0$. Note that $K(r) = J(r) + K2(r)$.

Hence, if $J(r) \geq 0$ and $K(r) \geq 0$, then BL accepts aid and implements policy $z = 1$. If $J(r) \geq 0$ and $K(r) < 0$, then BL refuses aid, although she would have implemented policy had she accepted aid. If $J(r) < 0$ and $K2(r) \geq 0$, then BL accepts aid but does not implement policy. If $J(r) < 0$ and $K2(r) < 0$, then BL refuses aid and would not have implemented the pro-A policy had aid been accepted.

AL strategy given ($I = H$): If AL offers aid $\rho = r$ such that $J(r) \geq 0$ and $K(r) \geq 0$ and AL survives, then BL accepts such an offer and implements $z = 1$. In contrast, if AL is deposed by AC, then BL implements $z = 0$. We can now calculate the best possible offer that challenger AC can make. AC's best possible offer is $v(R_A - r, W_A) + \frac{\delta}{1-\delta}(\frac{W_A}{S_A}v(m_{Ar^*}, W_A) + (1 - \frac{W_A}{S_A})u(m_{Ar^*}, W_A) + \sigma_A)$. The incumbent

spends enough to match this optimal offer, $v(m_{Ar}, W_A) + \sigma_A + \frac{\delta}{1-\delta} v(m_{Ar*}, W_A) + \frac{\delta}{1-\delta} \sigma_A$. This yields equation 9, which solves for m_{Ar}. At $r = r^*$, this becomes equation 2, which solves for m_{Ar*}. A's payoff from offering $\rho = r$ is $\Psi + R_A - r - m_{Ar} + \Sigma_A + \frac{\delta}{1-\delta}(\Psi + R_A - r^* - m_{Ar*} + \Sigma_A)$.

We next show that under this circumstance, AL's payoff is decreasing with respect to r. If AL offers aid that is expected to result in BL implementing pro-A policy ($K(r) \geq 0$ and $J(r) \geq 0$), then AL offers the smallest such transfer,

$$\frac{d}{dr}(\Psi + R_A - r - m_{Ar} + \Sigma_A$$
$$+ \frac{\delta}{1-\delta}(\Psi + R_A - r^* - m_{Ar*} + \Sigma_A)) = \frac{d}{dr}(-r - m_{Ar}) = -1 - \frac{dm_{Ar}}{dr}.$$

Since $\frac{dm_{Ar}}{dr} = -\frac{v_R(R_A - r, W_A)}{v_R(m_{Ar}, W_A)}$, the concavity of $v(m, W)$ ensures that $0 > \frac{dm_{Ar}}{dr} > -1$.

In order that AL's strategy is a best response, if AL offers aid that is accepted with pro-A policy implementation, it must be the case that either constraint $J(r) \geq 0$ or constraint $K(r) \geq 0$ is binding. Let r^{**} be the smallest aid transfer that satisfies $J(r^{**}) \geq 0$ and $K(r^{**}) \geq 0$. By the stationarity of MPE, $r^* = r^{**}$. We now consider aid offers that deviate from $\rho = r^{**}$.

First, suppose AL offers aid $\rho = r < r^{**}$, which BL rejects; that is, either $K(r) < 0$ and $J(r) \geq 0$ or $K2(r) < 0$ and $J(r) < 0$. Such an offer always exists, $\rho = 0$ for instance. AL's payoff is $\Psi + R_A - m_{A0} + \frac{\delta}{1-\delta}(\Psi + R_A - r^* - m_{Ar*} + \Sigma_A)$, where m_{A0} solves equation 4. We now compare this payoff to the payoff AL receives if AL offers at least enough aid that BL accepts and implements pro-A policy ($J(r) \geq 0$ and $K(r) \geq 0$). That is, $\rho = r \geq r^{**}$. In this latter case, AL's payoff is $(\Psi + R_A - r - m_{Ar} + \Sigma_A + \frac{\delta}{1-\delta}(\Psi + R_A - r^* - m_{Ar*} + \Sigma_A))$. Comparing these two aid allocations, we see that AL prefers to offer an aid allocation that is accepted and implemented by BL, provided that the following constraint holds: $L(r) = m_{A0} - r - m_{Ar} + \Sigma_A \geq 0$. Intuitively, this constraint ensures that AL prefers an aid-for-policy deal in the current period.

Second, suppose AL offers an aid deal, $\rho = r$, which BL will agree to but then fails to implement ($K2(r) \geq 0$ and $J(r) < 0$). AL's payoff is $\Psi + R_A - r - m_{ADr} + \frac{\delta}{1-\delta}(\Psi + R_A - m_{AD0})$, where m_{ADr} solves equation 10. This payoff is decreasing in r, so AL wants to minimize her offer if it will be accepted without pro-A policy implementation: $\sup_r(-r - m_{ADr}) = -m_{AD0}$. Note this is an upper bound, not a maximum, since unless $r > 0$, BL's integrity cannot be tarnished. Additionally, we cannot guarantee that BL will accept aid as the amount offered approaches zero. That is, $K2(r)$ might be negative as $r \to +0$. Therefore, the upper bound on the payoff that AL could receive while offering an aid deal that does not lead to policy implementation is $\Psi + R_A - m_{AD0} + \frac{\delta}{1-\delta}(\Psi + R_A - m_{AD0})$. Consequently, leader AL prefers to offer an aid deal that is both accepted and implemented by BL ($r = r^*$), provided that $O(r) \equiv m_{AD0} - r - m_{Ar} + \Sigma_A \geq 0$. Informally, this condition states

that leader AL prefers an aid transfer in every period rather than never having aid transfers.

We have shown that if either $(J(r^*) \geq 0, K(r^*) = 0)$ or $(J(r^*) = 0, K(r^*) \geq 0$ and $O(r^*) \geq 0$ and $L(r^*) \geq 0$, then the aid equilibrium is an MPE, since all players play best responses given the strategies of all other players and the state variable QED.

The aid equilibrium characterizes the size of aid transfers, r^*. In particular, r^* is the minimum aid transfer such that both $J(r^*) \geq 0$ and $K(r^*) \geq 0$. Through the use of comparative statics for this system of equations, we now show how institutions affect the amount of aid transfers from A to B.

Proposition 2: If aid-for-policy transfers occur, then the size of aid transfers (r^*) increases as B's winning coalition (W_B) increases $(\frac{dr^*}{dW_B} > 0)$; r^* decreases as B's selectorate (S_B) increases $(\frac{dr^*}{dS_B} < 0)$; r^* increases as the salience of the pro-A policy issue (σ_B) increases in nation B $(\frac{dr^*}{d\sigma_B} < 0)$; and r^* decreases as players become more patient $(\frac{dr^*}{d\delta} > 0)$.

Unfortunately, we have been unable to analytically sign the comparative statics of r^* with respect to R_B when K is the binding constraint. When J is the binding constraint, then $\frac{dr^*}{dR_B} > 0$. Simulations suggest this result holds when K is the binding constraint; we conjecture that $\frac{dr^*}{dR_B} > 0$.

Proposition 2 characterizes how the size of aid transfers depend on institutions and other parameters. However, aid-for-policy deals do not occur unless AL desires them. In particular, aid transfers require that conditions O and L are met.

Proposition 3: The probability that an aid-for-policy deal occurs increases as the required amount of aid (r^*) decreases $(\frac{dL}{dr^*} < 0, \frac{dO}{dr^*} < 0)$; the probability of an aid transfer increases as W_A increases $(\frac{dL}{dW_A} > 0, \frac{dO}{dW_A} > 0)$; the probability of an aid transfer increases as S_A decreases $(\frac{dL}{dS_A} < 0, \frac{dO}{dS_A} < 0)$; the probability of an aid transfer increases as the value in A of the pro-A policy (σ_A) increases $(\frac{dL}{d\sigma_A} > 0, \frac{dO}{d\sigma_A} > 0)$; and the probability of an aid transfer increases as players becomes less patient $(\frac{dL}{d\delta} < 0, \frac{dO}{d\delta} < 0)$.

Unfortunately, we have not been able to sign analytically the comparative statics $\frac{dO}{dR_A}$ and $\frac{dL}{dR_A}$. However, given simulation results, we conjecture that AL's willingness for an aid-for-policy deal is increasing in A's resources $(\frac{dO}{dR_A} > 0, \frac{dL}{dR_A} > 0)$.

Now we examine the welfare implications of foreign aid. The key insight from the model is that aid-for-policy deals improve the welfare of the leaders in the donor and recipient states. Improved welfare for leaders, however, does not necessarily imply improved welfare for their citizens. Indeed, in recipient states, the average citizen is generally made worse off by aid.

For the leader of a recipient nation to enter into an aid-for-policy deal, the leader's prospects of political survival must be improved. In order that this occurs, the leader

must use some of the additional resources gained through aid to compensate her coalition for the imposition of the pro-A policy, a policy that they inherently dislike. Aid, of course, increases the total resource pool and so makes it feasible for challengers to make better offers than was true without aid. Therefore, the incumbent must spend more than was true without aid. This generates a higher level of welfare for her coalition. But the incumbent need not spend all of the aid on the coalition, so it may also leave extra resources at the discretionary disposal of BL.

Those outside the winning coalition in the recipient country often are made worse off by foreign aid in small coalition systems. These, we have shown, are the polities most likely to receive aid. As we have noted, aid for policy brings about some increase in rewards, because the leader must spend more on her supporters to fend off challengers. Unfortunately, when W is small, most of this additional compensation comes in the form of private goods that those outside W do not share in. That is, when W is small, the improvement in government-provided benefits is aimed at the winning coalition and so is unlikely to offset the welfare losses resulting from pro-A policy for those outside the coalition. Additionally, aid fosters the survival of a political leader in a small coalition regime whose incentives make it unlikely that she provides effective public policy. Therefore, not only do those outside the coalition get pro-A policies they dislike, but they also experience the prolongation of a typically oppressive, rent-seeking political order supported by the aid giver. Therefore, we should expect that aid donors are unpopular among the general public in many recipient countries. Indeed, this dislike is most intense when a small coalition leader receives a large amount of aid because a large amount of aid is indicative of the implementation of a policy especially distasteful to the citizens in B. Given the lack of systematic data, we do not compare attitudes toward donor nations here.

Aid donation generally improves welfare for residents in the donor nation. Obtaining policy concessions enhances leader survival in A. If it did not do so, then the leader would not make the aid-for-policy deal. Aid generally improves the welfare of those inside and outside the winning coalition through the benefits derived from improved policy in nation B; that is, improved in terms of the interests of citizens in nation A. Indeed, those inside the coalition gain somewhat less from foreign aid transfers than do those outside the winning coalition. The former sacrifice both private and public goods that could have been purchased with the r resources devoted to aid. In contrast, those outside the coalition only give up some internal public benefits in exchange for new external public benefits (the pro-A policy).

Tests

We test the theoretical predictions using U.S. aid transfers. The U.S. Agency for International Development (USAID) prepared a report on U.S. Overseas Loans and

Grants, Obligations and Loan Authorizations, July 1, 1945–September 30, 2001. This publication is popularly known as the "Greenbook." Although USAID differentiates between economic and military aid and between loans and grants, here we restrict our focus to total economic aid. Our dependent variable is the logarithm of aid measured in constant (1996) U.S. dollars.[2]

The theory predicts how selectorate institutions, resources, and salience affect both whether aid is provided and how much aid is given. We present three sets of results. First, we examine the question of whether any aid is given using logit analyses. The theory suggests the likelihood of aid depends on institutions, resources, and saliences in both donor and recipient nations. Second, we examine how much aid is given conditional on some aid being given using regression analysis. The theory suggests that how much aid is given depends on the institutions, resources, and salience of the recipient nation. To control for possible heterogeneity, we present specifications that include either recipient nation fixed effects or region-year fixed effects. Our results are robust with respect to the inclusion of each of these fixed effects. They are also robust with respect to the inclusion or exclusion of control variables. For both the logit and regression models, we present two relatively sparse specifications focusing on the key theoretical variables, each using a different measure of recipient resources. We also present models that repeat the first of these relatively sparse analyses but with the inclusion of numerous control variables. In the case of the regression model, we show the latter analysis with both country and region-year fixed effects. From the mid-1970s onward, Israel and Egypt account for about 30 to 40 percent of the total U.S. aid budget. Exclusion of these two outliers does not substantially alter the reported results.

As the theory emphasizes, whether aid is given and the amount given are not independent. As recommended by Cingranelli and Pasquarello (1985), Table 3 presents analyses using the Heckman selection model, which simultaneously assesses both whether aid was given and how much (Heckman 1979). We performed the estimation using Stata 9 (StataCorp 2005).

Measurement of Key Concepts

Our measures of winning coalition and selectorate size in the recipient state come from Bueno de Mesquita et al. (2003). Winning coalition size, W, is measured as a composite index based on the variables REGTYPE, XRCOMP, XROPEN, and PARCOMP from the Arthur Banks (2002) data. These data are also commonly reported by Polity IV (Marshall, Jaggers, and Gurr 2002). The index is normalized to take values 0, 0.25, 0.5, 0.75, and 1, with larger numbers indicating that a leader is beholden to a larger coalition. Bueno de Mesquita et al. (2003) also create a measure of selectorate size, S, based on the Banks/Polity variable, LEGSELEC, which also takes values between 0 and 1. Since the effect of selectorate size is most important in small coalition systems where private goods are the focus of

political competition, we reparameterize our measure of selectorate size as $S^*(1-W)$, which takes high values in small coalition/large selectorate systems and small values in either small selectorate or large coalition systems.

The theory predicts that institutions in donor nations affect aid giving. However, we are unable to test these predictions empirically, since the institutional arrangements within the United States are constant across the domain of our study. Other data sources, such as the Organization for Economic Co-operation and Development (OECD; 2003a, 2003b), provide aid donation data for other nations. However, with the exceptions of Spain, Portugal, and Greece for a number of years (during which only Portugal gave limited aid, mainly to former colonies), all the donor states in the OECD data are relatively wealthy democracies. This lack of variance in donor institutions is consistent with the theory, but it makes systematically testing the effects of W_A on aid donation problematic.

We obtain economic and demographic data from the Penn World Tables (PWT; Heston, Summers, and Aten 2002). We also include a variety of control variables. Using Bennett and Stam's (2003) program EUGene, we include variables for geographic contiguity, distance between states, the presence of civil war, and Bueno de Mesquita's (1981) measure of alignment with the United States based on security alliance portfolios, tau_B. Additionally, we use Gleditsch's (2002) measure of dyadic trade flows and Arthur Banks's (2002) measure of political conflict, which is a weighted measure of the number of assassinations, general strikes, guerrilla warfare, government crises, purges, riots, revolutions, and antigovernment demonstrations.[3]

Our theory predicts that aid flows depend on political institutions, resources of each government, and policy salience. To measure the magnitude of aid flows, we analyze the logarithm of aid transfers. We present several measures of resources. The first measure of the recipient leader's resources is the logarithm of nation B's gross domestic product (GDP) in the previous year $(Ln(GDP_{t-1}))$.[4] Obviously, not all the resources in the economy are available to the leader, so to control for this, we generate Resources$_{B,t-1}$ as the logarithm of GDP times the government's share of GDP in the previous year.[5] We measure U.S. (donor state) resources with two measures: Resources$_A$ (which has analogous construction to Resources$_{B,t-1}$, except it is not lagged) and U.S. share of world GDP. Immediately following World War II, the United States had about half of the world's economic capacity and so was the only conceivable large scale donor. Although the U.S. economy has grown during the post-war period, such that U.S. leaders now have access to absolutely more resources, the U.S. economy has, in a relative sense, declined substantially relative to the rest of the world. We include both these absolute and relative measures of U.S. resources.

Policy salience affects the likelihood of aid. We approximate salience with nation size (measured as the logarithm of population), geographic contiguity (measured as less than 500 miles), geographic distance (measured as the logarithm of distance between capitals), extent of trade relations (measured as the logarithm of bilateral trade in constant 1996 U.S. dollars), alignment with the United States (measured as

tau_B), and the cold war (coded as 1 through 1989 and 0 after). We believe the United States cares more about the policies of large states that are close by or contiguous rather than small, distant states. High levels of trade or a close alignment might also make a nation's policy salient to the United States. However, caution is needed in assessing these last two variables. It is quite possible that closer trade relations or closer alignment are the policy concessions sought by the United States. That is, trade flows and alliance commitments might be the policies bought with aid.

The cold war was epitomized by rivalry between the United States and its western allies on one hand and the USSR and its eastern bloc allies on the other. This rivalry often manifested itself as a competition between the two sides to buy influence within the Third World, with the particular policies sought often being an anticommunist or a procommunist stance, respectively. Meernik, Krueger, and Poe (1998) show a change in the focus of U.S. aid goals following the end of the cold war. We anticipate this altered the content of aid-for-policy deals and therefore the salience of the policies in question. During the cold war, it is likely the United States' anticommunist policy demands had high salience for both the United States and the potential recipient. According to our model, such high levels of salience require a large aid package if the policy concession is to be obtained. High salience also increases the desirability of attaining the policy concession. We expect higher levels of aid during the cold war when aid was given. The prediction as to whether the United States was more likely to give aid is ambiguous. The relatively higher salience of the issue increased the desirability of obtaining concessions, but it also increased the price for buying those concessions. The rivalry aspect of the cold war is expected to further deepen these effects.[6]

Results

Table 1 addresses the question of whether any aid is given. Model 1 provides a direct representation of the theoretical variables of interest. The theory suggests that the United States is most likely to give aid to states with small winning coalitions and large selectorates. The significant negative coefficient on the coalition size variable, W, strongly supports this conclusion. For instance, if a large coalition nation ($W = 1$) has a 50 percent chance of receiving aid, then a corresponding small coalition system ($W = 0$) has an 86 percent chance of receiving aid. Although the coefficient estimate for the selectorate variable is positive, it is not statistically significant. The United States is most likely to give aid to small coalition, large selectorate systems, such as rigged electoral autocracies.

The theory predicts that as the resources available to the leader in the recipient state increase, then aid becomes less likely, but should aid be given, then the amount of aid generally increases. We say "generally" because, as you will recall, there are two possible binding constraints on the recipient: whether the recipient

Table 1
Logit Analysis of Whether Nations Receive U.S. Economic Aid

	Model 1	Model 2	Model 3
	Is Aid Given?	Is Aid Given?	Is Aid Given?
Coalition size, W	−1.855 (3.528)**	−1.037 (1.982)*	−2.131 (3.220)**
Selectorate size, $S^*(1-W)$	0.268 (0.448)	−0.002 (0.004)	0.638 (1.109)
Resources$_{B, t-1}$	−1.272 (4.432)**		−1.635 (4.821)**
Ln(GDP$_{B, t-1}$)		−1.578 (4.507)**	
Resources$_{US}$	0.875 (1.521)	0.556 (0.986)	1.129 (1.607)
U.S. share of world GDP	3.749 (2.144)*	3.093 (1.853)	3.437 (1.675)
Cold war	−0.343 (2.012)*	−0.478 (2.746)**	−0.431 (2.197)*
Ln(distance)	−0.375 (1.403)	−0.492 (1.741)	0.056 (0.165)
Ln(population)	1.07 (3.473)**	1.464 (3.377)**	1.188 (3.580)**
Contiguity			0.097 (0.181)
Banks's conflict index$_{t-1}$			3.689 (1.865)
Civil war$_{t-1}$			0.104 (0.234)
Alignment with U.S., tau$_B$			1.144 (1.591)
Alignment with U.S. during cold war, cold war* tau$_B$			0.443 (0.884)
Ln(trade$_{t-1}$)			0.102 (0.727)
Constant	3.065 (0.289)	8.417 (0.775)	−0.786 (0.065)
Observations	3,946	3,946	3,727

Note: z statistics in parentheses (robust standard errors); GDP = gross domestic product.
*significant at 5 percent; ** significant at 1 percent (two-tailed tests).

will accept aid (K) and whether the recipient will implement the policy agreement (J) if aid is accepted. When J is binding, it is clear that the amount of aid increases with the recipient's resources, but when K is binding, we were unable to sign the partial derivative. We conjectured that the effect is positive, but could not prove that. Thus, we proved that the amount of aid is always increasing in the amount of the recipient's resources if J is the binding constraint and may or may not be increasing if K is the binding constraint.

We proxy for the resources available to the leader with two measures, Resources$_{B,t-1}$, the scale of government revenues, and Ln(GDP$_{t-1}$), the scale of the economy. The significant negative coefficient estimate for Resources$_{Bt-1}$ in the selection equation suggests that consistent with the theory, the United States is less likely to give aid to leaders with abundant resources. Model 2 substitutes Ln(GDP$_{t-1}$) as the measure of the recipient leader's resources. Again, the pattern is similar. High levels of resources reduce the probability that a state will receive aid.

We use (recipient's) Ln(Population) and Ln(Distance) as measures of policy salience for the United States. As the significant positive coefficient estimate on the Ln(Population) variable indicates, the United States is more likely to give aid to large nations rather than small nations. The United States is more likely to care about

policy concessions, for instance, from China than from Nepal. The negative esti-
mated coefficients on the distance variable in models 1 and 2 indicate that the United
States is more likely to give aid to geographically relatively close rather than rela-
tively distant nations, although the results are not statistically significant.

The resources and political institutions of the recipient state shape the amount of
aid required to buy policy concessions. Whether the donor is willing to pay this
price depends on its resources and political institutions. Since the United States'
institutions remain constant over the domain of the data, we cannot test the impact
of donor institutions. However, we use two variables, Resources$_A$ and U.S. share of
world GDP to examine the impact of resources. As discussed earlier, the first vari-
able captures the United States' absolute quantity of resources, while the second
captures the declining hegemony of the United States. The coefficient estimates for
these variables are positive, indicating that the greater the United States' resources,
in either absolute or relative terms, the more likely the United States is to give aid.
Although these coefficient estimates are not generally individually significant, the
joint hypothesis tests that the coefficients on both these variable are simultaneously
zero indicates that in combination, these two variables are significant. As the theory
suggests, the greater the United States' resources, the more likely it is to be willing
to pay the price, in terms of aid, to gain policy concessions.

Models 1 and 2 include a dummy variable for the cold war. We speculate that
anticommunist policy concessions sought by the United States during the cold war
had high salience both for the prospective recipient and the United States. Although
the formal model suggests an ambiguous effect for the cold war variable in the
selection equation, informal arguments about the rival nature of the cold war sug-
gest the United States would be less likely to give aid to any given state during that
period, since the USSR might outbid the United States. This appears to be the case
with a significant negative coefficient on the cold war variable with respect to the
question of whether the United States gave any aid.

Through the inclusion of control variables, model 3 examines the robustness
of the finding. In addition to those variables included in model 1, model 3 inclu-
des variables for contiguity, domestic political conflict, presence of civil war, align-
ment with the United States (both by itself and in interaction with cold war), and
trade with the United States. The inclusion of these control variables, whether
individually or in groups, does not substantially alter the effects of institutions,
resources, and salience displayed in models 1 and 2. Although the estimated coeffi-
cients on the control variables suggests contiguous states that experience domestic
conflict, civil war, and are aligned and trade with the United States are most likely
to receive U.S. aid, none of these estimates are statistically significant.

The results in Table 1 generally support the theoretical predictions that the
United States is most likely to give aid to nations with small coalition political sys-
tems and low levels of government resources. We now turn to the question of how
much aid the United States gives conditional on any aid being given. Table 2

Table 2
Amount of U.S. Economic Aid (Fixed Effects Panel Regression)

	Model 4	Model 5	Model 6	Model 7
	Ln(Aid)	Ln(Aid)	Ln(Aid)	Ln(Aid)
Coalition size, W	0.364 (3.210)**	0.454 (4.070)**	0.694 (5.267)**	0.337 (2.699)**
Selectorate size, $S*(1 - W)$	0.03 (0.288)	−0.007 (0.070)	−0.031 (0.270)	0.011 (0.091)
Resources$_{B,t-1}$	3.127 (10.948)**		3.977 (11.208)**	0.952 (3.874)**
(Resources$_{B,t-1}$)^2	−0.148 (13.630)**		−0.185 (13.703)**	−0.055 (5.961)**
Ln(GDP$_{B,t-1}$)		1.764 (6.032)**		
(Ln(GDP$_{B,t-1}$))^2		−0.149 (11.711)**		
Cold war	0.481 (6.395)**	0.432 (5.929)**	0.092 (0.936)	
Ln(population)	1.629 (9.817)**	2.273 (12.580)**	2.157 (9.917)**	0.685 (14.605)**
Ln(distance)				−0.431 (4.315)**
Contiguity				−0.265 (1.821)
Banks's conflict index$_{t-1}$			−0.059 (0.130)	1.867 (3.532)**
Civil war$_{t-1}$			0.277 (2.549)*	0.395 (3.462)**
Alignment with U.S., tau$_B$			−1.779 (4.058)**	−0.152 (0.280)
Alignment with U.S. during cold war, cold war*tau$_B$			0.473 (2.110)*	0.98 (1.735)
Ln(trade$_{t-1}$)			−0.084 (1.899)	0.059 (2.126)*
Constant	−9.237 (4.981)**	2.385 (1.569)	−14.575 (6.289)**	8.771 (5.023)**
Observations	3,526	3,526	2,671	2,669
Number of fixed effects	134, countries	134, countries	110, countries	251, nation-years

Note: t-statistics in parentheses; GDP = gross domestic product.
*significant at 5 percent; **significant at 1 percent (two-tailed tests).

276

contains cross-sectional time series regression models that examine the magnitude of aid given, Ln(Aid). Models 4, 5, and 6 control for country fixed-effects, and model 7 controls for region-year fixed effects.

The theory predicts that as coalition size increases, recipient leaders require larger amounts of aid before they are willing to accept aid-for-policy deals. The results in Table 2 support this hypothesis. In each of the four models, the coefficient estimate on coalition size is positive and significant, indicating that larger coalition systems receive greater quantities of aid than do smaller coalition systems. For instance, the positive coefficient estimate of 0.364 for W in model 4 suggests that if a small ($W = 0$) coalition system received the average level of aid, around \$18.5 million, then a comparable large coalition system would receive about 44 percent more aid. Since democracy is correlated with W, these results are consistent with Alesina and Dollar's (2000) finding that democratization increases the amount of aid a nation receives.[7] The selectorate size variable has little impact on the amount of aid.

Our analysis found substantial nonlinearity with respect to recipient resources, a nonlinearity not found in analyses of whether nations receive any aid. Recall that the theory's prediction had some ambiguity regarding the sign of the effect of the recipient's resources on the amount of aid received in the event that the constraints on accepting aid (K) were binding rather than the constraint on implementing (J) aid. Models 4, 6, and 7 measure recipient resources using the variable Resources$_{Bt-1}$ and the square of this variable. This variable, which measures the logarithm of government-controlled resources, varies between 7.1 and 18.6. The positive coefficient estimate on the Resources$_{Bt-1}$ and the negative estimate for the coefficient on the squared term indicate that as recipient government resources initially increase, nations receive higher levels of government aid. However, beyond a level of Resources$_{Bt-1}$ equal to 10.6, further increases in government resources reduce the level of economic aid. Nations with moderate levels of government resources are likely to receive more aid than nations with either small or large levels of government resources. Model 5 replicates model 4, replacing the Resources$_{Bt-1}$ with the logarithm of GDP. This model exhibits similar nonlinearities. With the quadratic specification of resources, the analyses are robust with respect to the inclusion or exclusion of controls and outliers and whether fixed effects are specified as countries or region-years. However, without this quadratic specification, the estimated coefficient on the resource variables varies with the precise specification.

Although the decline in the amount of aid associated with increasing government resources at high levels of government resources is at least partially offset by the positive effect of population size on aid, this nonlinearity reminds us of several limitations in testing this detail of the theory. First, we could not sign the effect of recipient resources on the amount of aid received when the constraint on accepting aid (K) is the binding constraint rather than the constraint (J) on implementing the aid for policy deal, our simulations-based conjecture regarding the sign when K is binding notwithstanding. Second, if our conjecture about the sign of K is correct,

then we must recognize that the empirical findings may reveal shortcomings in the theoretical model and limitations in the econometrics. Third, there is the potential for the independence across observations assumption to be violated. The formal model assumes that there is a single pro-A policy concession available. This is, of course, unrealistic. If it is too expensive for A to buy a large policy concession, then there may still exist a less expensive aid-for-policy deal that enhances the survival of both donor and recipient leaders. However, precisely because these concessions are smaller and so less expensive, we might expect to see a decline in the size of the aid deal as the resources of the recipient state rise, increasing the cost of a bigger policy deal. Kuziemko and Werker (2005) estimate that obtaining a rotating seat on the UN Security Council and hence obtaining the ability to deliver bigger favors, increases U.S. economic aid by 77 percent. Unfortunately, in general, it is difficult to systematically assess the size of favors being bought.

The theory emphasizes the dependence between whether any aid is given and the amount of aid given. This dependency creates econometric difficulties. As the amount of aid required to purchase policy concessions increases, donors become less likely to pay. When the potential recipient is a resource-poor, small coalition system, then donors are nearly always willing to pay for the policy concession, as shown in the results of Table 1. In this circumstance, nearly all the possible aid-for-policy deals are made. However, as the resource level rises in nation B, then its leader requires larger aid packages before agreeing to policy concessions. This results in a truncation in the data. The donor purchases only the cheapest aid-for-policy deals and declines to pay for the more expensive policy concessions. Although theoretically we should expect to see the average price of buying policy concessions increase as the recipient's resources increase, those aid-for-policy deals that we actually observe are disproportionately drawn from the left tail of this price distribution. This selection effect should lead to a diminution of the positive relationship between recipient resources and the size of aid-for-policy deals, which is precisely what we observe. When aid-for-policy deals are on average very expensive, only the bargain deals are struck.

The analyses in Table 3 make a preliminary attempt to deal with the selection problem using the Heckman sample selection model, which allows for the possibility that the errors in each of the equations are correlated. The theory predicts that while A's institutions affect whether A is willing to purchase an aid-for-policy deal, the size of any such deal is determined by the characteristics of nation B. This provides an exclusion restriction that allows us to identify the Heckman model.

The results in Table 3 support the separate earlier analysis. The United States is more likely to give aid to low-resource, small coalition systems than resource-rich, large coalition systems. However, conditional on aid being given, more aid is likely to be given to large coalition systems than small coalition systems. We observe a similar nonlinearity in the relationship between the recipient's resources and size of aid, as shown in Table 2.

Table 3
Heckman Analyses of Aid Recipients and Amount of Aid

	Model 8		Model 9	
	Regression Equation: Ln(Aid)	Selection Equation: Is Aid Given?	Regression Equation: Ln(Aid)	Selection Equation: Is Aid Given?
Coalition size, W	0.681 (5.334)**	−1.048 (10.072)**	0.582 (4.339)**	−1.17 (10.239)**
Selectorate size, $S^*(1-W)$	0.211 (1.968)*	0.265 (2.086)*	0.207 (1.851)	0.455 (3.702)**
Resources$_{B,t-1}$	2.211 (7.959)**	−0.709 (19.474)**	1.939 (7.202)**	−0.927 (20.109)**
(Resources$_{B,t-1}$)^2	−0.087 (7.687)**		−0.087 (8.067)**	
Resources$_{US}$		0.479 (1.238)		0.607 (1.577)
U.S. share of world GDP		2.247 (1.956)		1.828 (1.612)
Cold war	0.188 (1.676)	−0.218 (1.279)	0.035 (0.361)	−0.254 (1.871)
Ln(distance)		−0.233 (4.424)**		0.034 (0.537)
Ln(population)	0.569 (12.915)**	0.586 (14.402)**	0.656 (12.038)**	0.676 (15.169)**
Contiguity			0.04 (0.288)	0.035 (0.336)
Banks's conflict index$_{t-1}$			2.206 (3.088)**	1.733 (3.358)**
Civil war$_{t-1}$			0.234 (1.647)	0.05 (0.431)
Alignment with U.S., tau$_B$			−0.252 (1.165)	0.718 (1.539)
Alignment with U.S. during cold war, cold war*tau$_B$			0.554 (2.585)**	0.229 (0.489)
Ln(trade$_{t-1}$)			0.100 (3.065)**	0.055 (2.564)*
Constant	−5.276 (3.081)**	2.047 (0.278)	−2.426 (1.394)	0.136 (0.018)
Rho	−0.089 (2.08)*		0.053 (1.61)	
Observations	3,946 (2,816 uncensored)		3,727 (2,641 uncensored)	

Note: Robust z statistics in parentheses; GDP = gross domestic product.
*significant at 5 percent; **significant at 1 percent.

279

In addition to institutions and resources, the theory predicts policy salience affects the amount of aid given. The models including the salience measures of population size, distance from the United States, and cold war are included in the analyses reported in Tables 2 and 3 (to the extent allowed by the nature of the fixed effects). We argued that, compared to the post–cold war era, the policy concessions sought during the cold war were likely to be substantially more salient and hence more expensive. The positive coefficients on the cold war variable in the regression model support this prediction. The United States is also likely to give larger amounts of aid to nations that are large and relatively close compared to small distant nations.

Models 6 and 7 in Table 2 and model 9 reevaluate the amount of aid given in the presence of a wide variety of control variables. As was the case with respect to the selection equations, the results are robust with respect to the inclusion or exclusion of these controls for contiguity, domestic political conflict, civil war, alignment with the United States, and trade. It is important to examine control for these factors, since scholars have previously found relations between alignment and trade and aid (Kegley and Hook 1991; Poe 1991; Rai 1980; Wittkopf 1973; Dudley and Montmarquette 1976; Hook and Zhang 1998; Schraeder, Hook, and Taylor 1998; Wittkopf 1972).

Although caution is always due in such studies because of data and econometric issues, our analyses suggest preliminary evidence to support the predicted relationship about who gives aid and how much they give and who receives aid and how much they receive.

Conclusions

We propose a theory of aid-for-policy deals. While we believe this is a major determinant of aid giving, we do not deny that aid might be given for other purposes. Aid is just one weapon in the foreign policy arsenal of leaders (Baldwin 1985). In this article, our approach has been to embed our explanation of aid giving within the context of the selectorate theory of political survival. As Bueno de Mesquita et al. (2003) show, the selectorate model explains many other features of domestic and international politics. On the international side, for instance, it explains immigration and emigration, the democratic peace, and patterns in nation building. That a single theoretical framework can explain results in many disparate political arenas provides reassurance relative to a tailor-made application to account for one aspect of the larger political puzzle.

Our model offers important policy advice for those who wish to help the needy around the world. Receiving aid is most likely to improve the welfare of citizens in large coalition systems. In such systems, the majority of the additional resources are allocated to public goods, and the leader can retain only limited resources for her own discretionary projects. Aid given to such systems is likely to promote economic growth and enhance social welfare. U.S. reconstruction aid to Western Europe under the Marshall Plan is an example of such a success story. In small

coalition systems, aid resources disproportionately end up in the hands of the leader and her cronies in the form of private goods. Aid does little to promote growth and development (Burnside and Dollar 2000).

In terms of promoting development, the theory's implications are clear: political reform needs to precede economic development. The democratic institutions of Western Europe ensured that the U.S. Marshall Plan's dollars promoted vigorous growth and produced a counterbalance to Soviet incursions into Europe. Aid to poor democracies around the world would likewise generate effective development. An emphasis on enlarging winning coalition size around the world is the most effective way to alleviate poverty.

Unfortunately, such goals are generally inconsistent with the survival incentives of leaders in large coalition donor countries. The survival of leaders in large W systems depends on providing for the welfare of their supporters and not on the welfare of people abroad. It is far easier for leaders to buy the public goods their citizens value from a small coalition state than from a large coalition democratic system. Unless it is the case that the policy goals in the donor state are furthered by enhancing growth in the recipient states (as we might argue was the case under the Marshall Plan) or the citizens in the donor state really care about promoting growth abroad (as, for example, Lumsdaine [1993] and Noel and Therien [1995] have argued is the case for Scandinavian nations), then leaders in donor states promote their political survival better by buying policy from autocrats than they do by pushing for the institutional reforms necessary for effective development. As van de Walle (2001) observes, aid often undermines the attempts at democratic reforms. The selectorate theory paints a depressing picture about the likely effectiveness of foreign aid for alleviating poverty around the world.

Notes

1. Note if leader BL could not survive the current period, then $Z_{ACD} = \frac{1}{1-\delta}(\sigma_A + \frac{W_A}{S_A}v(m_{Ar*}, W_A) + (1 - \frac{W_A}{S_A})u(m_{Ar*}, W_A))$; if BL could survive the current period but not subsequent periods ($m_{BDr} \leq R_B + r$ and $m_{BD0}B$) then, $Z_{ACD} = \frac{W_A}{S_A}v/m_{AD0}, W_A) + (1 - \frac{W_A}{S_A})u(m_{AD0}, W_A) + \frac{\delta}{1-\delta}(\sigma_A + \frac{W_A}{S_A}v(m_{Ar*}, W_A) + (1 - \frac{W_A}{S_A})(m_{Ar*}, W_A))$.

2. U.S. Department of Commerce's (2003) implicit gross domestic product (GDP) deflator (NIPA tables).

3. In particular, Banks's (2002) index weights these components by 43, 46, 48, 86, 102, 148, and 200 and then divides the entire index by 9. We further normalize this index by dividing by 100,000 to create a variable between 0 and a maximum of 0.94.

4. Specifically, ln(population*rgdpch$_{t-1}$), where rgdpch is real per capita GDP, as measured by Penn World Tables (PWT; Heston, Summers, and Aten 2002).

5. Calculated using the PWT variable kg, government share of RGDPL.

6. In our formal model, the donor state pays the recipient just sufficient aid to make the leader in the potential recipient state just willing to accept the aid-for-policy deal. Although not formally modeled, the presence of rival donors who are bidding for mutually exclusive policy concessions increases the

bargaining leverage of the recipient state's leader. The recipient leader can increase her demands for aid until one of the rivals is no longer willing to pay more. At this point, the other bidder gains its desired policy but at a cost that exhausts its rival's willingness to pay. This extension to the model suggests that the United States was less likely to give aid to any given state during the cold war, since it might have been the loser in the bidding war. However, if it won the bidding war and gave aid, then it probably had to give a higher level of aid to more than match the Soviets' highest bid.

7. Aid often undermines institutions, resulting in more autocratic governments (Dunning 2004, Goldsmith 2001, and van de Walle 2001). Within the context of selectorate politics, Smith (2006) and Bueno de Mesquita and Smith (2006) explicitly model and test the effects of aid on institutions. While aid can help undermine large coalition political systems, in the short and medium term, political leaders can treat institutions as given when calculating aid transfers.

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