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SMOOTH AND PREDICTABLE AID FOR HEALTH

A ROLE FOR INNOVATIVE FINANCING?

Chris Lane
Amanda Glassman

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ABSTRACT

This paper presents evidence that aid flows to the health sector are volatile in terms of observed outcomes and uncertain in terms of making and delivering future commitments. The aid is therefore poorly suited to fund recurrent costs associated with achieving the Health Millennium Development Goals, particularly funding of Primary Health Care (PHC) facilities that are key to achieving maternal and child health goals. Recent aid financing innovations have begun to address some of the inadequacies of the health aid architecture through more stable and long-term financing for health. These represent a small though rising share of aid. Additional financing mechanisms that could contribute to more stable and predictable flows are proposed in the context of funding integrated PHC: (1) smoothing of irregular aid commitments through securitization of aid receivables; (2) health endowment funds; (3) a swing donor facility; and (4) a "health debit card" for financing shortfalls. To be effective, these mechanisms would need to complement ongoing efforts to improve the efficiency of interactions between donors and recipients in the disbursement of aid through greater transparency in aid transactions and mutual accountability in defining aid objectives.

MOTIVATION

As donors and aid recipients contemplate ways to scale up access to affordable health services and combat communicable diseases, the importance of stable and predictable aid becomes more critical. This paper looks at ways to mitigate volatility and uncertainty in development assistance for health through the expansion of innovative financing.

In recent years development aid for health has increased rapidly and spending priorities have shifted to the prevention and treatment of communicable diseases, particularly in low-income countries. The adoption of the Millennium Development Goals (MDGs) in 2002, including three health-specific goals (maternal health, child health, and communicable diseases), has reflected a heightened awareness of global health issues. This, in turn, has led to rising aid dependence.

Health aid flows are increasingly funding recurrent costs (salaries, drugs, transport, and medical supplies) to make affordable health care more widely available. For example, more than half of new funding flows from the Global Fund and GAVI are used for drug purchases. Recent national health accounts estimates from Malawi show that about half of aid-financed spending is allocated to curative care, nearly one-third for prevention and public health and less than 1 percent to capital investment.[1] In Rwanda, donors split their total financing between prevention and public health (37 percent), insurance (31 percent) and curative care (22 percent).[2] The malaria program in Rwanda, a third of which is financed by donors, spends 9 percent of its budget on bed nets and repellent and 80 percent on treatment.[3]

Unfortunately, the plumbing for delivering health aid is poorly suited for recurrent cost funding: aid flows are volatile when they need to be stable and uncertain when they need to be predicable. As discussed further below, health aid is volatile in the short term – commitments do not arrive on time nor in the amounts committed, leading to an irregular pattern of financing flows that affects how and when health services can be funded. Health aid is also uncertain in the medium term as donor agencies, with few exceptions, make short-term financial commitments that create challenges for health system development spanning employment, contracting, procurement and investment in new facilities.

This paper focuses attention on mechanisms to provide stable and long-term support for the recurrent costs of PHC facilities (health centers and clinics). There are several reasons for the focus on frontline services. First, PHC support is critical to address neglected maternal and child health issues, which are the health MDGs most likely to be missed by wide margins in sub-Saharan Africa. Second, support for PHC largely finances current spending such that a reduction or cessation of aid to facilities has a rapid and direct impact—user fees increase, skilled staff leave if incentives are cut, and drug supplies are imperiled. As a result, treatment and usage levels can fall significantly. Third, existing health aid financing innovations have focused on "vertical" or activity-specific interventions, such as immunization or pharmaceutical research, and as a result "horizontal" health system support, such as PHC, is neglected.

Structure of the paper

We first assess the evidence on health aid volatility and uncertainty. We propose a typology of factors arising from donors, recipients and the donor-recipient incentive structures that lead to aid volatility and uncertainty. We also provide some evidence of the impact of volatility and uncertainty in health aid. The final section assesses a range of promising innovative solutions to the problems. We conclude with a discussion of what needs to be done next.

MAGNITUDE OF HEALTH AID VOLATILITY AND UNCERTAINTY

We use the terms "volatile aid flows" and "volatility" to denote a pattern of aid disbursement that is irregular. We measure volatility by splitting time series data on aid disbursements into trend and cyclical components using the Hodrick-Prescott filter, a smoothing algorithm that provides a non-linear representation of a time series that is more sensitive to long-term than to short-term fluctuations. Volatility is then represented by the size of the short-term cyclical deviations relative to the longer term smoothed trend. Alternative approaches to calculate volatility were also applied and yielded similar results.[4] In liquidity-constrained settings where governments cannot smooth sudden stops and starts in aid disbursements, irregular flows can complicate financing for front-line PHC services.

We use the terms "uncertain aid flows" and "uncertainty" to denote whether information on future aid commitments over the medium term is known and available to aid recipients. A certain aid flow is one that is represented by a legally enforceable contract of aid amounts and disbursement dates. Uncertain aid flows might be represented by indicative, political or conditional commitments of aid. Uncertainty over future aid flows in the context of PHC thus affects the ability to plan for future health services and health system development on a financially secure basis.

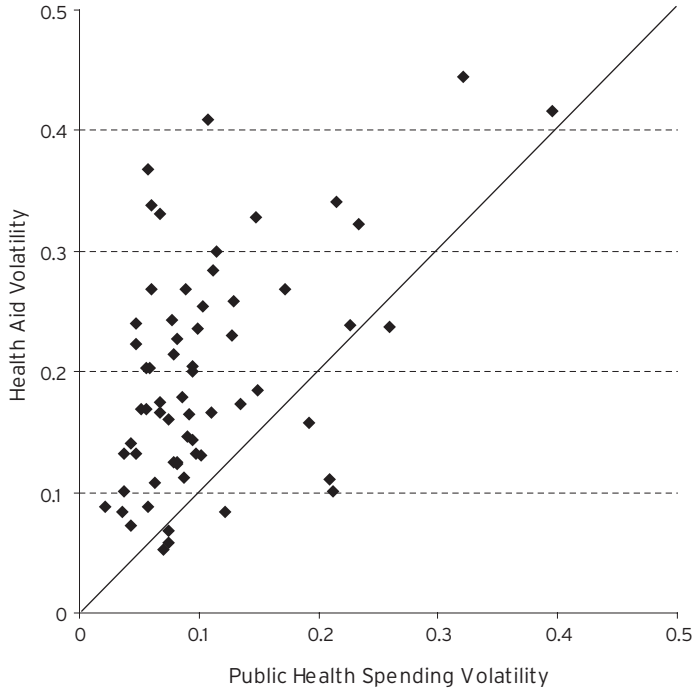
There has been limited empirical research on the effects of volatile and uncertain aid at a sector level. Aid volatility may be quite costly in the aggregate. Lensink and Morrissey find that aid volatility is detrimental to growth, which has knock-on effects on government revenues and spending, as well as poverty reduction and general well-being.[5] Further, aid volatility complicates the conduct of fiscal policy. Although countries could potentially use different fiscal and public expenditure management strategies to cope with fluctuating aid flows, in practice, the literature finds that shortfalls in aid are followed most frequently by reductions in total public spending[6] while episodes of higher than projected aid do not lead to higher spending.

> **"Although volatility and predictability have been highlighted as a key issue for aid effectiveness, little systematic information is available on the magnitude of the problem, its relevance and its potential impact on aid recipients."**
>
> **- Celasun & Walliser, June 2007**

A study of eight African countries by Celasum and Walliser suggests that such shortfalls in aid also lead to reductions in domestic investment spending. These reductions in investment by governments appear to be a permanent loss—aid shortfalls lead to less investment, yet unexpected additional aid does not lead to, on average, increased investment—and are perhaps the most significant negative impact of aid volatility. In the studied countries, aid shortfalls averaging 1.1 percent of GDP were partially offset by additional World Bank financing of 0.8 percent of GDP, but domestic investment fell by 0.4 percent of GDP to make up the remaining gap.[7]

In yet another study on the harmful effects of aid volatility, Homi Kharas of the Wolfensohn Center for Development at Brookings uses a quantitative measure of deadweight loss, representing the "avoidable loss that would be eliminated if aid was stable or perfectly predictable." This approach provides estimates for global deadweight loss due to aid volatility, while also identifying the contributions of individual donors to the overall loss. Kharas estimates the cost of volatility to be roughly US$16 billion, amounting to

Figure 1: Volatility of health aid and spending across aid dependent countries, 1993-2005[10]



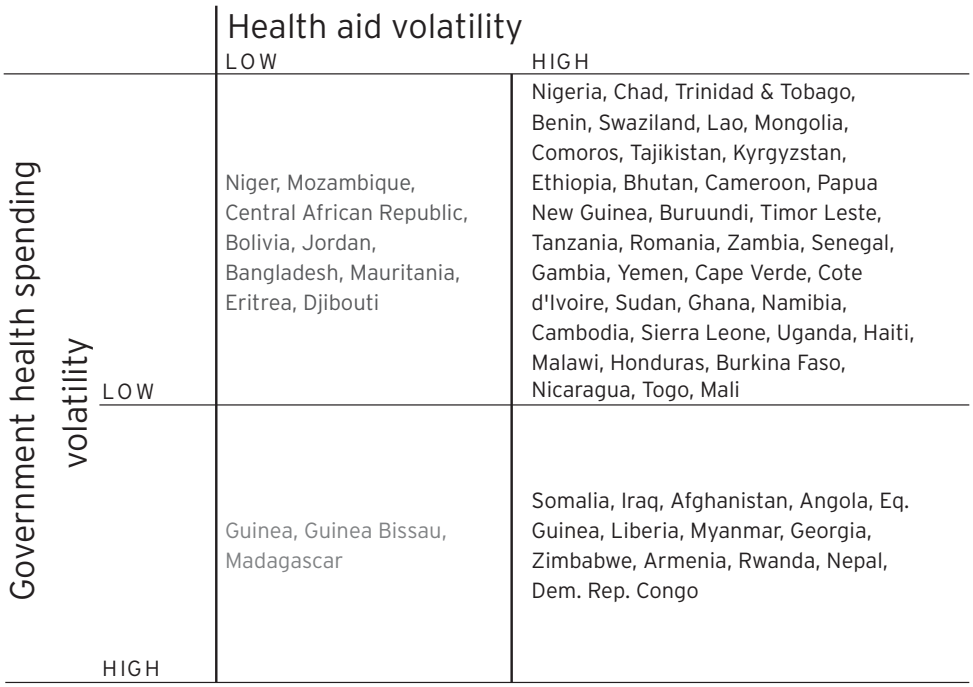
Source: WHO Statistical Information System (accessed at www.who.sis.int)

15-20 percent of the total value of aid. Overall, Kharas estimates that for every dollar of aid, $0.07 - $0.28 is lost due to unpredictability, which translates to a 1.9 percent of potential GDP loss to recipients.[8]

Health aid is volatile, and more volatile than public spending on health in most developing countries (Figure 1). Figure 1 displays public health spending deviation from trend on the x-axis and health aid volatility on the y-axis. The 45° line designates equal volatility in both. Above the line is greater aid volatility relative to domestic health expenditure volatility. Health aid displays an average absolute percentage deviation from trend of almost 20 percent over the past decade, nearly double the deviation of government spending on health from trend, consistent with the broader aid effectiveness literature that aid is a particularly volatile source of financing.[9] Moreover, the volatility of aid does not offset the volatility of public health spending, but reinforces it, as aid is procyclical.

Volatility of health aid is relatively high in most aid-dependent countries (Figure 2). We split the sample of countries into high and low volatility groups by type of financing by setting a threshold of 12 percent average absolute deviation from the decade-long trend for both government health spending and aid flows. The result is the four-quadrant Figure 2. Countries with unstable environments tend to predominate in the high aid/high own spending volatility quadrant (southeast), echoing recent findings in the literature that all

Figure 2: Country health aid and spending volatility, 1996-2005

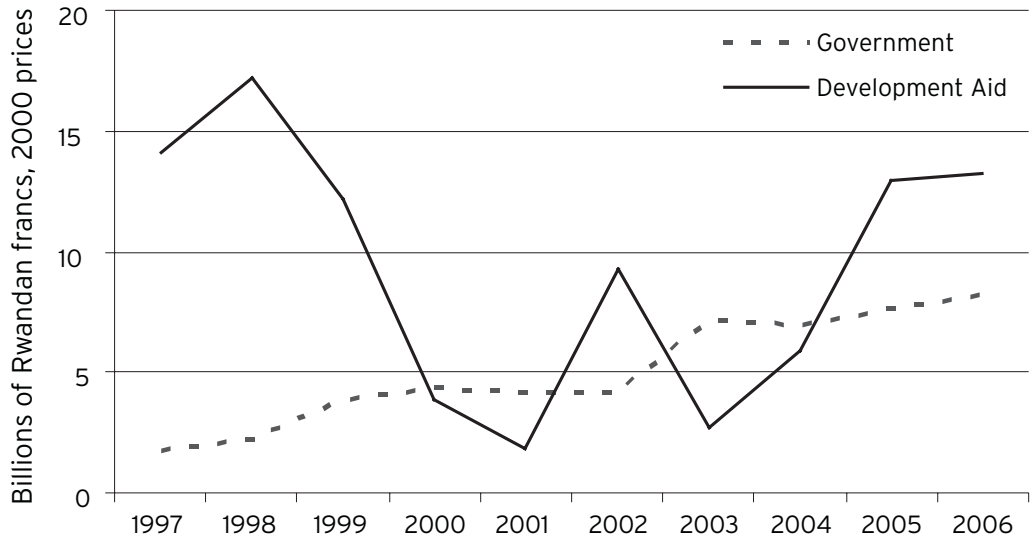


Note: Threshold set at a maximum 12 percent average absolute deviation from trend divides the sample into high and low volatility aid and government spending on health (1996-2005)
Source: Authors' calculations based on WHO Statistical Information System available at http://www.who.int/whosis/en/index.html

aid generally is more volatile in fragile states.[11] As aid is more volatile on average than government spending on health, few countries are in the low aid/low spending volatility quadrant (northwest). Most of the major health aid-dependent recipients are in the high aid/low government health spending volatility quadrant (northeast), including Ghana, Ethiopia, Uganda, Tanzania, and Mali. However, our measure of volatility is not perfect. The rare country that experiences a large step change in aid or health spending, but with flows stable before and after the step change, would be classified as high volatility, because the smoothing algorithm is not optimal for one-time shifts. Thus in Madagascar, government health spending doubled in 2001 to $6 per capita and remained at that level through 2005 leading to a classification of high government spending volatility (southwest quadrant).

Data from the Rwanda Ministry of Health illustrates well the relative volatility of aid in an aid-dependent country over the past decade. Against a backdrop of steadily rising government spending, development aid has experienced sudden stops and starts (Figure 3) while own spending has increased steadily.

Figure 3: Rwanda - government and aid health financing, 1997-2006



Source: Rwanda, Ministere de la Sante Rapport Annuel 2006

IMPACT AND CAUSES OF VOLATILITY AND UNCERTAIN HEALTH AID

To set the stage for a discussion of the causes of volatility and potential solutions, we first use a country example of the impact of aid volatility in financing PHC facilities. This example is followed by an assessment of the causes driving these phenomena, along with further country examples of the effects each type of cause may have on the reliable provision of PHC in the poorest countries of the world.

The case of the Democratic Republic of Congo (DRC).[12] Due to its population size (56 million) and the severity of the health situation, DRC represents an enormous concentration of mortality in sub-Saharan Africa. Annual government spending on health has increased substantially since 2002, but remains very low at less than US$1 per capita (2006). Aid amounts to some US$5 per capita. A significant portion of aid supports the recurrent costs of health service delivery. About 445 of a total of 515 Health Zones in DRC are targeted to receive some external assistance. Although donor assistance is geographically coordinated by the Ministry of Health, there is huge variation in support levels per capita across provinces, across health zones within the same province, and in the level of support to health zones over time.

Support to provinces varies from US$2.0-4.5 per capita per year (preliminary data). The per capita budgets of health projects providing integrated support to Health Zones varies from less than a dollar to over US$3.5 per person per year, while some zones, including those in remote poor provinces such as Equateur, receive no external support at all. The aid-financed coverage of facility running costs reduces the cost of treatment to patients, which has resulted in increasing use of health care services, as demonstrated by several facility-based studies of utilization. Box 1 summarizes a documented case of health zone level financing volatility and uncertainty.

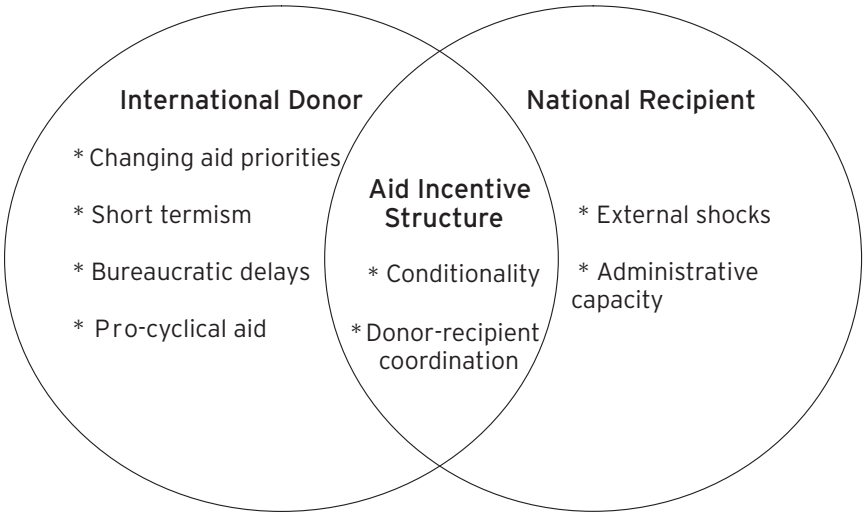
Box 1. Aid Volatility in Equateur Province DRC

The Wendji-Secli health center in Equateur province of the DRC initially received financial support from a humanitarian NGO in the form of staff salary incentives, technical supervision and drugs. This enabled the provision of an average of 50 consultations daily. Such humanitarian assistance is usually closely linked to the ongoing socio-political situation and committed for a period of 6-12 months.

As the political situation normalized the humanitarian support was replaced with a bilateral development program of health zone support. However, this resulted in a lower effective subsidy, as direct incentive payments were ended because they were contrary to the donor's financing policy. Charges for drugs were consequently introduced to finance staff wages. The rise in the cost of treatment reduced the number of consultations by half, to 25 per day.

When the bilateral program ceased, reflecting a change in the donor's geographical priorities, the facility began operating on the basis solely of user fee income received from patients. The number of consultations dropped to 15 per day.

Figure 4: Factors affecting health aid volatility and uncertainty



A framework for thinking about the causes of volatility. The causes of aid volatility can be grouped into factors arising: (1) at the international level from the actions of the donor (principal); (2) at the national level arising from actions of the recipient government (agent); and, (3) from the aid incentive structure that governs how principal and agent interact and how funds are requested and disbursed (Figure 4). This approach assumes that the purpose of the principal is not to provide assistance to the agent for the benefit of the agent. Rather, the principal depends on the agent to use the funding to improve the health of its citizens. In this sense we have a typical principal-agent problem.

"...in Mali, the programming of expenditure of year N at local level is done by March N-1, when all donors haven't yet committed to their future financing. Thus [it] is based on existing (very partial) commitments and above all on the basis of "potentially bankable" activities rather than on a rational method for resource allocation." ***(Source: donor respondent to web questionnaire)***

Stable and predictable health aid would therefore need to tackle factors in principals, agents and the aid incentive structure. This paper focuses primarily on innovative financing mechanisms that directly address volatility arising from principals and the principal-agent incentive structure. Innovative financing can also compensate for agent-specific problems, rather than correct or eliminate them, and we consider briefly how such mechanisms might work.

While we can observe and quantify volatility directly, attributing the causal factors is in many cases not possible without in-depth study of the principal's and agent's actions and the incentive structure at a dis-

aggregated level. Because the cross-country project level database is particularly weak, we discuss some data and recent research that gives indications of the factors in play and their impact on the provision of front-line services.[13]

Short-term donor commitment horizon. Almost by definition health aid uncertainty results directly from the short length of time principals commit funds to recipients. In practice, most donors' health aid budgets are committed one year ahead within a three-year horizon of indicative commitments.

Before discussing the costs of short commitment horizons, it should be recognized that long-term commitment horizons can also have risks if conditions or preferences are unstable, resulting from changes in medical technology or country circumstances. This underlines the importance of assessing the risks of a change of conditions when entering into long-term financial commitments.

One outcome of short donor commitment horizons is that firm financial commitments to country health programs rapidly tail off. As an illustration, external resources committed to Zambia's priority of scaling up malaria control activities decline by a third between 2007 and 2009, hampering efforts to scale up human resources.[14] By contrast, the relatively austere central government budget for recurrent spending in Zambia is projected to increase by nearly 5 percent over the period in real terms.[15] For sector budget support in 15 sub-Saharan African countries in 2005, including the health sector, 87 percent of programs commit at least one year ahead, while only 37 percent commit three years ahead. For health infrastructure projects, commitments typically span the duration of the project.

Another result of short commitment horizons is that costs rise because of small orders and lack of advance commitments to suppliers. McKinsey (2006) estimate that over half of public sector purchasing for reproductive health supplies (such as condoms and contraceptive pills) does not get best price because of small scale orders or lack of advance market commitment. In the case of condoms, volume discounts may cut unit costs by up to 6 percent, and for contraceptive pills, by up to 24 percent.[16] Similarly, the gains from a predictable funding mechanism for immunization supplies is estimated by a recent study to be 11 percent after taking account of the interest costs associated with predictable funding.[17]

For most donors, the limited funding committed over the medium term sets strong incentives to avoid open-ended funding commitments such as health worker salaries and subsidized (or free) health care. For most aid recipients, similar incentives operate. Uncertain aid financing cannot be used to fund a commitment to increase or subsidize service provision, long-term contracts with suppliers or contractors, or long-term institutional or health services reform. Volatility itself places an effective brake on the adoption of health interventions that have been shown to be cost-effective responses to existing health service delivery issues.

However, aid commitment technologies are changing and a few donors have recently increased the length of their commitment periods for development assistance for health:

- the GAVI alliance commits funds to countries for a five-year period, and is planning successor programs that will, in principle, have a duration of 10 years;
- the Global Fund for AIDS, TB and Malaria commits grant funds for a five-year period (subject to a re-

view before the third year begins) and is planning successor projects of up to six years duration for good performers (See Box 2 on Global Fund grant certainty).

- The World Bank Multi-Country AIDS Program commits to continue funding to countries with a sound HIV/AIDS strategy and action plan for three phases of 4-5 years, i.e. 12-15 years in total.
- Several bilateral donors have made binding commitments of up to 20 years for funding the International Financing Facility for Immunization (IFFIm). Although this is not earmarked for particular country recipients, it allows GAVI to make long-term commitments.

Longer than normal grant commitment periods for both GAVI and the Global Fund reflect a favorable funding situation where a few official and private donors have made multiyear commitments in funding rounds.

There is wide variation of disbursements rates against commitments. Average disbursement rates vary substantially across donors (Figure 5), change over time and across countries, and may be as little as one half of original commitments. In Mali, for example, 53 percent of 2005 donor financing identified in the Ministry of Health budget was received, compared to 93 percent of state budget funding for health.[18] Data on sector aid programs in 2005 for 15 countries in sub-Saharan Africa (of which 5 have health sector programs) shows 79 percent of committed funds are disbursed within a year, 12 percent of commitments slip to the following year and 9 percent are not disbursed.

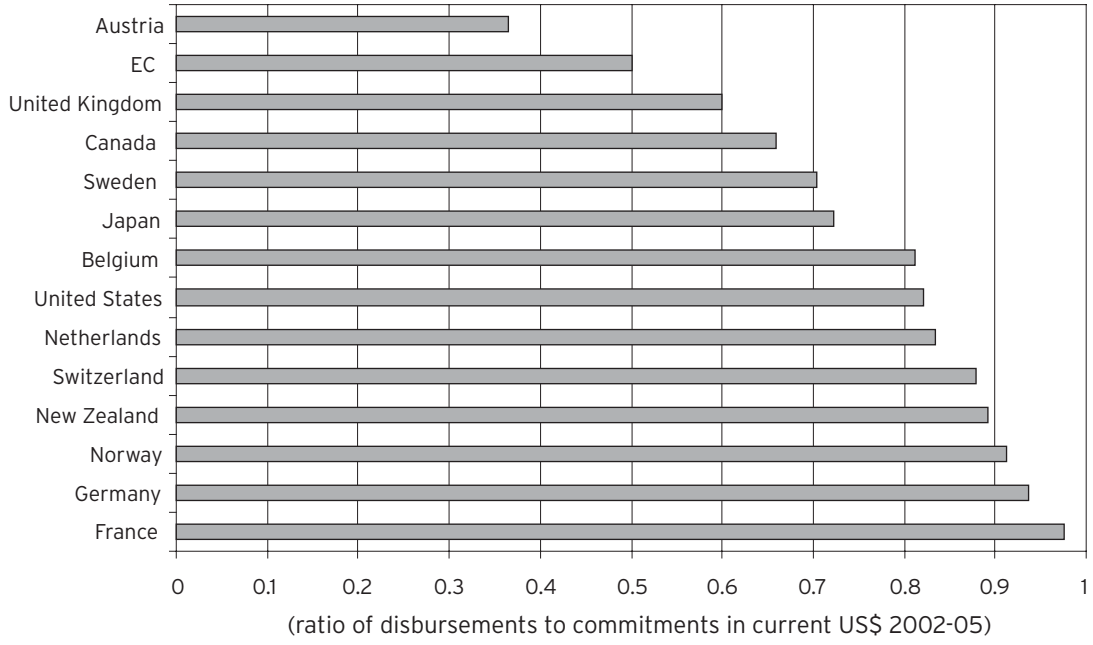
This is not to suggest that disbursements should always be equal to commitments. Donors need to have assurances that aid is used as intended. They may delay or withhold funds if disbursement conditions are not met or if governance concerns exist, while

Box 2. How Certain are Global Fund Grants?

Global Fund grant commitments are split across phase 1 (years 1-2) and phase 2 (years 3-5). Phase 2 approval is conditional on a "grant scorecard" rating performance in the first phase. Of the 213 grants approved on or before January 1, 2005, for phase 1 funding, 91 percent had had phase 2 funding agreements approved by the GF board within 2-plus years. Of the remainder, 5 percent had grant scorecards recommending phase 2 approval or conditional phase 2 approval, 1 percent had been transferred to new implementing agencies (Principal Recipients), 1 percent were still operating but had experienced disbursement delays of up to a year, and only 1 percent appeared to be inoperative with no disbursements for at least a year.

Predictability of continued funding is likely to fall after the end of phase 2. The Global Fund estimates that one quarter to one third of completed phase 2 grants will receive funding under the newly established Rolling Continuation Channel for up to a further six years through a determination that rests on past strong performance, evidence of potential impact, sustainability and exceptional circumstances. Continued funding could also be obtained via proposals submitted through regular periodic grant rounds if the recipient plans ahead.

Figure 5: Aid for health and population - disbursement rate by donor, 2002-05



Source: OECD CRS database
Note: Excludes donors that report no or limited disbursement data to OECD (regional development banks and the World Bank) or that consistently report identical disbursement and commitment values to the OECD (Greece, Ireland, Luxembourg, Portugal, Spain, UNAIDS, UNFPA).

administrative delays are sometimes unavoidable. Yet disbursements are consistently less than the amounts committed, suggesting a consistent lack of realism on the part of donors. The wide variation of disbursements across donors could be narrowed by the adoption of better practices that are already used by others. Recognizing the scope for improvement, the Paris Declaration on Aid Harmonization targets achieving an 87 percent disbursement ratio for all aid by 2010 across donors and countries.[19]

It is not yet clear if conditionality and performance-based incentives are incompatible with stable and predictable aid. Clearly, if conditions or performance criteria for aid disbursement are transparent, realistic, and developed with the participation and agreement of the recipient, there is no automatic reason why they should lead to volatile aid flows.

To test this hypothesis we looked at the Global Fund for AIDS, TB, and Malaria portfolio of grants that are performance based; i.e., disbursements depend on achievement of output indicator targets.

Encouragingly, we find that average grant volatility is low[20], confirming the Global Fund's own analysis for 2005 that actual disbursements are 90 percent of expected disbursements.[21] Moreover, there is little consistent volatility across Global Fund grants. The grant size per capita, the type of local fund agent, type

of principal recipient and disease target had little or no systematic association with the level of grant volatility. Factors which do consistently reduce volatility are political stability and high per capita income while poor voice and accountability indicators are associated with high grant volatility.

In Cambodia, pilot projects of contracting PHC and developing health equity funds have shown improved facility utilization, raised cost effectiveness and improved health equity. However, plans to scale up these interventions rest importantly upon the ability of donors to pre-commit funds that will bridge the incremental costs for 3-5 years when the health budget could cover full scale up costs without reallocating funds from other health priorities ***(Source: "Scaling up for Better Health in Cambodia, Christopher Lane, 2007, World Health Organization and the Ministry of Health, Cambodia.)***

These findings suggest, albeit anecdotally, that non-performance may be a relatively weak contributor to aid volatility, at least in the case of well designed performance-based aid for essential health interventions. This somewhat surprising result may arise because of pressure to disburse and difficulties in withholding funds except in the most egregious cases of non-performance. A study of the performance of 134 grants in the Global Fund grant portfolio evaluated in 2006 does conclude that there were significant differences in grant performance scoring.[22] Lower performing projects had weak initial proposals, a high share of other health donors active in health funding, a low number of doctors per head, high per capita income, and large budget deficits. The authors also found that some grant specific factors were associated with lower performance ratings, notably those grants implemented by government and grants for malaria. These findings suggest that there may be some trade off between stable performance-based aid and performance ratings of aid.

Backloading: aid is bunched late in calendar year. There is evidence of back-loading of aid disbursements that contributes to within-year volatility of health aid, though not to the underlying causes. For example, two-thirds of outlays under the President's Emergency Plan for Aids Relief (PEPFAR) during 2005-06 were delivered in the last quarter of the financial year. A report by the US Office of the Inspector General indicates that the late receipt of funds hampered the achievement of outputs in three of four USAID HIV/AIDS country of programs.[23] Similarly, considering all budget support in 15 African countries in 2005, only 60 percent of first quarter commitments were disbursed against 160 percent of fourth quarter commitments. Funding for reproductive health commodities (contraceptives) during 2004-05 from two major donors is also substantially bunched at the end of calendar or financial year of the donors concerned.[24]

Disbursements are conditional on availability of counterpart financing. Lack of required counterpart financing is a major factor that slows the pace of disbursements for both grants and loans. For example, during the recessions of the 1990s, many Latin American recipients of Inter-American Development Bank (IDB) and World Bank loans were unable to execute their loan agreements due to unavailability of counterpart funds.[25] This was such a problem for International Development Association (IDA) credits that several years ago the World Bank authorized 100 percent financing of expenditures that might previously have required a counterpart contribution.

Limited administrative capacity causes delays. Recipient characteristics, notably the weakness of administrative capacity, may also contribute to volatility in the rate of disbursement of aid funds. Poor procurement planning, needlessly long and complex procurement review processes, unreliable systems for submitting receipts for reimbursement, poor cash management, inadequate accounting practices, and many other bottlenecks on the recipient side are common impediments to smooth aid flows. For overall aid, a recent survey conducted by the budget support working group of the Strategic Partnership for Africa program reports that 25 percent of aid disbursement delays are associated with recipient processing delays.[26]

CONVENTIONAL WISDOM ON MITIGATING HEALTH AID VOLATILITY AND UNPREDICTABILITY

Donors have, of course, made efforts to agree on frameworks to reduce aid volatility and uncertainty. The OECD Paris Declaration on Aid Effectiveness includes the adoption of targets to disburse aid on time and to do so increasingly through country systems. The World Bank/World Health Organization sponsored High Level Forum on the Health MDGs and the Special Program for Africa have underscored the importance of the timeliness and reliability of budget and sector support. The conventional wisdom on best practice of these various initiatives is summarized below (Table 1) using the principal-agent framework.[27] Good practice for donors focuses on long-term commitments to specific projects contained in the recipient's medium-term expenditure framework, requiring credible plans to achieve specific outcomes, accompanied by joint reviews and decision-taking. Alongside there is a strong emphasis on promoting country ownership of projects and programs to increase effectiveness.

But the conventional wisdom to address aid volatility is difficult for donors and recipients to implement:

- Most donors are unable to go beyond indicative medium-term commitments to specific spending projects. In many cases recipients' health planning machinery is weak, making longer term plans and needs difficult to articulate clearly. As a consequence, both sides often live in a world of rolling annual aid approvals.
- Some progress is being made in tackling problems that lie in the incentive framework. Donors are increasingly adopting conditionality for disbursements so that aid reductions/increases are foreseeable. Increasingly, single-tranche operations have been designed so that the conditions are met first, then they are quickly approved and completely disbursed. Donors also are using a hybrid "fixed and variable" approach to disbursements, that effectively sets a fixed floor to assistance augmented by a variable performance-based payments, sidestepping the "all or nothing" problems. A third alternative is multiple "floating" tranches where the assistance is split up and each tranche can be disbursed whenever its conditions are met. Any of these approaches could reduce volatility for policy-based lending in health.
- At the recipient level, the best or recommended practice is to build financial reserves to cope, including saving some aid flows. Such precautionary saving is advocated at the Ministry of Finance level (for all sectors) or in terms of dedicated funds to support particular interventions. Other mechanisms seek to protect particular items from spending cuts if resources fall short, placing a higher burden on non-protected spending items. In short, the responses are second best, focused on compensating for inadequacies in the financing flows rather than providing enhanced stability and predictability of financing in the first place.[28]

In practice, most donors sidestep implementation problems by delivering aid off-budget, through their own proprietary systems for procurement, budgeting, audit and evaluation. Even in "donor darlings" most aid for health is delivered off budget. In Uganda, over 50 percent of health aid is off-budget, in Tanzania, 46 percent.

In countries with weaker public finance management almost all health aid is off budget. Examples include Cambodia and the DRC. As a result health aid is fragmented, often duplicative, consolidated reporting is non-existent, support for government structures is weak, and donor structures compete for limited human resources.

Table 1: Conventional wisdom on dealing with aid volatility & uncertainty

	Recommended Corrective Actions		
Reason for Volatility	**Principal (Donor)**	**Incentive Framework**	**Agent (Recipient)**
Short-term donor commitments	• Extend commitment term to specific projects or to a medium term expenditure framework, conditional on credible plans to achieve agreed outcomes. • Debt relief as a source of predictable long-term financing		
Conditionality		• Partnership approach in determining conditions • Joint review • Focus on implementation • Fewer, more strategic conditions • Conditions applied to future disbursements • Adopt "fixed and variable" approach to disbursement, variable tranche uses performance-based approach, fixed tranches gives stability	
Delays/Back-loading	• Aid stabilization fund	• Simplify reporting and monitoring	• Access to budgeting funds • Virtual Funds that protect particular spending items from cuts. • Build reserves. • Strengthen cash management.
Low disbursement rates	• Transparent reporting of commitments and disbursements • Peer review • Disburse through budget systems		• Discount commitments in budget documents • Continuous review of disbursement outlook • Execution

INNOVATIVE FINANCING SOLUTIONS

We outline four innovative financing solutions that could contribute to addressing health aid volatility and unpredictability. The criteria for identifying viable financing solutions are:

- To reduce financing volatility and unpredictability that arises from sources of finance, or donors, without compromising unduly the effectiveness of aid.
- To seek the first best solution, to tackle the original source of volatility rather than second best approaches that attempt to compensate for the original failure.
- To work within existing donor limitations to improve the feasibility of implementation.
- Limit the creation of new institutions that would further fragment the health aid architecture.
- And, if possible, solutions that would catalyze additional development aid for health.

All of the proposals would change the profile of aid disbursements received by recipients. However, as is the case with aid in general, there can be no guarantee that changes in the aid profile would result in overall changes to health spending, as increases or decreases could be offset by changes in other sources of financing.

Solution #1 Securitizing donor commitments for essential health spending

If collateral exists in the form of future aid flows for health, these promises could be securitized and sold to achieve stable financing of essential health spending. Innovations in "future flow-backed transactions" create the financial tools that can be applied to sovereign aid flows. Commercial applications of securitization are well developed and include airline ticket, credit card and tax revenue receivables as well as cash remittances.[29]

The application of securitization to health aid could apply to types of expenditure that need, or benefit from, stable year-to-year financing, including integrated support for PHC facilities.

How it would work

The prerequisite for securitization aimed at smoothing aid flows is to obtain streams of future aid receivables, preferably of a legally binding nature, in the form of funding or grant agreements. Such grant

Box 3. Financial Bundling: Advance Market Commitment (AMC) for Pneumococcal Vaccines[30]

This pilot project uses a financial intermediary to bundle donor commitments for the period 2007-20. The intermediary provides assurances that funds with a net present value of around US$ 850 million will be available in 7-10 years to purchase priority pneumococcal vaccines. This AMC is intended to accelerate the delivery of new pneumococcal vaccines to the market by ensuring a predictable and sufficient market to generate a return on investment by pharmaceutical companies. GAVI would procure the vaccine and supply at a subsidized price to countries that demand the vaccines. The AMC is projected to prevent 0.5-0.7 million deaths during its lifetime and 5.4 million deaths by 2030.

agreements have been arranged in support of other recent financing innovations, notably the IFFIm (bilateral grant agreements of up to 20 years) and in support of AMCs (discussed in Box 3). Although these innovations are intended to frontload or provide contingent lump sum funding, rather than to provide stable funding, they set an important precedent for longer term official funding flows for health.

To ensure widespread participation in an aid smoothing mechanism, the prospect of non-legally binding commitments could also be envisaged. For example, most donors may be able to make long-term indicative commitments, subject to annual budgetary approval. In these cases, a third party guarantee of obligations would be required for the commitments to be relatively risk-free for financial markets. The third party would most likely be an international financial institution prepared to take on default risk in support of long-term stable funding. MIGA, for example, has many years' experience guaranteeing against political risks in developing countries; it possibly could do the same in this instance for rich country aid flows. The assessment of default risk could be made by commercial rating agencies on the basis of the funding agreement and sovereign debt rating. Payments to the third party would reflect the amount of risk being taken on. Risk can also be reduced by discounting commitments relative to original pledges (over-collateralization).

Financial markets would transform an irregular or uneven flow of aid receivables into a specific predictable stream of payments that corresponds to the identified funding need of the supported health intervention. This may, or may not, involve frontloading of aid. A special purpose financing vehicle would provide the intermediation function between the donor agencies, the aid receivables and financial markets, and transfer the smoothed flow of aid financing to an existing funding agency.

On the buy side of the transaction the likely clients are institutions that are prepared to invest in medium to long duration securities of moderate return backed by sovereign or quasi-sovereign collateral. This population of investors could include sovereign wealth funds, private philanthropic endowments and ethical investment funds.

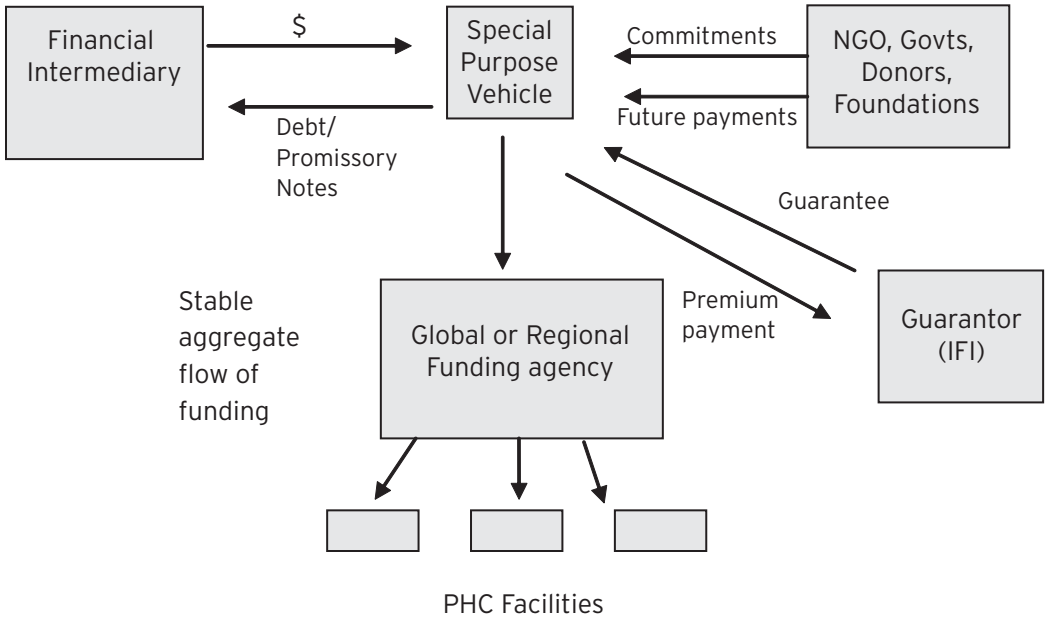
Recent experience with innovative financing suggests that funding agencies that focus on specific health interventions across a range of country recipients are most effective at mobilizing longer term funds. Intervention-specific funding tends to maintain a clear link between financing and health outcomes and provides political visibility and accountability. Accordingly, securitization would be most suited to smoothing receipts of multilateral agencies, global health initiatives or potentially regionally based aid flows including through regional development agencies.

Securitization of flows could be aimed at providing stable long-term funding of PHC facilities in support of achieving the child and maternal health MDGs. This would provide a route for funders to support delivery of front-line services without necessarily setting up costly decentralized management systems that would be needed if the aid were delivered bilaterally. The outline of a potential funding model described above is shown in Figure 6.

Discussion

The proposed mechanism utilizes a well known commercial instrument (securitization) that has already been applied in innovative financing for health, albeit

Figure 6: Securitizing donor commitments for PHC facilities



for frontloading rather than smoothing flows. The mechanism could be used by a wide range of donor agencies including those that cannot at present make legally binding multiyear commitments, through the use of a guarantor agency.

The proposal would not involve the creation of a substantial new institution, with the exception of a special purpose funding vehicle, and would expect to fund an existing funding agency. Given that financing costs arise to securitize and guarantee future payments, a key next step would be to demonstrate the cost-effectiveness of assured smooth funding flows for the agreed purpose.

Solution #2 Health Endowment (Trust) Fund

An endowment fund is typically thought of in the context of universities, foundations or not-for-profit hospitals. University endowments have evolved to include, for example, earmarked financing for the recurrent costs associated with professorships or scholarships. Trusts, such as the Wellcome Trust and others, were also used to channel charity or philanthropic giving into medical research or social services from the early 20th century in developed countries. There are also several precedents of official and private donor-financed health endowment funds operating in developing countries (Box 4).

The example of Tuvalu Trust Fund from the South Pacific is an important precedent of a light-touch institutional arrangement.[32] The fund was created initially from contributions of the Tuvalu government, and the governments of Australia, New Zealand and the United Kingdom and unspent aid funds have been added in subsequent years. The fund has general objectives: increasing financial autonomy of the recurrent budget; support social infrastructure and

services including through long-term maintenance; to better use external capital funds and technical assistance; and to assist in development of the economy of Tuvalu. An unremunerated governing board comprises representatives of all initial contributors to the fund, and an advisory board (two people) is remunerated. Use of funds is subject to financial safeguards specified in the treaty. Operations are audited annually. Distributions are made from the fund to the government budget. Through 2006, the fund has achieved an average real rate of return of 6 percent, and contributed 21 percent of recurrent expenditures to the budget in 2006. These experiences were also recently introduced in three other Pacific nations - Micronesia, Marshall Islands and Palau under the US Government's Compact arrangement.

Box 4: Examples of Endowments and Trusts in the Health Sector

USAID Profamilia endowment, Colombia, is a $6 million endowment funded over three years. The Profamilia board of directors took over sole control after a startup period. The endowment is invested through a New York bank. Profamilia uses the interest for funding non-recurrent costs, such as upgrading facilities and buying equipment, and some interest is reinvested. This endowment preceded the withdrawal of USAID from health care support in Colombia.

The Bhutan Health Trust Fund (BHTF) was launched in 1998 at WHO, Geneva. Its primary objective is "to ensure the continued and timely supply of vaccines and essential drugs and to eliminate financing uncertainties for purchase of these crucial components of the PHC services."[31] Contributors to the BHTF include the Royal Government of Bhutan (largest single contributor), BMGF, Summit Foundation and the Government of Norway. The operations and income of the BHTF are tax exempt in Bhutan and in the US. The management board of the fund comprises seven Bhutanese officials. About 10 percent of total contributions and accrued interest of US$ 20 million have been spent on vaccines through June 2005. The fund holds its assets primarily abroad, and a limited amount in domestic deposits and securities. The fund's operations from inception through June 2005 received a clean bill of health in a government audit published October 2006.

NGO Endowments: ICDDR, B (International Centre Diarrhoeal Disease Research, Bangladesh). Two funds set up in 1996 for free hospital health care and as a general "platform for financial security" e.g. fiscal flexibility to move quickly in taking advantage of research opportunities. Managed by a board of trustees and a US-based asset manager.

The Wellcome Trust was established in 1936 on the death of Sir Henry Wellcome. In his will, Wellcome vested the entire share capital of the drug company, The Wellcome Foundation Limited, in individual Trustees. The Trustees were charged with spending the income according to Sir Henry's wishes to foster and promote medical research and research into the history of medicine. The Wellcome Trust remained the sole shareholder of The Wellcome Foundation Limited until 1986. In that year, the Foundation became a public limited company, Wellcome plc. The company merged with Glaxo plc in 1995, and merged again with SmithKline Beecham plc in 2000 to form GlaxoSmithKline.

How it would work

Health Endowment Funds could be designed to help assure the financial sustainability of support for PHC facilities. For example, a fund could provide bridge financing to facilities that have a break in donor funding, or top up funding to a minimum per capita funding level in the event of donor shortfalls. The scope (provincial, national) and activities supported by the Fund would be determined by the initial level of contributions and the lifetime envisaged for the fund's operations and detailed in the fund charter, as would financial safeguards relating to use of funds. The fund would not be empowered to borrow. Funds could be transferred directly to provincial budgets (providing adequate financial safeguards exist) or to contractors such as NGOs that operate PHC facilities.

Drawing on the Tuvalu precedent, the institutional set-up for a health endowment fund could be light. An unremunerated board of governors could represent contributors, chaired by a representative of the recipient country. A remunerated advisory panel is an alternative (consultant basis rather than employees). The Board would appoint a professional fund manager for investment of the endowment and an independent auditor for annual audits. An annual report of operations would be required, perhaps also drawing on consultants.

Discussion

On the positive side, endowments can assure a regular and predictable flow of financing, permitting financially sustainable long-term health interventions without necessarily creating a new institution. They may prove particularly cost effective in small states through aid pooling and thus reducing aid administration costs. Endowments may also encourage the private sector or wealthy individuals to increase financial support for health, especially if contributions to endowments receive favorable tax treatment. This characteristic could be important in developing countries that would like to encourage private giving.

Nonetheless, endowments intrinsically backload aid financing, running counter to recent innovations that seek more frontloading of aid. In all cases endowments would represent an inefficient use of aid if the return on the endowment investment is less than the marginal benefit of the health spending it supports. A second objection is that endowments would not promote intergenerational equity if future populations are assumed to have higher incomes than the current population. A third objection, dependent somewhat on the objectives of a fund and the extent to which objectives can be changed over time, is that such funds promote earmarking to goals that may not continue to be an efficient use of resources in future years.

Governance is a key feasibility issue. The most significant challenge for health endowments is assuring potential contributors that Fund governance is adequately robust to provide financial safeguards to the founding investors and provide accountability in the use of funds.

Solution #3 IDA replenishment-based swing donor facility[33]

The increase in aggregate development aid for health has increased aid dependency and the vulnerability of recipients to sudden stops in aid. At the same time the expanded resource availability creates potential room for one or more donors to act as a reserve fund on behalf of aid recipients, with the objective of maintaining a floor on aid flows relative to aid promises.

How it would work

An important precondition for a swing donor facility is a consensus from a group of donors that country-level disbursements of at least a critical minimum threshold level are essential to maintain adequate progress in implementing its health sector strategy or for it to make necessary long-term commitments for a successful program.

The swing donor would allocate aid for health into a trust fund or facility that would guarantee annual minimum aid flows relative to commitments made by a group of participating donors that support the concept of minimum aid levels, to a predefined group of eligible recipients. Eligibility might be defined by a number of benchmarks: (1) inability to conduct own smoothing operations owing to thin domestic capital markets and no international capital market access; (2) strong commitment to improve health status demonstrated by the proportion of own health spending relative to total own spending above a minimum threshold e.g. 12-15 percent; and, (3) health sector strategy focused on equitable expansion of essential PHC to achieve MDGs. Clear triggers for cases when the swing donor facility will come into operation would need to be defined.

The key to operating a swing fund is that the swing donor can make payments that result from shortfalls by participating donors but has the instruments needed to charge the cost to the slow-paying donor. If IDA plays the swing role on behalf of a donor group, for example, swing payments that compensate for shortfalls by individual donors could be "charged" to donors in the context of the subsequent three year IDA replenishments or alternatively a portion of the IDA replenishment could be earmarked for funding a swing donor facility. However, to avoid moral hazard, the offending donors would have to agree to repay, with interest and penalties, when their aid causes the problem. We realize the difficulty of holding donors accountable for repaying the swing shortfalls through the IDA replenishment, as it would be impossible to observe what their IDA contribution would be without the repayment.

Discussion

Aid insurance facilities, of which the swing donor facility is but an example, are not a new idea, and have not yet found much support among important donors. Nonetheless, the swing donor facility is arguably a more efficient way of supplying precautionary reserves than each health aid recipient individually building reserves, and in most cases health ministries are not anyway able to explicitly build precautionary reserves from aid receipts as this is a function performed by the Ministry of Finance.

The key implementation issues are related to moral hazard and donor accountability. On the one hand, donors participating in the facility may be more willing to cut disbursements than otherwise if compensation is received from the swing donor. Similarly, recipients' behavior may change if compensation is received for foregone aid disbursements. Moreover, donors may reasonably be uncomfortable with swing payments being made to countries that have had aid reduced for reasons of poor governance or accountability. Finally, earmarking a part of IDA replenishments specifically for a swing donor health trust fund may prove politically impossible both in terms of mobilizing a coalition of the willing and providing argumentation that supports ring-fencing the fund to the health sector. Administrative costs and rules of operation would need to be low and transparently simple, respectively, for such a vehicle to function successfully. Such a fund would not necessarily require new cash. It could be built on existing capital at the World Bank, GFATM, GAVI, and other highly capitalized international organizations.

Solution #4 "Health Debit Card" for countries with strong public expenditure management

Given the potential drawbacks and difficulties with establishing a swing donor facility, an alternative approach is to save a small fraction of health aid flows into a stabilization pool. With rising volumes of aid, this would be fairly easy to accomplish. In essence, countries that have high standards of public expenditure management would be rewarded with a predetermined portion of health aid flowing into a health sector contingency fund that could be drawn upon during times of budget stringency. This solution would likely be most appropriate for the large group of countries in the upper-right quadrant of Figure 2.

How it would work

A donor-managed contingency fund is created on behalf of the qualifying and participating Health Ministries. Aid recipients become eligible for a contingency fund for health if they are assessed to meet minimum standards for public expenditure management in the health sector relating to budgeting, timely and regular budget funding, reporting and audit. A portion of health aid from participating donors for these eligible countries is credited to the health contingency fund. A recipient receives drawing rights in proportion to its aid flows and possibly performance scores. It possesses a debit card, but not a credit card. Use of the debit card would be at the discretion of the ministry of health, up to its entitlement. Over time, a rating system for donors could be developed that requires poorly performing donors to deposit a larger share of their assistance to the fund or to pay a higher proportion of the administrative costs. Agreement could be made to disburse the fund fully at year's end, or to build up a small cushion for subsequent years. Like a typical health insurance fund, the point is only to keep the minimum balance necessary to cover the expected flows during the relevant period. Because outflows should be short term, they could also be paid back into the fund when the problem donor pays up, which would further reduce the balance needed in the fund at any point.

Discussion

Precautionary saving from health aid would accumulate in a contingency fund that could be used to dampen the short-term volatility of health financing in the case of shortfalls.

Eligibility criteria relating to public expenditure management provide safeguards against the misuse of the contingency fund while not imposing additional conditions on a ministry of health once qualified – the money is theirs if needed to cover unexpected gaps in pledged aid. Moral hazard for donors can be reduced because offenders are easy to identify when draw-downs are made. They also cannot manipulate a second flow of funds to mask misbehavior in repayment (as they could with IDA replenishments). Risk-based charges could be assessed on donors over time as their performance is observed. The contingency fund would reduce the need for forced borrowing in cases of budgetary shortfalls (such as through late payments to suppliers and delayed wages) and would contribute to improved payment discipline.

CONCLUSIONS

The paper presents health sector specific evidence that aid flows are volatile and uncertain. This volatility results from a multitude of factors on the donor side (short-term horizons, changing priorities, bureaucratic delays), from the incentive structure that governs how and when aid is disbursed (conditionality, performance indicators, coordination issues) as well as factors that are specific to the recipient such as administrative capacity and vulnerability to external shocks.

Interviews and other evidence confirm the hypothesis supported by the broader aid effectiveness literature that the adverse impact of health aid volatility is significant. Where aid is directed at frontline service provision, volatility has a direct impact on service provision, suggesting that this area should be a priority for aid smoothing. As health aid turns increasingly to fund recurrent costs, the risks from, and costs of, aid volatility may have increased. Short term volatility affects the quality and extent of health coverage, creates incentives to earmark aid for non-essential or once-off ancillary spending rather than longer term commitments aimed at directly improving health status. In general, it distorts expenditure patterns away from those that could maximize health gains. Policymakers face the apparently irreconcilable problem of having long-term objectives without the firm assurance of long-term financing.

Recent financing innovations have begun to address some of the inadequacies of the aid architecture. Donors are committing funds for longer periods and using financial mechanisms in creative ways, as in the case of the AMC. Parts of the new institutional architecture, such as the Global Fund, appear to deliver stable and predictable financing. However, these vehicles account for a small, though rising, share of total development assistance for health. Donor fatigue with financing innovations, as evidenced by difficulties in following through on even very recent commitments to increase aid to Africa, is a substantial risk.

While some aid volatility is inevitable, this paper proposes a number of financing innovations that could contribute to more stable and predictable flows, notably for financing PHC facilities. These proposals for the most part build on elements that can be seen already in the health sector, or in other dimensions of development aid, but may have not been adopted widely because the circumstances were not yet judged opportune. The rising tide of development assistance for health offers new opportunities for delivering aid more effectively. Some of the key opportunities identified are:

- Further initiatives to securitize aid receivables to convert an irregular and somewhat uncertain flow of future payments into a predictable and regular flow of funds, supported by an official guarantor agency.
- While much of the recent discussion of financing innovations seeks to frontload aid delivery, there is also a case to be made for accumulating aid in the form of endowments to assure continuity of funding with a clear application to long-term treatment of people living with AIDS, or to maintain immunization funding during shortfalls due possibly to the business cycle. It may apply to cases where effective aid absorption is an issue, where funding is unusually lumpy but commitments require smooth expenditures, or where transaction costs associated with rolling aid budgets are very high.
- The paper also sees merit in donors' using well capitalized institutions to provide a "swing donor" facility to help recipients manage shortfalls in external receipts.

- We also describe a variant of the buffer fund proposals that have circulated to support precautionary saving of aid flows – a health debit card – limited to aid recipients with strong expenditure management in the health sector.

These innovations focus on addressing volatility that arises from donors and recipients. In addition, and largely beyond the scope of this paper, is aid volatility that arises from the design of the incentive structure for aid disbursements. The key to addressing this source of volatility appears to lie in promoting transparency in aid transactions and strengthening mutual accountability of donors and recipients in the design of aid programs and their objectives. Absent progress here as well, financing innovations may fail to deliver their evident promise.

ENDNOTES

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10. Note: Volatility is calculated as the absolute average percentage deviation from trend of US$ per capita government spending on health and US$ per capita external aid for health for 63 developing countries (excluding countries with a 2005 population below 500,000 and countries where health aid is less than 10 percent of government spending over the period). The trend is calculated with a Hodrick-Prescott filter (a non-linear smoothing algorithm).
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33. With thanks to Pablo Gottret, World Bank, for the initial concept of using IDA replenishments in the context of swing fund.

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