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Complementarity between Multilateral Lending and Private Flows to Developing Countries

Some Empirical Results

Dilip Ratha

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Summary findings

Despite the surge in private capital flows in the 1990s, lending by the multilateral development banks continues to be a significant source of external finance for low-income and lower-middle-income countries. And for middle-income countries, which receive the lion's share of private flows, multilateral lending has played an important stabilizing role during times of credit rationing.

Even though multilateral loans may have behaved countercyclically with respect to private flows in the short term, these loans also tended to complement private flows in the medium term by signaling—and often fostering—a better investment environment in the borrowing countries.

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Complementarity Between Multilateral Lending and Private Flows to Developing Countries: Some Empirical Results

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Complementarity Between Multilateral Lending and Private Flows to Developing Countries

1. Introduction

Besides transferring funds when countries do not have access to private capital, lending from multilateral development banks (MDBs) is supposed to contribute to building infrastructure, institutions and public policy in developing countries.[1] The not-for-profit and multilateral nature of these lending institutions has some distinct advantages in comparison to private lenders and bilateral agencies: these agencies have access to a wealth of information on developing countries that can be useful for investors undertaking new investments in a developing country; they also provide a unique forum for international policy coordination, and if necessary, for designing and exercising policy conditionalities in a borrower country. It is expected, therefore, that multilateral lending should encourage private flows to developing countries.

Some authors have found empirical support for this view.[2] For example, Kharas and Shishido (1991) found that during 1974-85, by alleviating credit rationing and improving creditworthiness (by increasing international reserves, for example), official aid was able to generate spillover effects that attracted private flows. A recent study of aid-recipient countries in Africa estimated that in countries with good economic management, one percent of GDP in foreign aid increased private investment an extra 1.9 percent of GDP by improving investor

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[1] Throughout this paper, a distinction is made between loans from MDBs, and flows from the IMF. Thus, multilateral flows refer to loans from MDBs (including the World Bank and regional development banks) to developing countries as defined in World Bank's Global Development Finance reports.

[2] See among others Checki and Stern (2000), Krueger (1999), Rodrik (1995), Kharas and Shishido (1991), Alesina and Dollar (1998), Summers (1999), Bird and Rowlands (1997).

confidence and public services such as education and infrastructure (World Bank 1998 p 40, Dollar and Easterly 1998). These authors also found that a 1 percent of GDP in aid reduced private investment by 0.5 percent in developing countries with poor policies. Since the relationship between domestic private investment rate and private capital flows from abroad to a developing country is likely to be positive, this finding implies some degree of crowding-out of private flows by multilateral flows in poor-management countries.

Several studies, on the other hand, did not find any evidence that multilateral lending encouraged private flows. Rodrik (1995) found that the relationship between private flows and lagged multilateral lending was negative (though not significant) during 1970-93. He also found that multilateral flows—especially IMF flows—tended to follow private flows, raising the possibility of "bailing-out" of private investors, as also argued by Dooley (1994) and Killick (1995a). (Somewhat surprisingly, and consistent with the results reported later, Rodrik also found that some multilateral flows, especially the non-concessional flows from IBRD, tended to improve the growth potential of the recipient country.)

Dasgupta and Ratha (2000) noted that the decline in the World Bank's (long-term) investment lending in recent years was due to the increase in private foreign direct investment (project finance in particular), whereas its (relatively shorter-term) adjustment lending was strongly counter-cyclical with respect to private non-FDI flows. They argued that such negative relationship was a reflection of a passive "stabilizing" role played by multilateral agencies in response to volatile private flows: the demand for official flows declined when private flows became available, and increased when private investors withdrew, especially during financial crises.

Lerrick (1999), in a background paper prepared for the Meltzer Commission Report on International Financial Institutions, argued that multilateral flows were replacing private flows, especially in emerging market economies.

Some authors have pointed out other reasons for expecting a negative relationship between multilateral flows and private capital flows to developing countries (although not all of them would imply "crowding-out" of the latter by the former). Private flows may be discouraged if multilateral lending programs somehow created incentives for borrowing governments to delay reforms necessary for growth and poverty reduction (Easterly 2000, Svensson 2000). Multilateral lending may be "fungible" in the sense that it may enable governments to undertake low-quality projects or programs (Devarajan and Swaroop 2000), or such loans may be used for servicing old debt, thus reducing the "additionality" of such lending (Ratha 2001, Birdsall et al. 2001, Devarajan et al. 1999).[3]

In the context of this debate, this paper examines the trends in private flows and multilateral flows to developing countries, using data from 1970 to 1998, to first establish whether there is indeed a negative or counter-cyclical relationship between these flows; and second, to show that even when some degree of counter-cyclicality existed, that need not imply "crowding-out" of private flows to developing countries. Indeed short-term counter-cyclicality and medium-term complementarity between multilateral flows and private flows to developing countries can co-exist. The argument runs as follows: Let us assume that both multilateral and private flows consist of two components—one responsive to structural, policy and institutional environment, and the other to cyclical factors (for example, an increase in GDP growth rate or an interest rate hike in the industrial countries). Both private and official flows respond positively to structural factors. With respect to the cyclical variables, however, private flows tend to behave

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[3] Killick (1995b) argued that multilateral lending may suffer from a moral hazard problem: since the preferred creditor status of the MDBs ensures that even ill-advised loans get serviced first, multilateral lending may end up financing low-quality projects or programs. Faini et al. (1991) also found a negative correlation between lending by international financial institutions and net private credit. See also Bird and Rowlands (1997).

pro-cyclically whereas official flows are expected to react counter-cyclically. In addition, official flows may (arguably) lead to an improvement in the structural, policy and institutional environment of a country in the medium- to long-run. Thus, official flows would tend to be counter-cyclical to private flows in the concurrent period; but these would tend to complement private flows with a time lag by signaling—and often fostering—a better investment environment.

The main findings of this paper are:

- Although private flows to developing countries surged in the 1990s, multilateral loans continue to be a significant source of external finance in most low-income and lower middle-income countries. Even in the upper middle-income countries receiving the lion's share of private flows, multilateral lending has played an important stabilizing role during financial crises.

- In recent years multilateral lending played a counter-cyclical or stabilizing role vis-à-vis private flows as the demand for official borrowing rose during times of credit rationing. Multilateral lending also complemented private flows with a time lag by signaling—and often fostering—a better investment environment.

The rest of this paper is organized as follows. The next section discusses trends in multilateral flows vis-à-vis private flows to show that multilateral flows remain an important source of external finance in many developing countries. This section also shows that the relationship between multilateral flows and private flows to developing countries has been counter-cyclical in recent years, but it was not always so in the 1970s and early 1980s. Section 3 develops a simple framework for examining the cyclical and structural aspects of the relationship between multilateral and private flows to developing countries. Section 4 contains empirical results. The concluding section summarizes the results and indicates areas of future research.

2. Trends in multilateral and private flows to developing countries

The importance of multilateral flows

At their peak in 1996, private flows to developing countries were more than ten times the volume of official flows, and nearly 11 times that of multilateral flows. After a series of crises since 1997, the difference between private flows and official flows has narrowed somewhat, but there is no denying that private flows have surged ahead since the late 1980s (see figure 1, note the difference between left and right scales).[4] During 1997-98, private flows to developing countries stood at 12 times the size of multilateral flows (figure 2). However, private flows are concentrated in only a few middle-income countries,[5] and multilateral flows remain an important source of development finance in the majority of developing countries, especially in the low-income countries (LICs) and Sub-Saharan Africa (SSA).[6]

Multilateral loans accounted for about half of total official flows to developing countries during 1997-98. In fact, the share of multilateral flows in total official flows was higher in the

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[4] Unless otherwise specified, data on capital flows are taken from World Bank's Global Development Finance (GDF) database, and IMF flows are treated separately from multilateral flows.

[5] For example, as of September 2000 the number of developing countries rated by Standard and Poor's was 52 out of a total of 137 covered in the Global Development Finance (GDF) (World Bank 2000). Most of the developing countries have sub-investment grade rating or are not rated at all by major credit rating agencies.

[6] The definitions of income groups and regions are taken from World Bank (2000).

middle-income countries than in the low-income countries in this period as the rescue packages for the Asian crises were financed mostly by multilateral lending from the IMF and the MDBs.[7]

Counter-cyclicality between multilateral and private flows to developing countries

Multilateral flows played a stabilizing role in response to the financial crises in the 1980s and the 1990s (table 1). These crisis-related lending programs were specifically designed to boost investor confidence through policy and structural reforms in the recipient countries (World Bank 1999). The historical trends shown in figure 1 reveal a remarkably negative or counter-cyclical relationship between private flows and official flows in the 1980s and the 1990s. Panel data analysis of major middle-income countries also indicates a counter-cyclical relationship between multilateral flows and private flows during this period (Dasgupta and Ratha 2000).

However, an examination of the 1970s does not reveal any strong counter-cyclicality between private and official flows. Indeed, further disaggregation of data reveals that a counter-cyclical relationship between non-concessional multilateral flows (i.e., multilateral lending to middle-income countries) and private flows did not begin until the onset of the 1980s' debt crisis (and, interestingly, the introduction of adjustment lending in the World Bank) (figure 3).

As mentioned earlier, such counter-cyclical relationship observed in recent years has been interpreted by some studies as evidence that multilateral flows either did not affect, or discouraged private flows. However, this relationship evident from the macro data does not take into account the effects of relevant variables such as the income level, market access, growth

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[7] The International Bank for Reconstruction and Development (IBRD) is by far the largest source of non-concessional lending to developing countries. Gross disbursements from the IBRD formed over half of such flows from all MDBs in 1999. The next largest sources of non-concessional funding are the Inter-American Development Bank (IDB) and the Asian Development Bank (ADB). The International Monetary Fund (IMF) does not extend long-term loans for development purposes.

performance, and population size. It also does not distinguish between short-term cyclical and long-term structural relationships between multilateral and private flows. A simple framework to account for these factors and related results from multivariate regressions is presented in the next two sections.

3. A simple framework of counter-cyclicality and complementarity between multilateral flows and private capital flows to developing countries

Both private capital flows and multilateral lending may be thought of as consisting of two components—one responsive to structural, policy and institutional environment in the recipient country, and the other to cyclical factors (for example, an increase in GDP growth rate in the recipient country or an interest rate hike in the industrial countries).[8] Both private and multilateral flows are expected to respond positively to the former set of factors.[9] With respect to cyclical variables, however, private flows may respond pro-cyclically whereas multilateral lending is expected to react counter-cyclically. Thus, we postulate:

$$P_t = mI_t + nC_t \qquad (1)$$

$$M_t = aI_t - bC_t \qquad (2)$$

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[8] See Dadush, Dasgupta and Ratha (2000) for an outline of cyclical, structural factors, also classified as "pull" and "push" factors, which affect private flows to developing countries. Although this table refers to short-term flows, it is also applicable for longer-term flows.

[9] Although not essential to the results presented later, the assumption that multilateral flows respond positively to structural and institutional factors is supported by some recent studies. See for example, World Bank (2000), Burnside and Dollar (1997).

where P_t indicates private capital flows and M_t indicates multilateral lending to a developing country at time t. I stands for country policy and institutional performance while C stands for cyclical factors. The coefficients a, b, m and n are assumed to be strictly positive.

Additionally, multilateral lending may lead to an improvement in policy and institutions over time, which would imply an equation of the type:

$$I_t = constant + dM_{t-1} \qquad (3)$$

Manipulating (1) and (2) yields:

$$P_t = (-n/b)M_t + (an/b+m)I_t \qquad (4)$$

$$M_t = (-b/n)P_t + (a+bm/n)I_t \qquad (5)$$

Equations (4) and (5) imply an inverse relationship between private capital flows and multilateral lending. These equations also imply a positive relationship between private flows and the policy and institutional performance indicator.

Using (3) in (4) yields:

$$P_t = c_0 - c_1M_t + c_2M_{t-1} \qquad (6)$$

where the c_0 c_1, c_2, c_3 are positive coefficients. This equation (6) implies a negative (counter-cyclical) relationship between private capital flows and multilateral lending contemporaneously, but a positive (or complementary) relationship with lags.

4. Empirical results

The postulated relationship between private capital flows and multilateral lending can be readily tested by estimating c_1 and c_2 in equation (6). For this purpose, we have used a framework similar to Rodrik (1995). A panel data set was constructed for all 137 developing countries for which World Bank (2000) reported capital flows during 1970-98. Period averages were constructed from annual data for 1970-75, 1976-81, 1982-87, 1988-93 and 1994-98. Private flows (PRIV) to a developing country i was then regressed against multilateral loans (MULT), IMF

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loans (*IMF*), bilateral loans and grants (*BILA*), each variable with and without one period lag. Thus, the regressions were of the type

$$PRIV_{it} = \sum_{it} A_{it} + b*X_{it} + c*MULT_{it} + d*MULT_{it-1} + f*IMF_{it} + g*IMF_{it-1}$$

$$+ h*BILA_{it} + j*BILA_{it-1} + k*GRANT_{it} + l*GRANT_{it-1} + e_{it} \qquad (7)$$

where A_{it} is a vector of period-specific and country-specific dummies (fixed effects), X_{it} is vector of control variables including log of population size, log of per capita GNP, GDP growth rate; and e_{it} is error term. The subscripts i and t refer respectively to country and time period.[10]

A practical problem in estimating this equation (6) relates to the scale effect arising from the fact that large countries receive large amounts of both private and official flows. This can give rise to potentially misleading correlation between private and official flows. To account for this effect, we have reported two sets of results: In the first set of results reported in table 2, we have normalized capital flows by the GDP of the recipient country. In the second, we have used the share of flows received by country i in total flows to all developing countries—for example, the country share in private flows to developing countries is regressed against the country's shares in respectively multilateral flows, IMF flows, bilateral flows and grants (table 3). In this case, we control for the size effect by including the (log of) population size as an independent variable.[11]

(Using the share of flows appears more appropriate in this context for the following reasons. Official lenders are often constrained from increasing lending volumes, thus increasing the portfolio share may be the only way to send a positive signal about a country. A higher share

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[10] Note that this formulation induces (negative) serial correlation in the error term. For example, an unexpected increase in private flows in period t would imply a decline in the demand for multilateral lending according to (5). But that in the subsequent period may cause a weakening in the structural, institutional and policy environment (by equation (3)) and a decline in private flows (by equation (4')).

[11] Another variable for normalizing flows, used rather less frequently in the literature, is exports (Bird and Rowlands 1997).

of flows (even if the nominal dollar amount is small) may indicate a stronger commitment to the country on the part of the multilateral agency and hence a stronger signaling value to private investors. Private investors also think of portfolio allocation (or country exposures) in terms of shares rather than the size of the portfolio. Finally, since private capital flows have surged in nominal dollar terms in recent years whereas the size of official flows has remained more or less unchanged, use of dollar values normalized by GNP would show a strong negative relationship between official and private flows even if the portfolio allocation shares remained unchanged in either cases. However, a regression using portfolio shares is meaningful only for sub-groups of countries (e.g., low income countries), but not meaningful for a panel consisting of all developing countries since portfolio shares cannot increase (or decrease) in all countries at the same time.)

The regressions where flows are normalized by GDP are similar to those reported in Rodrik (1995) except for the different lag specification. The results reported in table 2 are, however, qualitatively different from those in Rodrik (1995).[12] The first regression in which only current values of multilateral flows are used yields negative coefficients for multilateral flows and IMF flows, underscoring their counter-cyclical behavior vis-à-vis private flows. Regression (2),

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[12] There are several differences between the regressions presented in this section and those in Rodrik (1995). Rodrik used net transfers, whereas we have used net resource flows (which is not netted of interest payments). Rodrik combined flows from MDBs and the IMF; but we treat them separately. We also use concurrent levels of these flows in addition to lagged values, whereas he uses only lags. His regressions included the lagged dependent variable on the right-hand side, ours do not. Our country grouping is different from his—for example, our panel includes South Korea whereas his panel did not—reflecting new grouping used in GDF 2000. Also some data for the early 1990s have also been revised in this later publication. Nevertheless, if we use the same lag specification as in Rodrik, we obtain the same qualitative results for the period 1970-93. Thus, the differences in qualitative results arise from the altered specification of the equation as well as the extension of the sample period to 1998.

however, reveals positive (though not significant) coefficients for the lagged multilateral flows. The same regression for the latest 1994-98 period (regression 3) variables yields statistically significant coefficients for multilateral flows; and the coefficient is negative in the current period, and positive for the lagged variable, indicating concurrent counter-cyclicality but complementarity after a lag of six years. Expectedly, the coefficients for per capita GNP and GDP growth are positive and significant in explaining private flows.

Table 3 reports the regression results using portfolio shares, i.e., flows normalized by total flows in the same category to all developing countries. (Population is included as an explanatory variable to control for the size effect. The sample period is 1994-98.) Three sets of results are presented for lower middle-income countries, low-income countries, and low-income countries in Sub-Saharan Africa respectively. These results indicate that multilateral flows had a positive and significant impact on private flows with a one period (six-years in this case) lag in lower middle-income and low-income developing countries.[13] The results also indicate concurrent counter-cyclicality (a negative coefficient for current multilateral flows) in the low-income countries.[14]

The results are now more ambivalent regarding the effect of IMF and bilateral flows on private flows. IMF flows did not seem to affect private flows to the lower middle-income

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[13] A somewhat similar finding from Dasgupta and Ratha (2000) is that private FDI and non-FDI flows relate counter-cyclically to IBRD commitments in the same year, but positively to the IBRD commitments with a one year lag.

[14] The coefficient for the current multilateral flow variable is found to be positive (and not significant) in the lower middle-income countries, weakly indicating an absence of counter-cyclicality between multilateral lending and private flows even in the concurrent period. This result may mean that the signaling effect on private flows worked faster than the six-year lag assumed here, or that the use of six-year averages dampened the cyclical effects on private and official flows.

countries during 1994-98, but these flows had significant positive effects on private flows in low-income countries, both with and without lags. This is somewhat understandable because in IMF loans tend to have shorter terms in middle-income countries than in low-income countries.[15] In contrast to multilateral flows which seem to affect private flows with a time lag, bilateral flows (including grants)[16] seem to have a significant and positive effect on private flows in the concurrent period, but a negative effect with a lag. This result may reflect the importance of strategic and non-economic considerations in aid allocation by bilateral donors (Alesina and Dollar 1998).

The marginal (medium-term) impact on a country's share in private flows when its share in multilateral flows rises by one percentage point can be estimated from the coefficient d in equation (7) above. As can be seen from table 4, this marginal impact is smaller (0.12 percentage points) in a low-income country in Sub-Saharan Africa than in a lower middle-income country (0.989 percentage points). However, a typical country in Sub-Saharan Africa received a much smaller share of private flows—an annual average of 0.032 percent compared to 0.997 percent in a lower middle-income country during 1994-98. Thus, when a Sub-Saharan country's share in multilateral flows is increased by one percentage point, its share in private flows rises by 0.12 percentage points from 0.032 percent—a nearly three times increase in private portfolio share, and a significantly higher effect than in lower middle-income countries.

The results presented above should be treated with some caution. It is important to bear in mind that multilateral flows are only one, and perhaps not the best, among a number of

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[15] Several studies reviewed in Bird and Rowlands (1997), including their own empirical investigation, reported that the results on the catalytic effects of IMF flows on private flows to developing countries were inconclusive if not negative.

[16] As noted by many authors, bilateral lending has been replaced by grants in recent years, especially in low-income countries (Birdsall et al. 2001).

variables that influence private capital flows to a developing country. Also, these regressions suffer from negative serial correlation, although as mentioned earlier, this is to be expected owing to the lead-lag relationship between private-official-private relationships postulated here. Finally, whether we normalize flows by GDP or by total flows of the relevant type of capital to developing countries seems to generate widely divergent results.

5. Conclusion

Official flows in general, and multilateral flows in particular, are an important source of external finance in the majority of developing countries, since private flows are received only by a handful of middle-income countries. Both private flows and multilateral lending respond positively to structural, policy and institutional environment in the recipient country. With respect to the cyclical factors (for example, an increase in GDP growth rate or an interest rate hike in the industrial countries), however, private flows tend to behave pro-cyclically, whereas official flows react counter-cyclically. In addition, multilateral flows may lead to an improvement in the structural, policy and institutional environment of a country in the medium-run. Thus, although multilateral lending may be counter-cyclical to private flows in the concurrent period; it may complement private flows with a time lag by signaling—and often fostering—a better investment environment.

It would be useful to distinguish the effects of multilateral flows on different types of private flows such as FDI, portfolio flows and bank loans.[17] Preliminary results suggest the effect is indeed positive in case of FDI and bonds, but not significant in the case of equity and bank loans. More research is needed in this area.

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[17] See also Rodrik (1995), and Bird and Rowlands (1997).

The analysis above ignores the effects of the policy environment in the recipient country as well as the external economic environment. As has been noted in the literature, aid works better in a good policy environment (Dollar and Burnside 1999, Collier and Dollar 1999). We have partially captured the effect of good policies through the growth and per capita income variables, but an explicit treatment of policy performance would be useful. Also our analysis does not take into account the fact that the relationship between multilateral flows and private flows may depend on what multilateral loans finance in the recipient country, and how these loans are financed.[18] If, for example, multilateral loans are used for debt service payments, the impact on private flows may be weakened (Ratha 2001, Easterly 2000). Again, for example, financing multilateral loans by borrowing from the domestic capital market in emerging market economies may weaken the impact on private flows.

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[18] See Pradhan et al. (1990) for a discussion of the effect of various modes of financing and uses of public investment on private investment in the context of India.

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Figure 1: counter-cyclicality between private non-FDI and official flows
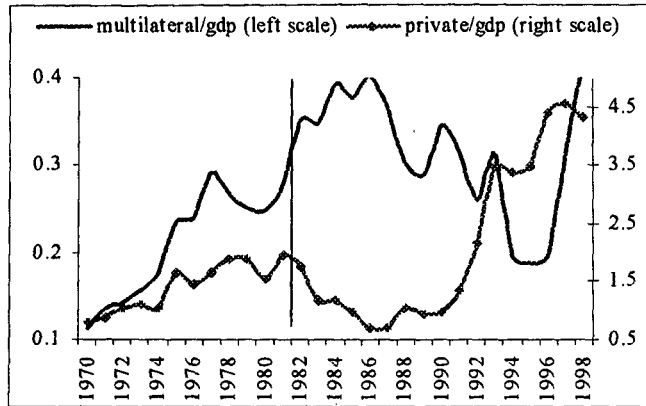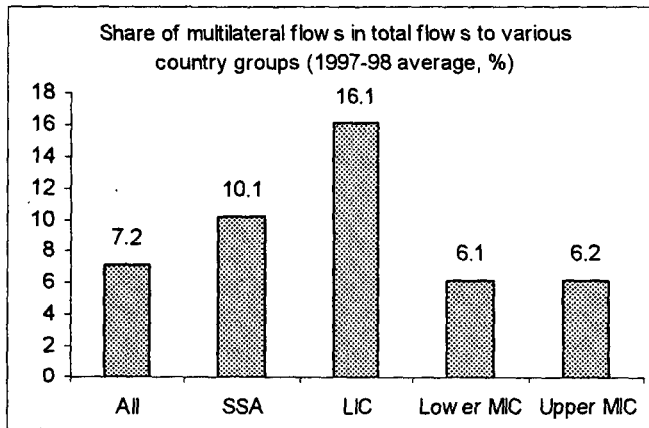

Figure 2

Figure 3

First difference of multilateral non-concessional lending and private capital flows to developing
countries (as % of GDP)

19
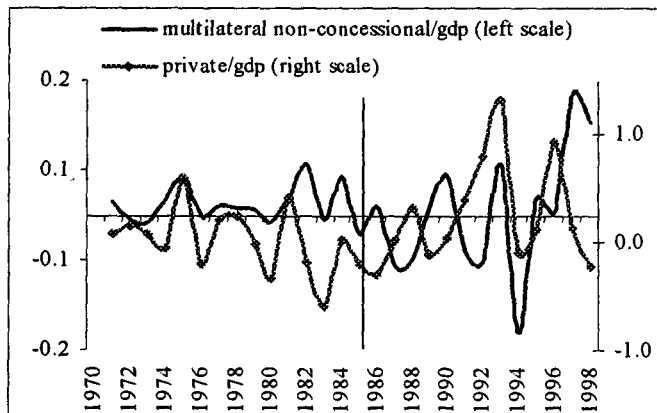
Table 1: Official financing during recent crises

$ billion	Mexico Change in flows between 1993 and 1995	Indonesia, Korea, Thailand Change in flows between 1996 and 1997	Indonesia, Korea, Thailand Change in flows between 1997 and 1998
IMF	13.3	16.8	11.6
Multilateral	0.7	7.0	8.3
Bilateral nonconcessional	9.6	4.9	0.7
Total (including grants not shown above)	10.3	11.9	10.3

Source: Global Development Finance, World Bank

Table 2: Regression results using flows as a share of GDP, period average during 1994-1998

Dependent variable is private flows as a share of GDP $(PRIVg=PRIV_i/GDP_i)$, annual average during 1994-98.

	All developing countries, including only current official flows 1976-98 (1)	All developing countries, including both current and lagged official flows 1976-98 (2)	All developing countries, including both current and lagged official flows 1994-98 (3)
MULTg	-0.051	-0.158	-1.007**
MULTg, lagged	..	0.009	0.538**
IMFg	-0.104	-0.101	0.259
IMFg, lagged	..	0.543	1.489*
BILAg (incl. grants)	0.043	-0.015	-0.137
BILAg (incl. grants), lagged	..	0.122***	0.243***
Log(GNP per capita)	0.654**	0.889***	0.798
GROWTH	0.370***	0.475***	0.838***
Adjusted R^2	0.21	0.30	0.53
D.W.	0.95	0.91	..
No. of observations	394	358	106
No. of countries	128	110	106

These cross-country regressions use averages of variables for the periods 1970-75, 1976-81, 1982-87, 1988-93, and 1994-98 (as applicable). Each variable is expressed as a share of country GDP. For example, $MULTg = MULT/GDP$ and so on. A constant term and dummies for severely-indebted low-income countries (SILIC), severely indebted middle-income countries (SIMIC), moderately-indebted low-income countries (MILIC) and moderately-indebted middle-income countries (MIMIC) as defined in GDF 2000, and also period dummies for 1982-87, 1988-93 and 1994-98 were also included in these regressions (as applicable), but not shown here. ***, **, and * indicate significance at 1%, 5% and 10% levels respectively.

Table 3: Regression results using portfolio shares, period average during 1994-1998

Dependent variable is share in private flows ($PRIVs=PRIV_i / \sum_j PRIV_i$), annual average during 1994-98.

	Lower middle-income countries (1)	Low-income countries (2)	Low-income countries in Sub-Saharan Africa (3)
MULTs	0.155	-0.231***	-0.033
MULTs, lagged	0.989***	0.375***	0.120**
IMFs	-0.017	0.060***	-0.022
IMFs, lagged	-0.007	0.007***	0.003*
BILAs (incl. grants)	1.543***	0.288***	0.032
BILAs (incl. grants), lagged	-0.867***	-0.274***	-0.134**
Log(GNP per capita)	0.687	-0.023	0.023
GROWTH	0.047	0.006	0.002
Log(Population)	-0.086	-0.022	0.032
Adjusted R^2	0.89	0.95	0.37
No. of observations	38	48	35

These cross-country regressions use period averages of variables during 1994-98. Each variable is expressed as a country's share in total flows. For example, $MULTs = MULT_i / \sum MULT_i$, and so on. A constant term and dummies for SILIC, SIMIC, MILIC and MIMIC as defined in GDF 2000 were also included in these regressions, but not shown here. ***, **, and * indicate significance at 1%, 5% and 10% levels respectively.

Table 4: Impact on a country's share in private flows when its share in multilateral flows increases by one percentage point

	Average lower middle-income country	Average low-income country in Sub-Saharan Africa
A. Marginal impact after six years*	0.989	0.120
B. Average country share in annual private flows during 1994-98	0.991	0.032
C. Overall change in country share in private flows (A as % of B)	99.7%	375%

* In this table, the estimated d coefficient (corresponding to lagged MDB flows in Table 3) is shown as the marginal impact.

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