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The Business of Development: Trends in Lending by Multilateral Development Banks to Latin America, 1980-2009[1]

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Abstract: In this paper we investigate how country shareholding arrangements affect the lending of multilateral development banks (MDBs) under different economic conditions and over time. To do so, we consider three different "types" of MDBs—one dominated by non-borrowers (the World Bank), another controlled by borrowing countries (the Corporación Andina de Fomento, CAF), and a third where control is more evenly split between borrowers and non-borrowers (the Inter-American Development Bank, IADB)—and a common set of borrowing countries in Latin America. Descriptive statistics as well as econometric analysis based on seemingly unrelated regression estimation (SURE) and panel regressions indicate that the lending of the three MDBs does indeed react in a systematically different way to specific economic conditions. As a general trend, countries increasingly favor the CAF and IADB as a source of multilateral borrowing, while during crisis times World Bank lending tends to increase significantly and more strongly than lending by the CAF. IADB lending also increases very strongly during crises, but remains at a relatively high level throughout. In line with expectations based on the different shareholder arrangements, the paper also finds links between borrower government policy stances and World Bank/IADB lending, but none for the CAF.

[1] This paper benefited from comments by Christopher Kilby, Sebastian Fehler and Ken Shadlen.

I. Introduction

In academic literature as well as general public perception, the World Bank and other multilateral development banks (MDBs) have long been viewed as domineering organizations able to impose themselves upon developing countries. Since the mid-1990s, however, a number of emerging market governments have found themselves in strong financial positions, due to, among other factors, the huge rise in global private capital flows, high foreign exchange income from rising commodity prices and growing export industries, and much-improved fiscal management. Whether these trends represent short-term developments or a more fundamental shift in the world economy is open to debate. But economies such as China, India, Indonesia, Brazil, Mexico and Peru—which together accounted for nearly half (44%) of the World Bank's loan portfolio in 2009—now have well-managed fiscal accounts, low public debt levels, high international reserves, and well-established access to international capital markets.

Despite this sea change in economic conditions for many developing countries, little attention has been paid in academic literature to how this might impact the behavior of MDBs. Considering that MDBs are designed to self-finance their operations mainly from the proceeds of their loans—perhaps the single trait that best explains their remarkable success as an organizational model—this would seem to be a fundamental question. Is borrowing from MDBs on the decline, and if so, are some MDBs facing a more serious drop in lending than others? The academic literature is as yet silent on these issues, despite their far-reaching implications for their stability as financial institutions, and on international development more broadly.

As well, existing research on MDBs focuses almost exclusively on the World Bank, with only occasional references to other large regional MDBs such as the Inter-American Development Bank and the Asian Development Bank.[2] More than 20 MDBs exist,[3] and many are larger lenders to their particular market than the World Bank. Do different MDBs mediate the interests of their country shareholders in different ways? How might the various shareholding arrangements among different MDBs impact their lending operations? Do borrowing countries prefer working with some MDBs over others in different situations?

This paper begins addressing some of these questions by comparing the annual lending of three different MDBs—the World Bank, the Inter-American Development Bank (IADB), and the Andean Development Corporation (*Corporación Andina de Fomento*—CAF)—from 1980 to 2009. We suggest that the lending varies systematically as a function of both: prevailing economic conditions among borrowers, and the type of shareholding arrangement in each MDB. The three types of MDB shareholder arrangements considered are: domination by wealthy donor countries (at the World Bank); stronger but still subordinate influence of borrowing countries (at

[2] Exceptions include Kilby 2006 and 2010, Krasner 1981, IDS 2000, Adams 2005, and Griffith-Jones 2008.

[3] An MDB can be defined as an international organization that: i) is created by international treaty among sovereign nations, which are its shareholders; ii) has the mission of promoting economic development in less developed countries; iii) makes loans largely (but not necessarily exclusively) to sovereign governments; iv) is for the most part financially self-sufficient, without requiring regular contributions from shareholding countries; and v) raises money for lending primarily on private capital markets, with the guarantee of their shareholding countries. See IDS (2000).

the IADB); and complete control by borrowing countries (at the CAF). The operational characteristics of each MDB derived from these shareholder arrangements, we suggest, strongly condition the pattern of their lending in different economic circumstances.

The paper is organized as follows. Section II reviews relevant scholarship on MDBs and derives the hypotheses to be tested. Section III examines trends in aggregate lending commitments by the World Bank, IADB and CAF and three variables proxying economic conditions among borrowing countries. Section IV uses seemingly unrelated regression estimation (SURE) and panel regressions to test the relationship between these variables for ten major Latin American economies. Section V discusses the overall results in the light of possible extensions to other regional development banks. Section VI concludes.

II. Theoretical Underpinnings and Hypotheses

The range of theoretical viewpoints on international organizations (IOs) in general and MDBs in particular in the academic literature is broad, which should come as no surprise. Situated as they are at the junction of international politics, the global economy and the development prospects of millions of the world's poor, it would be surprising indeed if a single theoretical model were adequate to satisfactorily explain MDB behavior. Approaches range from "realist" considerations of power politics (cf. Thacker, 1999; Dreher et al., 2009a and 2009b; Kilby 2010, among many others), a "rationalist" focus on the rules of the game and incentives among main actors in MDB activities (cf. Ascher, 1990; Mosley et al., 1995; Vaubel, 2006; Gutner, 2005), or more sociology-based "constructivist" interpretations of norms and values (Barnett and Finnemore, 1999 and 2004; Babb, 2003). A growing number of scholars are combining constructivist and rationalist approaches, including Nielson, Tierney and Weaver (2006), Weaver (2008) and Chwieroth (2005).

However, it is notable how little existing research even mentions the character of MDBs as financial institutions.[4] Yet their self-financing nature is one of the main reasons MDBs have been so successful over the past six decades: they impose very little direct fiscal costs to wealthy countries, undertake the provision of what is generally considered a global public good—development assistance—and, arguably, further the geopolitical interests of powerful shareholders. MDBs must act in part as income-maximizing (or at least loss-minimizing) organizations to ensure their autonomy and survival. Thus they share certain traits not only with public bureaucracies, but also with private businesses.

The literature arising out of organizational sociology and resource constraints suggests that financial pressures are likely to have very important impacts on the behavior of MDBs. Pfeffer and Salancik (1975) and more recently Barnett and Coleman (2005) emphasize how the drive to secure external resources can strongly shape the strategies and activities taken by an organization as well as individuals within it, even if these strategies and activities are not always in line with the organization's nominal mission. For an MDB, the critical external resource is a portfolio of

[4] Exceptions include Kapur 2002a, Aziz 2004, and Bulow and Rogoff 2005.

interest-generating loans.[5] Hence this theoretical consideration informs our decision to focus on lending patterns as the key variable of interest. Future research can then build on the results of this study to consider if and how changing lending may impact MDB financial sustainability, and in turn the policies and actions of MDBs (for example, possibly leading to competition among MDBs and with private sources of capital).

Another notable shortcoming of existing literature is a single-minded focus on the role of the United States in shaping MDB actions. As Lyne et al. (2009) point out in relation to the World Bank, the US is far from the only shareholder able to influence an MDB. The authors highlight the "complexity" of principals to help explain how policies evolve through the collective preferences of all shareholding countries, as mediated by governance rules. Clearly the US has disproportionate ability to influence the actions of MDBs of which it is a shareholder. But it is overly simplistic to suggest that formal voting rules are merely a façade to disguise US control and that other countries have no role in influencing MDBs. Academic research into MDBs needs to find ways to incorporate the role of other shareholders beyond the US or even the G7 to gain a more realistic understanding of how MDB decisions are actually made and implemented. One notable example in this direction is Kilby's 2010 article on the Asian Development Bank.

The framework of complex principals outlined by Lyne et al. forms the basis for generating the hypotheses to be tested. However, instead of considering the preferences and relative power of each shareholding country, as these authors do, we suggest a simplification: dividing shareholder countries into those that borrow from the MDBs, and those that do not. While all countries have their own particular interests and agendas, the dichotomy between borrowing and non-borrowing countries is particularly important in the context of an MDB, defining two major groups of shareholders that will tend to have divergent interests. Borrowing governments will want MDBs to supply loans and advisory services at as low a cost as possible, with minimum bureaucratic hassles and the least possible limitations on the freedom of the borrowing government. Non-borrowing countries, by contrast, will seek to impose their own ideas about development on borrowers, implement strict control on how resources are spent, and reduce the risk of MDB financial difficulties that they would have to pay for out of their guaranteed capital. The relative power of those two groups, we hypothesize, is a critical feature shaping how each MDB operates and the competitive advantages it has from the point of view of borrowing countries.

Focusing on more than one MDB is obviously necessary to compare the effect of different MDB governance structures. The World Bank, IADB and CAF each represent a different breakdown between borrowing and non-borrowing shareholders. The World Bank is controlled by wealthy non-borrowing countries ("donor dominant"), the IADB has more influence by borrowing countries but is still ultimately under the final control of non-borrowers ("donor predominant"), and the CAF is entirely controlled by the same countries that borrow from it ("borrower dominant").

To facilitate the comparison, we geographically focus on Latin America where all three banks operate in a largely overlapping set of countries. Latin America includes mainly middle-income

[5] A second critical resource is access to private capital markets—an issue incorporated into the theoretical framework, but not used as a dependent variable in this paper.

countries, so that the division of labor within the World Bank, between the IBRD and the International Development Agency (IDA), is less relevant here.[6] Moreover, Latin America is a particularly interesting market for development lending, as many countries have gone from a position of extreme crisis and dependence on MDBs during the 1980s to a position of relative strength more recently. As we will argue, the effect of the different MDB governance structures should become most obvious under changing economic conditions, making Latin America an appropriate context for our analysis. The applicability of this framework to other MDBs operating in other parts of the world is plausible, but would require further research to test.

Because the World Bank is dominated by non-borrowing industrialized countries,[7] it can access capital markets at highly favorable terms for its bonds, and hence has a steady stream of lendable capital at terms well below what many borrowing countries normally get on private markets. At the same time, non-borrowing shareholders have numerous agendas that differ from borrowers, notably project oversight issues (environmental, social and procurement safeguards) and loan conditionality based on their views of development and their political interests. As well, the high number and competing agendas of multiple non-borrowing shareholders lead to multiple layers of bureaucracy and extremely slow loan approval time. Hence, countries will tend to reduce borrowing from the World Bank when their options for sovereign financing (both private and multilateral) increase, and when their borrowing needs decrease. For Latin American countries that, on average, have shown positive fiscal and developmental trends since the 1980s, this should lead to a general **long-term trend** away from World Bank lending. The shift away from the World Bank will be even more pronounced during **boom years**, when a country has less need for borrowing and/or greater access to alternative sources of capital at more attractive terms. In times of **crisis**, however, the World Bank will be best positioned to supply loans to help countries face financial difficulties due to its unparalleled access to global capital markets, and may also provide a positive signaling effect that can help "crowd in" private investment.

The borrower-dominated CAF, by contrast, does not have major industrialized countries as shareholders,[8] and as a result has weaker access to capital markets. Hence the financial terms of its loans are necessarily less attractive than the World Bank's. On the other hand, because it is controlled by the very nations it lends to, the CAF has no incentive to impose the onerous safeguards and policy conditionality that many countries object to in World Bank operations, nor any reason to build up the multiple bureaucratic layers of checks and balances that are so cumbersome at the World Bank. As a result, one can expect that the **long-term trend** of lending by Latin American countries will move towards the CAF as opposed to the World Bank. This effect should be further strengthened as the CAF itself grows in financial strength and gains greater access to international capital markets at increasingly better terms. Over and above the

[6] As detailed in the annex, we include IDA lending to Bolivia in our data, as well as concessional IADB lending to several Latin American countries. The magnitude of concessional lending to the countries and time period under study is quite small and does not significantly impact the results. The CAF recently launched a slightly concessional lending window, but volumes are extremely small and are thus not considered here.

[7] In 2009, non-borrowing members had 63.08% of overall voting power, and of that, the US had 16.36%. The US share constitutes veto power over major changes to structure and policy, such as changing share sizes, amending the articles of agreement and capital increases.

[8] Spain recently joined as CAF shareholders, but it holds only subordinate ("C" class) shares and hence has very limited voting power.

general trend, there should be a shift of lending towards the CAF in **boom** economic conditions when countries have lower borrowing needs and greater access to private funds at a reasonable cost. Even if the CAF rates are still higher than the World Bank rates during a boom in a specific country, that country may prefer to pay a premium interest rate for its limited borrowing needs simply to avoid dealing with the conditionality and safeguards of the World Bank. In times of **crisis**, however, CAF borrowing costs on private markets are likely to rise considerably, thus reducing the attractiveness of CAF loans.

The IADB occupies an intermediate position between the World Bank and the CAF in terms of shareholding structure, with borrowers controlling a slim majority of voting power on individual loan approvals, but with industrialized nations led by the US able to veto any changes to IADB policies and organizational structure.[9] Thus the IADB is likely to enjoy some of the same advantages as the World Bank in terms of access to capital markets and low cost, and also some of the disadvantages such as greater bureaucracy, safeguards and loan conditionality. Because of the IADB's "Latin" character, with most of its staff being from the region's political and economic elite, loan preparation and negotiation might, however, be smoother. Hence, over the **long term** and during **boom** economic times for borrowers, the IADB is expected to see lending rise more (or decrease less) than the World Bank. However, it should not rise as much as for the CAF. Conversely, during **crisis** years, IADB lending should increase more than CAF lending, but less than World Bank lending.

We can sum up the above discussion with the following hypotheses:

> MDBs tend to lend more or less in different economic conditions, for reasons that derive in large measure from the composition of their shareholders into different governance "types":
>
> 1. Under conditions of generally positive fiscal and developmental trends in their borrowing countries, as a **long-term trend** the World Bank (donor dominant MDB) will experience a decline in lending, the CAF (borrower dominant MDB) will experience an increasing trend, and the IADB (donor predominant) will find itself in between.
> 2. **In times of crisis**, the World Bank and, to a lesser degree the IADB, will show an increase in lending, while CAF lending will increase less or even decrease.
> 3. **In boom times**, the World Bank will lend below the normal trend, and less than the CAF. The IADB will again remain in an intermediate position.

III. Descriptive Statistics

To gain an initial idea about the plausibility of our hypotheses, we look at descriptive statistics for (i) all major Latin American economies,[10] and (ii), more specifically, for the five Andean

[9] IADB borrowers had 50.015% of voting power in 2009. As with the World Bank, the US share of 30.006% constitutes veto power over major changes, such as changing share sizes, amending the articles of agreement and capital increases.

[10] The 10 LAC countries used in this section, and later in the regressions, are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay and Venezuela.

nations of Bolivia, Colombia, Ecuador, Peru and Venezuela that are the core clients and original member states of the CAF.[11]

Lending information is based on annual loan commitments, measured in constant 2007 US$ and taken from the annual reports of each of the three MDBs. Commitments are the best indicator of how much a given country at a given moment wants to borrow from an MDB, and the amount an MDB is willing to lend. By contrast, loan disbursements are often stretched out over several years, so that the actual payments cannot be directly related to demand and supply based on economic conditions prevailing at any fixed point in time.

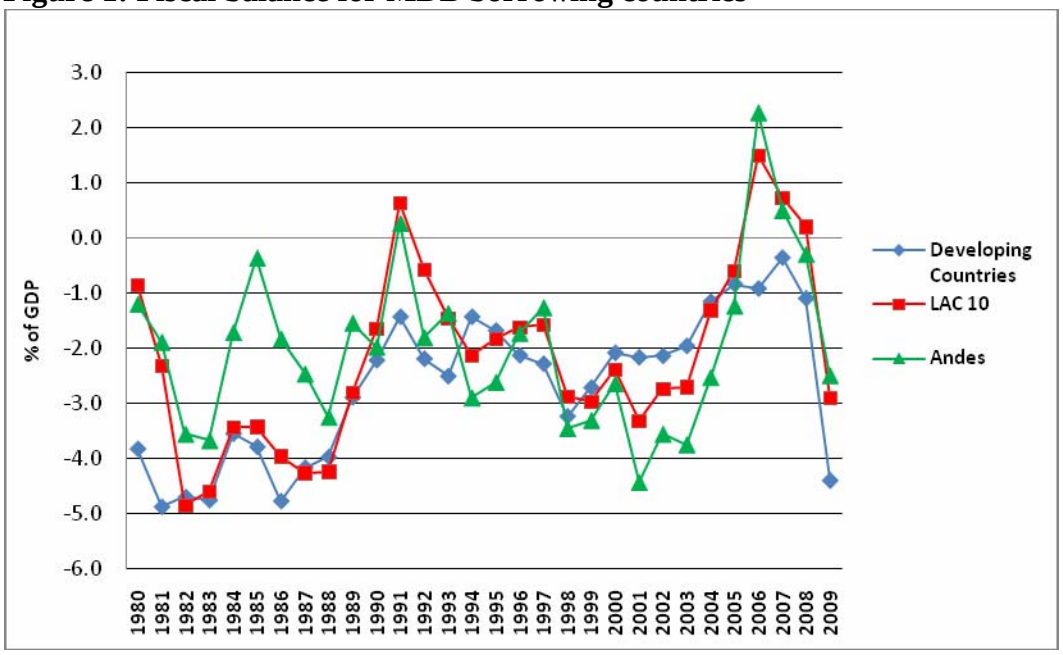
In order to identify economic conditions of booms and crises, we look at three different indicators, namely: (i) the overall fiscal balance of the central government as a share of GDP, (ii) international reserves divided by external short-term debt, and (iii) the rankings for sovereign borrower risk in the annual Institutional Investor index.[12] The time series for each of these macroeconomic indicators are displayed in Figures 1-3. To identify global trends, we also include a series for a broader set of developing countries.

For the most part, the most notable periods of good and bad economic conditions for each of the three country groupings follow patterns that one would expect in light of the major global economic events and trends over the past three decades. In all groupings, **boom years** of strong government finances and high private capital flows can be isolated in 1996-97 and again in 2004-06. The most distinct **crisis years** are apparent in 1982-83, in 1998-99, and in 2009. To a much lesser extent (and not visible in the investor index at all), we observe a slight downturn for Latin American countries around the year 1995, due to Mexico's Tequila Crisis.

[11] Chile was one of the six founding members of the CAF, but withdrew its membership in 1976 under the leadership of General Pinochet. Chile recently rejoined the CAF. In recent years the CAF has begun expanding membership to other Latin American nations, which are considered in the regression analysis. However lending data are limited to the five Andean nations in this section, to facilitate comparisons with the IADB and World Bank.

[12] This index of sovereign debt risk is a consistent time series begun in 1979 and published twice a year in the March and September issues of Institutional Investor magazine. The methodology used is to request the assessment of a given country from 75 to 100 investment bank research departments, with the answers weighted according to the banks' worldwide exposure and the sophistication of their country analysis systems. An indicator tracking the interest rate faced by a government would be ideal here, but this would involve finding out the interest rate a government *would have had* to pay to borrow from private markets, for both bonds and bank loans. This counter-factual cannot be realistically constructed.

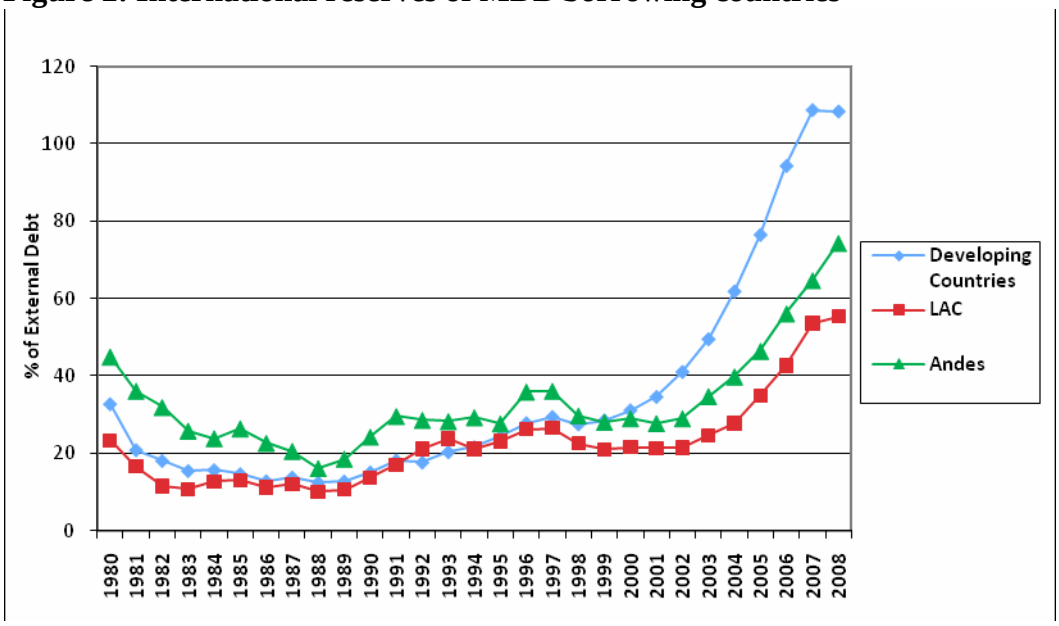
Figure 1: Fiscal balance for MDB borrowing countries



Sources: World Bank, 2009a for all Latin American countries 1980-2008; 2009 from IMF, 2010b. IMF, 2010a (International Financial Statistics database) for non-Latin American developing countries.

Notes: "Developing countries" comprises unweighted average of fifteen major developing countries. "LAC 10" comprises the unweighted average of 10 Latin American economies, while "Andes" represents the unweighted average of Bolivia, Colombia, Ecuador, Peru and Venezuela.

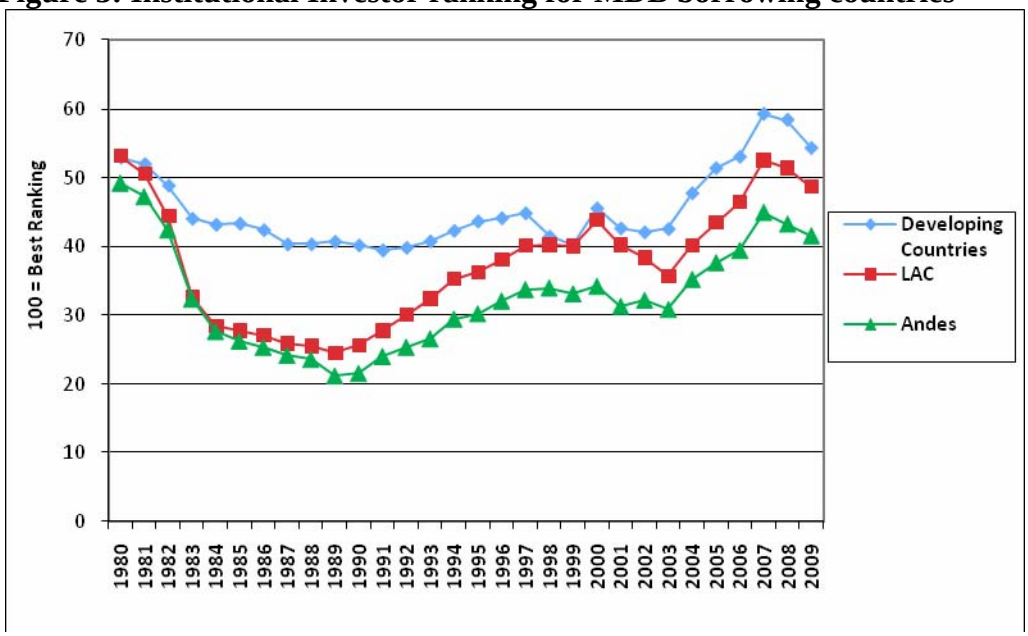
Figure 2: International reserves of MDB borrowing countries



Source: IMF, 2010b.

Notes: "Developing Countries" grouping generated by World Bank, 2010b (Global Development Finance database); "LAC" created using unweighted averages of 10 Latin American countries; "Andes" created using unweighted average of Bolivia, Colombia, Ecuador Peru and Venezuela. Data for 2009 not available.

Figure 3: Institutional Investor ranking for MDB borrowing countries



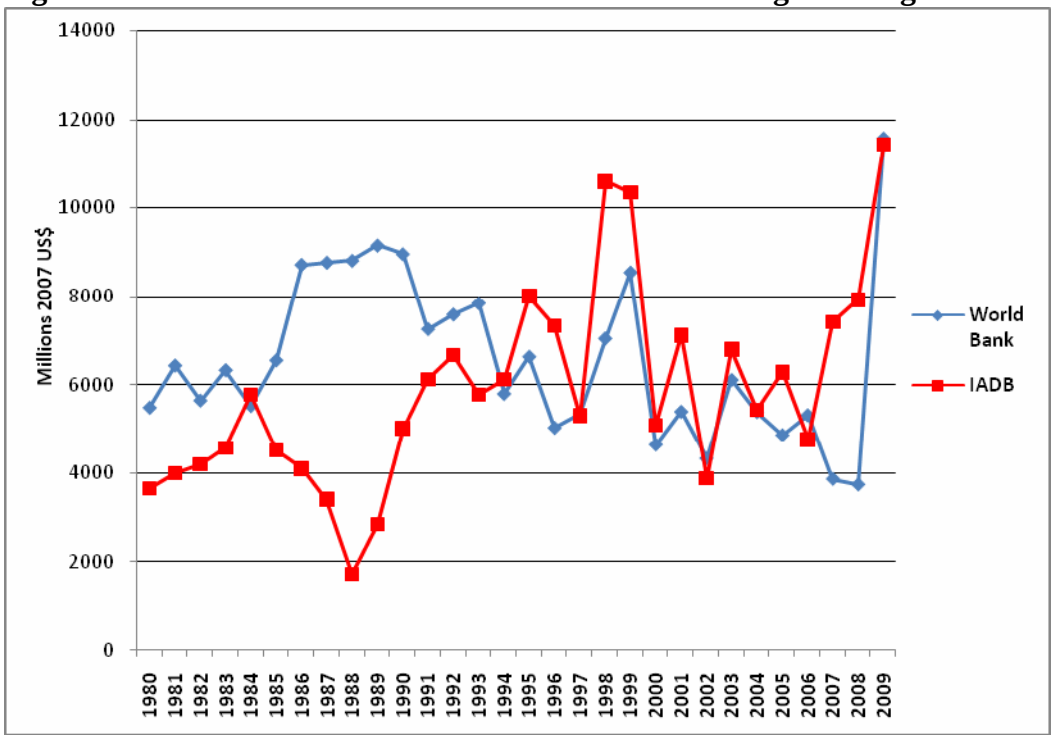
Source: Institutional Investor, 1980-2009.

Notes: "Developing countries" is the unweighted averages of 15 major developing countries; LAC is the unweighted average of ten Latin American economies; and "Andes" is the unweighted average of Bolivia, Colombia, Ecuador, Peru and Venezuela.

We now compare these time periods with trends in MDB lending, first reviewing the lending of the World Bank and IADB in all of Latin America (Figure 4), and second comparing the lending of all three MDBs in the five countries of the Andean region—Bolivia, Colombia, Ecuador, Peru and Venezuela (Figure 5).

The comparison of World Bank and IADB lending commitments in Latin America appears to be generally consistent with our hypotheses. The prediction that the IADB should out-lend the World Bank over the long run and particularly during periods of positive economic circumstances among borrowers (1996-97 and 2004-06) appears to hold true. It is notable that the IADB's lending is only marginally above the World Bank in both cases, though. This suggests that whatever may be driving the growing supremacy of the IADB over the World Bank as a multilateral lender in Latin America, the World Bank is still a highly important source of development lending in the region.

Figure 4: Latin American and Caribbean annual sovereign lending commitments



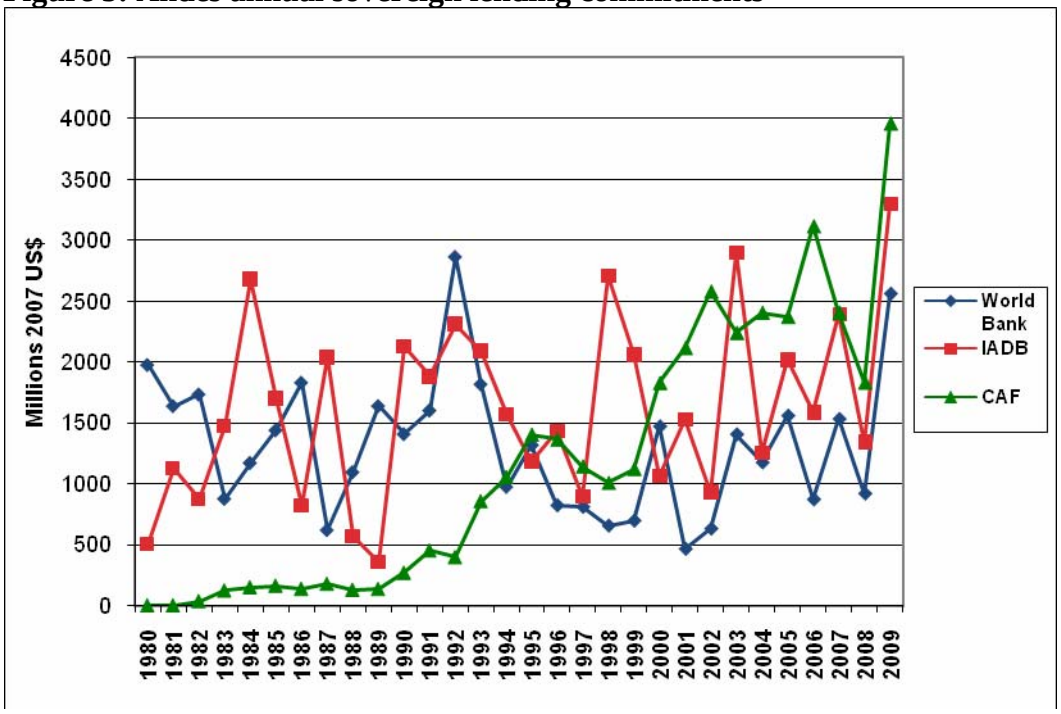
Sources: World Bank, 1980-2009a, and IADB, 1980-2009.

The evidence for crises periods is somewhat mixed. During times of major crisis after 1990 (1998-99 and 2009), lending by both the IADB and World Bank rose, although contrary to expectations the IADB actually committed more loans than the World Bank. The same is true for the smaller crisis in 1995. However, the crisis in the early 1980s (1982-83) is not reflected in the World Bank lending series at all.

We also observe a major decline IADB lending just after the crisis of the early 1980s, which the historical record indicates is due to political rather than economic determinants. In fact, during the mid and late 1980s, the Reagan administration held up a much-needed capital increase for the IADB because of major disagreements with then-IADB president Antonio Ortiz Mena and a number of borrowing countries. This led to a sharp downturn in lending evident in the mid 1980s. In 1988, Ortiz Mena resigned and a deal was brokered by incoming president Enrique Iglesias to complete the capital increase, and lending began returning to the previous trend by 1990.

The five countries of Bolivia, Colombia, Ecuador, Peru and Venezuela constitute the region for which lending commitments by all three MDBs can be most directly compared. By the late 1990s, the CAF had established a clear and widening superiority in annual lending commitments in the Andes, with the IADB in the second position and the World Bank lending the least of the three. These outcomes are in line with our hypotheses. Evidently, the higher costs attached to CAF sovereign loans compared to the other two MDBs are offset by other advantages that lead countries to prefer its loans over the IADB and, especially, the World Bank.

Figure 5: Andes annual sovereign lending commitments



Sources: World Bank, 1980-2009a, IADB, 1980-2009, and CAF, 1980-2009a and 2009b.

Outcomes during boom years also conform to expectations. The gap between CAF lending and that of the World Bank grew noticeably during the boom years of the mid-2000s and also

(although less clearly so) during 1996-1997. The gap between the CAF and the IADB during boom years was narrower but also apparent—again in line with expectations.[13]

During the crisis years of 1998-99, IADB lending in the Andes rose as predicted, but World Bank lending actually fell during those years. The credit crunch of 2009 did trigger a notable increase in World Bank lending in the Andes, but again less than the IADB. The dip in CAF lending commitments in the late 1990s is consistent with the hypothesis that during times of crises the CAF will be a less successful lender, because of its more limited and expensive access to capital markets compared to the AAA-rated World Bank and IADB. The lending drop off in 2008 is also consistent with this, as global credit markets began tightening, but the subsequent spike in 2009 is not. However, in the descriptive, graphical analysis, it is not possible to clearly distinguish this increase from the CAF's long-term trend of increased lending.

IV. Estimation methodology and regression results

The previous graphical overview provides us with an initial illustration of the situation at hand, and with some tentative evidence for the hypotheses derived in Section II. However, in this simple framework we could neither control for the influence of additional variables that may interfere with the effects we are interested in, nor could we distinguish between regional or global developments, and effects related to the economic development in individual countries. A multivariate framework can help address these issues.

In the following, we first provide more details on the specification of the explanatory variables and the selection of the econometric estimation strategy. Second, we present the corresponding results with respect to the central hypotheses derived in Section II. And third, we point to some interesting complementary outcomes related to the policy controls included in the regressions.

a. Variable specification and choice of estimation models

To derive the hypothesis on the relationship between lending and economic developments, Section II employs arguments related to booms and busts at both the national and the global level. This distinction requires further explanation in order to motivate our operationalization.

On the one hand, the difference in MDB financing costs—and hence its loan price—is expected to vary as a function of global or at least regional developments. As argued before, the World Bank is thought to benefit from the best conditions on international financial markets, closely followed by IADB, while the CAF should pay a markedly higher price. We expect the price differential between the banks to be narrower in general boom times, while it should widen during global downturns.

[13] The spike in IADB Andes lending in 2003 is due entirely to more than US$2 billion in loans to Colombia that year, while lending in the rest of the Andes did not fluctuate notably compared to 2002 or 2004. The reasons behind that particularly large loan are not clear—Colombia also showed a striking jump in disbursements from private creditors that year. While the country did run a fairly large budget deficit that year (4.2% of GDP), it was actually smaller than the previous five years, and international reserves did not show a major shift either. Possibly the increased demand was related to the incoming Uribe administration's counter-insurgency effort.

On the other hand, a country's individual economic situation is also thought to play a role. If an individual country faces a particularly bad economic downturn, it may turn to the World Bank not just because of loan cost, but also to signal its willingness to change policies, and accept policy conditionality either as a condition to access needed funding or as part of a truly intended policy change. In situations of relative strength, borrower governments tend to conceive policy conditionality as an undue interference of foreign powers with their national authority. Thus when an individual country faces a boom, it requires relatively little external finance, and for the limited amount required, it may be willing to turn to slightly more expensive financing options if they allow the government to avoid policy interference.

We therefore include crisis and boom variables at both the country and the global (or regional) level into our regression analysis. The former refer to the individual country's booms or financial crises, and the latter are expressed as dummy variables for general boom or bust periods, simply reflecting the periods highlighted in the previous section.

Country-level indicators for crises and booms are derived from information on deficits, international reserves and investor rankings for each individual country. We consider that a country is in a financial crisis if it meets at least two out of the following three conditions: (i) a deficit $\geq 5\%$ of GDP, (ii) reserves/short term external debt ≤ 0.5, and (iii) an Institutional Investor ranking ≤ 20 (out of 100). While these thresholds are somewhat arbitrary, they are informed by what is generally considered acceptable in the literature (see, e.g., IMF, 2000), by EU rules and regulations (e.g., the limitation of the deficit to 3% in the Stability and Growth Pact), and by the magazine's own interpretation of its rankings.[14] Moreover, we carried out robustness checks by moving the thresholds towards weaker crises, but this did not bring about any substantive change in our results.

We found it more difficult to find guidance with respect to the threshold for country-level booms. We decided to define this indicator only as a function of international reserves, whereby we consider as a boom when a country increases its reserves by more than 10% within a single year, starting from a reserve level above average. Again, changing this indicator in different ways does not substantially alter the results.

Only our first hypothesis on the general time trend towards the CAF, away from the World Bank, and in between the other two for the IADB, does not require any complementary specification at the individual country level. We use a simple count variable, the year of observation, to depict the annual trend.

Further details on these and all other variables used in the regression are provided in Annex 1.

Conceptually, our argumentation is based on the idea that for any Latin American country, borrowing from the World Bank, the CAF and/or the IADB must be considered as joint decisions, because these banks compete in a common market. This also has consequences for the choice of our regression model. If lending by different MDBs is not determined independently

[14] Institutional Investor considers that a ranking below 20 means a country cannot access international private credit at any price.

from each other, this information can be taken into account to obtain more efficient regression estimates. We therefore use seemingly unrelated regression estimation (SURE) that allows error terms to be correlated across equations. As our hypotheses also require a comparison of the effects of crises, booms and trend variables for the different MDBs, we further test for differences in the respective coefficients across regression equations, using Wald tests.

Tables 1 and 2 present the SURE results for two different sets of control variables. While Table 1 only includes GDP per capita, Table 2 further includes three policy variables that will be discussed in more detail below. We also consider a number of other controls, such as: information on MDB loan cost for the borrower, the international interest rate (approximated by the rate for US treasury bonds), population size, world growth, and a dummy for the Reagan administration blocking IADB refunding in the late 1980s (cf. Section III). For the most part, they are totally insignificant.[15] The only exception is population, but it turns out that this is primarily due to a strong time trend that we prefer to capture with a simple annual trend variable. The relevant differences in country size are captured by country fixed effects.

The lack of any significance of information on loan cost may be more surprising. More general developments of loan cost related to economic and financial crises or booms should be captured by those variables designed to test our hypotheses. However, there is important MDB-specific variation in fees and interest rate for different lending products that is not directly related to these global economic developments. The problem may be that we do not have comparable time series information on MDB-specific interest rates.[16] Thus even when we include the available information on commitment and front-end fees, price information remains incomplete.

[15] This matches Ratha's (1999) finding on the demand for World Bank lending.

[16] MDB lending rates are not easily comparable either to one another or even for the same MDB in a time series, as the type and terms of loans have changed numerous times over the years, with several options (single currency or currency pool; local currency; fixed, adjustable or Libor-based; different maturities; etc.).

Table 1: Regression specification 1 – SURE

	World Bank lending in million US$ (const. 2007)		CAF lending in million US$ (const. 2007)		IADB lending in million US$ (const. 2007)	
Annual trend	-7.70		15.54	***	14.96	**
	(0.15)		(0.00)		(0.01)	
Country crisis	-275.96		-14.34		41.96	
	(0.17)		(0.80)		(0.84)	
DU_1982_83	-175.85		44.72		64.24	
	(0.17)		(0.22)		(0.64)	
DU_1995	12.89		10.18		268.21	
	(0.94)		(0.83)		(0.13)	
DU_1998_99	161.70		-47.74		489.64	***
	(0.19)		(0.17)		(0.00)	
DU_2009	734.69	***	240.52	***	471.08	**
	(0.00)		(0.00)		(0.02)	
Country boom	-152.60	*	32.86		133.93	
	(0.08)		(0.18)		(0.15)	
DU_1996_97	-81.37		-1.28		66.48	
	(0.51)		(0.97)		(0.60)	
DU_2004_06	40.43		58.46	*	-125.09	
	(0.73)		(0.07)		(0.30)	
GDP per capita	-0.04		-0.03	***	-0.04	
	(0.14)		(0.00)		(0.25)	
N	300		300		300	
T	30		30		30	
R^2	64%		58%		44%	

Breusch-Pagan test of independence: Chi2(3)=3.74, p=0.29

Notes: *, **, and *** denote significance at the 10%, 5%, and 1% level; p-values in parentheses. All regressions include country fixed effects. Coefficients of fixed effects and constant are not shown.

Table 2: Regression specification 2 – SURE including policy controls

	World Bank lending in million US$ (const. 2007)		CAF lending in million US$ (const. 2007)		IADB lending in million US$ (const. 2007)	
Annual trend	-13.15	*	18.96	***	22.37	***
	(0.08)		(0.00)		(0.01)	
Country crisis	-6.55		-17.27		438.38	
	(0.98)		(0.79)		(0.17)	
DU_1982_83	-211.70		71.11		39.61	
	(0.23)		(0.16)		(0.84)	
DU_1995	-45.33		16.09		163.66	
	(0.79)		(0.74)		(0.37)	
DU_1998_99	158.36		-53.75		364.95	***
	(0.23)		(0.13)		(0.01)	
DU_2009	875.10	***	216.76	***	413.17	**
	(0.00)		(0.00)		(0.05)	
Country boom	-69.50		2.59		143.56	
	(0.50)		(0.93)		(0.20)	
DU_1996_97	-135.02		6.30		-54.68	
	(0.28)		(0.86)		(0.69)	
DU_2004_06	101.68		46.17		-71.78	
	(0.38)		(0.16)		(0.57)	
GDP per capita	-0.03		-0.04	***	-0.04	
	(0.39)		(0.00)		(0.26)	
Inflation	-0.07				-0.10	**
	(0.11)				(0.03)	
UN voting with US	-77.26				197.46	**
	(0.36)				(0.03)	
Government ideology	-210.20	***			-89.43	
	(0.00)				(0.12)	
N	270		270		270	
T	27		27		27	
R^2	66%		60%		47%	

Breusch-Pagan test of independence: Chi2(3)=3.22, p=0.35

Notes: *, **, and *** denote significance at the 10%, 5%, and 1% level; p-values in parentheses. All regressions include country fixed effects. Coefficients of fixed effects and constant are not shown.

Table 3 replicates the SURE regressions of Table 2 using the same set of variables, but independent regressions for each bank. While conceptually the equations for the three banks should be related, the Breusch-Pagan test (see results under Table 1 and 2) does not reject independence as soon as we enter a relevant number of explanatory variables and controls. The independent estimation allows us to more easily include panel corrected standard errors and a panel adjusted Prais-Winston correction for first order serial correlation. This robustness check appears important, as the Baltagi-Li test for first order serial correlation suggests that we do have a certain autocorrelation problem. Generally, our setting with only ten countries and a (relatively) large T calls for taking the time series properties seriously. Moreover, the data structure suggests

considering the possible correlations of error terms across panels, for any given year (along with our country fixed effects taking into account similarities within panels).

Table 3: Regression specification 3 – individual PCSE regressions

	World Bank lending in million US$ (const. 2007)		CAF lending in million US$ (const. 2007)		IADB lending in million US$ (const. 2007)	
Annual trend	-11.11	**	13.21	***	21.56	***
	(0.05)		(0.00)		(0.00)	
Country crisis	-69.23		-61.03		398.37	*
	(0.73)		(0.42)		(0.09)	
DU_1982_83	-146.93		5.52		29.36	
	(0.16)		(0.84)		(0.79)	
DU_1995	-14.04		7.43		165.85	
	(0.89)		(0.81)		(0.10)	
DU_1998_99	172.12	**	-52.42	*	382.98	***
	(0.04)		(0.07)		(0.00)	
DU_2009	853.10	***	215.21	***	408.34	***
	(0.00)		(0.00)		(0.00)	
Country boom	-71.28		-7.88		139.01	
	(0.50)		(0.69)		(0.24)	
DU_1996_97	-119.06		-5.84		-46.34	
	(0.15)		(0.85)		(0.56)	
DU_2004_06	87.72		62.45	**	-80.50	
	(0.23)		(0.01)		(0.27)	
GDP per capita	-0.03		-0.02		-0.04	
	(0.22)		(0.19)		(0.20)	
Inflation	-0.05				-0.10	**
	(0.14)				(0.02)	
UN voting with US	-67.96				172.53	**
	(0.34)				(0.01)	
Government ideology	-199.87	***			-88.36	
	(0.00)				(0.13)	
N	270		300		270	
T	27		30		27	
R^2	60%		34%		43%	

Notes: *, **, and *** denote significance at the 10%, 5%, and 1% level; p-values in parentheses. All regressions include country fixed effects. Coefficients of fixed effects and constant are not shown. The regressions in this table are corrected for first order serial correlation (using a panel adjusted Prais Winsten approach).

We now discuss the results for our main explanatory variables, and then turn to some interesting outcomes with respect to our control variables.

b. Evidence for differences in lending conditional on economic developments

According to Hypothesis 1, we should expect a general downward trend for World Bank lending, an upward trend for CAF lending, and something in between for IADB lending. Regressions coefficients in all three tables confirm those trends for the World Bank and the CAF. All estimates are significant, or at least close to significant (World Bank regression in Table 1). However, the IADB does not lie in between the two other MDBs. Over the full period from 1980 to 2009, its upward trend is about as strong as the CAF. The Wald test comparing the annual trend coefficients for the CAF and the IADB does reject that they are equal for either Table 1 or Table 2. In Table 3, the positive trend for IADB lending even appears substantially stronger than for the CAF. Thus, Hypothesis 1 finds clear support for the expected relationship between World Bank and CAF, and between World Bank and IADB (with absolute and relative downward trends for the World Bank in both cases). However, the upward trend of IADB lending is stronger than predicted, so that the comparison between IADB and CAF does not yield the expected result.

According to Hypothesis 2, countries tend to turn towards the World Bank in times of financial and economic crisis, while the IADB and the CAF are only second and third best options, respectively. As countries generally require more financial resources during such periods, this hypothesis does not imply that only the coefficient for World Bank lending should be positive. However, it leads us to expect that the coefficient for the World Bank should clearly be significantly different from zero, and significantly greater than the coefficient for the IADB and for the CAF. Moreover, the coefficient for the IADB should be significantly greater (which may also mean significantly less negative) than the one for the CAF.

Let us first consider national crises. At given levels of the international economy, individual country crises do not show the expected positive effect on the volume of World Bank lending. The coefficient is insignificant and negative in all three specifications. It is positive only for IADB, and significantly so in Table 3. The size of the coefficient increases substantially in the models that control for policy variables (Tables 2 and 3). However, given the high standard errors for the coefficient of the country crises in the CAF and the World Bank regressions, a Wald test comparing these coefficients with the coefficient in the IADB regression cannot reject that they are equal. Thus, even that part of our hypothesis, suggesting that, ceteris paribus, in such situations the IADB should be lending more than the CAF does not find any clear statistical support. All in all, the expected incentive for governments to turn towards the World Bank first, the IADB second, and the CAF third during national economic crises does not find any reflection in our data.

We consider now whether the situation is different when we look at global or regional crises, which are expected to widen the gap between the refinancing costs of the three banks. In this context, we look at four different periods of crises: 1982-83, 1995, 1998-99, and 2009. Again, our hypothesis leads us to expect that the coefficient for the World Bank should clearly be significantly different from zero, and significantly greater than the coefficient for the IADB and for the CAF. Moreover, the coefficient for the IADB should be significantly greater than the one for the CAF.

The first two crisis periods considered are not in line with this expectation. At the same time, we might want to concede that 1995 is a crisis, which mainly hit a single country, namely Mexico,

while the 1982-83 crisis came up at a time where the CAF was still in an embryonic stage as a multilateral lender. The other two crises meet both criteria: they are truly international and the CAF is fully operational. And here, we do indeed find relatively strong evidence for our hypothesis.

The year 2009 corresponds fully to our predictions. The coefficients are strongly positive and significant for the World Bank in all regression specifications. While the coefficients for CAF and IADB are also significantly different from zero, they are substantially smaller, with the CAF coefficient being the smallest. A Wald test confirms that all of these differences are jointly significant at the 5% level.

The period 1998-99 shows a smaller and less clearly significant coefficient for the World Bank. It is, in fact, significant only in Table 3. However, the difference to the (negative) CAF coefficient is significant throughout. This provides support for our hypothesis. Equally in line with our hypothesis, IADB lending increases significantly more than CAF lending during this period. However, just as with respect to the time trend discussed above, IADB lending is stronger than expected, with a coefficient much higher than for the World Bank (and significantly so for the regression specifications in Table 1).

All in all, we can conclude that Hypothesis 2 does find some support as far as global crises are concerned. The price of lending depending on global economic developments appears to play a stronger role than individual governments' wishes to signal their policy change in times of pure country-level crises. But even for global economic crises, the role of the IADB is partially unexpected. In 1998-99, its rise in lending is stronger than for the World Bank, a result which is not in line with our hypothesis and similar to the unexpectedly strong time trend observed for the IADB in the context of Hypothesis 1.

Turning to Hypothesis 3 on economic booms, we again distinguish between situations generated by country-level and global upswings. Rather than to simply provide the flip-side of what we have just observed for busts, the individual country situation during a boom seems to be more in line with our hypothesis. What we expect is that during economic booms, countries will tend to avoid the World Bank, and be drawn most, if at all, towards the CAF.

Indeed the coefficient for country booms is negative in the World Bank regressions, although it is significantly different from zero only as long as no policy controls are entered into the model (Table 1). Equally in line with our hypothesis, it is significantly smaller than the corresponding coefficient in the IADB equation, and also smaller than the coefficient in the CAF equation, although the latter difference is not statistically significant due to the relatively high standard error for the CAF.

Again, we observe that IADB lending runs counter our expectations in that it does not significantly differ from CAF lending during country booms. The size of the coefficients in fact suggests that, if at all, countries tend to turn towards the IADB rather than towards the CAF in such situations. But in any case, our evidence is consistent with the argument that governments receive less money from the World Bank when the national economy booms. Unfortunately, we cannot distinguish whether this is really driven by demand-side considerations (governments

avoiding the World Bank in times of booms) or simply by the fact that the World Bank itself avoids lending to countries as long as they have other options.

Global level upswings do not seem to result in the same effect. For the two periods observed (1996-97 and 2004-06), the coefficients for the three different MDBs vary widely, are largely insignificant, and also insignificant when compared to each other. The only exception is CAF lending during the 2004-06 period, which indeed significantly increases during this boom period—in line with our hypothesis. However, we cannot statistically establish a clear difference to World Bank lending for which the coefficient is similarly high or even higher (without, however, being significantly different from zero).

All in all, the empirical evidence provides mixed support for our hypotheses. Comparing World Bank and CAF lending, the expectations about the overall time trend as well as on the effect of global level crises and country-level booms are broadly confirmed. Evidence for the effect of country-level crises and global booms is less supportive. And finally, the IADB seems to be much more relevant in overall lending than expected in any of the three hypotheses.

c. Additional regression outcomes

Let us finally consider our control variables. In all our specifications, we include GDP per capita, which turns out to be significant or close to significant in many regressions. It is an indicator of economic need and should thus reflect some country-specific demand side considerations that are less volatile than economic business cycles. The coefficients are about equal for the three MDBs and relatively small—implying that a difference of US$ 1000 in GDP per capita (PPP) would typically lead to a difference of around USS$30 million in lending by each of the banks (with the poorer countries receiving more lending). While the coefficients appear more clearly significant for the CAF than for the two other banks in Tables 1 and 2, this is an artifact of general economic recovery in several Latin American countries coinciding with the CAF becoming fully operational. When serial correlation driven by continuous zero lending of the CAF to a number of countries during the 1980s is controlled for in Table 3 (or when the 1980s are deleted from the sample) the effect is no more significant for the CAF.

Other predominantly economic variables we included in some prior regressions (not presented here) did not show any significant effect at all. However, policy variables (national inflation rates, voting with the US in the UN General Assembly, and government ideology) clearly increase the explanatory power of the model. Just as suggested in the discussion on governance structures and donor agendas, these variables are relevant determinants of lending commitments only for the World Bank and the IADB.

Both the World Bank and the IADB appear to negatively consider high inflation rates, which they may interpret as a signal of bad financial governance. While the effect just fails to be significant at conventional levels for the World Bank, it is clearly significant for the IADB. Only the CAF does not seem to consider financial governance at all. Borrower country inflation rates are fully insignificant in any CAF regression, and thus left out in the final specification presented in the paper.

The other two variables can be considered as measures of the political inclination of the government. UN voting, especially on votes that the US considers strategic, is frequently used in this context in prior studies to test linkages with US influence in multilateral institutions.[17] The ideology variable we include[18] could capture a similar effect, and could also indicate a tendency for a government to have economic policies in line with (=right-leaning) or contrary to (=left-leaning) orthodox World Bank policy prescriptions. Correspondingly, the World Bank seems to react most strongly to this ideology effect, with left-wing governments receiving significantly fewer loans. While this tendency can be observed for the IADB as well, the coefficient is much smaller and not fully significant. IADB lending, however, appears to be strongly related to UN voting with the US. In our regression specification this is not evident for the World Bank. Neither of the two variables is significant in any way for the CAF, so they are not included in the final specification.

We can conclude that, in one way or the other, both World Bank and IADB lending is significantly influenced by policy variables proxying political leanings of borrowing governments. The fact that US interests are more apparent at the IADB could be explained by the US's clearly dominant role in that MDB, with one-third of voting power and hence a greater ability to exercise its national interests via the IADB. The World Bank, on the other hand, is somewhat more insulated (though far from entirely, of course) from direct US pressure due to the greater diversity of non-borrowing shareholders and greater financial independence. At the same time, however, the World Bank is much more the "keeper of the flame" of economic policy orthodoxy than the IADB, and may as a result react more strongly to left-leaning political governments.

Alternatively, one could, of course, argue from a demand-side perspective. Left-leaning governments could themselves be more averse to borrowing from the World Bank, and governments with anti-US foreign policy might be averse to borrowing from the IADB. While our econometric estimation does not allow us to distinguish between supply and demand-side effects, in any case, our results demonstrate how clearly the CAF differs from the other two banks in this respect. As stated above, no relevance of either domestic policies or international voting alliances could be found for its lending. This is precisely what we expected in our discussion of governance structures in Section II.

V. Overall results and possible extensions

All in all, our econometric investigation largely confirms the results of the graphical analysis in Section III. The initially observed upward trend of CAF and IADB lending, along with the downward trend of World Bank lending, is robust to the inclusion of a number of controls in the

[17] Different authors analyzing US influence on the behaviour of the World Bank, IMF, and Asian Development Bank have employed several different techniques to build proxy variables for a country's relations with the US based on UN data. These include commonality of votes considered as important by the US State Department (Thacker, 1999); votes considered unimportant by the US State Department (Anderson et al. 2006); both of these in combination (Kilby, 2010), and temporary membership on the UN Security Council (Dreher et al., 2009a and 2009b). We follow Thacker's methodology.

[18] This variable is based on historical information from each country, using a simple code: 1 = right-leaning, 2 = moderate, 3 = left-leaning.

multivariate regression analysis. In addition, econometric testing establishes that the differences in trends between the CAF and the IADB on the one hand, and the World Bank on the other hand, are clearly significant.

The periods of *global crises* found to be most relevant in the graphical analysis (1998/99 and 2009), are equally significant in the regression analysis. However, while in Figure 5 CAF lending appeared unexpectedly strong during the 2009 crisis, this effect disappears when the general time trend is controlled for in the regression analysis. While still positive, it turns out to be significantly smaller than the peak for World Bank lending in the same year. This is consistent with our theoretical argument.

In addition, the regression analysis allows us to test the theoretical argument of *country-level crises*. The latter do not show the expected effect. Thus it seems that the difference in lending cost during global crises, rather than a borrower's willingness to signal reform during national crises, which induces countries to rely disproportionally on World Bank and IADB lending.

The relevance of country-level versus global economic developments appears to be different when it comes to booms. Here, our regression analysis reveals the expected effects only for *national booms*. This is also the strongest discrepancy between the regression outcomes and the graphical analysis, where *global economic booms* appeared to widen the gap between World Bank and CAF lending. The econometric tests—carried out after controlling for the time trend and other economic and political variables—do not find this effect to be significant. Rather than global booms, it thus seems to be the economic upswing of individual countries—with the corresponding availability of local resources and, possibly, a related rise in self-confidence—that lead to a significant widening of the gap between the anyway declining World Bank lending, and lending of the other two development banks.

In the comparison of the three lending institutions, both in the graphical and in the econometric analysis, the evidence for the CAF and the World Bank corresponds relatively well to our theoretical expectations. However, in various respects, IADB lending is different from what we expected. It is often stronger than the World Bank in times of crisis, has risen as strongly over time as CAF lending, and does so despite a level of donor predominance that ensures that donor interest (in particular, US interest) still has a strong voice, although formally less so than in the World Bank.

In fact, as an individual donor, the US even formally has stronger power within the IADB than in the World Bank, and this fact is clearly reflected in our analysis. In the graphical illustrations of Section III, we noted a deep downturn of IADB lending during the mid and late 1980s, simply because the Reagan administration held up a capital increase. In our regression analysis, we saw that a country's voting with the US in the UN General Assembly is strongly correlated with IADB lending, and even more clearly so than for the World Bank.

Yet, this does not seem to discourage countries from turning towards the IADB. Possibly the regional image, the local staff, and the slightly less bureaucratic procedures given its smaller size could make the difference here. Further, the overall greater weight of borrowing countries in IADB governance may be sufficient to ensure that policy conditionality and safeguards are not as

onerous as in the World Bank. As the IADB has a similarly high rating as the World Bank on international capital markets (both AAA), these advantages are complemented with the ability to offer cheap resources, much cheaper than the CAF. All in all, this has allowed the IADB to be the favored lender for Latin American countries since the mid-1990s.

The central argument behind our hypotheses on different developments of lending across the three banks was their difference in *governance structures*. For IADB, this does not seem to be the main—or at least not the sole—characteristic driving the empirical results. In our theoretical framework, we characterized the IADB as "donor predominant", the World Bank as "donor dominant" and the CAF as "borrower dominant". Can only the latter two typologies be distinguished clearly enough to make predictions about their lending? Does the intermediate category of donor predominant banks always lean towards stronger lending like in the case of the IADB or does this indeed depend on the additional characteristics suggested above?

To answer these questions, it would clearly be necessary to expand the analysis to other MDBs. This would also mitigate the general problem of just including a single case for each of the three governance structures. In the current setting, whatever we interpret—in line with our theoretical argument—as the effect of different governance structures, may de facto be driven by institution-specific characteristics of the CAF, the IADB and the World Bank. The credibility of the causal link we suggest in our theoretical argument would thus be greatly enhanced if similar relationships could be shown for additional MDBs. If other MDBs were shown to follow the same patterns, this would also exclude that the relationships observed are merely driven by particularities of the Latin American region.

While this extension would require a substantial expansion of data collection and analysis that is beyond the scope of this paper, we suggest a classification of other major MDBs further research might want to take into account. Table 4 provides this information for selected MDBs that (i) have at least some borrowing countries as shareholders and (ii) lend primarily to sovereign governments as opposed to the private sector. The distinction between different types of governance is based on the share of votes by non-borrowing shareholders.

Table 4: MDBs by Type of Country Shareholder Arrangements

Type	MDB	Votes by non-borrowing shareholders (in %)	Non-concessional loans (2008) (in US$ billion)
Donor dominant	World Bank	65.7	13.5
	Asian Development Bank	65.2	8.4
Donor predominant	IADB	49.9	11.1
	African Development Bank	39.7	2.8
	Banco Centroamericáno de Integración Económica	41	1.4
	Caribbean	35.9	0.297

	Development Bank		
Borrower dominant	CAF	0	7.9
	Islamic Development Bank	0	7.2
	East Africa Development Bank	14.1	0.031

Sources: World Bank 2009a, Asian Development Bank 2009, IADB 2009, African Development Bank 2009, Banco Centroamericáno de Integración Económica 2009, Caribbean Development Bank 2009, CAF 2009a, Islamic Development Bank 2009, and East Africa Development Bank 2009.

Table 4 reveals that for each of the governance types, we can find other MDBs with similar distributions of votes as in the three banks considered so far. Moreover, the lending volumes of some of these MDBs are considerable. Nevertheless, the coexistence of similarly large banks with different governance structures within a given region appears to be relatively unique for Latin America. This may restrict the choice of borrower countries in other world regions—an issue one would need to take into account in possible comparisons.

As we observe strong changes in the volume of lending by different MDBs over time, the relevance of this kind of analysis is likely to rise. In various regions of the world, the World Bank is no longer the only relevant lender. As we have seen for Latin America, the IADB is the dominant lender now, and for the subgroup of the Andean countries, the dominant lender in terms of overall volumes is the CAF.

Lending is the core business of MDBs, required for their own access to financial resources, ensuring their survival and providing a certain degree of independence from their shareholders. Thus, changing demand for MDB loans must be expected to affect their behavior. Do they compete with one another and private capital to make loans, and if so, how? How might this competition affect the developmental impact of their operations? Does this lead to tensions between staff and shareholders, or among different groups of shareholders? Will this eventually lead to adjustments of governance structures? All of these questions may be of interest for future research.

VI. Conclusions

In this paper, we examined the development of annual lending commitments of three multilateral development banks—the World Bank, the IADB and the CAF—from 1980 to 2009. Based on theoretical arguments about borrower preferences, we suggest that lending varies systematically as a function of the type of shareholder arrangement in each MDB: borrower dominant (CAF), donor predominant (IADB), and donor dominant (World Bank). Moreover, we expect the operational characteristics of each MDB derived from these shareholder arrangements to condition the pattern of their lending in different economic circumstances.

Using aggregate descriptive statistics as well as multivariate econometric analysis based on SURE and panel regressions, and data for all major Latin American economies, we find that indeed, the overall trend in lending as well as their lending in specific situations of economic booms or crises differs considerably among the three banks. Over time, CAF and IADB lending

increased steadily, while World Bank lending declined. When individual countries benefit from economic booms, this trend is reinforced. That is, whatever little funding they still need to borrow during such periods, they will tend to borrow from the CAF or the IADB rather than from the World Bank. At times of global economic crises, however, the World Bank and the IADB expand their lending commitments significantly compared to the CAF.

These results are in line with our theoretical expectation that the donor dominant governance structure of the World Bank, and the bureaucratic and policy stipulations that come along with this structure, lead countries to seek alternative creditors. These alternatives are easier to find when the countries' economy is in good shape. During global economic crisis, however, donor (pre-) dominant banks can make use of their better access to private financial markets and ensure lending at much better rates. They are therefore the preferred creditors during such periods.

In contrast to our expectations, the IADB is a particularly relevant lender both during individual boom years and during global crises. Moreover, the increase of its lending over the last 20 years is about as strong as for the CAF. This is even more surprising as the influence of donors, notably of the biggest donor (the US) is clearly visible in the empirical analysis. We suggest that the result may be linked, on the one hand, to the IADB's AAA rating that allows it to obtain funding on international capital markets at about the same rate as the World Bank. On the other hand, it may appear more attractive through its regional image, local staff and less bureaucratic procedures.

All in all, the findings of this study illustrate that MDBs are impacted not just by geopolitical considerations, development ideology or bureaucratic pathologies, but also by the evolving demand for their loans. The research also illustrates the great financial importance of MDBs other than the World Bank in some parts of the world—the IADB lends more than the World Bank in Latin America, and the CAF lends more than the other two in the Andean region. Given that lending is the central business for MDBs, an important activity ensuring their own financial and institutional sustainability, strong shifts in the relative role of individual institutions—as we observe them for Latin America—must be expected to influence their operations, the way they interact with each other, and the role of their shareholders. This could, in turn, have important implications for the ability of non-borrowing countries to exercise influence on policy in the region.

The study thus provides a useful starting point for further research on a number of other questions on how evolving demand for multilateral lending may be impacting different MDBs. The analysis could also be extended beyond the three MDBs considered here. Since we find comparable MDBs for all three shareholder governance types, this would only require the collection of corresponding data on these organizations. The extension of the analysis could provide an important step to further examine the plausibility of our causal theoretical arguments, and to explore to what extent our results can be generalized beyond Latin America.

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Annex Table 1: Variables

Variable Name	Description	Source
World Bank lending	Annual World Bank sovereign lending commitments in each fiscal year, in millions 2007 USD. In the single case of Bolivia, this variable includes a limited amount of IDA lending. No other country received IDA lending during the period under review.	World Bank, 1980-2009.
IADB lending	Annual IADB sovereign lending commitments in each fiscal year, in millions 2007 USD. Includes both non-concessional (OC) and concessional (FSO) loans, although OC lending is much higher in all countries except Bolivia for the entire period.	IADB, 1980-2009.
CAF lending	Annual CAF sovereign lending commitments in each fiscal year, in millions 2007 USD.	CAF, 1980-2009a and 2009b.
Fiscal balance	Government annual fiscal balance (surplus) as a share of GDP.	World Bank, 2009a for all Latin American countries 1980-2008; IMF, 2010b for 2009 data.
Reserves	International reserves in 2007 US$.	World Bank, 2010b; IMF 2010b for 2009 data.
Institutional Investor rank	Ranking on the semi-annual Institutional Investor index of investor sentiment	Institutional Investor, 1980-2009.
Reserves to debt	International reserves as a share of short-term external debt.	World Bank, 2010b.
Country crisis	Dummy = 1 if a country meets at least two out of the three conditions: (i) a fiscal deficit ≥ 5% of GDP, (ii) reserves/short term external debt ≤ 0.5, and (iii) an international investor ranking ≤ 20 (out of 100); and 0 if not.	Based on data listed above.
Country boom	Dummy = 1 if a country's dollar level of international reserves rises in a year by at least 10%, from a level of at least the average for the entire 1980-2009 period; and 0 if not.	Based on data listed above.
DU_year(s)	Series of dummies for periods identified in Section III as years of global crises or booms	
Annual trend	Year of observation (1980-2009)	
UN voting with US	Number of votes in the UN General Assembly designated as important by the US State Department in support of the US position, plus ½ the number of abstentions, divided by the total number of votes in the UN General Assembly designated as important by the US State Department. This follows the methodology of Thacker, 1999.	Database of votes provided by Dreher for 1983-2008, as used in the papers by Dreher et al. 2009a and 2009b; US State Department 2010 for 2009 data.
Government ideology	A three-step left-right index of government political tendencies, with "1" coded as right, "3" as left, and "2" as moderate.	Compiled by authors on the basis of the historical record.
GDP per capita	GDP per capita in 2007 US$	World Bank, 2010a; IMF, 2010b for 2009 data.
Inflation	National consumer price index	World Bank, 2010a; IMF, 2010b for 2009 data.