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THE IMF AND THE MOBILIZATION OF FOREIGN AID

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The IMF and the Mobilization of Foreign Aid

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1. Introduction

Discussion of the Millennium Development Goals (MDGs) – the over-arching one of which is to halve the proportion of people living in absolute poverty by 2015 – has stimulated further interest in the role of the International Monetary Fund (IMF) in assisting economic development. Although not designed as a development agency, much of the existing literature on the IMF deals with its relationship with developing countries and the impact of its operations on economic development. This impact may in part be felt through the financial assistance provided to countries with a balance of payments need. In principle, additional external finance should allow countries to cushion balance of payments adjustment and protect economic growth. Another part of the Fund's impact may be felt through the adjustment advice it offers, and the conditionality that is written into IMF-supported programmes of economic reform. By influencing policy variables such as the fiscal balance, credit creation and the exchange rate, the Fund may exert an effect on outcomes such as the balance of payments, inflation, and economic growth. There are clearly implications here for economic development.¹

The recent debate about the Fund's role in developing countries has occurred at various levels of aggregation. At one broad level, the debate has been about whether the Fund should be engaged in long-term lending to developing countries at all. Critics of the Fund's involvement suggest that this lending does not exploit the institution's comparative advantage. They argue that while the Fund should focus on providing short-term financing to countries in balance of payments crisis, what poor countries need is long-term development finance that would be more appropriately supplied by the World Bank, Regional Development Banks, or bi-lateral aid donors.² They argue that IMF conditionality has been ineffective in low-income countries, with

some critics going further and claiming that it has had negative effects on economic growth and poverty (see, for example, Vreeland, 2003).

At another more detailed and micro level, the debate has focused on the institutional modalities through which the IMF offers assistance to low-income countries. It examines the details of the principal facility used as a conduit for IMF assistance to poor countries; the Poverty Reduction and Growth Facility. This debate is motivated by a desire to improve the facility, and thus engages primarily in evaluative efforts (IEO, 2004).

The issues raised in these debates are important and relevant. But they are wide-ranging. Instead of trying to provide a comprehensive survey of them, this paper adopts a narrower focus on an issue that is fundamental to any discussion about the Fund and developing countries. In short, the paper sets out to investigate the empirical relationship between the involvement of the IMF and the flow of bi-lateral foreign aid in the form of Official Development Assistance (ODA). Consequently the key research question addressed here is whether IMF involvement is associated with additional aid flows to a country, or diminished flows. Secondly, to the extent that there is any positive or negative association, is the catalytic effect associated with particular IMF facilities, its provision of liquidity, or some other activity?

These questions are relevant since the answers to them will inform much of the debate about the IMF's role in helping to achieve the MDGs. They will help in determining whether the Fund can withdraw from lending to poor countries safe in the assumption that its lending role will be taken on by aid donors. They will also inform much of the contemporary debate about the way in which the Fund can assist development. A central component of this debate is that the Fund becomes trapped into long-term lending to low-income countries that then make prolonged use of IMF resources in a manner some would see as inappropriate, an issue reviewed in

IEO(2002) and Bird (2004). As an alternative, aid donors may in fact be looking to the Fund to approve the design of (largely macroeconomic) reform and to monitor its implementation, rather than to provide its own resources. What they want is a signal, and yet, at present, it is only via conventional lending programmes that the Fund can effectively play this role. This would imply that there may be an excess supply of IMF resources to low income countries. A counter-argument is that aid flows are largely dictated by other factors, that aid has been insufficient to facilitate economic development in recipient countries, and that a reduction in IMF lending would simply make bad matters worse, leaving poor countries with a larger financing gap. This approach argues for enhanced IMF lending to poor countries to fill the gap left by aid donors. Does the empirical evidence allow progress to be made in resolving these issues?

The paper is organized in the following way. Section 2 examines the *a priori* reasoning underpinning the relationship between IMF programmes and aid flows. Section 3 provides some descriptive statistics about the relative sizes of IMF lending to low income countries and Official Development Assistance (ODA). It also looks at the distribution of IMF lending and bi-lateral aid. Section 4 builds on these data and uses regression analysis to investigate more formally the association between IMF programmes and ODA. Part of the problem in this context is to model the counterfactual. What would aid flows have been without the Fund's involvement? The section also explores the extent to which aid donors are influenced by the *resources* provided by the Fund or by the *conditionality* incorporated in IMF programmes. Section 5 examines the policy implications of our findings, and suggests ways in which they help resolve some of the issues raised in discussions about the relationship between the IMF and developing countries, as well as the role of the IMF in helping to attain the MDGs. A final section offers some concluding remarks in the broader context of reforming the IMF and foreign aid.

2. Analytical Issues

The analytical basis for a catalytic relationship between IMF programmes and other sources of external finance has been most fully developed in the context of private capital flows (Bird and Rowlands, 1997, 2002, Morris and Shin, 2003, Mody and Savaria, 2003). In short, and in principle, IMF programmes may have a positive catalytic effect via their effects on liquidity, since they provide additional resources, and via their effects on economic policy, since they involve conditionality. Through the liquidity effect, an IMF programme may reduce the probability of a country defaulting, and this will make it more likely that short-term creditors will roll-over debt. Through the conditionality effect, a government may be able to transmit a signal to private markets that it is committed to the pursuit of a programme of sound economic policies that will then be monitored by the Fund.

However, theory does not unambiguously suggest that the catalytic effect will be positive. Additional resources, unaccompanied by effective conditionality, may allow governments to relax their adjustment effort. Even effective conditionality may, in principle, have a perverse effect by signaling the need for reform.³ Furthermore, where the design of conditionality leads to higher interest rates, corporate and financial difficulties, and a loss of confidence in the government's commitment to maintaining the value of the currency, foreign capital may be repelled. Given a poor record of implementation, IMF programmes and the conditionality they embody may also lack credibility (Bird, 2002). Conditionality may simply not be perceived as being effective by private capital markets. And, since studies of the use of IMF resources show that the incidence of contemporary programmes is closely and positively

related to the existence of past programmes, current involvement with the Fund may be interpreted as a lead indicator of future economic difficulties, resulting in negative catalysis.⁴

As a consequence of the theoretical ambiguities, research into the catalytic effect of IMF programmes on private capital flows has usually concluded that it is an issue that needs to be resolved empirically. But is there reason to anticipate that the relationship between IMF programmes and bi-lateral foreign aid will be any different from that between IMF programmes and private capital flows? The short answer is “yes.”

The objective function of aid donors will differ strategically from that of private creditors. Indeed, it is this difference that, in effect, explains the existence of aid. Private creditors, it may be presumed, set out to maximize their risk-adjusted rate of return. Bi-lateral aid, in contrast, may be motivated by the donors’ assessment of their own interests – both commercial and political – and by the needs of recipients – both in terms of humanitarian factors and the scope for sustained economic growth that is not being facilitated by private capital markets.⁵ Simply stated, poor countries that are unable to attract private capital may be expected to become dependent on foreign aid as the main source of external financing. Leading on from this point, if the IMF tends to be involved with countries that lack creditworthiness with private markets, it follows that it will occasionally have programmes with emerging economies that, for some reason, have temporarily lost their access to capital markets, and fairly frequently with low income countries that consistently find it difficult to attract private capital. This argument implies that while there may well be an overall negative association between IMF programmes and most forms of private capital, there will be a positive association with aid.

But what factors might be motivating such a positive association, and how strong should we expect the association to be? Unlike private creditors, it seems improbable that aid donors will be looking to the IMF to resolve short-term liquidity problems that threaten default and financial crisis. In low income and aid-receiving countries IMF finance will not have a strategic importance in overcoming liquidity-related capital account crises, as it does in emerging economies. Rather, it seems much more probable that aid donors are looking to IMF involvement and to related conditionality to help design or endorse programmes of economic reform.⁶ Donors will believe that the effectiveness of the aid they provide will be enhanced where the countries receiving it pursue sound economic policies.⁷ But, at the same time, donors may feel less qualified than the IMF to carry out the role of designing reform and monitoring its implementation. They may therefore delegate this role to the IMF. Aid flows and Paris Club reschedulings, as well as access to debt relief via the Heavily Indebted Poor Country Initiative (HIPC), have therefore been made conditional on the existence of IMF programmes; something that may have contributed to the prolonged use of IMF resources observed in many aid dependent low income countries.

Therefore a very different relationship should be expected to exist between IMF programmes and aid flows than between IMF programmes and private capital flows. In the case of private capital, it may be the liquidity effects of IMF programmes that lead to a reduction in the likelihood of default, and thereby increase the probability of rolling over debt and enticing of new private finance. In the case of foreign aid, the need for official bi-lateral flows, or the proximity of Paris Club rescheduling, may lead to IMF programmes; aid donors view IMF conditionality as a pre-requisite. Aid commitments may be made contemporaneously alongside

IMF programmes, and IMF resources may represent a residual, reflecting the difference between the commitments of aid donors and the estimated financing requirements of the programmes.

One of our analytical priors in this paper is therefore that there will be a positive association between IMF programmes and aid flows. Another is that it is probably IMF conditionality that is in some way driving this relationship rather than IMF resources. Even so, there are reasons to doubt the strength of these positive relationships. Bi-lateral official aid is different from multilateral aid. It is motivated by different factors. If, for example, it is motivated primarily by bi-lateral political factors, or indeed by humanitarian ones, it may be anticipated that the strength of the relationship exhibited between IMF programmes and aid flows will be limited. Certainly one might expect that there will be individual cases that are inconsistent with the norm; factors other than IMF involvement will be determining aid. Beyond this, if, over time, the significance of political factors in determining bi-lateral aid flows diminishes – as may have happened with the thawing of the Cold War – it may also be expected that the relationship between IMF programmes and aid flows will become stronger and more significant.

Going beyond these *a priori* ideas, should we expect there to be any particular relationship between aid commitments and disbursements on the one hand and the contemporary implementation of IMF programmes on the other? And what about a country's past record of implementation? There may be potentially countervailing factors at work. Aid commitments made at the outset of programmes should not, one might imagine, be influenced by the extent to which programmes are implemented. However, to the extent that disbursements differ from commitments, this could be because the commitments are in effect conditional on the continued implementation of agreed policies. Indeed, the evidence confirms that, generally speaking, disbursements often fall short of commitments (Foster and Keith, 2003).

Even if it may be doubted whether implementation will affect the aid associated with contemporary programmes, it may seem more likely that countries with a track record of poor implementation will have greater difficulty in attracting aid. After all, the signaling effect of IMF programmes may be weaker in these cases.⁸ But against this, poor implementation may, to some extent, reflect the size of the economic problems that countries face. On this basis, countries with a poor record of implementing IMF programmes may receive larger rather than smaller amounts of aid. Much may depend here on what donors perceive to be the causes of historically poor implementation. Are the causes beyond the control of governments?⁹

We may be on safer ground to assume that the strength of any association between aid flows and IMF programmes will depend on the facility through which IMF assistance is provided and therefore on the per capita GDP of the countries concerned. Stand-by and Extended Fund Facility (EFF) loans are broadly aimed at better-off developing countries and emerging economies. Given the type of country that uses these facilities, it is doubtful that they will be heavily aid dependent. Poor countries, on the other hand, are likely to be dependent on aid and also relatively heavily dependent on the IMF's concessionary window.

The analytical discussion presented above allows us to formulate a number of testable propositions. In terms of some relationships the analysis predicts a particular sign and strength. In other cases things are more ambiguous with, in principle, different factors pulling in opposite directions. The remainder of this paper sets out to test whether the evidence is consistent or inconsistent with these analytical priors, as well as to consider the policy implications of the empirical evidence.

3. Descriptive Statistics

Although, as Table 1 shows, there are a few exceptions such as India and Nigeria, low income countries generally have relatively little access to private capital. Instead, they rely on alternative sources of external finance. Over the period 1999-2003, Official Development Assistance was, in quantitative terms, about five times more important to them than private capital flows.

TABLE 1 ABOUT HERE

Low income countries also received financial assistance from the IMF. Under the Fund's concessional lending window (formerly the Enhanced Structural Adjustment facility, and now the Poverty Reduction and Growth Facility), these flows were positive throughout the 1999-2003 period. However, at a total amount of \$1,918 million, it was dwarfed by ODA at \$123,122 million. Non-concessional lending from the Fund to low-income countries in net terms was positive in some years and negative in others, when the repayment of old credits outweighed new disbursements. Whereas ODA to low income countries increased year on year over the period 1999-2003, net non-concessional lending from the IMF rose sharply in 2001 and 2003 but fell in 2000 and 2002. This pattern implies that any association between aid flows and IMF lending is far from tight.

Information concerning the destination of IMF lending and ODA is provided by Table 2, which shows data for the top twenty recipients of IMF assistance and ODA. As can be seen, some low-income countries appear on both lists (Pakistan, Cameroon, Mozambique, Tanzania,

Kenya, Ghana, Nicaragua, Zambia, Senegal, and Uganda), but others appear on only one of the lists. Appearing only on the top twenty list of IMF lending are Madagascar, Papua New Guinea, Tajikistan, Rwanda, Kyrgyz Republic, Gabon, Congo, Chad, Sierra Leone, and Moldova, while appearing only on the top twenty list of ODA recipients are Vietnam, India, Bangladesh, Ethiopia, Malawi, Cambodia, Nepal, Mali, Côte d'Ivoire and Burkina Faso.

TABLE 2 ABOUT HERE

The descriptive data imply that, while there is some overlap between the IMF and bi-lateral donors, the match is not complete. They hint at a positive relationship, with IMF lending and bi-lateral aid being complementary. But they also suggest that IMF lending and aid are not perfect complements.

4. Data, Methodology and Results

In order to test the ideas discussed in Section 2, an unbalanced panel of low-income countries, as defined by the World Bank, was examined for the period 1974-2000. Due to missing data, the 785 observations include only 48 low-income countries. This sample was then used to investigate the relationship between ODA flows and various country characteristics. Data sources and definitions are provided in Appendix 2.

The dependent variable was ODA, comprising grants and concessional official loans net of repayments. The explanatory variables were chosen to reflect those key influences over aid

identified by previous studies (see Powell, 2003, for a review of them), supplemented by measures of IMF involvement in the country concerned.

Countries are characterized by income levels (GNP per capita, in both a linear and squared form), population (both linear and squared), and a variety of economic performance measures. These include GDP growth (lagged), the imports-to-GDP ratio (lagged), real international interest rates, the reserve-to-imports ratio (lagged), the debt-service ratio, the lagged debt-to-GDP ratio (linear and squared), the rate of real exchange rate depreciation (lagged), the number of recent debt reschedulings, and the level of civil freedoms. Variables were lagged to avoid confounding the effects of current aid flows on their value.

Our prior expectations are that ODA flows will be positively related to debt service levels, population and debt (though both at a declining rate), and the real interest rate (reflecting lower flows on debt that are likely to occur when interest rates are high). In turn, ODA flows are expected to decline with per capita GNP, economic growth, reserve adequacy, and the presence of recent reschedulings (indicating both a likely reduced need as well as a movement away from the bi-lateral debt flows that dominate ODA, due to debt difficulties). The effects of the real exchange rate and import levels on ODA flows are more contentious. A depreciating real exchange rate may indicate less need for official financing if trade adjustment actually occurs, but may also signal the seriousness of the government regarding adjustment. A low import-to-GDP ratio may indicate greater need for development assistance and restructuring due to low levels of integration with the world economy, suggesting that the coefficient should be negative. Alternatively, however, low import levels may also signal that the economy is more insulated from external shocks and less in need of external financing. Finally, the relationship between ODA and civil freedom is similarly ambiguous, being driven more by politics than economics.

Note that a negative coefficient for civil freedoms suggests that greater freedoms imply more ODA flows.

The measures of IMF involvement include the number of months in the current year in which the country is engaged in each of four separate high conditionality programmes (SBA, EFF, SAF, and ESAF/PRGF). In addition, there are indicators of the number of recent IMF programmes, the number of recent uncompleted IMF programmes, and the amount of IMF purchases in that year as a proportion of GDP.

The estimations were conducted using two techniques. Ordinary least squares regressions on the full sample and on two period sub-samples (1974-1988 with 385 observations, and 1989-2000 with 463 observations) were initially estimated. These estimations were augmented using a feasible generalized least squares (FGLS) estimation procedure to correct for potential heteroskedasticity and autocorrelation in the panel data. Table 3 presents the results of the full sample FGLS estimations, which are comparable to those of the OLS estimations (not reported here).

TABLE 3 ABOUT HERE

The results of the estimation yield several interesting results. In terms of the non-IMF variables, the findings are consistent with most previous analyses, and largely consistent with our priors. Due to the restriction of the sample to the poorest developing countries, the estimated coefficients for GNP per capita are statistically insignificant, suggesting that there is no strong discrimination between countries in this sample on the basis of per capita income. Flows of ODA are significantly related to population, however, with more populous countries attracting higher levels of ODA, though at a declining rate (as shown by the negative coefficient estimate on the

squared population term). Countries that were less integrated into the world economy via trade (low imports-to-GDP ratio) and with less adequate levels of reserves received more ODA. These relationships were particularly strong in the later period, with reserve adequacy having no significant effect in the 1974-1988 sample period.

ODA flows were also affected by a country's debt situation. Periods of relatively high real international interest rates were associated with lower ODA flows. Furthermore, high debt service ratios (debt service payments to exports) were associated with higher inflows of ODA in the full sample, reflecting a strongly significant association in the later period. Levels of debt, however, had the reverse correlation. In both the full sample and the later period, the debt-to-GDP ratio had no statistically significant effect, while in the earlier sub-sample higher levels of debt were connected with higher ODA inflows, though at a declining rate as debt increased. Past debt rescheduling episodes were not associated with ODA flows in any of the three sample periods.

Of the remaining non-IMF variables, growth rates and rates of real exchange rate depreciation had statistically insignificant estimated coefficients. Interest rates did affect ODA flows negatively and significantly in the second period; an effect that was offset in the full sample by a weakly significant positive effect in the early period. Higher levels of civil freedoms were associated with significantly higher inflows of ODA for this group of countries in the full sample, reflecting its strong influence in the later period.

For the IMF variables the story that emerges from the estimations is consistent across the samples. There is nothing to suggest that the Fund's influence has become stronger in the most recent period when the Cold War thawed and conditionality began to include a structural as well as a macroeconomic component. The non-concessional SBA and EFF agreements did not

significantly affect ODA flows for poorer countries. The concessional IMF programmes (SAF which was gradually replaced by ESAF and PRGF) did have a strongly significant and positive link to ODA flows. For the sample as a whole, SAF programmes were associated with an increase in ODA flows of approximately \$US 3 million, while ESAF/PRGF agreements were associated with an additional inflow of approximately \$US 2.5 million.

An interesting question is how to interpret the results relating to the IMF's involvement. Conventionally, the catalytic effect of IMF programmes has rested on their liquidity and conditionality components. Our results suggest that in the case of foreign aid, and as we anticipated in Section 2, the liquidity role is unimportant. However, even the conditionality role is open to some question since having a record of incomplete programmes in the past does not seem to exert a significant impact on contemporary ODA flows. In addition, programmes often deemed to have more rigorous conditionality (such as the EFF) do not display any positive association. Donors do not seem to be dissuaded from providing aid as a consequence of poor past implementation. Perhaps they view the causes of poor implementation as being beyond the control of the governments concerned and are therefore reluctant to penalize them. Alternatively, donors may be looking for something more different from conditionality and do not concern themselves with its details or its previous implementation. Perhaps they are content to delegate the design and monitoring of conditionality to the IMF, with the Fund's endorsement of a programme providing sufficient justification for them to support it financially. A third possibility that is consistent with our findings is that the IMF is playing a co-ordination role bringing countries and aid donors together. IMF programmes provide the context for doing this. The strong statistical association we discover may therefore be capturing this co-ordination role as opposed to a strictly catalytic role that is played out via liquidity and signaling.¹⁰

5. Policy Issues

For poor countries borrowing from the IMF's concessional lending window, Fund programmes and foreign aid seem to go together. While it is difficult to tease out the exact causal relationship, it seems more likely that IMF programmes crowd in foreign aid rather than crowd it out. There is a simplistic appeal to the notion that the comparative advantage of the Fund lies in providing balance of payments finance and in vetting and monitoring programmes of economic reform, while that of aid donors lies in providing longer term development finance. The connection may well be that donors believe that aid is more effective when accompanied by the sorts of policies supported by the IMF. It also raises the question of whether they would be equally impressed by World Bank conditionality.¹¹ If donors attribute this role to the IMF, the current debate about whether the Fund can endorse and monitor a programme without using its own resources has some analytical foundation. Both the IMF and aid donors have a mutually supportive role to play in helping to achieve the MDGs.

But policy issues remain. Can the specifics of conditionality, the design of the PRGF, and the mechanisms for monitoring programmes be changed to maximize ODA flows? If the financing gap remains large due to a weak response from official sources, should the IMF expand its own lending, or should it impose more rigorous aggregate demand compression to bring about more rapid adjustment? Should the Fund become more directly active in seeking to coerce donors to give aid when indirect channels remain relatively weak? What is the correct balance between the Fund's roles as advocate for, and overseer of, its low-income member countries? These are all complex issues, and our analysis here sheds only a little light on them. However, whereas the claim that an important part of the IMF's role is to induce private capital

inflows to client countries via the catalytic effect of IMF programmes remains empirically elusive as a general proposition, the evidence reported in this paper suggests that a policy based on strengthening the influence of the IMF on aid flows may at least be grounded in the evidence of an historically positive association.

In addition to seeking to influence aid flows by increasing their effectiveness, the Fund could also focus on some of the weaknesses of aid in terms of its instability and its procyclicality (Bulir and Lane, 2004). A lending role may also remain for the Fund in protecting long term development strategies financed by aid flows from external shocks emanating from the current account of the balance of payments. In this respect current discussions to incorporate a compensatory shock-related component within a reformed PRGF or to redesign the Compensatory Financing Facility are well timed.

6. Concluding Remarks

A superficial glance at the portfolio of IMF credits confirms that the Fund is heavily involved with developing countries. It is unsurprising that there has been considerable interest in the part the IMF can play in helping to attain the Millennium Development Goals (MDGs).

One argument that has been made during the debate is that the IMF is a short term financial institution whereas developing countries need long term development assistance. While the Fund concerns itself with monetary growth, inflation and reserve levels, developing countries are concerned about reducing poverty, infant mortality and hunger, and improving education. This approach sees the IMF as a stabilization agency that is ill-equipped to deal with long term development issues. Since the Millennium Development Goals relate to development, this

approach further argues that the Fund has little part to play in helping to achieve them. Instead foreign aid holds centre stage.

A counter-argument is that sustained economic development requires a stable macroeconomic environment. Macroeconomic disequilibria in the form of inflation and overvalued exchange rates undermine development. Alongside aid donors and the World Bank, this view sees the Fund as having a part to play in helping to achieve the MDGs. It can help establish an appropriate macroeconomic framework and ensure that macroeconomic mismanagement does not threaten development. It can at the same time support domestically designed and nationally owned structural adjustment that strengthens the supply side and increases the efficiency of demand side policy instruments. It can provide contingent financial assistance so that balance of payments crises associated with external shocks do not lead to large output declines and sudden stops or reversals to development. And it can play a key role in coordinating aid and economic reform. In short, it can be a strategically important agency in exerting a positive effect on development without becoming a development agency.

This paper has sought to add to the debate about the Fund's role in developing countries by empirically examining the nature of the relationship between IMF programmes and bi-lateral aid flows. The evidence supports the idea of synergy between the IMF and aid donors that the theoretical analysis anticipates. This, in turn, implies that a combination of IMF involvement in conjunction with foreign aid may make a more powerful contribution to meeting the MDGs than aid on its own. In any case, it may be via IMF involvement that developing countries have the best chance of attracting foreign aid. In turn, Fund programmes that can induce a reliable increase in bi-lateral ODA will allow for less harsh short-term demand compression, thereby easing both the economic and political pain of adjustment.

This is not to argue that there is no need for reform within the Fund, or amongst aid donors or within aid receiving countries. There is scope for beneficial reform across all three. But it is to argue that reform has something upon which to build. The Fund's role in achieving the MDGs may be strategically important. Achieving them would not be helped by the IMF withdrawing into a more restricted role where it seeks to avoid becoming involved with poor countries.

Appendix 1: Low Income Countries as Defined by the World Bank

Angola	Malawi
Bangladesh	Mali
Benin	Mauritania
Bhutan	Moldova
Burkina Faso	Mongolia
Burundi	Mozambique
Cambodia	Myanmar
Cameroon	Nepal
Central African Republic	Nicaragua
Chad	Niger
Comoros	Nigeria
Congo, Dem. Rep.	Pakistan
Congo, Rep.	Papua New Guinea
Cote d'Ivoire	Rwanda
Equatorial Guinea	Sao Tome and Principe
Eritrea	Senegal
Ethiopia	Sierra Leone
Gambia, The	Solomon Islands
Ghana	Somalia
Guinea	Sudan
Guinea-Bissau	Tajikistan
Haiti	Tanzania
India	Togo
Kenya	Uganda
Kyrgyz Republic	Uzbekistan
Lao PDR	Vietnam
Lesotho	Yemen, Rep.
Liberia	Zambia
Madagascar	Zimbabwe

Appendix 2: Data definitions and sources.

‘ODA’. Disbursements of concessional loans (net of principal repayments) from official sources, plus grants. Source: World Bank, *World Development Indicators* “Official development Assistance and Official Aid (Current \$US)”, recalibrated for millions of dollars.

‘Months of the Years with an SBA program’. Number of months of the current year in which a stand-by agreement is in effect. Source: IMF, *IMF Annual Report*, various years. This variable is repeated for EFF, SAF and ESAF programs in place of SBA.

‘Number of recent incomplete IMF agreements’. The number of agreements in the past five years which were “incomplete” according to the methodology of Killick et al, that is agreements with more than 20% of the commitment undrawn by the country at the time of expiry. Source: IMF, *IMF Annual Report*, various years.

‘Recent IMF arrangements’. A binary variable indicating whether an IMF arrangement has been in place for the country in any of the previous two years. Source: IMF, *IMF Annual Report* various years.

‘IMF purchases-to-GDP ratio’. The ratio of purchases from the IMF in the current year (from *IMF Global Development Finance*), divided by the GDP (from World Bank, *World Development Indicators*).

‘GNP per capita’. GNI per capita in thousands of \$U.S., Atlas method (World Bank, *World Development Indicator*) deflated by U.S. consumer price index (IMF: *IMF Financial Statistics*).

‘Population’. Number of persons (in millions). Source: World Bank, *World Development Indicators*.

‘Lagged GDP growth’. Percentage change in GDP from the previous year (annual %), lagged one year. Source: World Bank, *World Development Indicators* NY.GDP.MKTP.KD.ZG.

‘Lagged imports-to-GDP ratio’. Imports of goods and services divided by GDP, both in current \$US, lagged by one year. Source: World Bank, *World Development Indicators*.

‘Real international interest rates’. The London Interbank Offered Rate on U.S. 6 month Treasury Bills (annual average) less the rate of U.S. CPI inflation. Source: IMF, *IMF Financial Statistics*.

‘Lagged reserves-to-imports’. Total foreign reserves divided by total imports of goods and services (both in current \$US), lagged by one year. Source: World Bank, *Global Development Indicators*.

‘Debt-service ratio’. Total long-term debt service payments divided by total exports of goods and services (all in U.S. dollars). Source: World Bank, *World Development Indicators*.

‘Lagged debt-to-GDP ratio’. Total public and publicly guaranteed debt, divided by GDP (both in current \$US), lagged by one year. Source: World Bank: *World Development Indicators*.

'Lagged real exchange rate depreciation'. The official number of domestic currency units per \$U.S. multiplied by the ratio of the U.S. consumer price index to the country's consumer price index. This number is calculated for the current year and for three years previously (adjusting for changes in base years) and the difference between the two is expressed as a proportion of the value from three years before. Source: World Bank, *World Development Indicators*.

'Past rescheduling'. The number of years out of the previous two years in which a country rescheduled some portion of its official or private interest or principal repayments. Source: World Bank, *Global Development Finance*.

'Civil freedoms'. A qualitative variable in which 1 represented the most political freedom and 7 represented the least. Source: Freedom House, *Freedom in the World*.

Endnotes

¹ The IMF also exerts an effect on the supply side of economies through the structural conditionality incorporated into loans under the Fund's concessionary lending facility, the Poverty Reduction and Growth Facility.

² A clear statement of this point of view may be found in the Meltzer Report (IFIAC, 2000).

³ On this basis broader and deeper conditionality would signal problems that were more extensive and intensive.

⁴ For a review of some of this evidence see Bird (1996).

⁵ Alesina and Dollar (2000) provide a recent empirical analysis of bi-lateral aid flows which emphasizes the importance of donors' interests. But plenty of earlier studies have made a similar point.

⁶ This has been confirmed by the authors' conversations with aid donors, reported briefly in Bird and Rowlands (2000)

⁷ The study by Dollar and Burnside (2000) is seminal in providing empirical evidence to support this view. Although aspects of their study have been criticized (for example, Hansen and Tarp, 2001, Easterly, Levine and Roodman, 2004), the basic idea that aid effectiveness can be enhanced by the pursuit of good domestic policies has remained intact. For a review of recent research in aid effectiveness see Hudson (2004) and the references therein.

⁸ There is also a possibility that a sequence of programmes that accentuate fiscal adjustments lead to a tapering out of aid as donors no longer see it as necessary to cover fiscal deficits (Collier and Gunning, 1999). The IEO (2003), however, finds little empirical support for a tapering out effect of IMF programmes on aid, and our evidence does not suggest that prolonged involvement with the IMF leads to a decline in aid flows.

⁹ A growing number of studies investigate the determinants of implementation (see, for example, Ivanova et al, 2001, Dreher, 2003, and Bird and Willett, 2004).

¹⁰ Our results are broadly consistent with those reported by Powell (2003). Although his focus is on the relationship between debt relief and aid, he constructs a model in which he uses IMF programmes under the ESAF and PRGF facilities that are on track as a proxy for macroeconomic performance. Taking sixty IDA only countries for which data is available over the period 1996-2000, he finds that the IMF variable is highly significant and positive. While causality may be a matter for debate, Powell points out that "donors often insist that an IMF programme be in place and on track before they will disburse concessional programme assistance (as opposed to project finance, which is not typically explicitly linked to an IMF programme)" (p.13). The implication here is that catalysis is working via the conditionality incorporated in IMF programmes rather than via the additional liquidity they provide. This may be the case, although our results question just how important the implementation of conditionality is. Powell does not examine this since he only includes programmes that are on track so he does not test to see what difference it makes if the programmes are off track. See also Rowlands and Ketcheson (2002) for a related discussion of the issues.

¹¹ Bird and Rowlands (2001) find that there is little evidence to support the idea of a catalytic effect in association with World Bank lending. The supposition that catalysis is likely to be stronger in the case of the IMF than the World Bank is supported by qualitative as well as quantitative evidence (Bird and Rowlands, 2000).

Table 1: Financial Flows to Low Income Countries (millions of US\$).

	1999	2000	2001	2002	2003	Total
Net financial flows from IMF (IMF concessional current US \$)	136.3	34.3	421.4	94.7	385.1	1,918.0
Net financial flows from IMF non-concessional	268.7	-272.1	127.7	-574.7	-670.4	-1,120.8
ODA + official aid (net of repayments)	20,122.2	20,290.5	22,991.2	27,590.0	32,128.3	123,122.2
Private capital flows net (DRS current US \$)	12,633.3	15,099.1	13,479.0	13,972.0	21,541.3	76,721.7
Excluding India, Angola, Nigeria, Vietnam and Sudan	5,287.4	3,658.6	3,981.0	4,758.7	5,494.3	23,180.1

Source: World Bank Indicators database

Table 2: Top Twenty Recipients of ODA and IMF Lending

ODA 2000		IMF Flows 2000	
Country	ODA (US\$)	Country	Gross flows (US\$)
Vietnam	1,681,750,000	Pakistan	194,700,000
India	1,485,210,000	Cameroon	86,500,000
Bangladesh	1,171,330,000	Mozambique	59,600,000
Tanzania	1,022,030,000	Tanzania	52,800,000
Mozambique	877,000,000	Madagascar	50,100,000
Uganda	819,440,000	Kenya	44,300,000
Zambia	795,110,000	Papua New Guinea	38,100,000
Pakistan	702,770,000	Ghana	35,300,000
Ethiopia	692,970,000	Nicaragua	26,600,000
Ghana	600,430,000	Zambia	26,400,000
Nicaragua	561,540,000	Tajikistan	25,500,000
Kenya	512,140,000	Rwanda	25,100,000
Malawi	446,300,000	Kyrgyz Republic	18,900,000
Senegal	423,460,000	Senegal	18,800,000
Cambodia	398,420,000	Gabon	17,400,000
Nepal	389,600,000	Congo, Rep.	13,900,000
Cameroon	379,940,000	Chad	13,700,000
Mali	359,720,000	Sierra Leone	13,700,000
Côte d'Ivoire	351,830,000	Moldova	12,200,000
Burkina Faso	336,010,000	Uganda	11,800,000

Source: World Bank Indicators database

Table 3: Feasible Generalized Least Squares Regression Results: Poor country ODA flows

Variable	Estimated Coefficient	Normal statistic
Months of the year with an SBA program	2.48	0.87
Months of the year with an EFF program	-0.0535	-0.01
Months of the year with an SAF program	12.4**	4.17
Months of the year with an ESAF program	17.1**	7.04
Recent incomplete IMF programs	4.73	0.32
Number of recent IMF arrangements	36.3	1.52
IMF purchases-to-GDP ratio	-752	-0.86
GNP per capita	13399	0.14
squared per capita GNP	-41.7	-0.81
population	5.26**	16.21
squared population	-3990**	-11.05
lagged GDP growth rate	2.32	1.38
lagged imports-to-GDP ratio	-273**	-5.33
real international interest rates	-12.4**	-2.64
lagged reserves-to-imports ratio	-265**	-5.35
debt service ratio	240**	3.18
lagged debt-to-GDP ratio	32.9	1.14
squared lagged debt-to-GDP ratio	-0.705	-0.15
lagged real exchange rate depreciation	0.0476	0.5
past rescheduling	-12.8	-0.72
civil freedoms	-19.2*	-2.48
constant	430**	6.16
Number of observations	785	
Log likelihood	-16268.22**	
Associated OLS Adjusted R ²	0.63	

** , * refer to statistical significance at the 1% and 2% levels for two-tailed tests respectively.

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