

**Who Delegates?
Alternative Models of Principals in Development Aid**

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Introduction

Principal-agent theory has proven a powerful tool for analyzing delegation relationships in a wide variety of settings, yet it remains under-developed in the study of international relations. Conventional wisdom holds that state principals face special, and often insurmountable, difficulties in realizing their interests when they delegate to international organizations (IOs). In order to assess such claims we employ principal-agent theory to explicitly model and test a number of common arguments about politics and policy in and around IOs. In fact, states do face special problems when delegating to IOs, but states are cognizant of these constraints and thus design, alter or exit such agency relationships as they gain information about policy outcomes or as their interests change. In this paper we analyze two features of delegation to IOs – *nested agency relationships* and *complex principals* – and we offer initial tests of common claims in the literature. We find that IOs are often faithful agents and that this conclusion is strengthened when the structure of the principal is modeled properly.

One oft-cited reason that IOs might be less faithful agents than their domestic counterparts seems straightforward, at least in the case of democratic states. Delegations to IOs typically add at least one additional link to a *chain of delegation* that runs from voters to elected representatives to a bureaucracy implementing a given policy. Like the old telephone game, it seems plausible that the greater the distance between initial message and final outcome, the less the final outcome will resemble the original message. As Seabright (2002, 46) explains “There is a longer ‘chain of delegation’, which means there is – potentially – an efficiency loss at each stage in the chain, and the incentives of those further down the chain are further and further removed from those of the principal.”

Another cause for concern rests on the notion that international organizations are only nominally accountable to all their member states. This argument states that in practice IOs ignore the interests of most of their members (especially small states),¹ develop an internal culture that drives IO behavior,² or reflect the personal views of an autonomous leader.³ We don’t doubt that large member states often have more influence over IO behavior than small ones. We also agree that bureaucracies develop their own cultures and that charismatic leaders can engender change and shape the behavior of IOs in particular instances.

However, before scholars generalize about the irrelevance of particular member states or the impact of an organizational culture on IO behavior, we ought to first take seriously the possibility that the formal decision-making rules are efficacious and thus even small states sometimes influence IO behavior. Such an exercise requires that we have systematic measures of member state preferences, model formal decision rules,

¹ Luck 2003; Gilpin 2000; Ritzen 2005.

² Barnett and Finnemore 1999; 2004; Nelson 199X.

³ Sandholtz and Zysman 1989; Kraske 1996.

gauge IO behavior, and use a well specified model that links variation in preferences and voting rules to variation in IO behavior. The analytic and empirical short-cuts that are prevalent in the current IO literature leave many generalizations about IO behavior on shaky ground. We argue that our *collective principal model*, which contrasts with more common (mis-)conceptions of states as *multiple principals*, helps to overcome some of these shortcomings.

To determine whether longer delegation chains lead to more agency slack, we examine the history of the Social Progress Trust Fund (SPTF), which was authorized unilaterally by the U.S. government in 1961, and provided to the Inter-American Development Bank (IADB) to fund development projects in Latin America. At about the same time, the U.S. government also directed its primary bilateral development agency, USAID, to implement similar projects. We conduct qualitative and quantitative analysis to determine whether USAID-administered development projects hew more closely to their mandates than IADB-administered projects. The evidence suggests that the IADB was a less faithful agent than USAID and that the length of the delegation chain contributed to some of this slippage. However, it also suggests that state principals can be vigilant in dealing with IO agents, and that they act to mitigate agency loss, even in the case of small projects with limited visibility.

To address some of the analytic and empirical short-cuts that plague the IO literature, we provide a series of systematic quantitative tests to determine whether multilateral development banks (MDBs) follow the preferences of their principals. There are at least two requisites for a fair test of the notion that IO agents are faithless. First, analysts must accurately model the structure of the principal and the rules governing decisions about agent contracts.⁴ Too often scholars assume that formal decision rules are epiphenomenal and assert that a hegemonic state or small group of powerful states writes the rules and determines behavioral outcomes within an IO. Second, a fair test requires systematic and reproducible measures of principal preferences and a large sample of cases that is drawn using established social scientific methods. Hence, in the case of MDBs an accurate test of agent compliance with principal preferences requires that we include all member states that are represented on the Executive Board and explicitly model the formal decision rules that transform individual state preferences into a collective preference.

Length of Delegation Chain

Chains of nested PA relationships are typically longer – by a link or two – in delegation to IOs than in domestic political settings. Unless corrective mechanisms are explicitly designed at various links in the chain that can push agent behavior back in the direction of the interests of the ultimate principals (the constituencies of IOs’ member-country governments), then we suspect that as the delegation chain grows longer, agency slack likely increases. Among scholars who address the length of delegation chains and the prospects for IO accountability, there is widespread agreement that longer delegation

⁴ For a comprehensive discussion see Cortell and Peterson in this volume.

chains lead to greater agency loss.⁵ However, unlike other hypotheses in the PA literature, these ubiquitous assertions about longer delegation chains have never been subjected to a systematic empirical test.

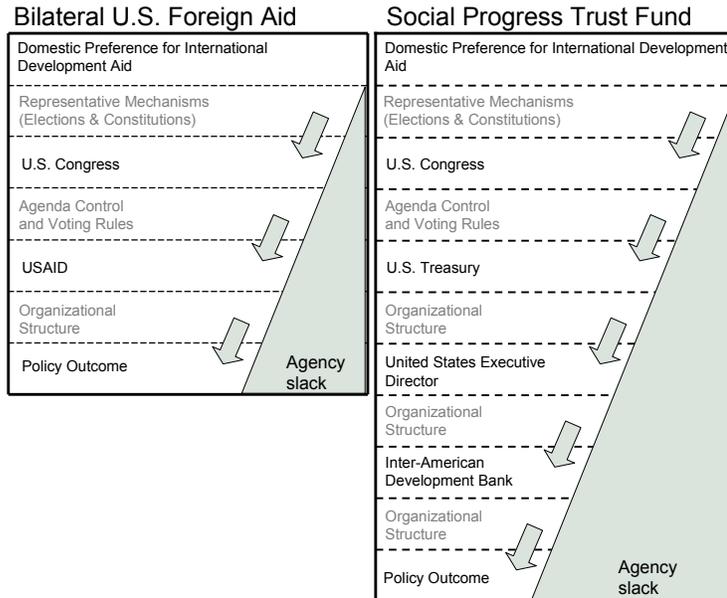
We develop such a test here by examining the U.S. government's pursuit of similar development foreign policy goals through both the USAID and through the IADB. Normally, U.S. influence over IADB-funded projects would be diluted, since the U.S. is only one member of the Bank. However, the establishment of a "trust fund" for a particular development purpose allows a donor to funnel money directly and unilaterally through a multilateral agent – a trend that has grown recently.⁶

In 1960 the U.S. established the Social Policy Trust Fund (SPTF) at the IADB, which had a mandate to fund social projects, and allocated \$525 million to the Fund through early 1964. In 1961 the U.S. Congress passed the Foreign Assistance Act, which authorized USAID to pursue development assistance in the area of social policy in Latin America. We illustrate the delegation chains created to carry out each of these mandates and our hypothesized agency losses in Figure 1 below.

⁵ While reviewing a similar literature Kahler and Lake (2003, 432) explain that fears of a democratic deficit within IOs result in part from "long chains of delegation from democratically elected governments to the newly authoritative bodies." See also Dahl 1999; Upton 2000, 63; Nielson and Tierney 2003, 249-253; Vaubel et. al 2005, 2. For contrasting views, see Lake and McCubbins and Milner, this volume.

⁶ World Bank 2005.

Figure 1: Delegations Chains and Predicted Agency Slack for U.S. Foreign Aid and the Social Progress Trust Fund



In both chains, citizens' communicate foreign policy preferences through elections to Congress, which then deliberates and sets national policy goals.⁷ In the USAID delegation chain, USAID's own internal bureaucratic procedures ultimately turn this Congressional mandate into a policy outcome by funding a set of specific development projects. In the case of delegation to the IADB to administer the SPTF, there are two additional links in the chain. Congress delegates to the U.S. Treasury. Treasury then delegates to the U.S. Executive Director at the IADB, who finally delegates to the staff of the IADB. The bank's internal bureaucratic procedures then turn this mandate into a set of funded development projects.⁸

The delegation chains argument suggests that the longer chain of delegation from ultimate principal to policy outcome through the IADB would typically lead to greater

⁷ Of course, voters have diffuse preferences regarding the promotion of broad US foreign policy goals, such as thwarting communism. In the authorizing legislation, elected officials justified both programs in these terms.

⁸ As one leading analysts suggests, there is agency slippage even between the Treasury Department and the U.S. ED's Office at the development banks. "Instances where U.S. executive directors failed to follow policy decisions by administration authorities have occurred in almost all administrations and should be treated very seriously because they undermine the decisionmaking process and create doubts about who speaks for the United States" (Upton 2000).

agency losses for the U.S. government. An examination of the fate of the SPTF and Congress's evolving rules of oversight are revealing in this regard. A May 1967 Report to the House Committee on Foreign Affairs reviewed projects funded through the SPTF in the Dominican Republic, Brazil and Paraguay. This report documents numerous cases of extreme shirking on the part of IADB officials,⁹ unwillingness to coordinate with USAID officials, and the absence of any results on the ground despite the fact that the vast majority of funds for most projects had been released at least two years prior to the Mission study. It concludes by asserting that the IADB "is an agent for the Social Progress Trust Fund and is accountable to the U.S. Government for the Fund's proper and effective use," and recommends a full review by the General Accounting Office (United States 1967a: 43).

Just three months later, in August 1967, Congress established U.S. oversight rights not only over the SPTF, but also over *any* trust funds administered by IOs for which the U.S. is the sole contributor. The Report of the House Committee on Foreign Affairs on the Foreign Assistance Act of 1967 states that: "The legislation under which the Social Progress Trust Fund was established did not contain any provision relating to audit rights, but the committee believes that it was not the intent of the Congress that the GAO should be denied the right to review the utilization of this fund." In November of the same year, the Congress amended the legislation to explicitly state that the U.S. government had oversight rights over the SPTF: "... it is reasonable and proper for the United States as the sole contributor to the trust fund to ascertain, through a duly authorized auditing agency of the Government, how well the funds have been administered. This requirement *will apply to any other funds which may be provided in the future when the United States is the sole contributor...*" (United States 1967b: 32, emphasis added). Thus, Congress acted explicitly to correct the problem associated with a more distant agent by pulling oversight rights over the ultimate agent away from IADB officials and back to the Congress.

In addition to bolstering oversight mechanisms, the U.S. took two further steps to reduce agency losses for the SPTF. First, in 1973, the U.S. began transferring "a substantial and gradually increasing proportion of the trust funds" to a domestic agent, the Inter American Foundation (United States 1979: 7).¹⁰ Thus, the U.S. created a competing domestic agent to ensure better use of SPTF funds. Second, and perhaps most tellingly, the U.S. terminated new funding and future SPTF money was supplied only by repayments from borrowing countries: after the initial appropriation in 1961, and one additional appropriation in February 1964, the U.S. announced in April of 1964 that it would no longer provide fresh funds to the SPTF (United States 1964:4).¹¹

⁹ For example, there was no permanent IADB representative in Brazil despite the fact that the country received the largest proportion of Bank funds.

¹⁰ Congress created the IAF in 1969 as a government corporation to support grassroots development in Latin America. It also receives direct appropriations from the U.S. government. See Hawkins and Jacoby, this volume, for a discussion of how principals can structure competition between agents to ensure greater compliance with mandates.

¹¹ At its April 1964 meeting in Panama, the Executive Board of the IADB proposed to merge the functions of the SPTF and those of its multilateral soft window and expand the financing of the latter. Yet this was

This history suggests that longer delegation chains may have led to more agency losses, and that principals take action to mitigate such losses. Yet this qualitative discussion is only suggestive. In order to test the argument more systematically, we also performed a preliminary quantitative analysis. We compared 131 projects funded by the SPTF from 1980-1995 to 465 projects funded through the Development Assistance account at USAID in Latin America from 1999-2001.¹² Through authorization and appropriations legislation, the U.S. Congress gave both USAID and the IADB explicit instructions on how to use the funds. Our question: which agent, USAID or the IADB, was more faithful to these instructions from the U.S. government?

In the Latin American Development Act (1960), Congress mandated that the IADB use SPTF money to fund projects for general poverty alleviation, trade expansion, price stabilization, information exchange, trade union democratization, private investment, and institutional support for the Organization of American States. Also, in the Agreement Establishing the Social Progress Trust Fund and its' protocols (U.S. Department of State 1960), Congress directed that SPTF funding go to projects for agriculture, transportation and storage, housing, water supply and sanitation, training and advanced education, and support for credit unions and similar institutions.

Similarly, the Foreign Assistance Act of 1961, its subsequent amendments, and related appropriations directed USAID to use its Development Assistance account to fund projects for agriculture, rural development, nutrition, population, health, education, energy, and private voluntary organizations. Later amendments instructed the agency to fund projects for environmental protection, disaster reconstruction, endangered species preservation, HIV/AIDS prevention and treatment, microenterprise/small business development, and anti-corruption/good governance.

Our research team developed extensive and detailed coding rules for each agency.¹³ Two researchers examined project descriptions and double-coded projects for both the IADB and USAID into the above categories. If a given project did not fit into one of the mandated categories, the researchers coded it as "not authorized." Since our theory suggests that we should see more agency slack at the IADB than USAID, we coded ambiguous projects against our model. That is, we coded ambiguous IADB projects as "authorized" and ambiguous USAID projects as "not authorized." When discrepancies arose, a third researcher mediated disagreements and made final decisions.

no more than a proposal when, at that same meeting, the U.S. announced that it would not provide any new funds to the SPTF.

¹² Data limitations made it impossible for us to compare exactly the same years across the two delegations. Data on USAID administered projects broken down by account is only available after 1999. The SPTF stopped funding projects in 1995. However, our test is nevertheless instructive for two reasons. First, the overarching authorizing legislation which set the key parameters of the contract for each agent was approved in the same year for both organizations. Second, this legislation provides a list of mandated project types for each organization, and we evaluate actual commitments of money against that list.

¹³ See <http://fhss.byu.edu/PolSci/Nielsond/PlaidWebsite/ResearchIndex.htm>

The percent of projects in each mandated category is seen in Table 1, where the IADB projects using SPTF money fell much less frequently into mandated categories than did USAID projects. Tellingly, the IADB neglected several categories of projects that Congress explicitly instructed the bank to fund. This was not the case at USAID, where only HIV/AIDS was entirely ignored as a category.¹⁴

Table 1: Proportion of IADB and USAID Projects in Congressionally Mandated Categories

IADB Categories	Pct	USAID Categories	Pct
Agriculture	41.2%	Agriculture, Rural Development & Nutrition	6.0%
Transportation	0.8%	Population and Health	17.0%
Housing	6.1%	HIV/AIDS	0.0%
Water	2.3%	Education and Training	1.3%
Training	7.6%	Energy	2.8%
Credit	6.9%	Disaster Reconstruction	1.9%
Trade	0.0%	Urban Development	3.4%
Exchange	0.0%	Economic Opportunities	13.8%
Unions	0.0%	Governance	29.9%
Investment	0.0%	Environment & Endangered Species	16.8%
OAS	0.0%	Microenterprise	1.9%
Total Authorized	64.9%		94.8%

Beyond the descriptive statistics, we used these data to perform logistic regressions estimating the probabilities that a given project will be authorized or not. The logit estimation allows us to control for many other factors that may have affected the likelihood of a given project falling into the “authorized” category. For the sake of consistency, we used the same country-specific set of controls employed in the regressions presented later in this chapter. As seen in Table 2, the IADB was significantly less likely (at the .001 level) than USAID (the baseline) to fund projects in categories that were mandated by Congress, all else constant. Holding all controls at their means, the probability that a given project would be authorized decreased by fifty-eight percent when it was funded by the IADB vs. USAID. This suggests substantive as well as statistical significance.

¹⁴ This result should not be interpreted as shirking by USAID, since it funded many such HIV/AIDS projects in Africa during this time period – just as Congress intended. The result is an artifact of our choice to compare USAID projects in Latin America with IADB projects, which are all in Latin America.

Table 2: Logistic Regression for Whether or Not Projects Were Congressionally Authorized

Independent Variables	Coeff.	Std. Err.	z stat.	
IADB Dummy	-4.2126	0.6736	-6.25	***
Infant Mortality	-0.0038	0.0170	-0.23	
Physicians per 1000	1.3679	0.7061	1.94	
Measles Immunization	-0.0152	0.0114	-1.33	
Health Expenditures	-0.2065	0.1299	-1.59	
Fertility Rate	0.1455	0.4210	0.35	
Primary School Enrollment	0.0017	0.0208	0.08	
Public Expenditures on Education	0.2488	0.1732	1.44	
Illiteracy	-0.0034	0.0387	-0.09	
Social Security Expenditures	0.0263	0.0386	0.68	
Paved Roads	0.0192	0.0230	0.84	
Agriculture Value Added	0.1086	0.0422	2.58	*
GDP per capita (in thousands)	0.0011	0.0005	1.99	*
Log of GDP (2000 dollars)	-0.9268	0.2946	-3.15	**
GDP Growth	0.0001	0.0002	0.62	
Exports as Percent of GNP	-0.0701	0.0196	-3.58	***
Domestic Savings Rate	0.0085	0.0284	0.30	
Constant	22.1482	7.4697	2.97	**
Number of observations	596			
Chi-squared	125	***		
Log likelihood	-153			

* $p < .05$

** $p < .01$

*** $p < .001$

Admittedly, this is a simple, first-cut test of the delegation chain argument. It is possible that factors specific to the IADB, such as its preference divergence from the U.S., its potentially hidden information, and its strategies for autonomy, may have led the bank to pursue projects that were not explicitly mandated by Congress.¹⁵ These other factors extend beyond the delegation chain and, given these data, cannot effectively be tested apart from chain length. Perhaps the IADB is simply a less faithful agent than USAID. But this begs the question of why it is less faithful. Given that the projects were mandated for similar purposes by the same principal and that USAID is a much larger bureaucracy with presumably greater opportunities for hidden action and strategies for autonomy, it seems plausible that the length of the delegation chain contributes to the increased slack in IADB projects. Our confidence grows since the quantitative results are consistent with our qualitative analysis of the SPTF. At the very least, the results are consistent with the argument that longer chains cause greater slack.

¹⁵ See Milner, Lake and McCubbins, and Hawkins and Jacoby, this volume.

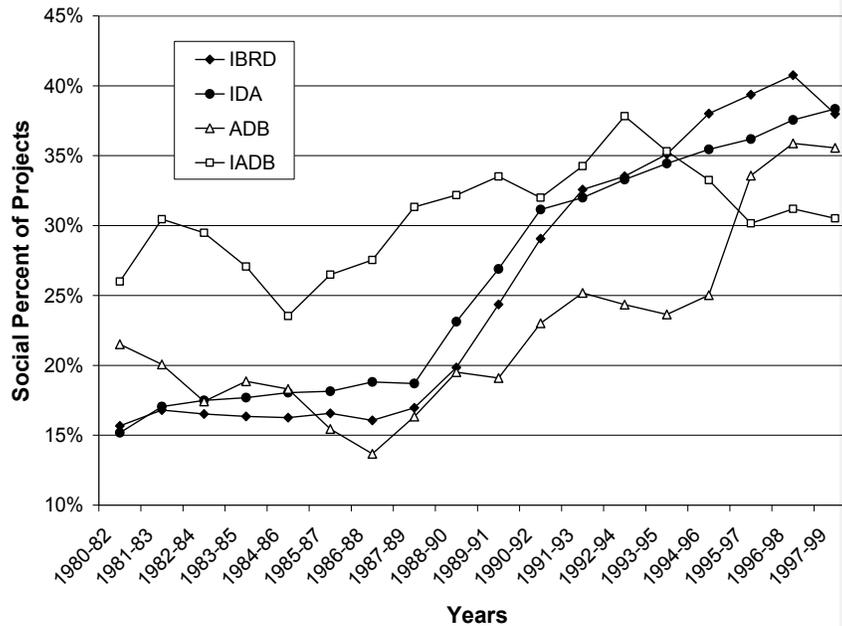
Of course, we recognize here that we have a very basic model of the principal, which we have so far modeled as a single unified entity. Nevertheless, the U.S. Congress itself is composed of 535 individuals who must act collectively in order to give marching orders. Furthermore, both the U.S. Congress and the U.S. Executive give (sometimes conflicting) marching orders to the same agents. Thus, we need more sophisticated models of principals to more accurately capture delegation dynamics. This brings us to a related realm of empirical inquiry at the multilateral development banks (MDBs).

Modeling MDB Principal-Agent Relationships

In the year 1998 total dollars lent for social development at the World Bank – in education, health and safety nets – exceeded loans for the traditional sectors of energy, industry, mining, oil and gas, irrigation, transportation and urban development *combined*. Since such “traditional” sectors had dominated the World Bank’s portfolio since 1945, this change marked a major shift in lending behavior. Echoed among the regional MDBs, this trend toward social projects signals a wholesale change in the focus of multilateral development lending.¹⁶ The trends in social lending at the three major development banks can be seen in Figure 2 below.

¹⁶ Upton 2000; Nielson and Tierney 2003.

**Figure 2: Social Percent of MDB Projects, 1980-1999
(Three-Year Rolling Average)**



Conventional international relations (IR) theory suggests that this shift in MDB behavior should follow from the interests of the great powers, and particularly from the global hegemon. Yet the available data present an empirical puzzle. Preferences for social policy in the advanced industrial democracies – and in the United States especially – have not changed significantly over the last 20 years, and some measures even suggest a decline since the mid-1990s. If we assume that MDBs are responsive to their most powerful members, then MDB social lending should not have increased over the past decade. But social lending moved dramatically upward.

We argue that in order to understand these trends, we must reconsider a number of analytic shortcuts commonly taken in the study of IOs. We improve on the existing literature evaluating the faithfulness of IO agents in four ways, and we test our new model with comprehensive data from the three major multilateral development banks. First, we develop *two different measures* of state preferences, and we *systematically derive* state preferences. Second, we introduce a *new model of the decision-making* process within MDBs and a *systematic method for aggregating the preferences* of member-states for our model and the existing alternatives. Finally, we provide a *systematic and comprehensive empirical analysis*: we include all available observations

of approved projects at the World Bank, the Inter-American Development Bank and the Asian Development Bank from 1980-1999.

Number of Actors

In the study of IOs, the consensus view is that small states do not affect IO behavior in significant ways and thus many empirical examinations explore the influence of great powers or the hegemon.¹⁷ Small states, because they depend much more fully on the international system for their welfare, possess few attractive unilateral options for realizing the gains that IOs provide.¹⁸ Moreover, because they are small, such states are susceptible to side-payments from the larger states.¹⁹

But this view discounts the fact that institutionalization of the international system varies from issue to issue²⁰ and even from IO to IO within the same broad issue area. In some IOs the formal rules that specify functional roles and the distribution of authority within an institution may actually reflect the “real” authority of various members – much as they do in institutionalized domestic polities.²¹ If IO decision rules are efficacious then we must include all member states in our derivation of the delegating principal’s preferences. We believe this to be the case with multilateral development banks.

The voting power of member states and the project approval process within the MDBs is formally articulated in the Articles of Agreement and is similar to the decision process within a joint stock company. Member governments own shares in MDBs and thus have voting rights within the institutions. The number of shares owned by each state is roughly proportional to the amount of capital that each has paid in – an amount that is negotiated upon entry and adjusted depending upon a formula or periodic bargaining among member governments. The staff and management of the Bank typically develop projects in consultation with potential borrowing governments and then present individual projects to the Executive Board for approval.

If a majority of voting shares is cast in favor of a project, then Bank money is appropriated to cover agreed project costs. If a project fails to attract a majority of shares casting votes, then the loan request is rejected. Hence, the politics of loan approval at the MDBs requires the construction of voting majorities on the Board. Observers and Board members note that projects lacking majority support rarely reach the Board. Further, formal roll-call votes are not often taken when a clear consensus in support of a project

¹⁷ Grieco 1988, 1990; Thacker 1999; Oatley and Yackee 2000, 2003; McKeowen and Yackee 2000; Nielson and Tierney 2003.

¹⁸ Katzenstein 1985; Moravcsik 1998; Lake 1999.

¹⁹ Moravcsik 1991, 25-26; Martin 1992; Klepak 2003.

²⁰ Keohane and Nye 1977; Stein 1990.

²¹ A crucial task for both IR and PA theorists is to specify the conditions under which these criteria will hold. Knowing this ex-ante would help scholars to select cases amenable to institutional analysis. In this paper we simply adopt the assumption that institutions are efficacious and test to see whether empirical patterns are consistent with our expectations.

exists. While both these observations are accurate, all negotiations within the Board take place in the shadow of the formal majority rule.²²

Given these decision rules, we argue that the preferences of all member states within an MDB ought to be considered when attempting to explain or predict the behavior of IO agents and ultimately the substantive outcomes that result from this behavior – the type (and amount) of loans made by these MDBs. The selection of relevant member states is not the only analytic choice we believe deserves closer scrutiny. Scholars should systematically derive preferences for member states.

Derivation of Individual Member-State's Preferences

In the case of social lending at the MDBs, we derive two independent measures of member governments' preferences based on their behavior in two realms other than multilateral finance: domestic social policy and bilateral aid for social projects. For the first measure, we assume that states with redistributive welfare states at home should be interested in seeing similar policies and institutions take hold in developing countries. This is a strong assumption. However, there is a growing body of literature demonstrating that domestic social policy preferences map very well into foreign policy for social purposes.²³

Our second measure uses the proportions of foreign aid targeted to social purposes for each donor and recipient, which arguably reflect the social foreign policy preferences of governments more directly. We assume that those governments interested in giving or receiving more bilateral social aid will lobby for similar policies on MDB executive boards. Of course, we recognize that even if bilateral aid is a reasonable proxy for donor country preferences, it may reflect the interests of recipient nations less well, since recipients may have less influence over the type of bilateral grants they receive than they have over the loan contracts that they negotiate with MDBs. Because objections might be raised about either measure of preferences, we employ both here, trusting that if we find similar results using both measures, confidence in our argument should increase. Modeling country preferences is thus the first step in testing PA arguments; the next step requires systematic aggregation of those preferences.

Multiple vs. Collective Principals

Accurate assessments of IO behavior require more sophisticated modeling of the principal than we find in the literature. The simplest PA relationships involve a single principal and a single agent. When more than one actor delegates to an agent, we call this a *complex principal*. A delegation relationship can have one or more principals, and a principal can either be an individual or a corporate entity containing more than one

²² As the former US Executive Director to the ADB explains, "Management is not going to bring a project to the Board unless it knows the project will be approved." Interview with Cinnamon Dornsife, June 2005. See also Piercy interview, June 2005.

²³ See, in particular, Noel and Therien 1995; also, Imbeau 1988, 1989; Pratt 1989; Stokke 1989; Lumsdaine 1993.

individual. Following Kiewiet and McCubbins,²⁴ when a single agent has more than one contract with organizationally distinct principals we label this a delegation relationship with *multiple principals*.²⁵ In international relations, the European Commission is responsible to both the Council of Ministers and the European Parliament.²⁶ Yet, neither the Parliament nor the Council of Ministers requires the consent of the other to monitor, reward, or sanction that agent. Both the Parliament and the Council of Ministers have the formal authority to re-contract, though the Council has many more tools at its disposal than the Parliament, which is limited primarily to one very blunt tool – the censure option.²⁷

The second type of complex principal is designated as a *collective principal*. In the case of a collective-principal, more than one actor designs and has authority over a common contract for a single agent. The most familiar delegation relationships in domestic politics and international relations involve a collective principal. Voters delegate to politicians, legislators delegate to party leaders, and nation states delegate to international organizations. In all these situations a group of actors comes to a decision among themselves and then the group negotiates (or re-negotiates) a contract with an agent. If the group cannot come to a decision a priori, then they cannot change the status quo. This goes for initial hiring decisions, for proposals to renegotiate the agent's employment contract, or for novel authoritative instructions. In all these collective principal situations *there is a single contract between the agent and his collective principal*.

Here, we argue that the collective principal model captures much better the dynamics of delegation to IOs. The only clean instance of multiple principals we could identify in international relations is the European Union example above, and even there specialists disagree with us in this assessment.²⁸ By contrast, all other principals of IOs constitute many countries acting jointly. Thus, we argue that the collective principal model should be used for delegation to IOs. And, as we argue above and demonstrate below, getting the model right has significant implications for conclusions drawn from empirical results. The single principal and both types of complex principals are depicted in Figure 3 below.

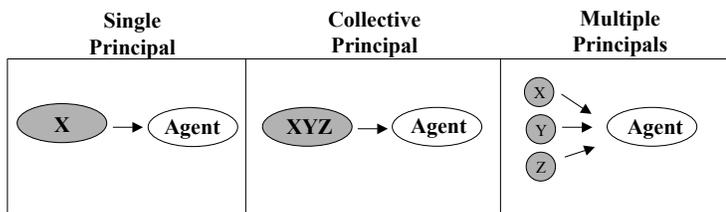
²⁴ Kiewiet and McCubbins 1991.

²⁵ See also Calvert et al (1989) and Hammond and Knott (1996).

²⁶ Pollack 2002.

²⁷ The European Parliament has the authority to remove the entire commission en masse, which it credibly threatened to do (to great effect) in September 1999. According to Hix (1999), the Amsterdam Treaty of 1997 also gave the Parliament the formal power to hold U.S. style confirmation hearings. Today the Parliament has the right to confirm the President of the Commission and the entire College of Commissioners. See also Nugent 2003; Pollack 2003.

²⁸ See Pollack, this volume.

Figure 3: Types of Agency Relationships

These distinct principal structures have implications for how we model principal preferences and how contracts are designed. With multiple principals, modeling principal constraints on agent behavior requires that we capture the independent monitoring and sanctioning power *of each of the principals*. With collective principals, coalition politics – driven by the decision rules for aggregating members’ preferences – will determine the shape of instructions to and contracts with agents.

Modeling Multiple Principals

The leading multiple-principals model suggests that the agent scans the range of principal demands and identifies a point that maximizes the compensation offered by the multiple principals. Principals with more power and resources thus have a greater impact on agent behavior. This is the general result of the original treatment of the common agency problem, by Bernheim and Winston (1986).²⁹ In the Bernheim-Winston equilibrium, the multiple principals all truthfully offer compensation schedules to the agent that accurately reflect their interests and expected gains from delegation. This allows the agent to select an action that maximizes the joint gains to both the principal and the agent.

This model is a good place to start for scholars who wish to model delegation with many independent principals and a single agent who must come to some discrete decision. We can operationalize this model in a relatively straightforward fashion. If analysts have a reasonable proxy for principal resources and a means of locating principals in a policy space according to their preferences, the ideal points for each principal can be imputed where the compensation offered is at its maximum, with the rest of the schedule reflecting the shape of the individual principal’s indifference curve. Once all of these compensation schedules are specified, we can compute which of these offers maximizes the vector sum for the agent, and a unique equilibrium can be identified. We display an example of this model in Table 4 below.

Modeling a Collective Principal

Since most PA relationships studied by scholars of IOs more closely reflect a collective-principal structure, we develop a generalizable collective principal model that

²⁹ For these authors, and most other economists, common agency is equivalent to a multiple principal structure. They do not consider collective principals.

can be employed by empirically-oriented researchers. The key problem here is how to model the decision rules that determine how the members of the collective principal will come to a joint decision. We draw on coalition theory in comparative politics, which suggests ways in which coalitions can be built given majority voting rules. The coalition model we employ highlights *pivotal players* in coalition formation. It allows us to construct an aggregate measure of the collective principal preference.

The pivotal-players model emphasizes the role of veto players in the coalition-formation process. That is, of the many possible connected majority coalitions that might form in unidimensional issue space, some potential members might be “pivotal” in the sense that the combination of their centrist position and their size makes them very attractive coalition partners. Thus, pivotal players can veto a large set of the possible winning coalitions that might form and can extract policy benefits from their coalition partners that their size alone would not necessarily predict. At the same time, as is well-known from the study of multi-party parliamentary regimes, coalition politics means small players can sometimes exert influence far in excess of what their size alone would suggest.

The simplest intuition distinguishing the multiple principals model from the collective principal model is that the collective principal model better captures the constraints that collective decision-making places on those members with the most votes. Whereas the multiple principals vector-sum model implies that outcomes will be closest to the preferences of the most powerful player, the collective principal model explicitly models coalition dynamics which can inflate (or diminish) the influence of less powerful players depending on where they are located within the policy space.

Empirical Applications: MDB Social Lending

Data & Dependent Variable

We apply these dueling models to social lending at the MDBs. Our dataset consists of more than 6,600 loans issued by the World Bank, the Inter-American Development Bank and the Asian Development Bank from 1980 to 1999. The dependent variable is a dummy variable – it takes the value of 1 when the MDB project in question is intended for social development, otherwise the value is 0. We classify MDB projects as “social” when the *primary* intent is to address the following issues: education, health, general welfare, and social safety nets. We identified the universe of projects from the banks’ annual reports and analyzed project descriptions to code every loan.

Independent Variables

Using the two datasets described above, we derive the social policy preferences of member states year-by-year since 1980 and track member states’ voting shares in the MDBs over time. In order to obtain a composite measure of social policy preferences of MDB member states, we constructed a Social Policy Index (SPI).³⁰ We gathered data for

³⁰ For our exemplar, see Esty 2001.

179 countries on 13 distinct measures of social policymaking and social outcomes in three areas: education, health and social protection. Data on these variables were gathered from World Development Indicators.³¹

We standardized the measures, aggregated them into 6 overall indicators (education outcomes, education expenditures, health outcomes, health expenditures, fertility rate and social security expenditures), and then averaged them to generate the social policy index (SPI). We used 1996 as a baseline year from which we calculated a pooled time series for all 179 countries. Our SPI is a comparative measure of social policy outcomes, not an absolute measure. The higher a country's score on our index, the more socially "progressive" are its social outcomes for a given year compared to the 179 countries in the index in 1996. This offers us a relative measure of social policy, which varies over time for a given country and varies across countries within a given year.³²

Our second measure of social policy preferences uses statistics on bilateral foreign aid compiled from the Organization for Economic Cooperation and Development's (OECD) Creditor Reporting System database. Using the same coding system we used for MDB loans, we coded each bilateral grant into social and non-social categories. The percentage of social projects was then computed as a proportion of total projects committed by donor countries or obtained by recipients to derive an overall measure of social foreign policy preferences for each country by year from 1980 to 1999.

We operationalize the collective principal's preference in the following manner. For each bank year we arrayed all countries from highest to lowest for our two measures of preferences (SPI and bilateral social aid percentages). We then summed all possible values of the voting shares of countries adjoining one another, creating a matrix of all potential coalitions. The matrix was 179 by 179 for the bank year with the greatest number of members (IBRD 1999).

For all of the coalitions where the sum of voting shares was greater than .50, we computed the consequence to the potential coalition of each extreme partner's defection. If the defection of a partner on one of the ends of the potential coalition would cause the coalition's collapse (vote shares fell below .50), we counted this as an instance where the defecting country would prove "pivotal." We summed all such instances and then gave each country a "pivotalness" score based on the proportion of all instances where the given country proved pivotal to a potential coalition. We then weighted all countries' SPI and SFA scores by the pivotalness share. Finally, we summed the products of all of the countries' SPI and SFA values multiplied by their pivotalness shares to produce the collective principal's social preferences for each bank year.

We provide a simple example of this technique in Table 3. Along a ten-point scale in issue space, all possible contiguous coalitions are identified. In this example there are five such potential coalitions: (1) ABC, (2) ABCD, (3) ABCDE, (4) BCD, and (5) BCDE. For the first coalition, either actor A or actor C could prove pivotal by

³¹ World Bank 2001.

³² for details on the index, see <http://fhss.byu.edu/PolSci/Nielsond/PlaidWebsite/ResearchIndex.htm>.

defecting. For coalitions 2 and 3 there are no critical defectors (defection does not collapse the coalition below 0.5). For coalition 4 either actor B or D could prove pivotal. And for coalition 5, only actor B could critically defect. The total number of potential critical defections is 5, with actors A, C and D each proving pivotal in 20 percent of the critical defections, and actor B in 40 percent. Actor E is never pivotal. We then weight each actor's ideal point by the "pivotalness" share. Finally, we sum each of these products to produce an overall preference for the collective principal of 5.2.

Table 3: Hypothetical Pivotal Players

Actor	Vote Share	Ideal	Pivotal	Ideal * Pivotal
A	0.2	2	0.2	0.4
B	0.3	5	0.4	2.0
C	0.1	6	0.2	1.2
D	0.3	8	0.2	1.6
E	0.1	9	0.0	0.0
Sum			5.2	

Actors' Ideal Points:

	A	B	C	D	E
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

A different outcome is predicted by the multiple principals model, which predicts agent behavior based on the maximum weighted sum of the compensation schedules offered by the principals, with the weights reflecting the principals' resources. To create a proxy for this, we set ideal points for all members of the three MDBs equal to the countries' SPI score or bilateral aid percent for a given bank year. We then compute compensation schedules weighted by the countries' actual contributions (capital subscriptions) to the banks. This produces a single equilibrium where the weighted sum of the compensation schedules can be maximized.

A hypothetical example is given in Table 4. Here, we compute offered compensation schedules based on ideal points and voting shares. We set the maximum offer at the principal's ideal point and then reduce the offer uniformly over the other possible outcomes, setting a floor of zero, and weight the offer by capital subscriptions/voting share.³³ In this hypothetical, there are two policy outcomes where the compensation is maximized: 5 and 6, with an average of 5.5.

³³ Allowing negative offers (sanctions) does not matter in predicting the outcome provided that they are uniformly scaled across the actors.

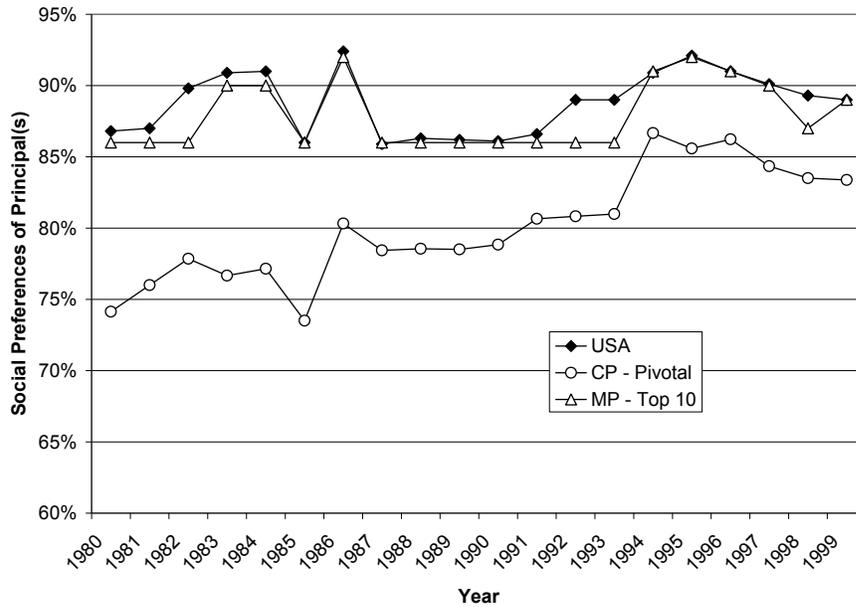
Table 4: Hypothetical Multiple Principal

Actor	Ideal	Vote Share	Compensation Schedules											
			1	2	3	4	5	6	7	8	9	10		
A	2	0.2	0.16	0.20	0.16	0.12	0.08	0.04						
B	5	0.3	0.06	0.12	0.18	0.24	0.30	0.24	0.18	0.12	0.06			
C	6	0.1		0.02	0.04	0.06	0.08	0.10	0.08	0.06	0.04	0.02		
D	8	0.3				0.06	0.12	0.18	0.24	0.30	0.24	0.18		
E	9	0.1					0.02	0.04	0.06	0.08	0.10	0.08		
Overall Agent Compensation			0.22	0.34	0.38	0.48	0.60	0.60	0.56	0.56	0.44	0.28		

Operationalizing the hegemon's preferences at the MDBs is straightforward. We multiplied the United States' SPI and bilateral social aid scores by its voting share for each bank each year. We would expect that hegemonic influence would vary from bank to bank depending on the degree to which the hegemon dominated the other member states. Since voting share at each of the banks is scaled to country GDP, vote share might be reasonably used as a proxy for the weight of hegemonic influence from bank to bank.

Figure 4 displays the proxy measures of principal preferences for the IBRD from 1980 to 1999 produced by the three distinct models using the SPI measure. The SFA measure produced a qualitatively similar graph. As noted previously, it is the marked tendency in IR scholarship to focus solely on the most powerful players in an IO to the exclusion of all other actors. While this is often convenient analytically, it is equivalent to setting the weights for all of the neglected actors at zero. As the figure indicates, this produces significant differences for our measure vs. the alternatives.

Figure 4: Social Preferences for the International Bank for Reconstruction & Development (World Bank), 1980-1999 with Alternative Models of Principal



As illustrated in Figure 4, the measure for social preferences for the United States and the multiple-principals proxy using the top ten member countries track one another quite closely. This is almost certainly because the United States and most of the other top ten World Bank members share closely-aligned social preferences compared to the vast majority of member countries. As depicted, both measures produce high numbers for principals' social policy preferences with a relatively flat trend over the twenty years.³⁴ But the preferences of the United States and the top ten voting members of the Bank do not reflect the preference distribution of the other 169 member countries. Of course, the number of countries examined in a multiple-principals model is arbitrary. To address this problem we specified three different multiple-principals models, the first employing the preferences of the five leading donors to each bank, the second to the G-7 countries, and the third to the top ten donors.

The top-five and top-ten models arbitrarily set a limit on the number of states considered and thus are vulnerable to criticisms of unreliability. The G-7 model is better

³⁴ Ten multiple principals, while a small number, is actually much larger than the number usually considered in IR studies. See Moravcsik 1998, Pollack 2003, Nielson and Tierney 2003, and Martin in this volume.

grounded theoretically in that these seven states actually coordinate policy through regular meetings. However, for the two regional banks – the Inter-American and Asian Development Banks – several members of the G-7 have marginal voting shares that are significantly smaller than large regional players, such as Brazil, Argentina, India and Indonesia. The theoretical foundation for the G-7 measure thus proves much shakier for the regional banks.

Controls

In addition to the independent variables that are central to our argument, we include a large number of control variables. We include **dummy variables** for each **bank**, expecting differences across the banks that our proxy variables for social preferences might not capture. Overall **GDP** and **GDP Per Capita** in 1995 dollars are standard comparative measures and control for the size of a given country's economy and its relative wealth, respectively (World Bank 2001).

We also control for the objective need that given borrower countries might have for social loans, employing measures for **Infant Mortality, Measles Immunizations, Physicians per Thousand, Public Health Expenditures, Paved Roads, Primary School Enrollment, Public Education Expenditures, Literacy Rate and Social Security Expenditures**, and **Fertility Rate. Domestic Savings Rate, Exports as Percent of GNP, GDP Growth, and Agriculture Value Added** are all standard economic controls and might be expected to affect the overall probability that a loan – of any type – will be issued to a given country in a given country year (World Bank 2001).³⁵

Methods and Results

We employed a set of basic logistic regression models, clustered by country (since loans within countries – but not across countries – should be related). These different models represent alternatives for the same independent variable. This means that the models are non-nested – they cannot encompass one another and thus should not be included in the same regression. They are also highly collinear, particularly the hegemonic and the multiple-principals models. For these reasons we ran the variables separately rather than pooling them in the same model.

Because there is a two-year project cycle on average at the MDBs, we lagged all of our independent variables by two years. The loans approved for each year, which comprise our dataset, should reflect the interests of the executive board members from two years before a given annual portfolio is announced more than they reflect the current interests of the board. Thus, all results reported in Tables 5 and 6 for each variable reflect the effects of independent variables lagged by two years.

We argue that the received wisdom that state-principals do not control their IO agents deserves re-examination. Thus we vary the number of member states included in

³⁵ Here, we tested for collinearity and remove all collinear controls that were duplicated or not theoretically justified.

the principal as well as the model of the principal in order to evaluate whether analytic short-cuts commonly employed in the literature are likely to affect results. We expect that when we accurately model the relationships between member states and their IO agent and include all member states in the analysis, the results will show that principal preferences are significant predictors of agent behavior. We should model IOs as subject to collective principals.

As seen in Tables 5 and 6, employing different models of the principal does lead to different results. In Models 1A and 1B, the social preferences of the United States (the hegemon) weighted by voting share in the MDBs proved significant at the .001 level, but in a negative direction. That is, the odds that a given loan would be social actually *decreased significantly* as the weighted social preferences of the United States increased. This suggests that hegemonic influence may not be determinant of social lending at the MDBs in the expected direction. This result flies in the face of other quantitative evidence in other issue areas at other IFIs where the U.S. purportedly determines outcomes.³⁶

In Models 2A and 2B, the proxy for multiple principals' social preferences for the top five donor countries did not prove significant at conventional levels. In Models 3A and 3B the social preferences proxy for the G-7 countries acting as multiple principals was significant for both our measures of preferences at the .05 level. However, as noted above, we are strongly suspicious of the G-7 variable, particularly given the fact that most of the G-7 countries do not have significant voting shares in the IADB and the ADB. It seems untenable that these marginally represented G-7 countries should exert policy influence in MDBs where they have such small voting shares. Moreover, while the coefficient for the G-7 variable is relatively large, the variable itself has a much smaller range (between .86 and .92), indicating that while statistically significant, its substantive impact is minor.

In Model 4A, the proxy for the top ten multiple principals' social preferences using our social policy index was not significant, though in Model 4B the proxy using bilateral aid dollars for social projects was significant. These results for the various multiple principals' models are decidedly mixed, failing in half of the instances to lend confidence that the multiple principals' preferences drive social lending outcomes at the MDBs.

For the collective principal model the proxy for collective social preferences proved significant at the .001 level in the expected direction in both Models 5A and 5B. The results for Model 5A, for example, suggest that an increase from the minimum pivotal-weighted preference of .50 (the IADB in 1981) to the maximum of .87 (the IBRD in 1994) was on average related to a .15 increase in the probability that a given loan would be social. Given that only 27 percent of all loans in the dataset were social loans, a .15 increase in the probability for social loans suggests substantive as well as statistical significance.

³⁶ McKeown 2000; Oatley and Yackee 2000, 2003; Thacker 1999.

Overall, the six different specifications of the multiple-principals model performed inconsistently and weakly, where the collective-principal model, as expected, performed well. The inconsistent findings for the multiple principals models strengthen our contention that tests of PA relationships in IOs using such models may lead to false negative findings, especially when the preferences of all members of the principal are not included.³⁷ The practice of dropping small states from the analysis of IO behavior (and other outcomes as well) is common in the qualitative study of IOs³⁸ but also occurs in quantitative studies that focus on one or a few of the most powerful states within a collective principal.³⁹ In highly institutionalized IOs, such as the MDBs, these results suggest that this common analytic choice may prove misleading.

In sum, we believe these results provide strong support for the view that at least in the case of MDBs, member-state principals *do* control their IO agents. The collective principal model most accurately reflects the decision rules that govern the aggregation of preferences of member states delegating to MDBs. This model consistently demonstrated a substantively and statistically significant relationship between principal preferences and agent behavior.

³⁷ Indeed, when *all* of the member countries are included, the proxy for the multiple principals' preferences does prove significant in the expected direction. This is an interesting result that is very likely driven by the fact that voting shares are exactly equivalent to compensation schedules at the MDBs. But this is a very special case for two reasons. First, we have employed a very simple model of the multiple principal as a first analytic cut. Changing any of our simplifying assumptions would likely mean the results of the collective and multiple principal models diverge. Second, in cases where voting shares in the collective principal are not equivalent to compensation schedules offered by each multiple principal, even this simplified model of the multiple principal would very likely give different results from the collective principal model, even when all states are included.

³⁸ The most prominent example is probably Moravcisk 1998.

³⁹ Thacker 1999, McKeowen 2001, Nielson and Tierney 2003.

Table 5: Logistic Regression Results with Social Loan as Dependent Variable Using the Social Policy Index to Generate Principal Preferences

Independent Variable	Model 1A Hegemon	Model 2A Multiple Principals (Top 5)	Model 3A Multiple Principals (Group of 7)	Model 4A Multiple Principals (Top 10)	Model 5A Collective Principal (Pivotal)
USA Social Preferences	Coeff. -0.142 *** St. Err. 0.033				
Social Prefs. - Top 5 States		Coeff. 1.149 St. Err. 0.623			
Social Prefs. - Group of 7 States			Coeff. 3.599 * St. Err. 1.493		
Social Prefs. - Top 10 States				Coeff. 0.786 St. Err. 0.740	
Social Prefs. - Majority Coalition					Coeff. 3.143 *** St. Err. 0.744
Infant Mortality	Coeff. -0.003 St. Err. 0.002	-0.003 0.002	-0.003 0.002	-0.003 0.002	-0.003 0.002
Physicians per 1000	Coeff. -0.151 * St. Err. 0.074	-0.153 0.080	-0.155 0.080	-0.150 0.080	-0.156 * 0.076
Measles Immunization	Coeff. 0.004 * St. Err. 0.002	0.007 *** 0.001	0.007 *** 0.001	0.007 *** 0.002	0.004 ** 0.002
Health Expenditures	Coeff. -0.048 St. Err. 0.031	-0.060 0.035	-0.062 0.035	-0.061 0.035	-0.053 0.032
Fertility Rate	Coeff. 0.007 St. Err. 0.047	-0.011 0.049	-0.007 0.049	-0.012 0.049	0.003 0.047
Primary School Enrollment	Coeff. 0.002 St. Err. 0.003	0.001 0.003	0.001 0.003	0.001 0.003	0.001 0.003
Public Expenditures on Education	Coeff. -0.041 * St. Err. 0.018	-0.044 * 0.018	-0.047 * 0.019	-0.045 * 0.018	-0.043 * 0.017
Illiteracy	Coeff. 0.003 St. Err. 0.004	0.003 0.004	0.003 0.004	0.003 0.004	0.002 0.004
Social Security Expenditures	Coeff. 0.000 St. Err. 0.005	0.001 0.006	0.000 0.006	0.001 0.006	0.000 0.005
Paved Roads	Coeff. 0.003 St. Err. 0.002	0.003 0.002	0.003 0.002	0.003 0.002	0.003 0.002
Agriculture Value Added	Coeff. -0.010 * St. Err. 0.004	-0.009 * 0.004	-0.009 * 0.004	-0.009 * 0.004	-0.010 * 0.004
GDP per capita (in thousands)	Coeff. 0.049 * St. Err. 0.024	0.040 0.025	0.041 0.025	0.039 0.025	0.046 0.024
GDP in 1995 USD (in billions)	Coeff. 0.759 *** St. Err. 0.179	0.726 *** 0.182	0.715 *** 0.186	0.729 *** 0.184	0.701 *** 0.182
GDP Growth	Coeff. 0.001 St. Err. 0.005	0.000 0.005	0.000 0.005	0.000 0.005	0.000 0.005
Exports as Percent of GNP	Coeff. 0.006 * St. Err. 0.003	0.007 * 0.003	0.007 * 0.003	0.007 * 0.003	0.006 0.003
Domestic Savings Rate	Coeff. -0.006 St. Err. 0.003	-0.006 0.004	-0.006 0.004	-0.006 0.004	-0.005 0.004
IBRD Dummy	Coeff. -0.274 St. Err. 0.167	-0.462 ** 0.153	-0.462 ** 0.154	-0.465 ** 0.153	-0.434 ** 0.153
ADB Dummy	Coeff. -0.928 *** St. Err. 0.185	-0.281 0.161	-0.413 ** 0.151	-0.336 * 0.169	-0.098 0.159

IADB Dummy	Coeff.	1.920***	-0.016	-0.242	-0.102	0.208
	St. Err.	0.527	0.167	0.133	0.179	0.155
Constant	Coeff.	1.416	-1.755*	-3.986**	-1.444	-3.218***
	St. Err.	0.678	0.718	1.396	0.778	0.738
Number of Observations		6636	6636	6636	6636	6636
Log Likelihood		-3804	-3825	-3823	-3826	-3814
Wald Chi-Square		192***	145.1***	187.2***	145.91***	164.26***
* $p < .05$						
** $p < .01$						
*** $p < .001$						

Table 6: Logistic Regression Results with Social Loan as Dependent Variable Using the Bilateral Social Foreign Aid to Generate Principal Preferences

Independent Variable		Model 1B Hegemon	Model 2B Multiple Principals (Top 5)	Model 3B Multiple Principals (Group of 7)	Model 4B Multiple Principals (Top 10)	Model 5B Collective Principal (Pivotal)
USA Social Preferences	Coeff.	-0.162 ***				
	St. Err.	0.032				
Social Prefs. - Top 5 States	Coeff.		0.525			
	St. Err.		0.658			
Social Prefs. - Group of 7 States	Coeff.			2.014 *		
	St. Err.			0.897		
Social Prefs. - Top 10 States	Coeff.				0.804 **	
	St. Err.				0.245	
Social Prefs. - Majority Coalition	Coeff.					2.786 ***
	St. Err.					0.492
Infant Mortality	Coeff.	-0.003	-0.003	-0.003	-0.003	-0.004
	St. Err.	0.002	0.002	0.002	0.002	0.002
Physicians per 1000	Coeff.	-0.163 *	-0.150	-0.152	-0.149	-0.152
	St. Err.	0.076	0.081	0.081	0.081	0.078
Measles Immunization	Coeff.	0.005 **	0.007 ***	0.007 ***	0.008 ***	0.006 ***
	St. Err.	0.002	0.001	0.001	0.001	0.001
Health Expenditures	Coeff.	-0.052	-0.062	-0.062	-0.064	-0.059
	St. Err.	0.031	0.035	0.035	0.036	0.034
Fertility Rate	Coeff.	0.004	-0.014	-0.015	-0.013	0.004
	St. Err.	0.047	0.049	0.049	0.049	0.048
Primary School Enrollment	Coeff.	0.001	0.001	0.001	0.001	0.002
	St. Err.	0.003	0.003	0.003	0.003	0.003
Public Expenditures on Education	Coeff.	-0.043 *	-0.046 *	-0.046 *	-0.045 *	-0.043
	St. Err.	0.018	0.019	0.019	0.019	0.018
Illiteracy	Coeff.	0.003	0.003	0.004	0.004	0.004
	St. Err.	0.004	0.004	0.004	0.004	0.004
Social Security Expenditures	Coeff.	0.001	0.001	0.001	0.001	0.000
	St. Err.	0.005	0.006	0.006	0.006	0.006
Paved Roads	Coeff.	0.003	0.003	0.003	0.003	0.003
	St. Err.	0.002	0.002	0.002	0.002	0.002
Agriculture Value Added	Coeff.	-0.009 *	-0.009 *	-0.009 *	-0.009 *	-0.009
	St. Err.	0.004	0.004	0.004	0.004	0.004
GDP per capita (in thousands)	Coeff.	0.000	0.000	0.000	0.000	0.000
	St. Err.	0.000	0.000	0.000	0.000	0.000
GDP in 1995 USD (in billions)	Coeff.	0.691 ***	0.737 ***	0.722 ***	0.726 ***	0.729 ***
	St. Err.	0.186	0.183	0.185	0.185	0.190
GDP Growth	Coeff.	0.000	0.000	0.000	0.001	0.001
	St. Err.	0.005	0.005	0.005	0.005	0.005
Exports as Percent of GNP	Coeff.	0.006	0.007 *	0.007 *	0.007 *	0.006
	St. Err.	0.003	0.003	0.003	0.003	0.003
Domestic Savings Rate	Coeff.	-0.005	-0.007	-0.007	-0.007	-0.006
	St. Err.	0.004	0.004	0.004	0.004	0.004
IBRD Dummy	Coeff.	-0.387 *	-0.466 **	-0.460 **	-0.419 **	-0.430 **
	St. Err.	0.156	0.153	0.152	0.153	0.158
ADB Dummy	Coeff.	-0.636 ***	-0.464 **	-0.408 **	-0.502 **	-0.322

	St. Err.	0.160	0.157	0.142	0.154	0.153
IADB Dummy	Coeff.	0.637 *	-0.284 *	-0.245	-0.330 *	-0.408 **
	St. Err.	0.211	0.144	0.133	0.141	0.141
Constant	Coeff.	0.175	-0.934 *	-1.460 **	-1.160 *	-1.450 **
	St. Err.	0.483	0.472	0.496	0.456	0.467
Number of Observations		6636	6636	6636	6636	6636
Log Likelihood		-3812	-3826	-3824	-3821	-3807
Wald Chi-Square		206 ***	149 ***	144 ***	185 ***	252 ***
* $p < .05$						
** $p < .01$						
*** $p < .001$						

Conclusion

The goal of this paper was two-fold. First, we empirically assessed claims about the impact of delegation chains on the faithfulness of IO agents. While our test was hardly definitive, we present qualitative and quantitative evidence suggesting that longer delegation chains seem to lead to more agency slack. The analysis also demonstrated that the U.S. principal was aware of this problem and took steps to mitigate such slippage at the IADB and in other possible future delegations by setting broad policy about U.S. prerogatives in all subsequent interactions with MDB agents implementing trust fund projects.

Second, we demonstrate that the models chosen to study delegation to IOs can have important implications for our conclusions about IO faithfulness. As our results show, the distinction between collective and multiple principals is demonstrably important for empirically-oriented researchers. We argue on theoretical grounds that the collective principal model is superior to a single or a multiple-principals model when studying MDBs (and most other IOs), because it more accurately reflects the strategic interaction taking place within the institution. This more accurate model consistently demonstrated a strong statistical and substantive relationship between principal preferences and loan patterns. We believe the greater accuracy of our model, combined with our systematic derivation of preferences and our analysis of comprehensive data, justifies the conclusion that our study provides strong evidence consistent with our argument that member-state principals do control their MDB agents.

We conclude that when testing principal-agent relationships, the number of principals considered and the model employed of the principal matters. It is quite possible that arbitrarily restricting the number of states analyzed, or failing to model the complex principal correctly, will generate false negative (or positive) findings. That is, analysts may conclude that agents are not responsive to principals when in fact agents may well be responsive, just not to a truncated set of member states that does not accurately reflect the operative principal. Similarly, analysts who do not explicitly consider procedures for aggregating preferences within a collective principal may often be evaluating agent behavior based on a conception of agent marching orders that does not correspond to the operative *collective* principal's mandate.

But the modeling issues involving principals, once properly identified, do not introduce challenges to the conceptual underpinnings of principal-agent models. To be sure, they are complicating factors. And, particularly, we should not conflate multiple principals with a collective principal nor truncate the set of principals considered. But if scholars model the dynamics of collective action and collective contract design accurately, our analysis suggests that the basic insights of PA theory hold, even “under anarchy.”

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Figure 1: Nested Principal-Agent Relationships

