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Aid Securitization: Beyond IFFIm

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AID SECURITIZATION: BEYOND IFFIm*

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Abstract

The International Finance Facility for Immunization (IFFIm), which securitized future aid commitments by donor countries, has been successful in providing funds to immunize children in poor countries. Since capital is likely to remain scarce, the paper evaluates the prospects of setting up IFFIm-like mechanisms to fund a variety of objectives. Two broad conclusions emerge. First, replicating IFFIm could prove challenging because donor pledges will lack the desired credibility. Second, credit enhancements like third party guarantees, excess coverage, and channeling of pledges through a preferred creditor, could overcome this deficiency. Finally, Advance Market Commitments and Cash on Delivery are alternatives to deliver some of the advantages of IFFIm.

I. Introduction

In early 2003, the UK Treasury together with the UK Department for International Development (DFID) floated the idea of securitizing future aid flows to raise significant amounts of up-front funding to meet the Millennium Development Goals.¹ The idea was endorsed first by France and then by a number of European nations in subsequent years. It was operationalized in 2006 when the International Finance Facility for Immunization (IFFIm) sold in global capital markets nearly USD1 billion in bonds backed by pledges of aid in the future.

By all accounts, IFFIm has been quite successful. Since its inception, it has secured donor commitments of USD6.1 billion, raised USD3.6 billion in global capital markets, and disbursed USD1.8 billion in funds to scores of developing countries in support of accelerated Vaccination and Immunization (V&I) programs. As for the health impact, HLSP Institute, a leading consultancy on global health issues, has estimated that the V&I programs have averted many more than 800,000 deaths necessary for the IFFIm program to break even (Pearson et al. 2011).

This paper examines the prospects of establishing IFFIm-like International Finance Facilities (IFFs) to fund a broad range of development objectives such as education, infrastructure, and climate change. Its first key message is that replicating IFFIm is likely to prove quite challenging. While the small size of donor pledges together with the compelling nature of IFFIm goals made the aid commitments highly credible, supporting other development objectives via multi-year pledges may lack the same credibility. Indeed, the credibility of all pledges is likely to erode as more and more aid is pre-committed. As a result, the rating agencies can be expected to assign other IFFs lower credit ratings than IFFIm's AAA. It is also questionable whether the International Bank for Reconstruction and Development (the World Bank) would be able to secure for other IFFs the coveted supranational status that it obtained for IFFIm. Both of these features have played a big role in the success of IFFIm.

The paper's second key message is that all, however, is not lost. Certain credit enhancements like third party guarantees and excess coverage may make the task of achieving AAA credit ratings for other IFFs feasible. Alternatively, channeling commitments through Multilateral Development Banks (MDBs) with a preferred creditor status could help enhance the credibility of future aid commitments. Advanced Market Commitments (AMCs) and Cash on Delivery (COD) are other alternatives that could be used to bring in some of the advantages of IFFIm-like financial structures. Finally, securitization of future South-South aid flows could also provide alternate funding avenues, primarily to finance infrastructure improvements.

The rest of the paper is organized as follows. Section II describes the securitization structure embedded in IFFIm which resulted in the rating agencies assigning it AAA credit rating. It then highlights the role IFFIm's AAA credit rating along with its supranational status have played in holding down IFFIm's costs of raising funds. The section concludes by discussing

¹ The earliest expositions on this topic can be found in HM Treasury-DFID reports in 2003 and Mavrotas (2004).

IFFIm’s two principal economic benefits – funding predictability and front-loading -- that have greatly contributed to its success. Section III takes up the issue of scaling up IFFIm type of structures to advance other development goals. This section also highlights several concerns about whether new IFFs for a broad range of development goals, including education, could gain AAA credit rating, and in fact whether IFFIm could retain its AAA credit rating in the future. Section IV discusses the role of alternative structuring arrangements in enhancing the credibility of donor pledges. Section V examines AMC and COD arrangements as ways of promoting predictability and effectiveness of aid flows. The penultimate section VI evaluates the possibility of securitizing future south-south aid flows. Finally, section VII assesses the feasibility of securitizing future aid flows to raise predictable and sizable up-front funding in support of a broad range of development goals. The conclusion is that while straight forward replications of IFFIm would be difficult, several credit enhancements and institutional innovations could be used to make IFFs a reality.

Before discussing the IFFIm structure in section II, the salient features of IFF, AMC and COD financing vehicles are summarized in Table 1.

Table 1: Comparison of IFF, AMC and COD

| | IFF | AMC | COD |
|-------------------------------|--------|-------------------------|--------------------|
| Predictable Funding | Yes | Yes | No |
| Front-loading of Funds | Yes | No | No |
| Aid Effectiveness | Medium | Medium | Highest |
| Multi-Year Budget Commitments | Yes | Yes | Yes |
| Credit Rating Concerns | Yes | No | No |
| Flag-ship Deals | IFFIm | Pneumococcal Vaccine | Designing Stage |

In contrast to the IFF, which makes predictable and up-front funding available, the AMC promises only predictable funding. While the COD provides neither predictable nor up-front funding, it ensures aid effectiveness because funds are delivered only upon successful

achievement of mutually agreed development goals. Although all three schemes require multi-year commitments from donor countries, the credibility of such commitments is less of an issue for AMC and COD because no rating considerations are involved.

II. IFFIm structure

The IFFIm has successfully securitized future donor pledges in raising funds up-front to support V&I programs in developing countries. Its structure is depicted in Fig. 2. Under the structure, donor countries make multi-year aid commitments to IFFIm. Based on these commitments, IFFIm issues bonds/notes in global capital markets. The proceeds from bond issuance are then disbursed to the eligible developing countries in support of their V&I programs. The IFFIm has benefitted from the involvement of:

- The GAVI Alliance, a highly regarded public-private partnership, which has provided funds to purchase and deliver vaccines and also help with the disbursement of funds to eligible low-income countries.
- The World Bank has been active in executing the IFFIm's capital raising program and also in managing the proceeds from bond sales to ensure that sufficient liquidity is available to meet funding commitments as well as timely debt servicing.
- Several legal and banking entities that provided pro-bono legal and investment banking services.

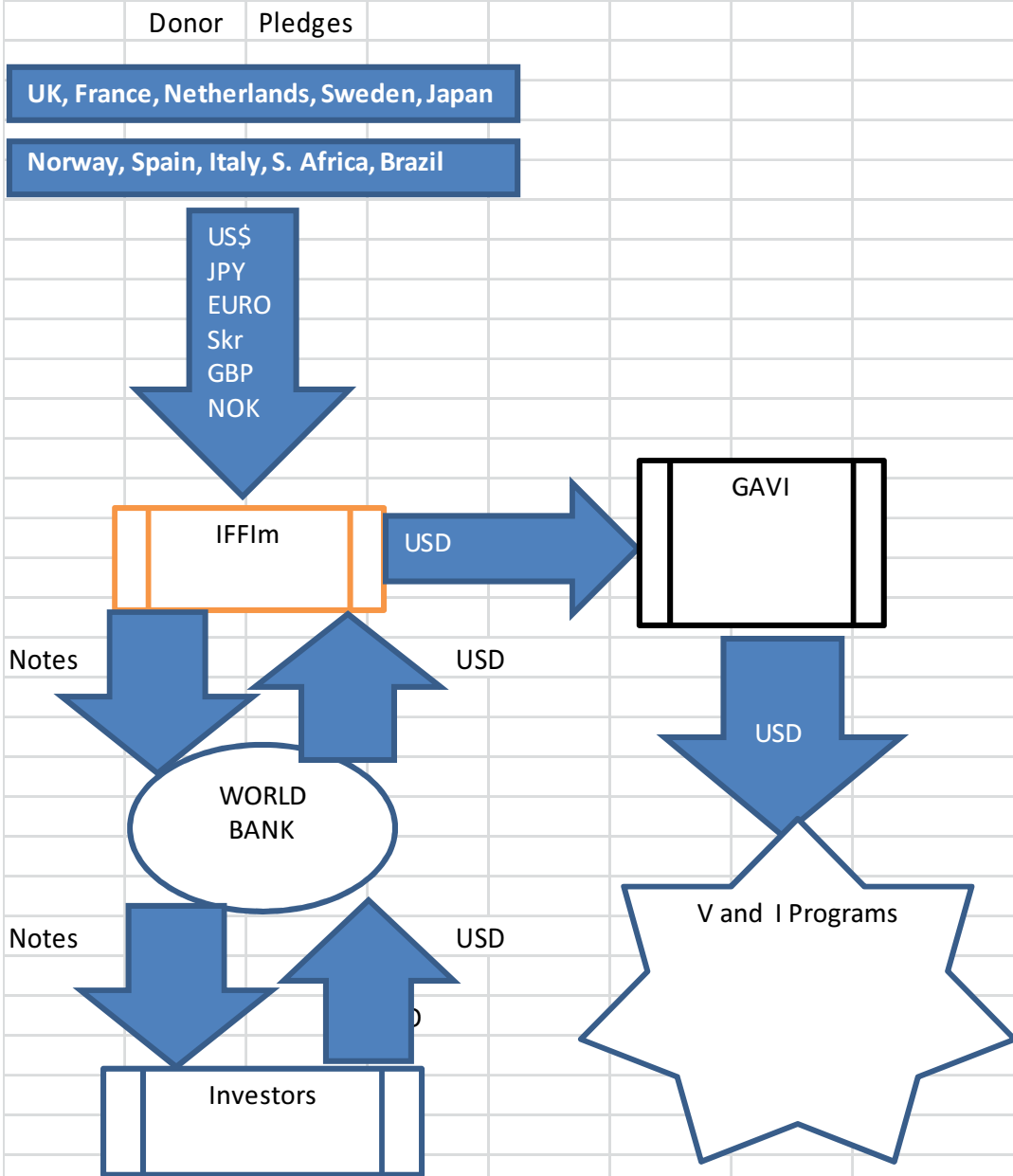
Through June 2011, the IFFIm has secured US\$6.1 billion in donor pledges from 10 donor countries. The donor countries to date, with donor pledges in million US dollars in parentheses, have included: the U.K. (2,640), France (1,786), Netherlands (115), Sweden (39), Norway (287), Spain (273), Italy (682), Australia (256), South Africa (20) and Brazil (20). There has been a great deal of variety in donor pledges not just in terms of amounts but also in regards to the time span of contributions. The biggest donor pledges have come from the United Kingdom and France accounting for 43.2 % and 29.2% of the total, respectively. The U.K. is also committed to provide funding for the longest period of time running through 2029. The IFFIm has undertaken 19 bond issues in five markets raising nearly US\$3.6 billion and disbursing through end 2010 US\$1.8 billion in 70 low-income countries. Its access to international capital markets has remained intact notwithstanding the difficult financial environment in recent years.

Standard & Poor's, Moody's and Fitch assigned the highest possible AAA credit rating to IFFIm at its inception and have retained that rating to date. The rating agencies perceived three credit risks to IFFIm notes:²

1. AAA-rated countries accounted for almost 85% of total pledges. Also, the compelling goal of the pledges supporting child V&I programs in low-income countries gave rating

² See, for instance, S & P's latest credit report by Hays (2010) for details.

Fig. 1: IFFIm Structure



Source: Author provided schematic

agencies additional comfort that future governments in donor countries will encounter little trouble in convincing their electorates that IFFIm pledges should be kept.

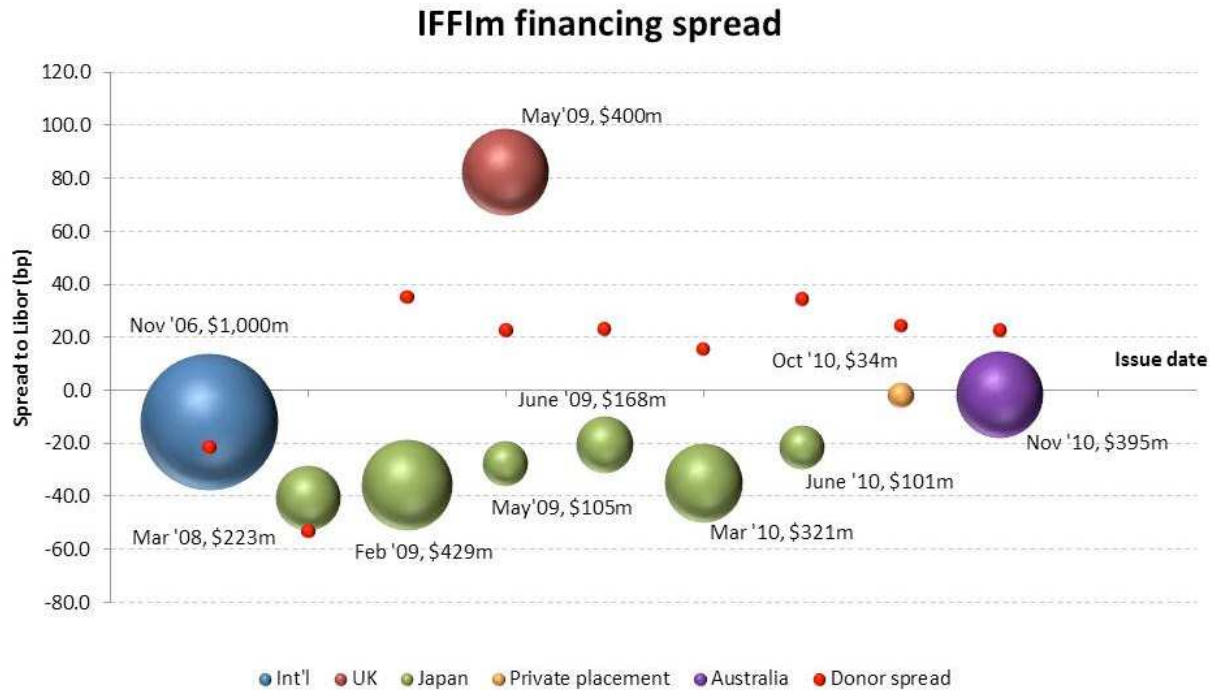
2. IFFIm may fail to service the bonds fully and in timely fashion. In the rating agencies' view, this risk was mitigated by the choice of the World Bank as the treasurer.
3. Future aid flows may decline if the contingency clause included in the aid commitments were to be triggered. The relevant public sector accounting rules in Europe required that pledged amounts should be treated as expenditures in the year in which the pledges are made. This would have prevented any aid commitments into the future. But Eurostat, the score-keeper on budgetary issues for the Eurozone countries, opined that this rule would not apply if pledges are conditional. The selected conditionality criterion was the percent of IFFIm-eligible developing countries that run up protracted arrearages to the IMF. Sixty-two small countries were given 1% weight each, seven big countries were assigned 5% weight each, and two countries were assigned 3% weight each. The reduction in the pledged amount was to be determined by adding up the weights on countries in protracted IMF arrearages. Since protracted arrearages to IMF have dropped in recent years, the risk of reduction in aid flows has been much smaller than estimated initially by the rating agencies.

All in all, the three rating agencies awarded IFFIm a triple-A credit rating which has proved very valuable for keeping down the cost of raising funds in global capital markets as Fig. 2 shows. Overall, IFFIm bonds have traded at a small premium to the World Bank bonds and, in recent times, below the spread for the EIB and KfW. Also, IFFIm has priced in most cases inside the weighted average donor spread. This is attributed to IFFIm's supranational status achieved at the behest of the World Bank.³ Thus, the European Commission has included IFFIm in the list of MDBs enumerated in the capital adequacy directive (Directive 2006/48/EC) which entitles IFFIm securities to 0% risk weight (EU Newsletter for European Banking Committee, 2006). Also, the Basel Committee on Banking Supervision has agreed that supervisory regulatory authorities may allow banks to apply a 0% risk weight to their exposure to IFFIm on the basis of it being an MDB. Furthermore, the Financial Services Authority in the UK has confirmed that IFFIm is not required to (i) make public its annual financial report within four months of the end of each financial year pursuant to Rule 4.1.3 of the relevant enacting legislation (the Disclosure and Transparency Rules (the "DTRs")), and (ii) produce half-yearly financial reports pursuant to DTR 4.2, by virtue of the exemption set out in DTR 4.4.1 afforded to public international bodies of which one or more member states are members (FSA Handbook, 2007). In addition, the Ministry of Finance of Japan has recognized IFFIm as a sovereign/supra-national issuer for the purposes of Japanese disclosure requirements. Finally, the Luxembourg securities commission

³ In a conversation, Michael Bennett of the World Bank opined that this status is critical for IFFIm to fund at highly cost efficient levels. In his judgment, IFFIm would not have been able to achieve the same funding level if it were seen just as a securitization vehicle.

and the Luxembourg Stock Exchange treat IFFIm, for the purposes of the Luxembourg Prospectus Law, as a public international body.

Fig. 2



Source: Evaluation of the IFFIm, June 2011

IFFIm has been successful in providing predictable as well as significant front loaded funding. The funding predictability has brought in several benefits:

- Increase in the likelihood of investment by companies in large scale vaccine production capacity, thereby reducing average costs,
- Rise in the probability of developing countries increasing investment to expand coverage, and
- Achievement of the most cost efficient resource use by recipient governments over time thanks to better planning of expenditures.

The front-loading of expenditures increased the spill-over benefits of immunization. V&I programs benefit not only individuals receiving the vaccines but also others who come into contact with those individuals. This is called the “herd immunity” benefit. Disease eradication is the extreme form of such a benefit as exemplified by the eradication of small pox in 1980 following a 15- year WHO campaign. It is estimated that the United States saves the cost of its contribution to this campaign every 26 days (Barder and Yeh, 2006). This early study by Barden and Yeh (2006) estimated that the funding predictability could add 11% and front-loading

another 10% to IFFIm's health impact. A recent assessment shows that the immunization coverage in GAVI-supported countries for the diphtheria-tetanus-pertussis (DPT3) vaccine has increased steadily from 65% in 2000 to 79% in 2010, for the hepatitis B vaccine from under 20% to 65%, and for Hib vaccine from zero to just over 35%. (GAVI Alliance Progress Report 2010, p.4) As a result, GAVI believes that over five million future deaths have been prevented.

As pointed out earlier, the initial pledges from AAA rated countries accounted for 85% of total pledges which helped IFFIm in securing AAA credit rating. There have been new pledges since then from the U.K., France, Norway, the Netherlands and Australia (all AAA rated when the pledges were made), but also from South Africa (BBB+) and Brazil (BBB-). While the contributions from South Africa and Brazil were too small (US\$20 million each) to jeopardize IFFIm's AAA rating, the threat to it has now materialized from the recent loss of AAA credit ratings enjoyed by France and Spain. Moody's downgraded Spain to AA- (October 14, 2011) and S & P downgraded France to AA+ (January 17, 2012). Since these two countries account for roughly 34% of total donor pledges, S & P also downgraded IFFIm's credit rating to AA+ on the same day. Fitch updated IFFIm's outlook to negative on December 19, 2011 when it changed France's outlook to negative. Under its current structure, if two of the three rating agencies were to rate IFFIm below AAA, IFFIm would not be able to fund new V&I programs. The cessation of IFFIm activities has now become a real risk.

III. Scaling-up IFFIm for Education and Other Goals

The Millennium Development Goals (MDG) as well as the UNESCO led Education for All (EFA) movement aspire to achieve universal primary education while eliminating the gender gap at all levels of education by 2015. The EFA's Global Monitoring Report (GMR) has identified a funding gap of \$11 billion per year if MDGs and EFA goals in basic education are to be met. This funding gap is some three-times the current level of Overseas Development Assistance (ODA) for education. Ultimately, therefore, it will be necessary to adopt innovative approaches for generating funding if governments are to meet the targets for inclusive and quality education. Would scaling up IFFIm-type of arrangement represent one such mechanism that can enable developing countries to raise the necessary funding?

The preliminary assessment is not very positive for a straight forward scaling up of IFFIm for funding education and other development goals. Many of IFFIm's unique features that have contributed to its success will be difficult to replicate. For one thing, IFFIm received exceptional institutional support from GAVI, a well respected public-private partnership, to fund vaccine purchases and receiving on-going advice on the disbursement of IFFIm funds; the World Bank to raise low-cost funding and ensure adequate liquidity; and pro-bono advice from law firms and investment banking services from financial companies. Such institutional support may be difficult to achieve for additional IFFs.

But even if some of this institutional support can be recreated for IFFs to fund a broad range of development goals, a second major obstacle would remain; namely securing credible donor commitments. Many advanced countries in the G-20 Group are faced with serious budgetary problems of their own. All countries in Table 2 save Germany are expected to run up budget deficits in excess of 3% of GDP in 2011. At the same time, all of them are expected to have gross debts in excess of 60% of their GDP. Since budget deficit below 3% of GDP and gross debt below 60% of GDP are the prudential fiscal criteria for accession to the European Union under the 1992 Maastricht Treaty, the focus in many European countries in the coming years is undoubtedly going to be on cutting spending. Consequently, many advanced countries are unlikely to increase their development assistance in the foreseeable future and make multi-year pledges of significant funds in support of development objectives in low-income countries.

Also, the pledges made to IFFIm were considered credible because of the cause they supported. The science supporting V&I programs is incontrovertible and such programs are not only known to save lives and reduce debilitating disabilities, they are also recognized to be the most cost effective interventions. Furthermore, the pledged contributions to IFFIm are relatively small in comparison to the donors' aid budgets. Consider US\$2.64 billion pledged to IFFIm by the United Kingdom, the largest contributing nation, over the 23 year period from 2007 to 2029. This amount was 30% of aid disbursed in 2006, 9.1% of aid disbursed from 2006 to 2009, and a mere 1.5% of aid to be disbursed from 2006 to 2029 provided the United Kingdom were to keep annual aid at its average level from 2006 to 2009.⁴ Similar percentages for France, the second largest contributor to IFFIm, are 22.8%, 6.5% and 1.2%, respectively. The non-controversial humanitarian goals of IFFIm together with the relatively small pledged amounts relative to the size of aid budgets gave rating agencies comfort that political and public support for IFFIm pledges will hold even during times of financial stress and hence donors will honor their pledges.

Indeed, the rating agencies' belief in the high credibility of IFFIm commitments was validated when:

- The Netherlands provided grants totaling €80 million in December 2009.
- The United Kingdom agreed to commit an additional GBP250 million in August 2010 to support IFFIm following a thorough review of all spending commitments by the then newly elected Cameron government. This reaffirmation of

⁴ This is a very conservative assumption because it does not allow for any rise in aid even to offset inflation.

Table 2: Fiscal Balances and Debt, 2008-12 (as % GDP)

| | 2008 | 2009 | 2010 | 2011 (P) | 2012 (P) |
|--------------------------------|-------|-------|-------|-------------|-------------|
| Overall Fiscal Balances | | | | | |
| Advanced Economies | -3.3 | -7.9 | -7.5 | -8.6 | -5.3 |
| United States | -3.6 | -8.8 | -7.5 | -6.7 | -5.4 |
| Euro Area | -2.1 | -6.4 | -6.1 | -4.2 | -3.2 |
| France | -3.3 | -7.6 | -7.1 | -5.9 | -4.6 |
| Germany | 0.1 | -3.1 | -3.3 | -1.7 | -1.1 |
| Italy | -2.7 | -5.3 | -4.5 | -4.0 | -2.4 |
| Spain | -4.1 | -11.1 | -9.2 | -6.1 | -5.2 |
| Japan | -4.2 | -10.3 | -9.2 | -10.3 | -9.1 |
| United Kingdom | -4.9 | -10.3 | -10.2 | -8.5 | -7.0 |
| Canada | 0.1 | -4.9 | -5.6 | -4.3 | -3.2 |
| Gross Debt | | | | | |
| Advanced Economies | 79.7 | 91.9 | 98.1 | 102.9 | 106.1 |
| United States | 71.6 | 85.2 | 94.4 | 100.0 | 105.0 |
| Euro Area | | | | | |
| France | 68.3 | 79.0 | 82.4 | 86.9 | 89.4 |
| Germany | 66.4 | 74.1 | 84.0 | 82.6 | 81.9 |
| Italy | 106.3 | 116.1 | 119.0 | 121.1 | 121.4 |
| Spain | 39.8 | 53.3 | 60.1 | 67.4 | 70.2 |
| Japan | 195.0 | 216.3 | 220.0 | 233.1 | 237.4 |
| United Kingdom | 52.0 | 68.3 | 75.5 | 80.8 | 84.8 |
| Canada | 71.1 | 83.3 | 84.0 | 84.1 | 84.2 |

(P) is projected

Source: Fiscal Monitor, IMF September 2011

commitment to IFFIm was all the more noteworthy because the government was then implementing Draconian cuts in all government expenditures.

- Norway also agreed to provide an additional NOK1.5 billion in August 2010 and Australia committed AU\$250 million in March 2011.

Notwithstanding such reaffirmation of funding commitments during difficult economic times, the rating agencies do not view such nondebt-service obligations of sovereign governments, even if legally binding, as enjoying the same priority of payment as debt-service

obligations. First, the “legally binding” commitments are subject to appropriation risk. Second, the enforceability of such commitments is also questionable given that the donors are sovereign countries.

It is likely that these last two factors could create major stumbling blocks in implementing IFFs to achieve other development goals such as education or climate change. In education, achieving universal primary education and eliminating gender gap are recognized as highly desirable goals. But controversy surrounds on the appropriate modalities; for instance, whether public or affordable private schools do a better job of educating children? Even the goals are controversial in the context of climate change. While the scientific evidence supporting global warming is overwhelming, a small minority of politicians, particularly in the United States, continue to question whether global warming is real and more importantly whether it is manmade. Hence, the risk of continued political and public support for pledges made to further education and bring about climate change in low-income countries is far from negligible. The risk of donors not paying their pledges in full and on time would be even higher in out years when grants are used not to fund development projects but instead to service debt incurred.

Yet another factor which played a major role in IFFIm’s success, but which may be less relevant in the context of other development goals, is front-loading of funds. Front-loading via IFFIm was highly desirable because it permitted low-income countries to clear up the back-log of children who had missed out on vaccinations, thereby saving millions of lives. This clearing up of the back-log contributed to a sizeable “herd immunity” effect referred to earlier. But upon clearing-up the back-log, the recurrent cost of V&I programs can be expected to decline. Even then, when IFFIm was conceived, aid commitments were expected to rise over time to provide funds to low-income countries to run permanent but smaller V&I programs.

While front-loading in education would help build schools, the recurring costs of providing education are expected to remain substantial. Unlike V&I, there is no such thing as educating a back-log of children who missed out on schooling when they were young. As a result, the recurrent costs of schooling are expected to remain high. The inability of donor countries to raise funding commitments in the future may then act as a constraint on furthering the cause of education in the long run if low-income countries are unable to raise their own revenues to cover the recurrent costs. Similar issues could also come up in the context of other development initiatives. In short, therefore, an IFF for a development goal seems appropriate only when the start-up costs are expected to give way to significantly smaller recurrent costs. This requirement has become all the more relevant given the persistent fiscal stress in the likely donor countries.

A final major impediment to scaling up IFFIm comes from the prevalent budgetary scorekeeping systems in selected donor governments which adversely impact their ability and willingness to make multi-year expenditure commitments. It is not surprising that the countries that participated in IFFIm have the most flexible budgetary rules that allow governments to keep multi-year financial commitments off-budget until the fiscal year in which expenditures are actually incurred. The UK budgetary rules, for instance, allow the government to enter into legally binding long-term financial commitments. For most such commitments, a parliamentary approval is not needed until the fiscal year in which the payment is to be made. The future commitments are required to be included in the deficit projections only if they are of significant size. The European Union rules are somewhat less flexible. Still, Eurostat, the arbiter on determining how member governments should score commitments in annual budgets and deficits, ruled in 2005 that IFFIm borrowings in international capital markets need not be recorded as debt obligations of the donor countries themselves. Eurostat based this decision on three factors: first, the IFFIm was a non-governmental entity; two, donor countries' commitments were contingent; and three, the donors did not guarantee IFFIm's debt obligations.

Donor governments such as Japan and the United States with more restrictive budgetary rules did not participate in IFFIm. In the case of the United States, legally binding multi-year commitments are impossible to undertake without Congressional approval. The prevalent provisions of the Anti-deficiency Act (United States GAO, 2004), whose beginnings can be traced back to 1870, prohibit any government agency from creating or authorizing an obligation in excess of the amount appropriated by the Congress. The Congress must provide appropriation covering the full commitment amount before the government can enter into legally binding multi-year contractual obligations. Unless otherwise authorized by law, no officer or employee of the United States may make any expenditure or incur an obligation either in excess of available appropriations or in advance of appropriations.

The binding nature of this provision was brought home by a recent Government Accountability Office (GAO) decision, dated October 3, 2011, on the 10-year lease signed by the Securities and Exchange Commission (SEC) for additional headquarters office space in Washington, DC. Although the SEC estimated that its total obligation for the lease would be at least USD371.7 million, it recorded an obligation for only USD180,000 for the first fiscal year. The GAO concluded that this was inappropriate and required the SEC to obligate an amount equal to the government's total obligation under the contract. Thus, the Anti-deficiency Act makes it impossible for the U.S. government to enter into future commitments needed to participate in IFFIm type of activities. Indeed, all multi-year development initiatives, including the much heralded USD15 billion five-year Bush plan for HIV/AIDS relief in Africa, do not involve

legally binding commitments. They are all contingent upon Congressional appropriations over time.

Benjamin Leo (2010) suggests several options for overcoming restrictive budgetary systems so that the United States and many other potential donor countries can begin to make credible multi-year aid commitments. These are taken up in the next section IV, along with some other ideas to improve the credibility of donor pledges.

IV. Improving Credibility of Donor Pledges

Pledges from countries that cannot make legally binding commitments or that lack AAA sovereign credit rating may need to adopt mechanisms to fortify the credibility of their promises to provide aid in support of specific development goals. Lacking strong fortification, any IFFs will receive credit rating below AAA. While that will not make IFFs irrelevant, their usefulness in providing low-cost funding to low-income countries could be sharply eroded. The mechanisms to fortify donor commitments fall into three general categories viz. third party guarantees including use of existing financial vehicles, excess coverage, and channeling of donor pledges through a preferred creditor like the World Bank. While Leo (2010) has suggested many mechanisms, two of them -- guarantees via third party insurance and use of existing (reserve-rich) financial vehicles -- seem most promising. These are the first set of mechanisms discussed below. The second mechanism is the tried and tested overcollateralization (excess coverage) technique used in all future-flow securitization structures. Finally, the third mechanism proposes to channel pledges through the World Bank (or another multilateral development bank) that has a preferred creditor status. This mechanism would also have the advantage of avoiding setting up development goal specific entities (like GAVI) to manage fund allocations and monitor recipient performance.

Third Party Guarantees: This option seeks to utilize financial guarantees provided by a third party – the World Bank, an insurance company, or a commercial bank. Leo (2010) points out that private companies as well as local government entities have often used financial guarantees to give comfort to markets that full payments would be made in case the obligor fails to meet its payment obligations. In the United States, financial guarantee insurance has been used to make municipal bonds more attractive. In Sweden, financial guarantees have been used in the past to promote specific sectors such as agriculture, fishing, housing construction, shipbuilding and energy (Magnusson 1999). The USAID's Development Credit Authority (DCA) has also provided guarantees to financial institutions in developing countries that make loans to creditworthy yet underserved borrowers.

The guarantee for the U.S. government's aid commitments, however, will have to come from a non- U.S. governmental entity such as a private insurance company; self insurance is

likely to prove rather ineffective. Insurers like Ambac and MBIA routinely insured municipal bonds in the past. They also played a rising role in the 1990s and beyond in structured finance transactions by providing complete financial guarantees (Ketkar and Ratha 2008). Ambac, for instance, provided guarantees in a 2002 credit card voucher securitization in Central America, which involved five countries of Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. While Standard & Poor's gave this multiple-jurisdiction 'Credomatic' transaction a stand-alone credit rating of BBB-, the Ambac guarantees of timely of interest and principal raised the transaction rating to AAA. But many U. S. monoline insurance companies like Ambac were decimated in the financial crisis of 2007/08 due to their role in insuring subprime mortgage-backed securities. Hence, they may play only a limited role in the short run in insuring U.S. government's future aid pledge. Note, however, that it is only in late 2011 that some insurers like Assured Guaranty have begun to re-engage in the business of insuring municipal bonds in late 2011. So there is a ray of hope.

Use of an Existing Financial Vehicle: Leo (2010) has also proposed using the existing assets of third-party institutions as a back-stop for the congressional authorization to fund aid pledges. The existing assets could include reserves, excess liquidity, or receivables. GAVI, with significant excess liquidity due to rapid rise in donor contributions and slower than expected ramp-up of V&I programs, is a likely provider of a back-stop. Indeed, the U.S. Government tried to secure GAVI back-stop for its participation in the pneumococcal Advanced Market Commitment (AMC), but ultimately did not use it due to policy concerns. Other institutions with excess reserves include: IDA, IBRD, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, Gates Foundation, IMF (the unused SDRs allocated to rich countries), and many other organizations. Of course, securing the consent of the shareholders of these organizations to allow their excess reserves to be used to provide back-stops could prove challenging.

Excess Coverage: Excess coverage or overcollateralization is a tried and tested method of credit enhancement in structured finance or securitized transactions. A typical structured finance transaction sells securities backed by existing or future cash flows. The first securitized transaction in the United States occurred in the 1970s and involved the pooling and repackaging of home mortgages for resale as tradable securities. Since then, securitized markets have grown in sophistication to cover a wide range of assets. Securitizing a broad spectrum of future-flow receivables – exports of oil and gas, minerals and metals, and agricultural raw materials as well as electronic and paper remittances, airline tickets, net international telephone charges, credit card vouchers, and more recently Diversified Payment Rights (DPRs)⁵ -- has been the focus of developing countries largely because they have lacked income from existing assets. The first future-flow securitized transaction was undertaken by

⁵ DPRs represent all cross-border payments that flow through the SWIFT system. SWIFT – Society for Worldwide Interbank Financial Telecommunications – is the global provider of secure financial messaging services.

Mexico's Telmex in 1987 when the telephone company sold securities backed by future net international telephone receivables. IFFIm's bond issuance represents a transaction that securitizes donor countries' pledges of future aid for V&I programs. Although securitization has come under widespread criticism following the collapse of mortgage-backed securities market, the fault lies with an overly aggressive valuation of underlying assets rather than the securitization structure itself.

While the typical structure of a future-flow securitized transaction eliminates the transfer and convertibility risks, many other risks remain and markets have designed ways to mitigate them (Ketkar and Ratha, 2008, Chapter 2). Of particular relevance in this context is the risk of the issuer not being able to generate adequate receivables in the future. For example, the Mexican national oil company PEMEX securitized future oil export receivables in 1998 and 1999 to raise up to US\$5 billion in a series of bond placements in the international capital markets. These deals faced the risk of insufficient future receivables to service the debt due to possible declines in the volume and/or price of oil. Any IFF issuance is also open to a similar risk; i.e., that the IFF may not generate adequate "aid" revenues in the future due to donor countries renegeing on their pledges. Investors are likely to perceive this risk as particularly significant when donors do not have impeccable credit ratings or have not made legally binding commitments. This risk of "aid" revenues in the future falling below what is needed to service the debt can be mitigated by issuing bonds in amounts that can be serviced even if some donors were to renege on their commitments.

Generally, securitized transactions mitigate the risk of fluctuations in future receivables via overcollateralization or excess coverage. A detailed analysis of long-term data on prices and volumes is carried out to determine the likely shortfalls in receivables over the life of the bond. This stress test analysis plays a vital role in setting the terms of excess coverage. Of course, it is not possible to adopt the same approach when it comes to determining the extent of excess coverage necessary for IFFs. But data are available on sovereign ratings and corporate and sovereign debt defaults in the past. Rating agencies provide ex-post summaries of defaults by rating grades (Table 3). Furthermore, they have revealed their target default probabilities in their structured finance methodologies. Moody's "idealized" default rates in Table 3 are based on the historical default rates over various horizons, and analyst judgments. Perhaps, these "idealized" default rates can be used in determining the degree of overcollateralization in IFFs.

Table 3: Long-Term Sovereign Credit Ratings and Default Probabilities

Moody's five-year default rates in percent (1983-2009)

| Fitch and S&P | Moody's | Interpretation | Idealized | Corporate | Sovereign |
|---------------|---------|---|-----------|-----------|-----------|
| AAA | Aaa | Highest quality | 0.003 | 0.086 | |
| AA+ | Aa1 | High quality | 0.031 | | |
| AA | Aa2 | | 0.068 | | |
| AA- | Aa3 | | 0.142 | 0.247 | |
| A+ | A1 | Strong payment capacity | 0.261 | | |
| A | A2 | | 0.467 | | |
| A- | A3 | | 0.730 | 0.806 | 0.000 |
| BBB+ | Baa1 | Adequate payment capacity | 1.100 | | |
| BBB | Baa2 | | 1.580 | | |
| BBB- | Baa3 | | 3.050 | 2.027 | 2.437 |
| BB+ | Ba1 | Likely to fulfill obligations, on-going uncertainty | 5.280 | | |
| BB | Ba2 | | 8.410 | | |
| BB- | Ba3 | | 11.860 | 11.444 | 8.079 |
| B+ | B1 | High-risk obligations | 16.120 | | |
| B | B2 | | 20.710 | | |
| B- | B3 | | 27.050 | 26.240 | 10.572 |
| CCC+ | Caa1 | | 36.314 | | |
| CCC | Caa2 | | 48.750 | | |
| CCC- | Caa3 | | 69.820 | | |
| CC | Ca | | | | |
| C | C | | | 52.350 | 32.458 |
| D | D | | | | |

Source: Global Financial Stability Report, Oct. 2010, IMF, Table 3.1.

IFFs through World Bank: A final mechanism to ensure that donors would keep their aid pledges over time is to channel them through a priority creditor like the World Bank. Thus, donors can pledge specific annual amounts to the World Bank over multiple years. Such pledges would be ear-marked to achieve a mutually agreed upon development goal. Armed with such pledges, the World Bank can raise funds in the international capital markets at highly competitive rates. The World Bank can then use its existing country programs to fund initiatives to further a specific development goal. Since the donor pledges represent a payment obligation to the World Bank, a preferred creditor, the probability of donors renegeing on their commitments would be greatly reduced, if not eliminated.

Perhaps as importantly, the channeling of aid pledges through the World Bank would also result in avoiding duplication of bureaucracies. Instead of creating another GAVI type of institution to advise the IFF on allocating education dollars, the World Bank's existing channels can be used to design delivery programs, allocate education dollars, monitor performance, and evaluate impacts. Creation of a distinct IFF for the purpose would entail establishing additional bureaucracies. Ultimately, therefore, there would be more administrative costs and hence less development impact if distinct IFFs are created to support each development goal.

V. AMC and COD as Alternatives to IFFIm

IFFIm has provided significant amounts of predictable and up-front funding for V&I programs in eligible low-income countries. Furthermore, the institutional support from the World Bank has kept the cost of funds low and the involvement of GAVI has contributed greatly to their effective utilization. Some of these attractive features of IFFIm can be reproduced with AMC and COD mechanisms without the need for the complex IFFIm structure as explained below.

Advanced Market Commitments (AMC): Typically, private firms are provided incentives to innovate via the granting of a temporary monopoly through patents. Such an arrangement, which enables a firm to charge a premium for several years to earn the requisite risk-adjusted return on its investment, works well if the consumers are willing and able to pay the premium. The arrangement does not work at all for products that are consumed by the very poor. Recognizing this market failure in the context of research and development (R and D) of new vaccines against malaria, tuberculosis, and the strains of HIV common in Africa, Kremer (2000) came with the idea of AMCs. AMCs represent a legally binding contract (much like donor pledges for IFFIm) to supplement up to a specified extent the revenues of producers that develop and bring to the marketplace a new product that meets the previously agreed product specifications. Thus, AMCs provide predictable funding to assure producers that demand for their product at a predetermined price would exist before they embark upon new investments. While producers still bear the risk that their R & D efforts will fail to bear fruit, AMCs guarantee that a market for their product would be available once they are successful in developing a new product.

Since AMCs also require that governments and other entities agree to make legally binding payments in the future, they create the same budgetary challenges as those faced in the context of multi-year donor commitments in support of any IFFs. But AMCs do not involve raising funds in the international capital markets by issuing bonds. As a result, there is no need to structure a future-flow securitized vehicle and obtain credit ratings from multiple credit rating agencies. Structuring such a vehicle and securing credit ratings can be expensive as well as time consuming.

All in all, AMCs can provide predictable funding. But they are not designed to make up-front funds available to undertake either R & D expenditures or develop new products. They also make no up-front resources available to low-income countries to set up programs to sell/distribute the new products. But despite these limitations, AMCs have been used to date to promote R & D by pharmaceutical companies into the so-called 'neglected diseases' that primarily afflict low-income countries. In addition, AMCs were also designed to speed up access to new vaccines that are often delayed by a decade or more due to their high costs when new on the market. In 2007, five donor governments (Canada, Italy, Norway, Russia, and the United Kingdom) teamed up with Bill and Melinda Gates Foundation and committed US\$1.5 billion to accelerate development of commercially viable new pneumococcal vaccine for use in low-income countries. In addition to the donor funds, GAVI and the recipient governments have agreed to co-finance the vaccine. On the basis of these AMCs, GlaxoSmithKline and Pfizer agreed in 2010 to make long-term commitments to provide the pneumococcal vaccine to low-income countries. It is estimated that the resultant acceleration in the production and distribution of the vaccine would save 7 million lives by 2030 (Leo, 2010, p.3).

Given this AMC success, donor governments are now reported to be assessing whether AMCs could be established to further other development-related goals. DFID, which pioneered the IFFIm structure in 2003, has made in recent years significant progress in exploring how AMCs could be used to drive private sector investment in low carbon, climate resilient technologies, such as renewable energy (DFID, 2009). In particular, it is helping roll-out mini-grids in remote areas that are unlikely to be connected to the central electricity grid. Other projects under consideration and/or execution include medium-scale deployment of biogas for schools and hospitals and a proposal from the Private Infrastructure Development Group (PIDG) that would offer guarantees to private developers of large-scale, grid-connected renewable energy projects in Africa. Finally, it is also promoting the concept of Climate Innovation Centers (CICs) to accelerate the development and commercialization of low carbon technologies. In a recent paper, Kimberly Ann Elliot (2010) has made the case for using AMCs to seek private sector engagement in developing new technologies to deal with problems of land and water scarcity, climate change, and declining crop yields. There is no reason why AMCs for such and other development initiatives cannot be designed as long as the question of multi-year fund commitment is successfully dealt with.

Cash on Delivery (COD): While COD mechanisms provide neither predictable nor up-front funding to achieve specific development goals, they are meant to improve aid effectiveness. Under COD, donors commit to pay pre-determined sums when countries produce results. For instance, donors can agree to pay US\$100 for each additional child who completes primary schooling and passes a standardized competency test. Since donor disbursements would occur under COD following independent certification of outcomes, COD

assures aid effectiveness. Furthermore, since COD utilizes the existing budget and procurement systems in low-income countries, it promotes growth in local capacity and institutions, but at a potential risk of corruption.

Like IFFs and AMCs, CODs also require donors to succeed in obtaining multi-year budgetary commitments. In addition, since CODs do not make any funds available until development results are achieved they do nothing to alleviate credit constraints facing many low-income countries. Given the imperfections in capital markets, it is difficult to believe that low-income countries would be able to raise adequate funds in a cost effective way to implement the needed development strategies. Indeed, providing up-front and/or guaranteed financing to countries to execute programs promoting desirable development goals is the principal *raison de etre* for all foreign aid, including IFFs and AMCs.

VI. Securitizing South-South Aid

Official Development Assistance (ODA) from emerging donor countries – China, Brazil, India, South Africa and others – has increased from about 5% of total ODA in 2005 to nearly twice that level by 2009. (The Economist, August 13, 2011) As a result, opportunities for securitizing their future aid flows in support of specific IFFs have gone up.

China's ODA is difficult to quantify. While some of its capital flows resemble ODA, others appear more like foreign investments. According to a study by the New York University's Robert F. Wagner Graduate School of Public Service, there has been a strong rise in China's foreign aid and related activities.⁶ Foreign assistance and government-supported economic projects in Africa, Latin America, and Southeast Asia grew from less than US\$1 billion in 2002 to US\$25 billion in 2007. In a white paper released by China's Information Office of the State Council, China's narrowly defined foreign aid has increased by nearly 30% annually from 2004 to 2009. (Global Sherpa 2011) The Economist magazine in August 2011 reported that India is thinking about setting up its own aid agency to disburse US\$11 billion in foreign aid over the next five to seven years. Citing studies by Britain's Overseas Development Institute and Canada's International Development Research Centre, the Economist (July 15, 2010) estimated that Brazil's broadly defined foreign aid could be as much as US\$4 billion per year. Brazil as well as South Africa has contributed US\$20 million each to IFFIm.

In contrast to Brazil's, most of China's broadly measured foreign assistance in recent years, especially to Africa, is driven by the desire to secure and transport natural resources. India too has similar motivations. Given the commercial motivations underpinning much of South-South aid flows, it is not clear what role their securitization (as opposed to FDI) could play in promoting economic development in low-income countries. Still, emerging market

⁶ For details, see Lam et al. (2009).

countries like China and India that are interested in tapping oil and natural resources in low-income countries may be willing to pledge aid in support of infrastructure projects for power generation and road construction. After all, availability of reliable power and roadways would increase the prospects that their commercial investments would be successful.

VII. Summary and Conclusions

Following a brief analysis of the IFFIm structure and the factors that have contributed to its enormous success in raising up-front funding for implementing V&I programs in scores of low-income countries, the paper reaches the initial conclusion that it would be difficult to scale up IFFIm type financial facilities to achieve a broad range of development goals. The principal reasons which support this conclusion include:

- The serious financial stress in many potential donor countries makes securing pledges of aid in the future difficult and less credible, even if pledges were to be secured.
- The issue of credibility of commitments is also linked with the possibility that no other development goal would be viewed as compelling as V&I programs either because the goal itself is not rated as high (for example, climate change) or because there are differences in opinion on how best to achieve it (public versus affordable private schools to make quality education available to all). Less compelling goals would mean that the risk of renegeing on the pledges would rise in the future due to absence of political commitments.
- Since less creditworthy donor countries and their less credible commitments would erode the credit rating of any new IFFs, the funding costs will not be as attractive as those for IFFIm.
- The credibility of donor pledges is likely to get eroded as they make more and more such commitments, thereby limiting their fiscal flexibility.
- Finally, the inability of countries like the United States and Japan to make multi-year commitments will have to be addressed in order to scale up IFFIm type of arrangements.

In view of this, additional credit enhancements will have to be devised to shore up the credibility of donor pledges and make IFFs work. These credit enhancements could be in the form of:

- Third party guarantees from the World Bank or insurance companies;
- Use of reserve rich financial vehicles (such as IDA or unused SDR holding of rich countries, to name a couple) as back-stops to future budgetary authorizations of donor countries;
- Use of excess coverage or overcollateralization on the basis of sovereign ratings and the associated default probabilities; and

- Channeling of donor commitments through a preferred creditor like the World Bank which would sharply reduce the risk of donors renegeing on their pledges.

The paper also discusses a few alternatives to IFFs such as AMC and COD mechanisms. Both of these are conditional upon donors making budgetary commitment for the future. The former makes funding predictable, though commits no up-front resources. The latter provides funding only after countries produce results. Thus, AMCs are designed to alleviate credit constraints in a limited fashion. COD, in contrast, is more a mechanism for ensuring aid effectiveness rather than providing credit.

Finally, the paper briefly assesses the potential for securitizing south-south aid which is found to be increasing in recent years. But given the focus of such aid on securing access to natural resources in low-income countries rather than promoting broad development objectives, IFFs backed by South-South aid are likely to receive donor support for infrastructure projects.

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