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INNOVATIVE FINANCING FOR GLOBAL HEALTH: TOOLS FOR ANALYZING THE OPTIONS

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PART I: EXECUTIVE SUMMARY

1. INTRODUCTION

1.1 Origins

Improving global health — and, in particular, achieving better health outcomes for the world's poor people, including the more than 3 billion (half the planet's total population) who live on less than US$2 a day — has become a prominent priority in development agendas. Heightened search for more effective ways to accelerate progress has spawned intense interest in exploring innovative ways of financing health services and products.

"Innovative financing for global health" (IFH) covers a multitude of things. New initiatives associated with new, or newly re-cast, financial instruments are the core of it. Examples of such initiatives include the International Finance Facility for Immunization (IFF-Im), the Airline Solidarity Contribution (ASC, or simply, "the airline tax"), and the Advanced Market Commitment (AMC).[1] In addition, a wider array of other options — see Box 1.1 for a partial list — come up as well in public discussion of IFH ideas, including some that are not new (e.g., tax relief for donating key medicines) and others that have broader relevance than health alone (e.g., debt relief). Further, the new institutions in global health — such as The Global Fund for AIDS, Tuberculosis, and Malaria (GF), The Global Alliance for Vaccines and Immunization (GAVI), and UNITAID (the entity that receives and deploys the proceeds of the airline tax) — are also sometimes considered to be IFH initiatives.

With so many new concepts and proposals pouring forth, so many problems still to solve, and so many questions arising about how everything fits together (e.g., which options are right for which issues, and whether there are promising new ideas deserving of attention), the interested parties — in donor and recipient governments, foundations, the research community, etc. — have sought more conceptual clarity and analytical tools to help them find their way through the complexities as they are confronted with policy choices. The Bill and Melinda Gates Foundation has been at the forefront of this quest, conscious of the need for some sort of framework and guide that can aid all concerned to understand the options and make informed decisions about them. The study that led to this report was funded by them.

Box 1.1: Examples of Innovative Financing Options

- Advance market or purchase commitments
- Private equity investing with enhancements
- Targeted exclusions from patent rights
- Angel/patient equity investing (SMEs or GBOs)
- Tax relief for donating key medicines
- Tripartite venture capital firms
- Market interventions for key medicines
- Microfinance (and tiers of support to it)
- Debt buy-downs (e.g., as in the polio campaign)
- Micro-enterprise development
- Results-based sequences of loans/grants
- Blended value investing
- Infrastructure guarantee facility
- Electronic-billing-based fundraising
- Risk insurance for natural disasters
- Performance-based aid
- Product development partnerships (e.g., MVI, IAVI, MMV, Aeras)
- Global health partnership institutions (e.g., GAVI, GF, UNITAID)
- Franchising of primary health care or pharmacies
- Public guarantees
- IMF's exogenous shocks facility (ESF)
- Social investment partnerships
- Reductions in demand for needed care due to high costs
- Concessions
- Incentives for continuous product improvement
- IP-backed securities
- Portfolio investment vehicle for neglected diseases
- Prizes for scientific advances
- Innovative purchasing (e.g., PAHO revolving fund)
- Global pooled procurement
- Global supplier subsidies (e.g., ACT)
- Priority review vouchers
- Voluntary contribution via credit cards
- Cause-related marketing of products (e.g., RED)
- Concessional lending by foundations
- Aggressive use of foundation endowments
- Socially responsible investing (ethical funds)
- Global lottery
- Global premium savings bond
- Bilateral aid for stabilization
- SWAps
- Risk-mitigation for private investment
- Program-related investment of foundation endowments
- Blended capital funds
- International drug price negotiations (e.g., CHAI)
- IDA buy-downs
- Incubator for companies focused on neglected disease
- Investment fund for technology transfer
- Results-based contracting
- Extension of employer health financing to broader populations
- Scale-up of franchise model
- Voucher programs
- Social marketing
- Conditional cash transfers
- Bond issues for frontloaded programs
- Performance-based grants
- Aid-smoothing fund
- Binding long-term donor commitments
- Interest rate buy-down
- Cost-sharing for clinical trials
- Scientific risk insurance

continued on next page

Box 1.1: Examples of Innovative Financing Options (cont.)		
• Tobin / currency transaction tax • Airline solidarity levy • Taxes on arms trade • Carbon / environment tax • Bit tax / trade tax / etc. • Initiatives to reduce tax evasion and close tax havens • Trust funds for later distribution • Endowments • Increasing remittance benefits • IMF gold sales • New special drawing rights (SDRs)	• For-profit private ventures with cross-subsidy model • "Piggy-back" distribution systems • Private finance initiatives (e.g., for UK facilities) • Donor clubs for midsize philanthropists • One-time donation drives (e.g., Idol Gives Back) • Community insurance / risk pooling • Structured investment funds • Donor first loss funds • Systematic analysis of existing medical products (drugs, etc.)for alternative use • Global development bonds	• Development of business cases for investment • Other risk insurance (e.g., crop prices) • "Use your balance sheet more" (for IFIs) • Debt relief (i.e. HIPC, 2005 G8) • "Use your endowment more" (for philanthropy) • Local currency lending • Guarantees from bilaterals or IFIs • Enhanced management of voluntary giving • International finance facility (IFF and IFF-Im)

1.2 Problems and solutions

IFH initiatives are proposed solutions. The problems they are intended to solve are many and varied. One of them, possibly the best known, is: what needs to be done to ensure that enough funding will be available — in the right form and at the right time — to finance the roll-out of the hoped-for new health products (e.g., vaccines and medicines) that are widely projected to become ready for scaled-up distribution in the years ahead, as the current productive wave of research and development bears fruit? Another example of the kinds of problems that come up in IFH work is: what can be done to mitigate the negative impacts of the fluctuations and unpredictability of aid flows, which the receiving countries have to cope with as they struggle to make good financing choices and match inflows and outflows?

A third example is: how can more capital from the financial markets be attracted to help fund the key advances needed in health products and health services?[2] A fourth example, linked to the first and third, is: how can the pharmaceutical and biotech institutions around the world be convinced to dedicate more of their resources and energies to finding and bringing to market promising new drugs for diseases that plague developing countries, despite the forces that pull them strongly toward developed-country markets?

IFH proposals have been the subject of much enthusiastic advocacy in recent years, and now other fields — including climate change — are also attracting proposals to deploy innovative financing mechanisms. What is the best way, given all this, to find one's way to a clear understanding of the options?

Our answer here to that question emphasizes that the very first step in any discussion of a proposed new IFH idea should be to ask: "What problem, precisely, is at issue here – i.e., what needs to be solved?" And then: "Is this particular proposed solution the best option, what other options are potentially appropriate, and what are the pros and cons of each?" Failure to give due attention to these simple clarifying questions at the outset risks wasting a lot of effort.

1.3 Differing perspectives

Newcomers to the IFH field are often interested in getting answers to questions such as: "Is the airline tax a good or bad idea?" or "Which is better, the IFF-Im or the airline tax?" or "Will the IFF-Im become the new solution for a wide range of health financing needs?" Although it might reasonably be thought that these issues should have simple clear-cut responses, the world is, in fact, not that simple. Two similar groups of well qualified experts, with extensive credentials and experience in the relevant areas of technical knowledge (public finance, tax policy, health issues, etc.), can easily come to very different conclusions, as we found through the consultations we undertook for this study. Even on an apparently straightforward topic like giving an unqualified thumbs up or down on the airline tax or the IFF-Im, and even when the deliberations are restricted to individuals all from the same discipline (e.g., economists), conclusions can differ greatly.

The differences have deeper roots than just professional proclivities, and underscore a fundamental challenge in IFH work. Differing opinions emerge because people have different assumptions, implicitly if not explicitly, about what the precise problem or question at issue is and what the "givens" are. For example, some come to discussions of the airline tax with the view that it is a special interest group's earmarked levy, violating tried-and-true public finance principles which warn against such dilutions of general revenue taxation. Others, while perhaps acknowledging those points, see the airline tax also in the context of the other alternatives for financing priority actions in global health, and/or are sympathetic to the arguments made by the tax's creators that it is a useful incremental step, worth testing, toward more appropriate taxation globally.

Small wonder then that expectations for categorical answers in this field are generally disappointed. More nuanced approaches to analyzing IFH options are usually required. And small wonder too that a constant refrain in good IFH analysis is that details matter. The precise question being asked, objectives being sought, decision criteria being used, assumptions being made about initial conditions and counterfactuals, etc. – all are critical.

1.4 Who we consulted with and what we learned from them

Since the main purpose of this study, consistent with its origins as noted in Section 1.1, was to be helpful to decision makers, practitioners and other stakeholders who are interested in, and need to make choices about, IFH issues, we felt it was extremely important to consult widely with those audiences, so as to hear first hand what would be useful to them.

Our consultations reached a broad cross-section of interested parties, including: donor countries (e.g., Europe, Japan, USA), development institutions (e.g., World Bank, Regional Banks, IMF, WHO, UNICEF, OECD, Global Fund, GAVI, UNITAID), foundations (e.g., Rockefeller, Wellcome). We also talked to many academics and other researchers and practitioners in global health and development. We asked them what they hoped would come out of a study like ours and why – and what they meant when they used phrases

like "greater conceptual clarity" and "analytical aids" and "analytic framework." We asked how a framework would help — what would they do with it and why. We also asked what would not be useful — what they did not want — and whether there were any additional considerations we should be aware of and take into account.

What they wanted, we found, was practical guidance on how to think about, understand, and evaluate IFH options in relation to the problems that the options are meant to address. IFH ideas that are in operation today or closest to adoption — or are being discussed the most — are naturally of special interest, but there is also curiosity about what other options may lie beyond the frontier of today's headlines. Practitioners and analysts want to be able to compare the pros and cons of alternative options, using criteria that reflect issues that they care about. They want to know how to start from a problem and work through it to identify and rank the best options. They want to be able to assess: which problems are of highest priority, which potential solutions to give most attention to, what the lessons are from the experience to date with IFH options, and how IFH options might be refined to fix any drawbacks they may have. They want a flexible, convenient framework for examining subtle real-world choices. By "flexible" they mean readily adaptable for assessing a range of questions and issues, some of which are not yet clear but will come forward in future.

By contrast, they are not interested in lengthy definitions of what IFH options are, or whether an option is or is not innovative. They also have no use for methodologies that seem (to them) too "abstract" or "black-box." And they caution against letting the study of IFH options get sidetracked into a continuous quest for the "next new thing."

Thus, although decision makers ultimately have choices they need to make, they first want to have information, as complete as possible, on the attributes of the options, especially their pluses and minuses. They want, in effect, data — details — from which they can then determine which option to select, weighing for themselves the relative importance of the various pros and cons.

The results of these consultations have guided us strongly, as will be apparent below. We have concentrated on analytical frameworks and tools that can be applied in practice, and have chosen not to dwell on more theoretical perspectives. Our story is mainly about using a lot of common sense in an organized way to decipher initially formidable — but ultimately comprehensible — problems. We largely avoid topics that are of lesser importance to our main audiences (e.g., the only "defining" we do of IFH options is the brief landscaping in Section 1.1 and Box 1.1).

1.5 How the remaining chapters are organized

Chapter 2 introduces our main conclusions and messages, briefly summarizing the highlights of the entire report. For readers whose chief interest is to use rather than read about what we're proposing, the best strategy may be to first skim Chapters 1 and 2, and then seek us out (at david@deferranti.org) for interactive, hands-on elaboration, via powerpoint and other means, of our proposed procedures, leaving the remaining chapters here for further examination as and when needed.

Parts II through IV develop the building blocks of the story, incrementally adding more details and replacing simpler with more nuanced approaches chapter by chapter.

Part II begins this process, using a salient IFH issue ("How to mobilize enough resources to cover the costs of rolling out new health products?") as a concrete example for introducing the initial building blocks. Chapter 3, at the start of Part II, provides an overview of the principal ideas illustrated by the example. Chapter 4 explores, in more depth, three familiar options — (i) adding a tax. (ii) frontloading future financial flows, and (iii) reallocating resources from lower to higher priority uses. That discussion is relevant both for the question of how to mobilize more funds for rollout, and for many other applications where these options arise. Chapter 5 then broadens the picture, noting how several additional options, less well known, can sometimes be important to consider as well.

Part III brings in more of the ingredients needed to handle the greater complexity of the real-world problems that come up in IFH. Chapter 6 provides a fuller picture of the range and nature of the problems, and why it is important, when tackling a problem, to begin by clarifying what exactly is the issue to be resolved. Chapter 7 then develops a tool called "mapping" a problem, which helps with that clarifying process, by positioning it in the context of other concerns and successively homing in on its core features. Chapter 8 turns from the problems to the assessment criteria that are needed to examine options for solving them.

Part IV shows how all the pieces developed in the preceding Parts fit together to form a practicable approach for analyzing a broad range of problems. Chapters 9 and 10 demonstrate the approach using, as examples, two problems of considerable priority currently in global health.

2. CONCLUSIONS AND KEY MESSAGES

Proceeding in accordance with the points introduced above, and drawing from our consultations with decision makers, experts, practitioners, and other stakeholders, we explored a wide range of possible approaches that might yield useful tools for assessing IFH options. Three approaches — very different but nicely complementary — emerged as the best choices to recommend. They are summarized briefly here and then developed in more detail in subsequent chapters.

2.1 Comparing the pros and cons of alternative options

One of the three approaches proved to be especially appealing to decision makers and others when we consulted with them. It results in comparisons of options as indicated in Box 2.1. The particular example shown there pertains to the question of how to make aid more predictable and smoother over time, but the same sort of analysis can be done for any IFH question, as is demonstrated in later chapters.

The options that are being compared in Box 2.1 are arrayed across the top: they are the leading actionable

Box 2.1: Comparing the Pros and Cons of Options: An Example—Making Aid More Predictable and Smoother over Time

	Managing Aid Better			Using Financing Tools					
	Get donors & recipients to fix the root causes	Help recipients improve their "cash management"	Limits on donor reductions in aid yr-to-yr	Endowment Fund	Int'l Stabilization Facility	Drawing rights for countries that keep to agreed standards	Insurance or Guarantee Facility	IFFIm-type securitization of future aid flows	Buy-downs, etc.
Hard to make happen?									
Sufficient to solve problem?									
Reliability?									
Transactions costs?									
Risk of "splash and fade"?									
Automaticity?									
Ties up scarce capital?									
Side effects?									

This chart is explained in detail in Chapter 8. As elaborated there, the dark red entries here signify the "worst" options in the given row, which pertains to the indicated criterion. Dark green represents the "best," and the lighter shades are in-between cases.

alternatives that survived a winnowing down process applied to a much larger number. The criteria for assessing the options' pros and cons are listed down the side: they too are a select subset from a longer list, in this instance of other candidate criteria. The entries in the cells of this matrix indicate the conclusions of an expert group, based on their judgment of how the options stack up against each other across the most important criteria. The options judged to be "worst," reading across the row for a particular criterion, are shown in dark red; the "best" options are dark green; and the in-between cases are graduated in lighter shades. With this information before them, decision makers make their own rankings and choices among the options, assigning their own implicit weights to the pros and cons indicated.

A lot more lies behind this matrix — in terms of the steps that lead up to it, the underpinnings that support it, and the policy priorities it implies — than this initial brief description attempts to cover. Filling in those parts of the story takes much of the space of the subsequent chapters. Other approaches and tools are also outlined in those discussions: the procedure noted in Box 2.1 is not the only methodology proposed and utilized in these pages. It is, however, the framework that struck a favorable chord most overwhelmingly with decision makers and other stakeholders when we showed them this one along with other possibilities.

The approach underlying Box 2.1 and the other approaches elaborated here are not new. Similar ideas have been used in other fields for decades. Global health, by not embracing such approaches more actively until now, has lagged behind other areas of inquiry and become overly isolated from thinking elsewhere. That should change.

Decision makers and other practitioners are very clear, we found, about what they like about the approaches developed here. They see them as straightforward ways of facilitating common sense thinking — which, indeed, is all that Box 2.1 is aiming to be. And that is a plus to policy makers who feel inundated from every side by more complicated techniques with "black box" opaqueness about what is behind them.

An essential part of "facilitating common sense thinking" is that crucial details about the options — the granularity of their similarities and differences –are not discarded, unlike in other techniques that try to reduce their findings to a single aggregated number or two. Decision makers do their own aggregating, which ensures that their priorities are not under-emphasized. The unavoidable human face in decisions — with whatever political, economic, or social considerations matter most to the decision makers, and whatever degree to which they do or do not fairly reflect the population they answer to — is not ignored.

An additional benefit of matrices like Box 2.1 is that they can help in identifying priorities for further investigation. For example, in trial runs that we performed to establish proof of concept, the option in Box 2.1 that is called "help recipient [countries] improve their cash management" — which refers to the proposition that learning how to cope better with choppy, unpredictable aid may be more feasible and cost-effective than trying to fix aid flows themselves — was found to have more promise than it is generally given credit for. Better assistance to countries to upgrade their cash management competencies is not a new idea, but viewing it afresh in comparison with other more expensive options highlights the value of looking into improved ways of doing it. The possibility that such assistance could become a major function of one or more global institutions could be examined too, par-

ticularly in regard to the International Monetary Fund, as it ponders what its role should be now that its traditional financial support role is dwindling. Other hypotheses from the trial runs are discussed in later chapters.

Based on our experience, the work required to generate matrices like Box 2.1 can be completed by an expert group with about a day's worth of effort. Some advance preparation is needed as well, along with help from a secretariat/facilitating team before, during, and after the main consultation day. It is best to use the first half of the day to agree on the criteria and how they are to be interpreted, and the second half to apply them and complete the matrix.

2.2 Reasoning from basic principles and common sense

A second useful — though different — approach to IFH questions starts from basic principles and adds a healthy dose of common sense. An example, discussed in Part II, is referred to in Box 2.2. The IFH question at issue in this example is "How are we to ensure that there will be enough funding to finance the roll-out of a new health product (e.g., a vaccine or medicine)?" Few questions have been more at the forefront of IFH discussions.

To get started on a question of this kind, the second approach notes that an obvious first issue to ask is: what are the possible sources for obtaining the required funding? Thoughtful reflection about that question leads — with the benefit of logic, principles from economics, and evidence and experience from countries and institutions — to insights, more questions, further insights, etc. Ultimately, observations emerge such as those listed in Box 2.2 as "points to keep in mind," providing conceptual signposts for finding one's way from the initial seemingly unmanageable IFH question to more focused propositions for final investigation and decision making.

Successive rounds of this kind of thinking can lead to many more — and more specific — points than the abbreviated list in Box 2.2. They are "points to keep in

Box 2.2: Points to keep in mind when working on a problem such as "How to ensure there will be enough funding to finance the roll-out a new health product (e.g., a vaccine or medicine)?"

To get started on this question, an obvious first issue to ask about is: what are the possible sources for obtaining the required funding? The most self-evident sources are either the national government, foreign governments acting through aid program, private investors (e.g., through the financial markets), or other donors (e.g., international agencies or philanthropy). Government funding comes ultimately from taxation and other revenues, which leads to focusing on tax options. Private investors will come in only if the returns they can earn, and the associated risk-reward profiles, meet their goals and constraints, whether at full market or sub-market levels. Since whatever the markets will do on their own – without enticements or enhancements – will happen anyway, IFH analyses focus on whether actions by governments or donors can change the terms that investors face in order to bring in more finance from them. That leads to ideas like the IFF-Im. Donors, in addition, can and do fund product R&D directly, but when the funding requirements get large, they cannot go it alone.

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Examining these "sources" more deeply, there are other possibilities as well. Future flows of funding can be frontloaded more (which is what IFF-Im does). Current flows can be reallocated from inefficient uses to higher priority applications. Governmental powers (legislation, regulation, adjudication, and enforcement) can be utilized to generate desired responses. Convening and persuasion powers can be employed to twist arms and open eyes.

A still deeper look at this expanded list of sources – drawing on first principles from economics and experience and evidence from past behavior of countries and institutions – suggests a number of "points to keep in mind" when working through this sort of analysis of an IFH question from the bottom up.

1. Before getting too committed to tapping new sources, look first at how much can be gained through the reallocation of existing resources. Experience has shown that prevailing allocations of resources – public and private – are often rife with opportunities for huge improvements that would free up wastefully used resources and make them available for supporting product R&D. Such shifts are good public policy choices a fortiori, over and above their benefit for product R&D, and would not have the potential downsides that many other options do (e.g., additional taxation and frontloading impose costs on society). On the other hand, reallocation on a significant scale is hard to achieve politically, administratively, or otherwise, so it is not the sole answer for everything.

2. In situations where additional taxation is being considered, start by asking whether another tax is really needed, or whether other options, including existing taxes, could suffice. If the new tax would be a special-purpose, earmarked levy, ask whether an un-earmarked tax might not work as well. In addition, look at how the revenue would be used, and whether it would go to purposes that offer better health outcomes per dollar spent than other uses. Experience suggests that piling on new taxes on top of old, without cleaning up the mess of taxes underneath, is a dangerous siren call to lawmakers.

3. In situations where frontloading of future funding flows is being considered, start by asking whether the proposed shift is really the right response to the problem at hand, considering not just the other possible options but also whether the gains from shifting more resources to one time period are worth the losses that will have to be borne in other periods (i.e., the offsetting, or "pay back" periods). Then, ask too whether the ideas are, in fact, feasible, from the perspective of whether the legal or regulatory policies enforced by budget oversight authorities will permit commitments of future budget funds or not. Also, to overcome such problems, look into the various work-arounds suggested above in this section.

Other similar "points to keep in mind" are drawn out of the analysis in later chapters.

mind," rather than rules or guidelines, because additional steps are still required to get to a final decision about which option to select over the rest. Those additional steps can be exactly the process embodied in the first approach, described above. In effect, working through a checklist of "points to keep in mind" helps structure a decision problem and reduce the range of uncertainty, and then a more detailed examination and comparison, as in Box 2.1, of the final options' pros and cons against key criteria, taking account of the perspectives and priorities of the decision makers and other stakeholders, helps bring the process to a fruitful conclusion. Both approaches are necessary, neither is sufficient by itself. It is in this sense that they are complementary, operationally and conceptually.

2.3 "Mapping" a problem to understand it better

A third helpful approach provides the final leg to the stool. Its core proposition is that understanding the problem that an IFH proposal is seeking to solve — not just its general nature but the inner intricacies of what it is all about — is crucial. The preceding two approaches can achieve their full potential only if they are aiming at the right problem — and missing the target can be sometimes be as bad as missing it by a mile.

This third approach further posits that one good way to get to a thorough understanding of problems is to "map" them — i.e. see where they fit in into categorization schemes that bring out their essential attributes more clearly. This "mapping" concept is illustrated by the example referred to in Box 2.3, which shows the first step in a process of many such steps, each unpacking successive layers of a problem's defining features.

In this particular example, the first step begins with the observation that one of the first things one needs to know about a problem is often whether it is prin-

Box 2.3: "Mapping" a Problem: An Example

A simple roadmap to start from ... with examples

<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="4">Using funds that are mainly...</th></tr>
<tr><th>Government Money</th><th>Donation Money</th><th>Investment Money</th><th>Combinations</th></tr>
<tr><td rowspan="2">Service delivery within countries</td><td>Public providers</td><td>Most aid & recipient country health budgets</td><td rowspan="2">Philanthropic, BINGO, & LNGO support for service delivery programs</td><td>E.g., PFI in the UK</td><td rowspan="2">Co-financing partnerships</td></tr>
<tr><td>Private providers</td><td>Contracting out</td><td>Large healthcare firms, small practioners, venture investors, etc.</td></tr>
<tr><td colspan="2">Product delivery to countries</td><td colspan="2">E.g., global partnerships (GAVI, UNITAID, Global Fund, IDA)</td><td>Supplier firms, drug sellers, etc.</td><td>Co-financing partnerships</td></tr>
<tr><td colspan="2">Product discovery and development</td><td>Aid support for pull (AMC) & push (e.g., NIH)</td><td>Foundation support for pull and push initiatives</td><td>The pharma and biotech industries</td><td>PDPs</td></tr>
</table>

cipally about: (i) service delivery within countries, (ii) product delivery to countries, or (iii) product discovery and development at the global level. Box 2.3 therefore gives prominent place to that breakdown, as indicated on the left in the chart.

Another vital attribute to know about a problem is whether it focuses primarily on the public sector or the private sector. While this may be more critical for service delivery than for product delivery or discovery and development, that dimension is thus reflected in Box 2.3 as well.

Further reasoning, described later, leads to the conclusion that yet another key attribute is whether the sources of funds that are of potential interest, given the nature of the problem, are: "government money" (i.e., funds from recipient or donor governments, through budgets or otherwise), "donation money" (philanthropy and other forms of grants), "investment money" (funding that expects a return), or combinations of these sources.

Using this structure, the cells within it, as demonstrated in Box 2.3, define categories that provide a helpful first-cut for understanding where a problem with IFH potential fits in the larger scheme of things. The entries shown give examples of activities that many problems deal with. Successive further steps, breaking down these cells more finely, locate where problems sit in relation to other factors, enabling one to pinpoint their features and the most suitable candidate solutions more precisely.

The benefits of mapping a problem in this sort of framework are multiple. First, the process of parsing a problem meticulously — and defining exactly what question it seeks to answer — points up the most promising ways to tackle it and minimizes the risk of heading off track onto the wrong issues. Second, narrowing in on the heart of the problem often lays bare the appropriate options to consider as potential solutions, and weeds out extraneous options. Third, the "mapping" of problems sheds helpful light on which problems are most and least important to spend time on, given global priorities and prior work by others. Fourth, the resulting greater clarity on the intrinsic interactions among the most frequently encountered problems yields further insights on them too.

2.4 Why "deterministic" approaches don't work

It would be nice, of course, if a more "deterministic" methodology — giving invariant answers regardless of the many varying circumstances that can arise (e.g., a conclusion that the airline tax is always good or bad, or is always better or worse than certain other options) –were available and reliable for practical use. While most approaches, including those here, go some way towards generally applicable conclusions of this sort (e.g., the processes illustrated in Boxes 2.1, 2.2, and 2.3 have various ways of ruling out options that are clearly poor fits for the particular problem at hand), they are not as deterministic as textbook writers might prefer. We worked hard to find or develop suitable approaches that give as much invariant certainty as possible, given the understandably strong appetite for — and benefits of — simplifying the difficulties of evaluating IFH options. One obvious avenue to explore was to see whether the standard tools of economics and public policy decision making — e.g., benefit-cost analysis, and partial or general equilibrium analysis — could help. At a general conceptual level, they do help, but for specific, practical applications, the additional techniques presented here are needed.

An example of the factors that limit how deterministic one can be arises whenever expert groups are used. Different expert groups, working on the same ques-

tion, can come to different conclusions, obviously, and thus would generate differently colored matrices like Box 2.1. But in real world decision making, differing views are an inescapable reality, as central to the process as anything else. Any methodology that marginalizes the diversity of stakeholder viewpoints will be itself marginalized when real decisions are made. The practical response to this dilemma is to have multiple groups assess the same question independently and in parallel, and for decision makers to choose the composition of their expert groups so as to get the breadth of opinion and mix of perspectives needed.

PART II: STARTING FROM BASIC PRINCIPLES AND COMMON SENSE: AN EXAMPLE

As noted in Chapter 1, this Part uses a very important IFH issue ("How to mobilize enough resources to cover the costs of rolling out new health products?") as a concrete example for introducing the initial building blocks of the analytical approaches recommended in this study. Chapter 3 provides an overview of the example. Chapter 4 explores, in more depth, three familiar options – (i) adding a tax. (ii) frontloading future financial flows, and (iii) reallocating resources from lower to higher priority uses. That discussion is relevant for the specific question examined here of how to mobilize more funds for rollout. It is also relevant for many other applications where similar options arise. Finally, Chapter 5 then broadens the picture, noting how several additional options, less well known, can sometimes be important to consider as well.

3. THE EXAMPLE: "HOW TO MOBILIZE ENOUGH RESOURCES TO COVER THE COSTS OF ROLLING OUT EXPECTED NEW HEALTH PRODUCTS"

The problem that is the essence of the example expounded here is an issue of great concern to many in global health circles. Sections 3.1 and 3.2 examine its core elements. The rest of this chapter then focuses on several leading options — currently proposed solutions — that could help. As will become apparent, none of the options obviously trumps the others, and thus further analysis is needed, which is the subject of later chapters.

3.1 What is the problem to be solved?

In the next ten years — or for some diseases, the next twenty years — an impressive array of powerful new health products is expected to become ready for full scale-up, including new vaccines that may have the potential to radically reduce the mortality and morbidity burden of some major diseases of the developing world, and new medications and protocols that may help dramatically improve the treatment and prevention of other diseases. While previous decades have also benefited from medical advances, the promise of major steps forward in the period ahead is especially strong, due to significant recent scientific breakthroughs and the sophisticated technologies driving them onward, and thanks also in no small part of the resources and persistence of key players including the Bill and Melinda Gates Foundation in supporting such efforts.

The "product pipeline." A 2002 survey found that over 350 candidate vaccines against 88 pathogens were under development at that time, with many of them directed at diseases of developing countries.[3] Those numbers may well have risen since then, as the search for solutions has intensified. In addition, other kinds of products — for diagnosis and treatment as well as prevention — are being developed. Even if only a modest fraction of the efforts under way now are successful, the number of new products ready for mass distribution in the years ahead seems likely to be hugely greater than in the past.

For malaria, for instance, as of early 2008, there were over 40 malaria vaccine candidates under development, with 16 of them in some stage of clinical trials. One of them, GlaxoSmithKline Biologicals' RTS,S vaccine, is in Stage III trials, showing up to 49 percent efficacy for at least 18 months.[4] In addition, 10 to 15 new drugs for malaria treatment are in clinical trials and several others are in earlier stages of development. Medicines for Malaria Venture (MMV), one of the new public-private product development partnerships (PDPs) that have been created to facilitate and accelerate product research and development, has four promising candidates in advanced clinical trials. Other efforts, such as those by the Institute for OneWorld Health, are working on ways to produce more affordable artemisinin-based treatments. Still others are exploring possibilities for safer, more effective, and longer-lasting insecticides for malaria mosquito control, and improved nets and other insecticide-treated materials.

For tuberculosis, the Aeras Global TB Vaccine Foundation expects to bring six new candidates to expanded Phase II efficacy studies in the next three years. The Global Alliance for TB Drug Development (TB Alliance) has recently moved two drugs to late-stage clinical trials. These new drugs would reduce the time needed to treat TB and prevent the development of new, drug-resistant strains. Also, new testing methods are being developed that would cut diagnosis time from almost two months to mere days.[5]

For HIV/AIDS, new treatment options continue to be worked on actively. 12 microbicide candidates are currently in clinical trials. The quest for an effective vaccine suffered a major setback in late 2007, when the MRK-Ad5 candidate failed in efficacy trials, but other options are now being explored.

Other efforts — such as projects funded by the Grand Challenges in Global Health Initiative (GCGHI) (launched by the Bill & Melinda Gates Foundation in collaboration with the Canadian Institutes of Health Research, the Foundation for the National Institutes of Health, and the Wellcome Trust) — are seeking breakthroughs on other diseases and health issues. One such current project is working to develop an inexpensive and easy-to-use device to rapidly test patients for several health problems prevalent in developing countries, such as bacterial infections, nutritional status, and HIV-related illnesses. The device will use both a disposable credit card-sized blood sample collector and a portable reader which will determine the results of the blood tests.[6]

All told — across forty or more diseases of significance for developing countries — there is an approaching bonanza of new tools for improving health outcomes.

"Product Pileup?" However, as this prospect has become more apparent, knowledgeable sources have become more concerned about the pace at which the new products will be taken up and utilized. Experience from other roll-outs of pharmaceutical discoveries in the past suggests that, unless concerted action is taken to speed up the rate and reach of uptake, the desired impacts of the new products may not materialize fully for a very long time. The expected bonanza could result in merely a "product pileup."

Funding is a key part of this issue. When the new products are eventually approved and ready for ramped-up incorporation into health services everywhere, will the funds required to meet all the costs of full-scale implementation be available? Will sufficient finance — in the right form, at the right time, and in the right institutions — be in hand to purchase adequate doses of the new products from their manufacturers, pay for transporting them to the countries that need them, and ensure appropriate onward distribution and utilization within the recipient countries? Funding is not the only potential obstacle, of course. Among the many others are: how to improve supply chains; and how to strengthen delivery at the "last mile" on the ground, given the deficiencies of current health infrastructure platforms. But the question of "where will the money come from for rollout?" is certainly a prominent concern now.

3.2 What else needs to be known about the problem?

Estimating the Cost of Rollout. The magnitude of the funding needed is difficult to estimate accurately. On a product by product basis, plausible projections can be made of the rollout costs once a product has been developed fully enough to determine its production costs, delivery features, and other attributes. In 2005, a joint WHO and UNICEF study, presented at the GAVI Partners Meeting, reported that the cost of providing immunizations to the 72 GAVI-eligible countries in 2006-2015 would be US$35 billion. Out of this total, one third would go towards the actual purchase of vaccines while the remainder would be used to improve the systems that procure and deliver immunization services. This estimate represents the necessary resources to increase immunization coverage from less than 70 percent in 2005 to 90 percent in 2015.

Estimating the funding needs for rolling out vaccines that do not yet exist — e.g., for malaria and HIV/AIDS — raises thornier issues. For example, to the extent that

a vaccine for HIV/AIDS would be targeted to adolescents, adults, and specific vulnerable groups (commercial sex workers, truck drivers, etc.), it would require different delivery strategies from those supported by the infrastructure that has been developed to deliver vaccines to children and infants. Also, demand for first generation vaccines may be lower than expected due to less-than-ideal efficacy and high costs.[7]

A case in point is the recently developed vaccines against cancer-causing strains of human papilomavirus (HPV). Similar to a potential HIV vaccine, HPV vaccines would be targeted to a specific cohort (in this case, pre-adolescent females, who will number more than 50 million in developing countries by 2010) for which there is not a pre-established structure for delivery.[8] Batson et al. used varying vaccine price estimations to derive potential costs for the delivery of HPV vaccines in GAVI-eligible countries between 2010 and 2030. Their study estimated that for vaccination costs of US$15 and US$25, total costs to vaccinate 80 percent of the vulnerable cohort by 2016 would be US$180 million and US$300 million respectively.[9]

Though few studies have been done modeling the rollout and implementation of a vaccine yet to be fully developed, Hutton et al. tries to estimate the cost of introducing a malaria vaccine in a high burden country, Tanzania. Their study approximates the cost of introducing a hypothetical malaria vaccine through the country's Expanded Program on Immunization (EPI) and uses varying prices for a hypothetical malaria vaccine. The study concludes that at a vaccine price of US$1 per dose and US$4 per dose, the total annual cost to the EPI would be more than 35% and over 100% of the current budget, respectively.[10]

But many products for which it would be useful to have reasonable estimates of rollout costs have not reached that stage of specificity yet. Equally importantly, even when all the product information is clear, estimates can vary greatly depending on how they account for the fact that the rollout of a new product relies on having adequately functioning health services delivery platforms in place to support the distribution and administration of the product. These "platform costs" may sometimes far exceed the simple production and shipment costs.

Additional Insights on Rollout Costs. For our purposes here, the exact magnitudes of rollout costs are less important than their ***relative*** magnitudes, meaning, specifically, whether they are likely to be larger than can be reasonably well accommodated by conventional funding channels and amounts that exist today (e.g., ordinary aid). If rollout costs are so large that conventional aid may well not be able to cover them, then finding other means of financing them is crucial if the new products are to do any good, and IFH options may have a vital role in that regard. On the other hand, if rollout costs are sometimes not that large, then IFH options may still be important to consider, but not for all of the same reasons.

On this question, we found, from analysis of estimates by the Global Fund and others, that new product rollout costs appear to be at least 20% and possibly up to 80% or more of the projected total financing gaps for many diseases. The large range reflects, in the main, differing requirements for, or assumptions about, the platform costs. Further investigation could probably narrow the range, but for present purposes it is sufficient to note that *even if the rollout costs are no more than 20% of the total costs, the funding required for rollout is dauntingly large — so large, in fact, that conventional sources very likely will not be adequate to finance rollout costs in many cases.* Further, since the 20% figure is almost certainly an excessively conser-

Table 3.1: Funding needs and gaps in global health

Program Area	Total Needs	Funding Gap
HIV/AIDS for phased scale-up to "universal access" by 2015	US$ 269 billion 2008-2015	US$ 189 billion
Tuberculosis	US$ 56.1 billion 2006-2015	US$ 30.8 billion
Maternal and Neonatal Health and Child Survival	US$ 9-16 billion per year	US$ 5 billion per year
Immunizations (GAVI goal of immunizing 27 million children by 2015)	US$ 35 billion 2006-2015	US$ 11-15 billion
Malaria	US$ 3.4 billion per year	US$ 2.7 billion per year

Sources: Report on the Global Aids Epidemic. Geneva: Joint United Nations Programme on HIV/AIDS, 2006; Albright, Alice. "Innovative Financing for Global Health." The Brookings Institution, Washington. 26 July 2006; Lob-Levyt, Julian. "Progress & Phase 2." 3rd GAVI Partners' Meeting, New Delhi. 8 December 2006; Stop TB Partnership. Actions for Life: The Global Plan to Stop TB 2006-2015. Geneva: World Health Organization, 2006; WHO. "Who | Malaria." Geneva, 2006. World Health Organization. <http://www.who.int/mediacentre/events/2006/g8summit/malaria/en/index.html>.

vative estimate, the true financing requirements for rollouts could well be even more challenging than indicated here — implying that IFH options may be even more necessary.

To appreciate this argument in more detail, consider the data in Table 3.1. The projections shown are from a range of studies, drawing on the best evidence that experts in each of the indicated areas have developed. By aggregating these projections, an estimate of the overall unmet needs in global health can be derived. Because there are broad ranges around several of the program area estimates, there is an even larger range around the total, extending from $15 billion/yr at the low end to over $330 billion at the high end (representing between 0.08% to 1% of global GDP). Eliminating the extreme outliers in that range for the total, and again taking a very conservative stance relative to the argument being made, suppose that the total funding gap for global health is somewhere between $21 billion and $50 billion per year.

If rollout costs were 20% of $21 billion, they would be $4.2 billion per year. If they were 20% of $50 billion, they would be $10 billion per year. If they were 50% of $30 billion, they would be $15 billion per year. The main point here is that even the lowest of these possibilities — $4.2 billion — is still a significant sum of money to raise, over and above the funding that other purposes already absorb or will require in future. And the more likely scenario is that the actual figure is much larger.

In addition, the program area estimates in Table 3.1 are based on very incomplete information — i.e., the information that the experts who prepared them had at their disposal at the time — about the new products in the pipeline. For the ***additional*** new products that would come along on top of what is assumed in the Table 3.1 estimates, the rollout costs would be a further increment in the costs that need to be financed. And this would drive up the expected rollout requirements to well above the lower estimates.

If rollout costs will be at least $4.2 billion per year — and possibly much more than that — there is little prospect that conventional aid will be able to cover it entirely, or even in large part. The health portion of official development assistance has recently been in the neighborhood of $10 billion a year — ***in total.*** Every bit of this sum — and many times more — is vigorously sought by multiple competing demands, all with compelling rationales why they should get priority. The chances that conventional aid for health will increase sharply in the years ahead do not look sanguine, given that health has already benefitted from sizeable recent growth and that other issues (e.g., climate change, food prices, fuel prices) are capturing funders' attention — and, further, that aid overall may not be able to rise much further, or even maintain its current level, now that the global economic prospects are less optimistic.

If, of course, platform costs are assumed to be already covered by other funding — and thus that minimal provision for them needs to be made in the rollout estimates — then requirements for getting a new product into universal use may be more within reach of what conventional funding can handle. However, even in this case, the rollout cost is likely to be above the lower end of the range given above, according to our analysis of the available evidence, and thus still substantial relative to ordinary aid levels.

Of course, the conclusions here should not obscure the fact that when products are examined one by one, some of them may very likely have low rollout costs (e.g., because they are inexpensive to produce, the manufacturer is willing to price them very modestly, and/or shipment and distribution costs are minor). Other products, on the other hand, may have exceptionally high rollout requirements.

All of this said, the principal point being made here is that, on average and overall, rollout costs appear to be significant enough to warrant in-depth consideration of IFH options to pay for them.

3.3 What are the main options for addressing the problem?

Most of the attention devoted thus far to this funding issue has approached it from the perspective of asking (1) whether enough additional resources can be mobilized from donor country governments and (2) how, if at all, philanthropic and NGO (non-governmental organization) initiatives can help, given that they can be catalytic but do not have sufficient financing to take care of all the costs themselves. This is not the only way to frame and attack the problem, as will be seen when additional perspectives are discussed later. But it is a natural place to begin, considering that it is an important part of the story and so many actors in this field start from assumptions along these lines.

How might one best attack such a problem? A helpful place to begin is to list the most obvious options for solving it and then examine each from the standpoint of fundamental principles (from economics and other fields). Later, other options — less self-evident — and other considerations about the various options can be added, as subsequent chapters illustrate.

There are three obvious options for how donor country governments can provide sufficient funds to cover the rollout costs of new products.

1. They can increase their total spending by enough to meet those additional needs;
2. They can reallocate funding from other uses; or
3. They can reallocate funding across time, shifting some spending forward or backward in time to free up more resources for rollout costs.

In the first of these cases, spending on all uses remains unchanged except that one use — rollout costs — gets more funds and thus total spending rises. In the second case, total spending and future spending patterns remain unchanged but their allocations among different uses is altered, with cutbacks in some areas to permit increase to support product rollout costs. In the third case, future spending plans are modified to reallocate spending over time, but, without necessarily making any changes in total spending. (This might be feasible, for example, if future health aid can be frontloaded more, to accommodate rollout costs that will occur in the near term, and can then be reduced in the longer term.)

Option #1. For this option, the increase in total spending has to be financed either by taxes (which produce the income that supports the donor government's budget appropriations) or by other means (such as other revenue raising, or borrowing, or printing money). Since the other means are so much less important in this context (in the long run, everything spent has to be recouped from taxes), the first option here is, at bottom, chiefly about taxation. Either a new tax has to be created or existing taxes have to be increased. Since those two possibilities are analytically equivalent for the issues that matter here, the exposition here will use "adding a tax" to encompass both. An example of adding a tax is the French government's "airline tax." Another example, less self-evident, is that when the U.S. government committed to funding the PEPFAR program to combat HIV/AIDS, it effectively increased its need for tax revenue, and thus opted for added taxation.

Option #2. The second option — reallocation of the (unchanged) total spending among alternative uses — can be done either (i) within health, as when bilateral aid programs ramp up support for disease-specific initiatives and cut back on health systems support, or (ii) between health and other sectors, as when health as a whole gets more of the total pie and, say, military programs get less. An example of the later is from Costa Rica, which, having long ago decided it did not need any armed forces at all — apart from conventional police to maintain order internally — has more resources that it can devote to health and other purposes. Other examples include shifts in aid programs between vertical and horizontal programs, and shifts at country level between tertiary hospital services and frontline primary facilities.

Option #3. The third option — reallocation of spending over time — is about changing the time path of future budgetary outflows. Governments do this all the time — often informally — when they modify multi-year expenditure plans, pushing some outlays further into the future and bringing others closer to the present. More structured ways of time-path shifting also are possible. IFF-Im, for example, frontloads future aid flows, making more funding available sooner to support programs immunizing children in low income countries. The frontloading is brought about not directly, i.e., not through reprogramming future budgets, but rather indirectly, through issuing bonds in the financial markets. The money generated from the sale of the bonds finances the near term surge in spending, and the bonds are repaid over time from the participating donor governments' future aid budgets or general revenues. Other variants of this option are conceivable too, but since the versions most likely to be of practical interest for our main audiences involve some form of frontloading and some use of debt financing, the discussion below will focus principally on IFF-Im-type frontloading, while not forgetting that other sorts of time-path shifting are imaginable as well.

These three options are, in fact, not individual options but three sets of options. Adding a tax can take many different forms; the airline tax is only one alternative

among many. So can reallocation among alternative uses and frontloading of future flows. There are other groups of options as well, as has been noted and will be expanded upon in later chapters. But the three mentioned so far are the most prominent in practice, at least with respect to the formulation of the problem as presented above, with its emphasis on mobilizing additional resources from donor country governments. That will change when other perspectives are introduced below, but for now, there is more to say about these first three.

3.4 Which option Is best?

Should one or the other of the three always be preferred? Is there a rank ordering among them, and if so, does it depend on certain circumstances or conditions? In practice, choices among them are usually made for hosts of reasons that may often have more to do with the politics and exigencies of running a government day to day, and rarely start from first principles. IFF-Im was crafted in a specific context involving a particular leader, and not as the result of a search for the theoretically optimal solution. Still, the question of whether one option is better than others can be illuminating for policymakers, even if it may not typically be the main factor for them.

Conceptually, the choice between adding a tax, reallocating among alternative uses, and frontloading of future flows should depend on which produces the greatest benefits relative to its costs. Since that criterion is difficult to quantify well enough for practical applications, several other lines of argument have emerged.

A "revealed preference" argument maintains that whichever of the three options is selected reveals the choice that is best for that society at that moment. But this is hardly helpful, given that governments can — and do — make errors in deciding what should be done.

The case for considering reallocation first. A second — and more appealing — argument urges that reallocation among alternative uses should be considered first before additional taxation and/or frontloading are proposed. The grounds for this view are mostly pragmatic. Additional taxation, it is asserted, imposes new burdens on people, constraining their opportunities to thrive economically and otherwise. Reallocation, on the other hand, merely shifts resources from one use to another. If the area receiving increased resources is a worthy cause (such as improvement of global health), there is at least a reasonable chance that the shift is a change for the better overall. And if not, the damage is likely, it is argued, to be less than from increased taxation, which can have more pernicious systemic effects (e.g., taxes can distort incentives and have undesirable macroeconomic effects). Also, there is some hope that if the shift were not a net plus, it would not be adopted (which is another form of revealed preference thinking, though more compelling in this application). In addition, to the degree that the current allocation of resources is far from optimal — which is widely accepted to be almost always the case in most countries — there is plenty of room, and potential benefit, from reallocation.

Further points assert why reallocation among alternative uses should be considered first before frontloading of future flows. First, frontloading requires a plethora of choices whose merits (and demerits) are often not easy to understand and weigh appropriately. For instance, shifting aid flows so that more can be spent today and less tomorrow may seem obviously better from the standpoint of today's population but what about tomorrow's population, whose future has

been mortgaged by today's spending? Present value calculations, the standard method for comparing benefit-cost streams over time, favor the interests of the people of today over those of tomorrow. Also, frontloading requires actions that may not be easy to effect and that have costs that can be considerable, offsetting the intended gains, to some degree. If it were easy to change the time path of spending, then there would not need to have been so much effort to create IFF-Im. The strong guarantees that were required to convince buyers to buy IFF-Im bonds would not have been necessary. Moreover, creative work-arounds such as IFF-Im bring challenges of their own. Getting the legal authority to make binding commitments from future government budgets has been a tall order in many countries, and remains impossible in others. Also, the uptake from the markets can be expensive and uncertain, especially when market activity is turbulent for other reasons such as the recent credit crunch.

Other points support the conclusion that it may be best to start by looking for reallocation of current spending. For example, the case for additional taxation is weakened to the extent that already-existing taxation is not well designed or implemented, which is almost always the case. Why not work first on improving existing taxation before loading on more? Likewise, the case for trying to frontload aid flows is not helped by the fact that, when leaders and parliaments change, priorities can change too. Reallocation among alternative uses is, of course, subject to whims and fads too, but at least the greater explicitness of allocation decisions can permit more effective deliberation, as the survival of PEPFAR funding in the U.S., despite power shifts in Congress, has demonstrated.

Other arguments, however, run in the opposite direction. Reallocation among alternative uses, it has been correctly pointed out, is not an easy undertaking. Those who stand to lose something can be blisteringly strong opponents, while the winners and unaffected may be weak with their support. Indeed, the difficulty in making policy exclusively through reallocation among alternative uses is precisely why there is always an earnest search for other easier routes such as additional taxation or time-path shifting.

On balance, while there is no simple answer, one cannot go far wrong by starting from the following.

Point to Keep in Mind #1: When confronted by the need to choose between (a) additional taxation, (b) reallocation across sectors, or (c) frontloading of future flows, start by asking whether as much of (b) has been done as possible – i.e., check first whether reallocation away from lower priority activities is possible and if so how far it can go toward meeting the need.

4. THREE FAMILIAR OPTIONS FOR MOBILIZING FUNDS: A DEEPER LOOK

The preceding chapter, in addition to outlining the specific example (mobilizing funds for product rollout costs) that is the focus of this Part, also began what Chapter 2 of the Executive Summary called the "second" approach – "reasoning from fundamental principles." This chapter illustrates how that approach can be extended much further, and what can be learned from it. It does so with a focus on the three options, two of which (adding a tax and frontloading future financial flows) were introduced in the preceding chapter, while the third (improving efficiency) is closely related to the points above about reallocation among alternative uses. The discussion here is meant to be useful not only for the particular example of mobilizing funds for product rollout costs, but also on these three options more generally, since they come up broadly in many IFH problems.

4.1 Adding a tax

Taxation ideas come up frequently when IFH initiatives are being considered. In part, this is because other options can be a tough sell sometimes. in part, too, appealing arguments are often made on behalf of new tax proposals. The airline tax, for example, was advocated on the grounds of: (i) its progressive nature (international air travelers, clearly a segment of the global population who can well afford a modest tax, bear the burden), (ii) its capacity to produce a steady flow of revenue with high relative certainty (international air travel, and the ability to efficiently collect a tax on it, are fairly predictable, more so than many other sources of revenue, as has indeed been found from the experience to date), and (iii) its example as an incremental step toward global taxation for globally important public goods.

The standard arguments. The principles that should guide the design of a tax have been thoroughly studied by specialists in the branch of economics known as public finance. They emphasize several key criteria for judging a tax, including whether it is effective (i.e., can it be administered well enough to perform as intended?), whether it is efficient (what is its yield – the revenue it produces – relative to the cost of collecting it?), and whether it has significant effects on equity (is it progressive – favoring a more even distribution of wealth – or regressive?). The full list or relevant criteria can become long and intricate, but the essence of these arguments is that a tax should respect a society's goals and values, and should do as little harm as possible in terms of its impact on economic and social outcomes.

From these points follow others leading to the proposition that taxes should be as simple, transparent, and general-purpose as possible, rather than being a jumble of complicated, arcane, special-purpose levies. Thus, income and value-added taxes, if not overly complex, are preferable to an opaque patchwork of itemized import or export taxes and industry-specific fees, which might have unwelcome distortionary effects on economic activity. Especially central to this argument is the proposition that taxes should usually not be earmarked for particular uses: the revenue raised should go into the general funds of the government's treasury, so that it is freely available to be applied to whatever uses the government decides are highest priority, rather than being tied to funding one or other program or policy.

Broadening these points further, the argument is made that taxation and spending functions of government should be kept independent of each other: taxes should be crafted with an eye to efficiently, effectively, and equitably raising revenue, and without

regard to how that money will be spent. Otherwise, the inevitable pull of special interests in support of this or that tax source or spending opportunity will invariably result in burdensome costs and distortionary subsidies that prevent societies from raising resources efficiently and applying them to the highest priority needs.

Alternative views. Other observers, questioning so strict a stance against earmarking, point out that purely general taxation — e.g., an income tax — is not always the easiest solution in practical terms. For example, mobilizing political and voter support behind a tax can be more difficult if the sources and uses of the revenue are left unspecified. Taxes that raise money for government-supported pension and health programs (e.g., in the U.S., the so-called "payroll taxes" for social security and medicare) and worker training programs are believed to be more palatable because they are clearly earmarked. Also, general taxes can have more collection problems: when those doing the collecting (such as local governments) for example, are merely passing on the revenue to some distant general fund and have no stake in how much is raised, yields are lower than when the collectors stand to gain or lose something. Facilities that keep some or all of the revenue they raise do a much better job than those who don't.

In the end, all countries have a mix of some general and some specific-purpose taxes, and probably always will. While this evidence from real-world experience does not mean that the right choices are necessarily being made, or that changes — in some cases, major changes — are not needed, efforts to improve tax regimes must, realistically, work within the constraints of political feasibility. Consequently, proposals for additional taxation as an instrument to fund innovative financing for health must be looked at with reference to the wider context within which they would fit.

An example: the airline tax. As a special-purpose tax, and highly earmarked, the airline tax would clearly not correspond to the anti-earmarking principles of public finance experts. Its focus on HIV/AIDS — and more specifically on second generation antiretroviral drugs — has sparked spirited debate on whether those priorities are a better or worse use of such funds than other health needs such as fighting malaria or promoting maternal and child health. Analysts familiar with estimates on which areas of health spending produce the greatest health benefits per dollar spent (using figures on disability-adjusted life years gained, or other techniques that get at the cost-effectiveness of alternative interventions) have long lists of what are sometimes argued to be more attractive targets for additional finance. Others might argue that priorities in other sectors — education, water supply, etc. — offer more attractive alternatives too. In addition, second-generation antiretroviral drugs are not only a costly investment, but also create huge (and largely unfunded) future liabilities in the sense that patients kept alive on them have to continue to receive treatment forever (and it would be politically impossible to cut them off). Also, it is argued they are associated with massive distortions in deployments of and compensation levels for health workers: HIV/AIDS programs, it has been said, are drawing way scarce human capital from other health work, paying much larger salaries. There are of course many sides to all these points, not the least of which is the argument that because of the importance of HIV/AIDS and its devastating impacts, affected populations should receive as much care and support as possible.

At the same time, proponents of the airline tax in its current form stress, very likely with some justification,

that without a targeted tax of this sort, the prospects for securing adequate, reliable flows of support for salient health problems would be considerably lower, given the uncertain public support for aid generally and the shifting fads within the health sector.

One idea that might help — but has not gotten much attention yet — might be to adopt a more balanced process for determining how the proceeds of the airline tax should be used. Instead of automatically going to whichever ends are preferred by one group of political leaders, could a process be established that systematically obtained the advice of international blue-ribbon panels of respected health experts and other stakeholders including affected populations? Even if this idea might be too challenging to be accepted at political decision maker levels in the end, some explicit examination of it — and other proposals — would help sharpen global thinking and debate on the current airline tax and similar additional levies that might be suggested in future.

All of these considerations may not change the course of history as the current airline tax is assessed and other tax options emerge, but they do suggest the following.

"Point to Keep in Mind" #2: When looking at a proposal for additional taxation, start by asking whether another tax is really needed, or whether other options, including existing taxes, could suffice. Then, if the tax would be a special-purpose, earmarked levy, ask whether a form of general taxation might not work as well. In addition, look at how the revenue would be used, and whether it would go to purposes that offer better health outcomes per dollar spent than other uses.

4.2 Frontloading of future flows

The launching of the International Finance Facility for Immunization (IFF-Im) has sparked an outpouring of similar proposals for other applications. The mere fact that, having survived gauntlets of naysayers, the IFF-IM is now a reality, has given it the scent of success. So has the associated enthusiasm that it has generated, and the (mistaken) perception in some quarters that it has a "something-for-nothing" wizardry to it.

Pragmatic pros, conceptual cons. Ancillary arguments that are made in behalf of frontloading of future flows are partly pragmatic. Other options may have difficulty, its advocates occasionally note, in winning adoption at the large scale effort needed to generate sufficient resources for the roll-out of new health products. IFF-Im-type devices, they conclude, may be one of the only realistic solutions. Relatedly, some insiders in high level donor discussions believe that traditional aid flows may come under pressure to stagnate or even decline in the years ahead, despite global rhetoric promising continued increases. Parliaments and voters, these observers say, may tire of entreaties to keep funding more initiatives for developing countries, especially with a global economy that is unlikely to be as munificent as it has been until recently, and with donor countries thus needing to pay more attention to priorities at home. If so. options that, like shifting the time path of aid, are less visibly in the crosshairs of government budget-scrubbing may help protect support for ensuring uptake of new vaccines and medicines.

On the other hand, the potential drawbacks of frontloading of future aid flows are not trivial. This is partly because of the time trade-offs it implies, as was noted above (Sec. 3.4). In addition, the practical hurdles that have to be overcome can be considerable: e.g., getting the ability to make legally binding commitments

against future years' government budgets is contrary to fundamental principles that overseeing authorities, and the laws and budget procedures they uphold, protect fiercely.

That said, frontloading or other types of time-path-shifting will inevitably continue to come up as options that should be, or will have to be, considered in some situations, and will sometimes emerge as the chosen path, rightly or wrongly. IFF-Im shows that workable approaches are possible, despite what doubters have said. Are there lessons as to how best to design and apply such options? Indeed there are.

Lessons on how to proceed. For theoreticians, the best approach to shifting the time path of capital flows is simple. The first step is to decide what pattern of flows over time (frontloaded, backloaded, or whatever) makes most sense for the ultimate purposes for which the funds are needed (e.g., for the roll-out of a new vaccine). Then the second step is to go to the capital markets to transform the initially given time stream of flows into the desired stream, using whatever form of debt vehicles produce the optimal results for the least cost.

The first step requires that the relevant calculations be done for what is needed, which depends on when the new product will progress through successive stages and how much each stage will cost. That is no small task. A major priority for future analytic and policy research work should be to do more such projections, with more thorough investigation of the intricacies of different scenarios of when products will come online, how much finance will be required, for what, etc.

The second step, theory asserts, is easy because capital markets are reasonably efficient, so some solution should be feasible. While that may be so at a high level of abstraction, designers and implementers of time-path shifting strategies also need to know what to think about at the more operational level where the devil is in the details.

The first key "detail" that needs to be attended to is whether legal or regulatory hurdles stand in the way. Some frontloading proposals are not permitted by the watchdog authorities who oversee budget practices. This issue is especially problematic when the money to be shifted is official donor aid, which is the case for most of the frontloading ideas that have gained much attention so far, and, arguably, that are likely to be of serious practical interest in future too. More broadly, it is a major hurdle when the shifting involves any kind of government money — including all public budget outlays and the money that the multilaterals deploy from their member governments. If the budget overseers say no, everything stops there.

Lessons from IFF-Im. IFF-Im's experience is a case in point. The U.K. itself, despite the fact that its then Chancellor of the Exchequer Gordon Brown was the prime mover of IFF-Im, found that the difficulties getting the necessary legal green light — in their case from Eurostat, the European Commission agency with authority over such matters — were almost a deal-killer. Many other countries declined to join because of this issue and the difficulties of overcoming it in their own context.

According to some veterans and insiders knowledgeable about the IFF-Im approval process and its aftermath, Eurostat, having now had further — even more negative — thoughts, will be very unlikely to approve any further proposals that commit further years' budgets, and will be supported in that view by influential European political and financial leaders. If that is so, the spate of IFF-Im-like proposals, extending well

beyond health, that are working their way forward around the world, may be headed for an untimely end.

Tacticians looking for a way around that roadblock are hopeful that the original approval can quietly be extended to cover additional applications without a brand new approval process, or that if IFFI-Im has a good track record in its first few years, the overseers, such as Eurostat, will accept proposals like it more readily. But such hopes also underscore how fragile and uncertain the prospects are for more IFF-Im initiatives.

A better mousetrap? These issues beg the question of whether some other frontloading strategy might be feasible, that would not require difficult-to-get approvals. For example, an approach that did not require legally binding commitments of money from future years' aid budgets should not worry the budget overseers so much as the proposals thus far have. Suppose, for instance that, as in IFF-Im, a bond is issued, but that the collateral for this bond is not, as in IFF-Im, a legally rock-solid government obligation to meet the bond repayments no matter what. Rather, suppose that, instead of a sovereign guarantee of this sort, there are only weaker guarantees of one kind or another.

Would this work? Financial people who know the markets well — and who watched the floating of the IFF-Im bond closely — have their doubts. Obviously, the market of potential buyers of the bond, noting the higher risk, would require more favorable terms — a better price on the bond. This in itself is not fatal: after all, it happens all the time with some other kinds of assets — e.g., student loans, where there is no sovereign government standing behind the borrowers' promises to re-pay. But would the market response in this case lead to acceptable results from issuing the bond? Market experts note that, even with the sovereign guarantee, it took some effort — and leadership from the U.K. — to sell the IFF-Im bonds to prospective buyers. A bond that did not have that degree of backstopping would certainly be a much tougher sell, and, many experts think, would not garner enough buyers, or a high enough price, to make such transactions worthwhile as a regular source of funds to support health initiatives.

Others counter that, as the IFF-Im example engenders increased confidence in the whole idea of commitments of future aid flows, buyers' hesitations about this sort of investment will abate, and the high risk premiums will subside. The jury is out on that point, although the markets' recent turn for the worse in the wake of the U.S. sub-prime crisis and other global credit and economic weakening is not helpful, at least for the near term.

In light of these considerations, if a new effort were mounted to frontload aid or otherwise shift the time pattern of future aid flows, one of the early tasks should be to carefully assess which structures, with what sorts of guarantees, would be feasible — and which would be best — for the market conditions prevailing then.

Introduce a first loss taker? One alternative that could be explored in that context — employing a standard method for improving the risk-reward opportunities for prospective investors in bonds — involves introducing a first-loss taker into the transaction. If investors know that they are partially protected against downside risks because someone else — the first-loss taker — has made binding commitments to absorbing a major share those risks, then the bond is more attractive to them — the risk-reward picture be-

comes more favorable from their perspective. For instance, if a first-loss taker agreed to cover any losses up to the first 30% of the total value of the bond, the whole proposition becomes much safer, assuming that losses above 30% are unlikely.

Who would be willing to be a first-loss taker? Multilateral, bilateral, or philanthropic organizations whose mission is to support development, or some related cause, have done so occasionally, and there are indications of growing interest in doing more in future. For instance, OPIC, the U.S. government's Overseas Private Investment Corporation, takes such positions in some of the investments it participates in, and other countries have similar facilities. Foundations could play a similar role, and might have additional reason to do so when the ultimate purpose — e.g., a particular health priority — fits with their mission and strategy. Other kinds of "impact investors" — such as high net worth individuals who are attracted to this sort of "blended value investing" — are coming forth in increasing numbers to consider first-loss taking roles. Corporate foundations could be another source. In the U.S. alone, the foundations set up by multinationals and other corporations disburse $11 billion per year. Other groups — such as Rotary International, which raised substantial funding for the eradication of polio — add more to the mix. However, much more work needs to be done to clarify whether this proposition could be scaled up extensively or would always remain a small sideline activity.

All up front? For grantmakers, first-loss taking can get them much more bang for their buck than straight grants can. Suppose, for example, that a collection of philanthropic sources were willing to commit $100 million to tackling some specific health problem. Suppose too that they normally would disburse those funds over a 10-year period, but the best results could be attained by concentrating the entire $100 million in the first three years, as might be the case if the roll-out of a vaccine would save many lives that would be lost by waiting. Could the frontloading be arranged, and if so, what is the best way to do so?

Of course, the simplest option would be for the funders to override their normal practices and pay out the full $100 million up front. To the degree that they can't, would it make sense for them to go to the markets to get an IFF-Im-type bond issue to accomplish the frontloading? On the one hand, since their money is not from government budgets, they would not have to get approvals from watchdog agencies like Eurostat, and the green lights they would have to get (e.g., from their own legal advisors and accountants) would be much less difficult to procure. On the other, the markets may need especially strong guarantees — or very deep discounts — in order to make the bond deal a success. The yield from the bond, compared to its costs, could conceivably bother foundations' boards of directors. (However, some bond dealers say, only half-jokingly, that a promise from the Bill and Melinda Gates Foundation may count more than a guarantee from the U.S. government.)

An intriguing further option is that one foundation — perhaps one of the largest ones — could advance the entire $100 million from its own resources, with firm agreements from the other funders in the collective that they will pay their share over time. In this case, the foundation that plays the role of banker for the rest takes the place of the bond market, thereby saving costs and getting a better deal for all, consistent with their mission of helping global health. This option deserves serious investigation, since a number of foundations have sufficient assets to assume the bankroller role. To launch such an initiative, a convening of the interested parties — gathered around a spe-

cific health issue (e.g., a disease, or a vaccine under development) — might first reach a meeting of minds on what is needed, who is ready to sign up, and how best to proceed. Then, the mechanics would need to be worked out as follow up.

Payback. As noted earlier, frontloading provides more money in the near term, but that money has to be "paid back" somehow in future time periods. Important questions about the payback need to be considered at the outset when frontloading plans are being developed, and too often have not been. Will there be enough cash on hand to sustain whatever are considered to be essential programs at the time, in future, when payback bills also have to be honored? Will priorities have changed in the interim, making the earlier choice seem short-sighted when the longer run arrives? Will the population of the payback period feel cheated by the population of the benefiting period — i.e., will the children of today say that their parents mortgaged the future to satisfy the appetites of today? What if further new opportunities to improve health treatments emerge and need rollout during the payback period?

For someone wanting to proceed with a time-shift strategy in spite of these complications, some thought should be given to examining the payback parameters more explicitly than has customarily been undertaken to date. Analysis can be done of the likely downside impacts during the payback period, considering alternative scenarios about how spending for some activities might have to be cut, and what the implications of those cuts might be.

Combinations. Combinations of frontloading and reallocations across uses are possible too. Reallocation across uses, for instance, could be used to help mitigate the potential downsides during the payback period. Suppose that, when a government's leaders commit to frontloading a portion of their health aid funds to accelerate some worthy purpose such as immunizing more children, they also adopted policies that would result, further down the road, into increased budget allocations for that area of health aid, or for health as a whole. Such policies would not be as ironclad as sovereign guarantees are, but could nevertheless mitigate to some degree the chances of wrongly mortgaging the future. An illustrative example comes from the countries (mainly in the north of Europe) that have committed to increasing their total aid to 0.7% — or in some cases more — of their gross national income. As total aid increases over time, the payback "valleys" that follow a frontloaded "peak" can be offset by the new money from a higher aid budget, thereby mitigating, or eliminating, the valley.

In summary, time-path shifting is neither simple nor easy, but a concerted effort to anticipate all the nuances and consequences, and introduce fixes for problems where needed, can be successful in some circumstances.

"Point to keep in mind" #3: When looking at frontloading ideas, start by asking whether the proposed frontloading is really the right response to the problem at hand, considering not just the other possible options but also whether the gains from shifting more resources to one time period are worth the losses that will have to be borne in the payback periods. Then, ask too whether the ideas are, in fact, feasible, from the perspective of whether the legal or regulatory policies enforced by budget oversight authorities will permit commitments of future budget funds or not. Ask, too, what costs the markets will exact for their participation. Also, to overcome such problems, look into the various work-arounds suggested above in this section.

4.3 Improving efficiency

As noted earlier, reallocation of resources among alternative uses can help finance product rollout costs by shifting resources away from other — presumably lower priority — uses. Such shifts improve allocative efficiency, in the sense that resources are utilized more efficiently because they are allocated better from the perspective of where they produce the most benefit, assuming, of course, that the shifts in resources have in fact been made accordingly.

Much spending on health, by donors and recipients alike, suffers from another, completely different problem as well: a low level of technical efficiency. A use of resources is technically efficient when it produces the maximum level of output (quantity and quality) that is possible with the available production techniques and the given amounts of resources.

Many countries' health systems are highly (technically) inefficient. Hospitals, clinics, and other services in low-income and middle-income nations are dragged down by astounding waste of resources, preventing them from getting the maximum possible benefits from the inputs at their disposal.

Figures 4.1a and b show this problem graphically. In Figure 4.1a, the amount of funding that it is being dedicated to some given priority (e.g., to rolling out a new malaria vaccine at some future date when a good one has been developed and is ready for scale-up) is shown on the horizontal axis. The estimated maximum attainable benefit that can be derived from that level of support (in terms of deaths averted, for instance) is shown by line OO'. Suppose the current level of support and actual benefit being achieved is at point A. In that case, the actual benefit is below the maximum attainable benefit — i.e., is inside the "maximum production possibility frontier." The distance from point A up to the line OO'is a measure of the extent of benefit lost due to inefficiency.

Figure 4.1b recasts the story in terms of choices between two competing uses of funds (for example, rolling out a new malaria vaccine vs. introducing a new tuberculosis treatment).

The amount of resources allocated to the first use is shown on the horizontal axis and the amount for the second use is shown on the vertical axis. The line in the figure shows the maximum health benefit that can be attained for each allocation of the total resources available. If x_1 of the total is allocated to the first use, and y_1 to the second use, the maximum health benefit is at point B. (The production frontier in this case is a straight line, indicating a one-for-one trade-off between the two uses, but could equally have bulged outward (relative to the origin) if some allocations permit higher total benefits from the two uses combined.) Suppose that the current allocation and the resulting actual benefit is at point C, inside the frontier. Its distance from the frontier is a measure of the lost benefits due to inefficiency.

Health systems in developing countries are almost certainly very far within their production possibility frontiers. They also are using outmoded, low-performing technologies — i.e., their production possibility frontiers are much close to the origin than newer more "productive" technologies would be. These two handicaps — together with poor allocative efficiency — give them a "triple whammy", in the form of low technical efficiency, low allocative efficiency, and low-productivity technologies.

The main point of this discussion is to underscore that, before jumping for other options such as adding taxes or frontloading aid, it is important to check first

Figures 4.1a and b: Technical inefficiency from two perspectives

Figure 4.1a

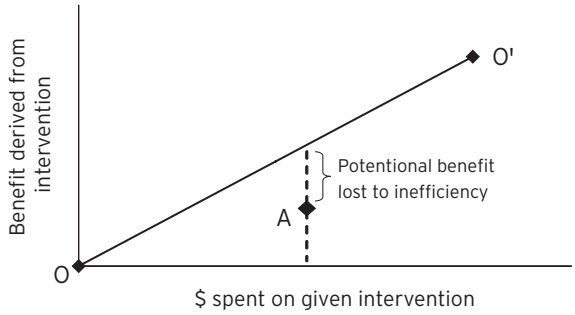
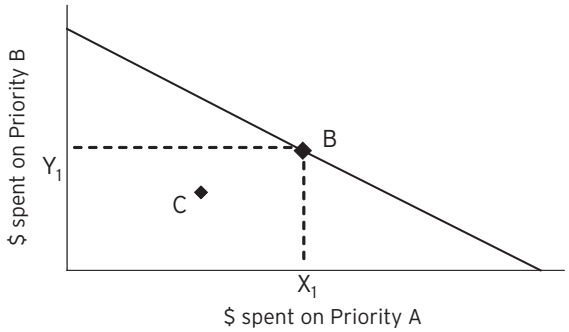


Figure 4.1b



whether significant gains can be achieved by addressing one or more of these three sources of inefficiency. Simply being more technically efficient and productive — i.e., getting closer to the production possibility frontier — may make a huge difference, improving results and freeing up resources that could be used for product rollout costs or other high-value uses. Adopting better technologies (which doesn't necessarily mean higher tech — since low-cost, low-tech can be the best course in some cases) can also improve results and free-up resources. And so can effective reallocation. Hence, the following:

"Point to Keep in Mind" #4: Before proceeding with other options, ask how much is being done to reduce waste and improve efficiency and productivity in the three ways that have been described in this section. Where needed, press for faster progress in getting more health benefits per dollar spent. Resources freed up by improving productivity can go a long way toward meeting other funding needs.

5. FACTORING IN FURTHER OPTIONS

Thus far, this examination of the question "How to mobilize enough resources to cover the costs of rolling out the new products that will be coming online in the years ahead?" has assumed that the solution must lie in getting donor governments to provide more aid, possibly with catalytic help from other sources such as foundations. The reasons for this assumption, as noted earlier, were, first, that most people approach the question from that perspective, and, second, that they do so largely because governments are the obvious place to look for amounts large enough to make a difference on this issue.

In this chapter that assumption is relaxed, and a broader perspective is adopted, which considers all the potential sources, not just governments, from which the required additional resources can be mobilized.

5.1 Bringing in more possibilities

The full gamut of potential sources of funds in this case — and the options at their disposal — can be summarized as indicated in Table 5.1.

Four main groups of sources. The sources can be categorized into four main groups, shown across the columns of Table 5.1. In addition to governments, there are of courses many kinds of non-government donors, including not just philanthropic foundations (the Bill and Melinda Gates Foundation being a prime example) but also NGOs that raise money and then spend it on programs in health and other sectors (such as Oxfam or World Vision). Besides them, there are the multilateral institutions, such as the World Bank, which, though funded by governments, have been empowered by them with some semi-autonomous authority and funding tools, ranging from pure grants (such as those that the International Development Association arm of the World Bank is now authorized to make) to pure investment (such as the equity investments made by the International Finance Corporation, another part of the World Bank Group). Further, there are also private investors from the financial markets and the corporate sector, including the vast investment houses and multinational companies, the private equity and venture capital investors, the pension funds, other entities and individuals who entrust their savings to the money managers. Investors, in total, have access to far greater capital than the previous three sources, but they are usually reluctant to invest in global health unless the risks and rewards can be made more attractive than they typically are now.

These four sources have a variety of options at their disposal, shown down the rows of Table 5.1. All four have ways of raising funds — and thus could mobilize support for product rollout costs. Governments, besides having the power to tax, can raise funds through fees and through sales of government-owned assets. Non-governmental donors can raise funds through major gifts from individual donors or through mass campaigns. The multilaterals obtain theirfunds from their member countries' commitments plus borrowings. Investors raise funds through the capital markets.

All four sources also have ways of applying the other options that have been discussed above. They can reallocate resources among alternative uses. They can shift the time path of their funding (e.g., frontload their support). And they can work on improving the efficiency of their spending. Governments, non-government donors, and the multilaterals regularly employ some or all of these methods when they review the strategies for and effectiveness of their programs. Investors do so every time they make a new investment.

Table 5.1: The potential sources offunds and the options at their disposal

	Governments	Non-government Donors	Multilateral Institutions	Investors
Mobilize additional resources	Taxation Other (fees and sales of assets)	Major gifts from wealthy benefactors Smaller contributions (from individuals, campaigns, check-off giving, etc.)	Replenishments paid in by member countries Other commitments (e.g., callable capital)	New issuances (bonds, stocks) Private equity and venture capital placements
Reallocate from other uses	Reduce support to lower priorities, to free up resources for higher priorities.	Reduce support to lower priorities, to free up resources for higher priorities.	Reduce support to lower priorities, to free up resources for higher priorities.	Reduce support to lower priorities, to free up resources for higher priorities.
Shift the time path of spending	Issue bonds backed by tax revenues.	Change granting plan to provide more in some years, less in others	Change lending/ granting plans to give more in some years, less in others.	Adjust timing of issuances, etc.
Improve productivity (technical efficiency)	Get better health outcomes from same resources, through, e.g., tighter management, or performance-based schemes	Gear support more to getting better health outcomes from same resources, through, e.g., tighter management, or performance-based schemes	Gear support more to getting better health outcomes from same resources, through, e.g., tighter management, or performance-based schemes	Avoid investing in lower productivity projects. Insist on performance improvement in projects invested in.
Use powers of legislation, regulation, adjudication, and enforcement	Pass laws, issue regulations, use court and enforcement agencies to apply policies	None, directly. Indirectly, use influence to get recipients of support to use their powers.	None, directly. Indirectly, use influence to get recipients of support to use their powers.	None, directly. Indirectly, use influence to get project managers to use their powers.
Use powers to convene and persuade	Get government leaders and/or the legislative branch to create high-level commissions, gather testimony, use arm-twisting, etc.	Use the assets that these donors have (credibility, legitimacy, independence) to bring the parties together and foment progress	Use the assets that these institutions have (multilateral character, intellectual leadership, analytic strength) to bring the parties together and foment progress	Use the assets that investors and their representatives have (private sector rigor, freedom from bureaucratic delays, etc.) to bring the parties together and foment progress

Further options. All four sources have further options as well. In varying forms, all have abilities to convene and persuade, which they can use to influence policies and programs of national and international institutions and otherwise bring about desired outcomes. But the nature and effectiveness of these abilities differ across the four, because each has its own comparative advantages and disadvantages as conveners and persuaders.

In addition, each of the four has options that the others do not have. Governments, for example, have their governmental powers — to make laws, create regulations, adjudicate disputes, and use force (police, etc.) to ensure compliance. One of these powers, which is especially pertinent here, is the ability to enforce property rights (patents, etc.). Governmental powers, although not financing instruments per se, can be potent tools for addressing financing issues in global health, including how to ensure adequate uptake of new products, and thus are crucial to include along with the other options here.

The other three sources have their own unique capabilities as well. Non-governmental donors, because they are seen as independent and not beholden to moneyed interests, have the potential to win trust and legitimacy around an inspiring cause with a long-term perspective, to a degree that may go beyond what the others can do. The multilaterals have a functioning machinery for translating commitments to collaborate into financing of action on the ground. Investors have the power of the markets behind them.[11]

Most IFH proposals can be fit into this taxonomy in one way or another. The airline tax and IFF-Im, as already indicated, are obviously examples of taxation and reallocating over time, respectively. The Advanced Market Commitment (AMC)'s financial guarantee — promised to whichever inventors / developers of a new product succeed in bringing it to market and also meet certain other pre-agreed conditions (relating to its financial returns, the product's acceptance, and other considerations) — could conceivably be financed from one or more of several of the sources in Table 5.1. The AMC is thus an example of how innovative financing ideas can draw on multiple sources at once.

Of course, IFH proposals also have other important features beyond those highlighted in Table 5.1. The airline tax has an appealing progressivity in how it is structured — with most of its burden falling on higher income groups (those who travel internationally) — and is an intriguing demonstration of how global taxation might be started incrementally from coordinated action by national taxing authorities. The IFF-Im is a compelling illustration of how aid flows can be securitized and how variegated support can be mobilized around a single package of measures. The AMC brings together some creative policy design and legal structuring with incentives based on understanding of the pharmaceutical industry. All of these special attributes — and more — of particular IFH proposals remain noteworthy.

5.2 Implications of the additional possibilities

The analysis in Chapters 3 and 4 encompassed only the options in the first column of Table 5.1. Now, many more options — three additional columns' worth — have been factored in. What difference does this expanded view make?

More complex choices. First, choosing the most appropriate options for a given situation is now a much more complex task than before. In Chapters 3 and 4, there was only a limited number of fundamentally different options to select from — four, in fact, by the way they were categorized there (taxation, reallocation, frontloading, and improved technical efficiency). Now, as Table 5.1 shows, there are 24 cells to consider. The differences across cells, even when they seem minimal, are, in reality, substantial. For instance, the reallocation options, although similarly worded across that single row, entail very different kinds of actions and challenges, depending on whether the source of capital at issue is government or non-government donors, multilateral institutions, or investors.

Furthermore, there are few if any instances in the table where one option clearly dominates others for most purposes. No part of the table — no rows, columns, cells, or blocks of cells — can be ranked unambiguously above others for all applications. No simple rules can rank the cells unequivocally.

That said, some useful points to keep in mind — which can help decision makers find their way more effectively through the manifold possibilities portrayed by Table 5.1 — can nonetheless be derived from thoughtful reflection about the similarities and differences of the alternatives shown. The rest of this section discusses examples of how such reflection can be of assistance, and the insights it can lead to.

The pros and cons of preferring government action over other alternatives. For many issues where IFH options crop up, a choice needs to be made between options that operate primarily through actions involving government agencies and other options where non-government donors, multilateral institutions, or the financial markets are more prominent. As decision makers contemplate such choices, they need to be aware of the arguments for and against favoring government action over other alternatives — even if knowing those arguments can at most be helpful guidance and not a definitive answer for all situations.

For some (but by no means all) observers, an important argument in this regard is that if a problem can be solved without requiring action by government, then it should be. The rationale for this point of view is partly that government's financial resources and other capacities (e.g., the governmental powers listed in Table 5.1 and the human and organizational "capital" required to bring about change for the better) are scarce assets, which can be quickly depleted and thus should be reserved for only those needs for which they are most required. Relatedly, utilizing these scarce assets excessively can weaken their potency for other applications where other alternatives cannot be used. Also, government's resources can have side effects, known or unknown, the risks of which can be reduced by resorting to government action only when absolutely necessary. In addition, in cases where the public sector does a particularly poor job and is inefficient (i.e., is inside the production possibility frontier) — in fulfilling a role that others could possibly do better, a strong case can obviously be made for other-then-government solutions.

A further argument is sometimes made too. It takes off from the observation that, if an action is voluntary, there is a clear indication that enough people want something to happen that they are willing to go out of their way to make it happen. There is, in effect, a market test, (though not through market choices but through "voting with one's feet)." For example, if non-government donors choose to support something, their choice to do so is an unequivocal signal that they value it enough to take action. Or if investors invest, there is no doubt that their assessment of the market value of the product or service to ultimate users outweighs the costs they incur. Why then not let those who want to support something be the first in line to do so? This point is especially pertinent for situations in which a government's actions may not be exactly what all its citizens want most. Indeed, even when government tries to represent all its citizens well, there can be differing views within a population. Also, there can be principal-agent difficulties between government on the one hand and its citizens on the other. Moreover, any action by government is intrinsically an imposition of the collective on individuals, even if the imposition merely draws on some tax revenue from individuals or uses up some of the time and energy of leaders and officials who otherwise could attend to

other priorities. If a need can be met by voluntary action, the extent of imposition is reduced.

All of these points, by casting government action as the option of last resort, portray it as something of a strong medicine that shouldn't be over-utilized, both for the patient's sake and to preserve the potency of the treatment. Whether this perspective is apt or not in a certain case depends, at least partially, on what the alternatives would be — i.e., what other options are available and how good they would be. If non-government donors, the multilateral institutions, or the investment markets are able and willing to do the job, would their involvement lead to better results for lower cost? This, of course, varies, from one case to another. For many typical problems in global health where substantially greater sums of money are required than non-government donors can or want to bring to bear, or where the returns to the resources that will be dedicated will be lower than investment markets are interested in, the choice may be effectively narrowed to: (i) government and/or (ii) the multilateral institutions. Other constrained configurations of choices can arise too, of course, depending on the specific circumstances.

A countervailing line of argument — equally important to keep in mind — maintains that government should be the first not the last resort. Some important actions will not get done adequately unless government takes charge. If global health were fixable by voluntary action — from civil society organizations or from investment markets — then, on this argument, it would have been fixed long ago. Further, it is argued, some required actions in health will in fact need to be the initiative of the collective, given their public good nature, and leaving them to voluntary action by others would lead to suboptimal outcomes.

So what to conclude? First, a balanced view is needed, as recommended in the box below. Second, the fact that so much depends on the specifics of the given situation is a bellwether indicator of a broader issue that drives much of the discussion in other chapters here. Namely, the method of "reasoning from fundamental principles" — which is being illustrated in this chapter — can take one only so far. It can help to elucidate and contextualize a problem with IFH issues. But other methods are then needed to get from general guidance to concrete decisions. Resolving what those other methods should be — and developing how they should be applied — is the challenge that Parts III and IV tackle below.

"Point to Keep in Mind" #5: Deciding whether government or other-than-government action is appropriate in a given situation where Inn-Fin-Health options arise is an important – and not simple – aspect of getting to the best outcome. Give weight to the specifics of the situation and be wary of ideological prescriptions. Look for effective non-government solutions where they make sense and would perform best, and government solutions where they would serve the public good better. Challenge undocumented assertions and seek evidence-based assessments of the pros and cons of options.

Do the earlier "Points to Keep in Mind" still apply? Yes, they do. For choices that involve only the options noted in Chapters 3 and 4 (i.e., the options in the first column and the top four rows of Table 5.1), the "Points to Keep in Mind" #1 – 4 still hold, albeit with some additional refinements. In other words, the broadening of the analysis does not overturn the earlier conclusions, but does permit some further elaboration of them.

What is that elaboration? In the main, it stems from having more potential sources of funds to consider now, beyond just government resources. For example, the recommendation to focus on options for reallocation before rushing to other possibilities now needs to be thought of in terms of reallocation opportunities not only in recipient country governments' spending and donor country governments' aid strategies, but also in the programs of non-government donors, multilateral institutions, and investors' initiatives. It is not inconceivable that effective reallocations by those other entities could in some cases free up enough resources to meet a significant share of emerging new priorities. The best way to meet a need for one source (e.g., government) could lie in actions involving one or more other sources (e.g., multilaterals and investors).

Similarly, the advice about improving the technical efficiency of prevailing health spending remains valid, but now one needs to look for possibilities for improvement in everybody's backyard, not just in government activities. Further, options such as using the multilaterals' support strategies to press harder for recipient government attention to efficiency – as a means to facilitating more space for new priorities – become very relevant. Also, the cautions about opting for new taxation, and which kinds of taxes to prefer, are even more true now, given that recipient country governments may need new levies less often if measures by the other sources can in some cases free up the required resources for new priorities. Likewise, frontloading may less commonly be the best way to go.

The impact of the added options. What if the two new rows in Table 5.1 are brought more integrally into the equation? Once again, the answer to this question is not simple. Regarding, first, the use of governmental powers (the fifth row), the opposing arguments about whether government or other approaches are best apply here as well. Indeed, the powers to legislate, regulate, and adjudicate are similar to the power to tax in this respect. Those who feel that governmental powers should be used sparingly – i.e., only when other options cannot do the job – argue that the added options that Table 5.1 introduces should make it even less necessary to resort to government intervention. On the other hand, those who take the opposing view say that when the additional powers beside taxation are incorporated into the analysis, the case for government to be the first best option is all that much stronger.

A further point that also comes prominently into the story is the fact that bringing about change through legislative, regulatory, or judicial actions has different implications for who pays how much in terms of financial and other costs than would be the case with the other options in Table 5.1. In some instances, a new law, policy, rule, or court decision can achieve, with little or no incremental funding, as much as otherwise would require massive new tax revenue or other kinds of fund raising, which obviously has extensive appeal to public leaders seeking less costly solutions.

Patent rules are a common topic in this connection. While major changes in patent terms and conditions are not likely to get enough support to be adopted

anytime soon (and there are good reasons for not favoring such reforms), several more modest and limited proposals involving patents have been recurring subjects for discussion in recent years. One such example is the concept of 'patent pools' for making needed medicines more accessible to developing countries, while stimulating innovation in the development of new drugs and vaccines. A recent resolution of UNITAID's executive board (July, 2008) supports the principle of establishing a patent pool that focuses on pediatric antiretrovirals and much-needed combination therapies for HIV/AIDS. Developing new fixed-dosed combination drugs might entail the utilization of three separate products, each with its own patent. Patent pools help developers of such drugs overcome patent barriers to access needed components in exchange for royalties delivered to the patent holders. Beyond spurring innovation in the development of new products, patent pools, supporters think, may also contribute to lowered drug prices by expediting the development of vaccines and medicines. Generic companies will be able to access patented products much sooner than before, spurring competition and thus reducing long-term prices. Such ideas will require buy-in from both the patent holders and the generic drug companies that access them, but if implemented, patent pools may have the potential to lead to increased accessibility and reduced prices.[12]

Whether options on patents — and other options too that use legislative, regulatory, or judicial action and thereby obviate the need for vast new fund raising — should be ranked higher or lower than the purely financial options depends on several factors. One vital consideration, clearly, is whether an option seems superior in its own right. For example, a proposed change in how patents can be used needs to be a good choice in terms of its net benefits, regardless of whether it averts the need for fund raising or not. Another consideration is whether the proposed change would have other ramifications, intended or unintended, positive or negative. Still another is whether the fund raising that would otherwise be required would, in the particular case at issue, be difficult or not.

In short, introducing the fifth row — on governmental powers — into the picture, as shown in Table 5.1, leads to many additional opportunities and interlocking complexities, but again no simple answer to the question of when to prefer these options or others. Too much depends on the particulars of each different situation.

The addition of the sixth row — on convening and persuasion powers — is more straightforward. If something can be achieved simply by convincing the relevant parties to go along with it, there is seldom a case for other options, most of which, by comparison, are either more difficult to make happen or have more negative effects (e.g., are more costly) or both. The catch here, of course, is that convening and persuading, while sometimes powerfully helpful, are often not enough, alone, to accomplish any but the easiest of changes. This does not detract in any way from the value of using convening and persuasion to the hilt in combination with other steps.

Choosing among options — with this broader set of them as with the simpler subset — is best based on comparing the benefits and costs of each, including the costs of getting them adopted and implemented. In the case of convening and persuading, the costs involve financial costs (for conferences, marketing of ideas, a supporting team, etc.) and also some intangibles (e.g., using up "good will capital" when arm-twisting one's allies). In the case of governmental powers, similar other costs arise, as well as others such as the expenses of maintaining a court system, regulatory bodies, and enforcement authorities.

Something more is needed. Other questions — comparing other combinations of options with one another (looking not just at whole columns and rows in Table 5.1 but at various other subsets of individual cells in the table) with one another — lead to still more observations to keep in mind when tackling a particular problem. But stepping back from those more detailed points, two overarching bottom-line conclusions stand about above all.

First, as the initial approach outlined in Chapter 4 has been broadened, as reflected in Table 5.1, to include more realism about the choices that actually need to be made, it has understandably become more complex. With the added complexity, the conclusions that can be drawn about what to do in various situations have become more dependent on the specifics of each situation, with relatively few standard recommendations that apply to all cases. It was not inevitable that things turned out this way: in some other complex problems, a limited number of general points explain much of what is going on. (For example, planning the trajectory of an interplanetary probe is extraordinarily intricate, but a few equations describing gravitational forces capture most of what matters most.) But here, that ultimate reduction to simpler answers did not materialize.

Second, this outcome implies the further point that, in order to arrive at a framework that is useful in practice, something further is now needed, since there will be no simple answers. Adding that further something is the focus of the chapters that follow.

PART III: ADDING MORE TOOLS FOR A MORE COMPLEX WORLD

This Part, as was foreshadowed in Chapter 1, broadens the approach used in Part II, so that it can better handle the greater complexity of the real-world problems that come up in IFH. Where Part II used a particular problem as an example, and Part IV below uses two other examples to make its points, this Part concentrates on tool-building, preparing the analytical platform for Part IV. Chapter 6 brings out more of the character of the problems, and why it is important to understand them fully before attempting to find solutions for them. Chapter 7 then develops a tool called "mapping" a problem, which helps with that clarifying process. Chapter 8 focuses on the assessment criteria that are needed to examine options for solving problems.

6. "IT'S ALL ABOUT UNDERSTANDING THE PROBLEM ONE IS TRYING TO SOLVE"

The quote above — which is from one of the practitioners, experts, and other stakeholders we consulted with — captures well the main message of this chapter. It also is a central theme of this entire report.

6.1 A plethora of possibilities

As noted at the outset, the problems that IFH options are intended to solve are numerous and diverse. In our consultations with practitioners, experts, and other stakeholders, and in our review of the literature, the scope and types of problems that came up are suggested by the partial list in Table 6.1. They range from broad, multifaceted goals (such as reducing infant mortality rates) to more focused aims (such as improving anti-malaria treated bednet distribution), and from health products development bottlenecks to service delivery dilemmas, and much more. Some are obviously different variations on the same theme, but the differences reflect a diversity of viewpoints and information that some argue, compellingly, is important not to oversimplify. In addition, new perspectives on the issues — identifying new problems — seem to be cropping up all the time. In fact, an effort to draw up a comprehensive list at one moment in time will be overtaken by fresh ideas — and hence new additions –at the next moment.

Some problems receive more attention than others, for a variety of reasons. Three, mentioned briefly earlier and now elaborated here in more detail, provide compelling examples of the issues on stakeholders' minds, and interesting complements to the rollout costs example discussed in Part II.

Volatile and unpredictable aid flows. As indicated in Chapter 1, the ups and downs in aid flows, and the fact that it is often not clear, until the last moment, how much will arrive and when, can be a troubling constraint for some aid recipients, especially poor nations that are heavily dependent on outside support. Managing budgets well and administering policies and programs successfully are not made any easier when one is not sure how much one has to work with, far enough in advance to plan properly, particularly when aid is so large as a share of one's total resources. Equally troubling are new conditionalities on how the aid can be used, especially when these are added late in the process.

The lumpiness and unpredictability of aid flows are not new phenomena, but concern about them has mushroomed in recent years as new development players have come on the scene. The extent to which the annoyance of uncertain, fluctuating aid actually has important adverse impacts on performance and outcomes has been difficult to pin down empirically. Health people cite the well known distortions in how government budgets are spent, with too much going to categories that can be expended quickly and too little on longer-term needs. The classic example is the tendency to use last-minute aid to buy cars, trucks, and other vehicles — which lend themselves to immediate purchase-- while simultaneously vehicle maintenance gets short shrift. The result is a self-perpetuating pattern of under-maintaining vehicles which then have to be replaced prematurely at unnecessary expense, depriving other urgent health priorities of adequate funding. Another longer-term need that is believed to be hurt especially by unpredictable financial flows is the hiring and retention of enough health workers and the building of their capability to do their jobs well, since staffing decisions in developing countries invariably involve long-term commitments that

Table 6.1: Problems in innovative financing for health: examples

• Lack of sufficient funds for global health	• Lack of capital	• Lack of accreditation or licensing
• Ongoing services require smooth funding	• Reductions in demand for needed care due to high costs	• Fragmentation of aid
• Long-term care to cohort requires consistent funding	• Lack of locally available providers (e.g., "last mile")	• Lack of predictability
• Need for frontloaded efforts	• Providers attracted to single-disease Int'l NGOs	• Lack of sustainability of aid
• One-time expenditures (e.g., capital, equipment)	• Providers attracted to developed world	• Aid misaligned with needs of recipient
• Unpredictable costs (e.g., epidemics)	• Lack of capital for expansion of existing providers	• Poor timing of funding
• Aid volatility	• Poor distribution systems	• Off-budget aid
• Short-term donor commitments	• Poor procurement systems	• Earmarked aid– not fungible based on needs of recipient
• Donor bureaucratic delays in funding	• Weak incentives of public sector	• One-off donors—uncoordinated with other national efforts
• Donor pro-cyclical aid	• Market too small for companies to invest	• Lack of equity across countries and within countries
• Donor conditionality	• Fear political backlash related to investment in global health	• People impoverished by catastrophic medical expenses
• Poor coordination between donors and recipients	• Unknown market size leads to inefficient investment	• High out-of-pocket spending
• Low recipient administrative capacity	• Unreliable market size due to inadequate demand forecasting	• Poor health system efficiency
• Recipient external shocks	• High costs of production scale-up	• Improve provision of Oral Rehydration Therapy
• Funds not spent by recipient	• Lack of incentives for early stage development	• Expand de-worming activities
• Funds not spent in priority areas	• High cost of late stage clinical trials	• Promote healthy behaviors
• Funds leak to unauthorized uses	• Lack of incentives for products with primarily LIC markets	• Reduce mistimed pregnancies
• High transactions costs for recipients	• Inadequate demand-forecasting leads to over/under production	• Expand nutritional interventions in women of reproductive age
• Fund and scale-up home-based treatment (e.g., ACTs)	• Monopoly producers due to patents and trade law	• Expand birth preparation and prenatal care
• Ensure that medicines do not experience resistance (e.g., ACTs)	• Excessive regulatory barriers	• Expand deliveries with skilled attendance
• Eradicate selected diseases (e.g., Chagas, Lymphatic filariasis)	• Low quality of goods	• Improve availability and quality of postpartum care
• Fund vector control activities	• Commodity prices too high	• Expand immunization programs
		• Improve diagnosis and treatment of chronic illnesses

continued on next page

Table 6.1: Problems in innovative financing for health: examples (cont.)

• Improve water supply and sanitation • Improve nutrient supplementation • Develop new vector control products • Create epidemic monitoring systems • Create improved distribution systems (e.g., for bed nets) • Leakage due to differential price between public and private markets and/or low compensation of health workers • High user fees in public facilities • Excessive private sector prices • Prohibitive costs of care-seeking (e.g., transportation, lost wages, no childcare) • Lack of patient demand — patient doesn't know when/how to seek services • Understaffing/incorrect staffing of providers • Provider incentive to provide unnecessary/incorrect care	• Products/services delivered are low-quality • Providers are poorly trained • Understaffing/incorrect staffing of providers • Lack of proper supplies in public facilities • Public providers receive salary regardless of effectiveness • Lack of demand for high quality products • Unsafe products — counterfeit or poorly manufactured • Uninformed or untrained informal sellers/dispensers • Lack of management capacity • Lack of human resources • Develop adequate preventive/treatment methods for key neglected diseases • Lack of patient demand for high quality products • Expand food fortification (e.g., iodine, zinc, iron, Vitamin A)	• Address substance abuse • Address violence • Address mental disorders • Address developmental disabilities • Gov't funds disproportionately focused on hospitals and high-end care • Develop vaccines (e.g., HIV/Aids, Malaria, TB) • Develop new and improved diagnostics • Develop new drugs to combat resistance • Finance long-term ARV therapies for a growing HIV+ population • Fund treatments with need for medical oversight (e.g., DOTS) • Ensure that health spending is propoor • Gov't health services disproportionately utilized by higher income populations

governments are unable or reluctant to make without assured funding for years to come.

Authors who have looked at the choppiness of aid from broader perspectives note that fluctuations in flows — and the timing of when they arrive relative to the recipient country's budget cycle — are so large that they cannot help but be constraining for managers trying to match inflows and outflows, all the more so because these countries have too much else to do and too little capacity to cope with everything competently.[13] In fact, the literature on aid volatility suggests that, over the last 15 years, the influx of aid to developing countries was four to five times more volatile that national incomes. Moreover, recent work by Homi Kharas has indicated that aid flow volatility is even more rampant than it was thirty years ago. Kharas's work estimates that volatility reduces the true value of aid by approximately 25 percent.[14]

Combining "investment money" with "donation money." A second illustrative example of a challenge currently gaining much attention in IFH circles relates to efforts aimed at attracting more investment — from

the capital markets — in health in developing countries. Linked to this issue is another, which concerns attempts to make more effective use of "other than government" activity in the provision of health services and products in these countries. Counting everything from for-profit hospitals to faith- or NGO-based not-for-profit clinics — to informal pharmacy shops, traditional healers, and a lot more in between — the vast panoply of "other than government" actors often dwarfs the public sector health system. This is ironic because the public system is sometimes so much the focus of planners that they seem little interested in, or downright suspicious of, anything that goes on outside the government facilities.

Enticing capital markets investors — whether through traditional debt and equity instruments, or hedge fund or private equity placements, or other options — to engage more strongly in health investments has long been a stretch-goal for development thinkers concerned about health. Investors do take positions now in health, of course, but mainly in the safer opportunities that tend to be concentrated in countries with income levels nearest to the rich OECD nations. New efforts to push the frontier further downward into poorer countries may help — such as a large fund that the IFC is sponsoring with support from several donors. However, the essential problem remains — and always will — that if investors are to be convinced to reach down more to places where the needs are greatest, the risk/reward prospects for them will need to be attractive enough, relative to other options, to overcome their natural reluctance to go beyond the safer terrain where they — and their masters (e.g., those who invest in them) are most comfortable.

Finding viable and sustainable ways to mitigate the risks and/or enhance the potential returns for investors has become a persistent quest, leading, most notably, to exploration of methods for combining investment capital with "less-demanding capital" (e.g., philanthropic, grant, concessional, or any other kind of money that will be satisfied with less than full market returns for its part while the investment part gets fully compensated). A variety of financial structures have been considered that use the less-demanding capital to take positions that reduce the risks or improve the returns for the investment capital — and thereby leverage in more investment capital, including options that use the less-demanding capital to take a first-loss role (i.e., absorb losses, if there are any, before the investment capital is at risk) or other devices to share the upside and downside possibilities creatively.

The problem, therefore, that is illustrative for purposes of this study is whether these ideas about leveraging in more investment money are feasible or not on a large enough scale to make a difference, and if so, which ideas and how. In order to use such leveraging, the underlying activity that is to be invested in has to generate some financial return that can flow back to investors, of course. Some of what goes on in the health sector produces no financial return or too little — as in the case of most public health measures (e.g., spraying for malaria). However, many activities in health do yield returns, or could if structured to do so. Most of the research, development, and delivery of health products can be structured to produce a return. So can many parts of the provision of patient services (e.g., contracting out for hospital services), although other parts are less suitable.

Stimulating research and development to generate new health products. A third example of problems of interest in IFH is about accelerating progress in the search for and development of new health products such as vaccines, treatment protocols, etc. The entities worldwide that have the capabilities to make

significant contributions to this task –i.e., the big pharmaceutical companies most visibly, but also biotech firms and other research organizations — have many other opportunities outside the developing world to deploy their resources for, very likely, greater returns and less risk. Considering too that investing in finding and bringing to market a prospective new drug is a high-cost and high-risk undertaking with long gestation periods and many failures along the way, the issue of stimulating greater effort pertinent to the diseases that cause heavy morbidity and mortality in developing countries (e.g., malaria) is especially challenging, especially when there are not also possibilities of substantial sales of the relevant products in the generally more lucrative markets in developed countries.

Among the many options that have been explored to address this issue, the concept of an Advanced Market Commitment (AMC) has won much support, in no small part because such commitments have desirable incentive properties that "pull" the relevant actors toward the ultimate end goal desired from a public good standpoint, unlike alternatives that try to "push" progress from behind, (such as direct, funding of specific research steps as is done by the National Institutes for Health). A first test of the AMC concept is being rolled out now to simulate faster progress in the last stages of the development of vaccines for pneumococcal diseases.

However, experts we consulted with, including executives and technical specialists in the pharmaceutical and biotech worlds, told us that AMCs, despite their exciting advantages, are unlikely to be the best answer for every product research and development challenge. In some cases, they note, the path from today's situation to a final marketable product is so long (e.g., for a HIV/AIDS vaccine, now that the leading candidates have failed and scientists are back to the drawing board) that something different from an AMC may be appropriate, with smaller, incremental enticements focused on interim steps forward. In other cases, a full AMC may provide a larger reward for whoever wins the right to it than is needed to persuade them to work on the product (and might thereby raise concerns that big, high-profit pharmaceutical companies are getting paid needlessly handsome sums for something they would likely have done anyway). In still others, the money needed to elicit the desired response from companies might be so large that the donors who would have to put up the cash would be unable or reluctant to do so, especially if multiple AMCs for multiple products were beginning to pile up on their balance sheets. The problem of interest here is thus whether, within the context of continuing to see the AMC as the principal option of choice, there are good additional options suitable for addressing important needs in health product research and development that might not be taken care of otherwise, and if so, what are those options and what would they entail.

6.2 Putting the problem first

Chapter 1 noted the importance, when one starts working on a problem, of clarifying as precisely as possible the exact question one is seeking to answer. As obvious as that sounds, we found a marked tendency in the IFH world to leap first to options for solutions. This has had unfortunate consequences. Proposals for new solutions — legions of new IFFIms and other ideas, applied not just to health issues but also in other areas such as climate change– have flooded onto the scene in recent years, burdening institutions such as the World Bank with the task of responding to them. Many of these proposals are poor fits for the problems they are supposed to solve, often because the proposers haven't understood well enough the instrument — or

the issues for which the instruments are appropriate. Flavor-of-the-month solutions tend to be over-emphasized, while important problems are under-examined because they are not the favored topic of the moment.

The reasons for these biases — and especially the over-emphasis on particular solutions — are not opaque. Powerful political processes — involving national leaders' platforms, ambitions, and reputations — are the lifeblood of proposed innovations, at least of those ideas that manage to survive to see the light of day beyond low-level technical discussions. IFFIm and the airline tax are cases in point. In such cases, pushing for adoption of some leadership-backed proposal dominates all other parts of the intellectual process.

Also important is the fact that sometimes a proposed innovation is intended to tackle several inter-related problems at once, some or all of which are also intertwined with political agendas. For example, the IFFIm was not only a solution to the problem that aid funding needs, for some purposes, to be more frontloaded (hence the initial focus on immunization, where reaching more children today saves lives that otherwise would be lost by waiting). IFFIm also demonstrated that a solution was possible to the problem that no one had ever before been able to securitize future aid flows — i.e. to get the markets to issue bonds backed by government promises to provide enough aid support in future to repay the bonds, and to get the regulators who oversee national budget processes to agree that legally binding commitments of further flows are permissible. Similarly, the airline tax was not only a response to calls for more support for development in the face of increasing resistance to increasing traditional aid. It also was intended to show how the concept of global taxation for global public goods and priorities could begin to be developed incrementally even though truly globally levied taxes are not geopolitically acceptable yet (and may never be), and how a very progressive tax (i.e., with desirable equity features, in that it has been designed so that more of the burden falls on the wealthy than on the less well-to-do) can provide a steadier, more reliable and predictable stream of support than other sources of aid do.

The pressures to continue jumping to solutions first will no doubt persist. Politicians will always have broader agendas. Their staff will always be charged with marshalling the best arguments and data possible in support of an already-chosen option. The proposition here is not to suppose naively that such realities will disappear but rather to suggest that the players in those processes and in other decision-making and proposal-marketing work would do well to step back once in a while and look at things the right way up — from problems to solutions instead of from solutions backward to problems.

6.3 Learning from others

The approaches developed further in the following chapters were chosen after first reviewing other possibilities. We looked at what has been done already by others in this or related fields, and what can be learned from that thinking and experience. The accumulating record from the innovative global health initiatives launched thus far, and the groups and individuals who have been involved in them, provide an important source of information about the options and their pros and cons. The evidence from that history about the choices that were made — for example, the choice to create the IFF-Im rather than to opt for other possible approaches — constitutes an invaluable "revealed preference" indicator of what was found to be the most acceptable approach in at least one specific case where intensive analysis and reflection

were done on a real problem and the possible solutions to it.

We also found it useful to take a sample of problems for which there is not yet a clear consensus view on the appropriate solutions, and then to work through, in some detail, an analysis of the alternatives, leading to a recommended shortlist of the most promising options. These sample illustrations of what the approach would need to do on a more general scale stimulated further insights on how best to design it, not unlike how manual pilot-test-runs of a new process yield powerful lessons for better crafting the larger, more automated final product. The particular examples used, which figure prominently in later chapters below, included some where prior analyses have resulted in differing views on the most propitious options and others where little previous work has been done yet.

In addition, we looked to see whether similar framework-building efforts had been done in other sectors, outside health, and if so, what lessons could be learned from them. The little that this produced is reflected in later chapters, but interestingly, nothing directly comparable came to light. The nearest analogues were less ambitious undertakings — such as the standard economics methodology for selecting the most attractive projects to invest in, from a pool of possibilities.

This initial exploratory work also confirmed that the appropriate options for solutions to particular problems do not fall out easily from simple inspection. In the case of a few problems, one or a few proffered solutions are obvious candidates for good matches, but these are the exception more than the rule.

Also, we found additional verification of another point. Using an approach that works systematically from problems to options for solutions helps assure that some potentially promising options are not missed.

7. HOW TO "MAP" A PROBLEM

If, as Chapter 6 argued, it is so crucial, when tackling a problem, to understand it clearly from the outset, how can one efficiently develop such an understanding? I.e., how can one clarify the essence of a problem – its nuances, assumptions, and givens, as well as the key stakeholders with an interest in the issue and what they would regard as an adequate solution to it? Also, how can one choose astutely which problems are worth working on most and which are of lower priority?

These questions came up frequently in what experts, practitioners, and others told us in our consultations. Getting to the heart of a problem was seen as fundamental, but how to do so was not obvious. In the end, consensus emerged around the idea that the most effective way to proceed is to mirror what many thoughtful people do naturally when thinking about any problem – namely, to tick through a mental checklist of questions that progressively define and delineate the problem more precisely. Or, to put it in other words, one good way to get to a thorough understanding of problems is to "map" them – i.e. see where they fit into categorization schemes that bring out their essential attributes more clearly. This "mapping" concept, introduced briefly in Chapter 2, is described in more detail here.

7.1 Starting from the basics

Five Initial Distinctions. Among the many alternative ways to start the step by step examination of a problem that is the essence of this "mapping" process, we found first that it is helpful to begin by distinguishing between problems that are primarily about things that happen within recipient countries' borders (e.g., how health services are delivered) and problems about things that happen at a broader level (e.g., how to raise enough funds globally for a particular cause). The two types of problems lead in very different directions, obviously, since within-country issues focus on how things work on the ground and the broader level issues deal with donors, aid, and global advocacy. The communities that work on these two areas bring very different perspectives, knowledge, experience, and concerns to the table.

A second distinction – related to but not the same as the first – that is helpful to pay attention to at an early stage is whether the problem is about ***services*** (patient care, public health, etc.) or ***products*** (i.e., vaccines, medicines, etc.). When services are the focus, the main actors of interest are domestic health providers, but when products are the center of attention, a completely different set of institutions – i.e., the pharmaceutical and biotech houses and their investors – become paramount.

A third useful distinction is whether the problem focuses on (i) ***delivery*** (of services or products), or (ii) ***production*** (of products, supplies, or health workers), which is one stage further upstream from delivery), or (iii) ***discovery and development*** (aimed at finding new products or new forms of other inputs), which in turn is upstream from production). Delivery is atomistic: many entities do things that should interconnect well (even if sometimes they don't). Production, on the other hand, is concentrated in fewer locations and is oriented more around factory processes. Discovery and development, which is even further upstream, is more about science and research.

A fourth basic distinction is whether the principal actors involved – e.g., the providers of services or suppliers of products – are from the ***public*** sector (government agencies or facilities) or the ***private*** sector (defined broadly to include not only for-profit companies, but also not-for-profits, informal provid-

ers, etc.). Problems centered on the public sector revolve around very different institutions than problems involving the private sector do.

A fifth useful question to ask from the outset has to do with the types of finance involved. If the problem concerns mainly ***government money*** (e.g., recipient country finances, aid institutions grants, donor aid), the issues are very different than if ***donation money*** (e.g., philanthropic support) or ***investment money*** (e.g., from capital markets investments) is a factor. More specifically, "government money" as used here includes funds that governments deploy from their budgets and off-budget-sources, through, for example, donor governments' aid programs or recipient governments' domestic spending. "Donation money" includes funds that are provided on a grant basis, through, for example, philanthropic, NGO, or multilateral support programs. "Investment money" includes funds that investors provide on a market basis — i.e., expecting a competitive market return.[15]

Showing the Five Diagrammatically. Classifying a problem from these various perspectives — although just a start — can already help reduce an initially amorphously unmanageable topic to something more focused and tractable. Table 7.1 displays one way of combining them graphically. Taking advantage of some additional intrinsic features of these factors that help simplify the picture, the table shows, down the column on the left, the combinations of services/products, delivery/production/discovery+development, and public/private attributes that have proven, through experience, to provide an efficient way to develop a better understanding of a problem. Similarly, the rows across the top, giving the different kinds of finance, sets up a matrix that has been found helpful in many practical applications.

The entries in the cells of the matrix provide examples of how some familiar phenomena in health fit into this framework. For example, since the overwhelming majority of government spending and Official Development Assistance (ODA) in health goes to public provision of health services, those flows have been referenced in the upper-left-most box of Table 7.1 (although smaller fractions of those outlays would crop up in other cells too). Likewise, since a very large share of the funds that philanthropic organizations, big international non-governmental organizations (BINGOs), and local nongovernmental organizations (LNGOs) go to service provision too — through public ***and*** private channels, in this case — this group is mentioned in the top box under "Donation Money." Further, the new global partnerships like GAVI, UNITAID, and the Global Fund are slotted into the cells corresponding to product delivery using government money and donation money, since that is what they do, essentially. And so on.

Examples. How does all this help one get to a better understanding of the problems in global health that are of interest here? Locating where they fit in Table 7.1 provides a useful initial orientation to their principal features and where to look for possible solutions. This first-cut "mapping" of problems is illustrated by the examples shown in Table 7.2.

Three of the examples in Table 7.2 are the problems that have been highlighted in earlier chapters. One of them — the problem of making aid more predictable and smoother — fits naturally into the top left-most box, since it mainly concerns the public provision of services using mostly government money (aid + recipient government spending). A second — the problem of how to mobilize more resources by combining donation and investment money — fits best in the cell for the private provision of services using donation and investment money. The third — additional

Table 7.1: To identify which problems to focus most on, think about…

		Using funds that are mainly …			
		Government Money	Donation Money	Investment Money	Combinations
Service delivery within countries	Public providers	Government spending & ODA	Philanthropic, BINGO, & LNGO support for service delivery programs	E.g., PFI in the UK	Co-financing partnerships
	Private providers	Contracting out		Large healthcare firms, small practitioners, venture investors, etc.	
Product delivery to countries		E.g., global partnerships (GAVI, UNITAID, Global Fund, IDA)		Supplier firms, drug sellers, etc.	Co-financing partnerships
Product discovery and development		Pull (AMC) & Push (e.g., NIH)	Donations to pull and push initiatives	The pharma and biotech industries	PDPs

tools (besides the Advanced Market Commitment) for stimulating product discovery and development — fits obviously on that line of the table, and spans all the columns because it can involve government, donation, and investment money.

In addition, two other examples are given in Table 7.2. One is about contracting out. Since contracting out is basically about using private providers to deliver services on behalf of, and paid for by, government using public money, its placing in the table is designated accordingly. A second — "improve the PFI approach" — refers to the Private Finance Initiative in the UK, which is an example of an approach that attracts private capital to undertake investment, typically to improve public infrastructure (e.g., hospitals). Service provision remains in government hands. This option is in a sense the mirror opposite of contracting out.

7.2 Proceeding to further rounds of delineating a problem

The process, begun above, of working through a checklist of questions so as to get to the heart of what is important about problems worth working on — and positioning them in the context of issues that many people in the health field know and understand already — can obviously be extended further. Does delving deeper help? Indeed it does, we found.

Demand side issues. For example, further reflection on the issues that arise in the delivery of services leads to questions about whether the problem to be addressed is chiefly about the supply side of service provision (e.g., what providers offer) or about the demand side (e.g., whether the target population utilizes the services, and if not, why not). The demand side issues include whether the way that the target populations utilize services, and/or the extent of their use and non-use, signals something important.

Additional thought on those issues leads, in turn, to the insight that, when the demand side is introduced, a more nuanced breakdown of the money sources across the top of Tables 7.1 and 7.2 is required, making more explicit the role of households' payments of their own money for health services. These refinements result in the revised format shown in Table 7.3,

Table 7.2: Examples of problems that emerge prominently in this context

		Using funds that are mainly ...		
		Government money	**Donation money**	**Investment money**
Service delivery within countries	**Public providers**	Make aid more predictable and smoother		Improve the PFI approach
	Private providers	Improve contracting out	Mobilize more resources, more effectively, by combining donation and investment money.	
Product delivery to countries				
Product discovery and development		Additional tools are needed besides the Advanced Market Commitment		

Table 7.3: The broader context — REVISITED

	Funded mainly from ...				
	Government money	Donation money	Investment money	Households' money	Combination
Service delivery within countries (the supply side)					
Services utilization by the target population (the demand side)	"National Health Service" & "Social Health Insurance" & CCT programs	NGO-supported insurance, HMOS, PPOs, and other coverage schemes	Commercial insurance, HMOs, PPOs, etc.	Out-of-pocket payments & Payments for coverage (insurance, HMO, other)	Many varieties (see cells to left)
Product delivery to countries					
Product discovery and development					

generating a new crop of examples highlighting the types of interventions possible.

Looking still further into those demand-related interventions, a number of problems and potential responses to them emerge, not least of which is the proposal indicated in Table 7.4 — the Health Insurance Challenge Fund, an idea being developed by Griffin and Escobar.

Product research and development issues. Additional rounds of digging deeper, leading to further insights that help unpack potentially important problems and pinpoint them more precisely, can unfold in other

Table 7.4: The Broader Context: Health Insurance Challenge Fund

	Funds mainly ...				
	Government money	Donation money	Investment money	Households' money	Combination
Service delivery within countries (the supply side)					
Services utilization by target populations (the demand side)	Health Insurance Challenge Fund				
Product delivery to countries					
Product discovery and development					

ways too. For instance, problems associated with the discovery, development, and ultimately the delivery of new health products can be subdivided naturally as follows. For a particular health issue (e.g., malaria) and/or a particular product option (e.g., a specific approach to finding a vaccine against malaria), the nature of the problem that needs the most attention at any given moment depends critically on where the scientific and subsequent implementation work on that product is at the time, considering the steps:

- From early lab exploration to the point of being ready for first and second stage trials
- From first and second stage trials to the start of third stage trials
- From third-stage trials to regulatory approval
- From regulatory approval to initial production
- From initial to scaled-up production
- From scaled-up production to ensuring that sufficient quantities are reaching the borders of the target countries
- From reaching the borders of the target countries to reaching the plethora of widely dispersed community-level distribution points throughout the target countries.

The issues that arise — including the obstacles that need to be overcome and the options that make sense to consider — vary greatly depending on where one is on this continuum. For example, a product that is approaching readiness for third-stage trials may be more appropriate for a strong "pull" initiative — such as an Advanced Market Commitment (AMC) — than if the product were at either an earlier or a very late stage of development. At earlier stages — e.g., before first or second stage trials — there is so much uncertainty about whether some form of the product will take shape or not, and if so what its fundamental characteristics will be, that an AMC may be premature, in the sense that the exact specifications of what the product must look like and how well it must perform may be difficult to determine well. If the AMC set the bar too high — which would become better known as the early stage work unfolded — the research and development groups (e.g., pharmaceutical companies)

that it was meant to incentivize would not respond, and the initiative would fail to produce anything. If the bar was set too low, the funders of the AMC would be stuck with a larger-than-necessary price tag, possibly paying for some work that would have happened anyway. Similar dilemmas come up when the product is at a very late stage of development, including the question of whether an AMC is appropriate and can make a difference at all at that point, given that by then so much is clear about the product that the prospective producers may either be ready to go ahead without additional incentives or, if not, may have fundamental reservations that an AMC cannot overcome except at unsustainably high cost over the long run.

HIV/AIDS vaccine research efforts provide a case in point. With the announcements in 2007 that the most promising vaccine contenders failed when submitted to rigorous trials, researchers now have to go back to the drawing boards. Getting to the point of having a viable product in hand now appears to be a very long quest, perhaps a decade or more. This is too long, with too many uncertainties, to be an ideal candidate for an AMC. Experts working on ensuring adequate funding for HIV/AIDS vaccine research are looking instead at options that would provide incentives for incremental steps along the way, instead of a single AMC for the whole, long trek from the lab bench today to an approved final product years hence. A single AMC for everything could possibly miss the mark for several reasons: i.e., because it is too hard now to specify exactly what features a successful product should have and/or what success would look like, or because it is also very hard to guess, in view of the many uncertainties, how large a sum of money would be required to elicit the desired response from those capable of doing this research and development.

Service delivery issues. Still another angle for delving deeper focuses on an important further aspect of the delivery of products and services. Delivery problems, as foreshadowed in Tables 7.3 and 7.4, can be the result of supply-side issues, demand-side issues, or both. Identifying which of those issues one needs to concentrate on can simplify the analysis considerably. Supply-side issues can arise from deficiencies with respect to (i) the providers of services and products (e.g., a poorly functioning health system), (ii) the financing arrangements (e.g., how providers are paid, and the incentives therein), (iii) the procurement and distribution of products and supplies, (iv) the availability of health workers and the issues around their supply and compensation, and (v) other factors. Demand-side issues typically are about access: the target population may not seek care because health facilities are too far from their homes or because the costs involved are too high. The costs include the out-of-pocket fees that they may have to pay at the facilities, plus their travel and accommodation expenses, plus also the opportunity cost to them (e.g., going to a clinic may mean missing a day of work).

New thinking about these issues has begun to change how policy makers think about them. For decades following the 1978 watershed Alma Atta conference on primary health care, governments and donors invested heavily in improving the supply of services. Clinics were built and equipped, health workers were trained, supply chains were strengthened, etc. Then, in the last ten years or so, demand-side strategies, freshly re-discovered, received a burst of attention. Now, thoughtful voices are stressing that progress on both at once is essential. If the supply is upgraded but the target population doesn't use the improved services, health outcomes don't get better. Alternatively, if demand-side constraints are reduced (e.g., if insurance coverage replaces high out-of-pocket payments), but the supply side remains weak, there is no gain either. Interestingly, in some cases where demand-side barriers are eliminated, the resulting flood of

new patients into health facilities has resulted in public pressure on providers of services that lead them to improve the supply. This demand-induced supply strengthening — a virtuous circle that builds better outcomes from both sides — is reportedly happening in Rwanda, where extensive expansion of their prepaid health schemes, the ***mutuelles***, is generating a positive supply response in terms of quality and quantity upgrading.

Further Questions about funding sources. Identifying where a problem for study sits in relation to these ideas can pinpoint what sorts of remedies might make most sense. There are, for example, important additional questions to ask on the characteristics of some of the key financing sources. If the main sources of interest are clear, is one of them donor aid, which can be either grants ("donation money", in terms of the tables above) or loans/ credits ("investment money," of a sort)? If so, is it obvious whether this aid is well-aligned with the recipient country(ies)' needs or not? And/or with their own priorities as donors? Also, is it adequately coordinated and harmonized with other donors' activities? Is it right-sized and optimally delivered, given its intended purposes? Is it equitably distributed — across and within countries? Is it appropriately conditioned (considering performance-based & global-agenda requirements)? More broadly, are the donors doing the right thing and are they doing it right? Usually, the answers to these questions are not completely clear when one first starts examining a problem. But sometimes partial answers exist, and sometimes even some limited information on them can help orient the work on a problem much more constructively than might be possible otherwise.

A companion set of questions relates to recipient countries. Are the government agencies of aid-receiving countries using effectively the support they are getting? Are they utilizing well their own domestic resources, as they budget for health from their own revenues? Are there important reallocations they should consider making — within health and/or between health and other sectors? If, like many developing countries, they have a legacy of concentrating too large a portion of their health budgets on the topmost hospitals of their health systems, and too little on primary health care at the bottom of the pyramid, how well have they sought to correct that bias?

Similar questions can be helpful to ask about the other sources of funds besides "donation money," to further delineate the essential nature of a problem. On "investment money", is it external investors, perhaps from the rich countries' markets, who are providing the funds? Or is it internal investors, either institutional (e.g., from the country's pension funds, which often now have large sums to invest but few places to put it), or individual (e.g., high net worth families)? Also, it can make a major difference whether the investment money is for (i) provision of health services, whether patient care or public health, or (ii) production and/or distribution of health products, such as pharmaceuticals.

Parallel but slightly different questions need to be posed about other sources such as financing from NGOs, including faith-based organizations, and spending by households themselves on their members' health.

The main objectives. Along-side information on the sources of the funding, insights on what it is seeking to accomplish provide yet another window to understanding how to approach a problem. Is the goal to cover the cost of some expense (for example, for discovery and development of a new health product)? Or is the purpose to support the capital or recurrent costs of the delivery of services (e.g., patient care)? Or is it to create/strengthen incentives for some desired

action/behavior (e.g., to promote investment in product development, where too little would be invested otherwise because the social net benefits warrant action but the private net returns are not sufficient)?

Alternatively or in addition, is the aim to attract and retain adequate funding/funders (e.g., to get more support for TB, if donors have drifted on to other issues)? Or is it to change the mix of sources/funders — to obtain other benefits (e.g., to entice in more private capital because then the scarce supply of public capital can be allocated more optimally)? Or is it to change the financial instruments — in response to a problem or opportunity (e.g., the IFFIm addressed the problem of insufficient frontloading of donor aid flows, and the French-sponsored airline tax sought to seize an opportunity to test an incremental step toward more global taxation, with a potentially more stable yield than aid)? Further, is the goal to get a better fit between sources/funders and the underlying health issue at stake? For instance, sudden health shocks (pandemics, tsunamis) require immediate-response money, whereas combating malaria requires longer term support.

Another — and different — viewpoint on the question "what is the goal?" is also enlightening in getting to the heart of a problem: namely, what is the goal in terms of the changes that are being sought in funding streams for some health program or policy? Is the goal to improve the adequacy, timing, reliability, and/or predictability of the financial flows that are supporting something in health? Examples include: is the goal to generate increased funding? Or to deal with volatility or uncertainty in funding flows? Or to change the front- or back-loading of flows? Or to correct or compensate for shortcomings in how donors provide aid — for instance, for their tendencies to make only short-term commitments when longer term money is needed? Or to delay disbursements? Other such questions arise with investment flows too.

Other questions from this same perspective include: is the goal to upgrade the financing arrangements of target countries' health systems? For instance, is the purpose to introduce prepayment / insurance coverage in place of out-of-pocket payments, thereby diminishing a major impediment to utilization of health services and products? Or is the goal to introduce or strengthen new institutional approaches in global health, e.g., the Global Fund, GAVI, or UNITAID?

Additional rounds of delving deeper. Beyond these multiple sets of questions, there are others that can be useful to explore too, delving progressively deeper, to get to the bottom of what a problem is all about. This process is not unlike using a decision tree procedure to locate, step by step, exactly where a problem fits in terms of the issues it deals with. There is no single set of questions — and no single order in which they need to be asked — that is suitable for all problems. Trial and error, together with experience, is the best guide.

7.3 Which problems merit the most attention now?

Of the many problems that could conceivably be tackled from an IFH perspective, which are the highest priority to work on now, and how can one identify them?

Priority setting has been approached in several well-known ways in global health. Cost-benefit and cost-effectiveness analysis, epidemiological models, and burden of disease estimation have been employed. Interventions for specific diseases — e.g., malaria, tuberculosis, HIV/AIDS — and for systemic health concerns — such as maternal and child illness — have been

compared and ranked. Studies of the demographic and epidemiological transitions in developed and developing countries have been extensively utilized in trying to rank relative priorities.

Four at the top. With this literature at hand, and with input also from our consultations with experts and others, we examined the extensive list of problems noted in Chapter 6 in considerable depth. Based on many rounds of analysis, we and our discussion groups came to the broad conclusions that the problems that deserve mostly attention now are in the broad areas of:

- Stimulating accelerated research and development of new products
- Mobilizing the resources needed to cover the rollout costs of the new products projected to come on line in the years ahead
- Mitigating the adverse effects of aid volatility and predictability
- Expanding the amount and types of funding available for global health needs by finding ways to tap private sector money more effectively.

Within these areas, there are undoubtedly some specific problems that are more pressing than others, but for our purposes here, no ranking of the areas, or of problems with them, is needed, and thus they are listed here in no special order.

All four are discussed in greater detail at various other points in these chapters and thus need no further elaboration here. Nor do the reasons for their importance need to be repeated again. But why do other areas or problems not make it on the list here?

Why not others? Some problems that did not make our list are important per se but the most promising options for solving them may not be in the IFH realm. For example, the problem of how to build performance-based (aka results-based) incentives more effectively into health programs and aid projects is a high priority issue, in the judgment of many who have been focusing on it recently — and rightly so, we would agree. But the most attractive options for making headway in that area have more to do with program design, aid effectiveness, and incentive structures, than with financial tools.

For other problems, sufficient work has already been done or is currently underway, and hence there is no need to call for further efforts at this point. For example, the pricing and subsidization of **ACTs** (**artemisinin-**based combination therapies) for malaria is undoubtedly a consequential issue, but extensive analysis has been completed on it in recent years.

For still other problems, the prospects that IFH options could make a significant difference in the foreseeable future do not seem high to experienced hands in the field. For example, efforts to improve the ways that governments can "contract out" some of their health services to other-than-government providers are proceeding apace. ("Contracting out" is cited in Table 7.2 as an example in the cell for service delivery by private providers using "government money".) Lessons from other fields — such as infrastructure development — are being brought to bear increasingly. Progress in the design and implementation of contracts will continue to evolve, with some successes, some mistakes, but quite likely an overall improving trend. But whether and if so how IFH options can accelerate the rate of advance is by no means assured, in the view of knowledgeable sources.

In addition, some problems have less immediate potential than others for having a major benefit for poor people in the near term, and that impact is a central

consideration in this study. For example, the UK's Private Finance Initiative (which is cited in Table 7.2 as an example of service delivery through public providers using "investment money") may well spark a growing rate of adoption of similar initiatives in developing countries in the years ahead. Whether the benefits will reach down to the lower deciles of countries' income distributions is being much debated. But in any case, the total number of poor people worldwide who will gain substantially from such approaches seems to our experts unlikely to rise to the magnitudes that some of the options discussed here could attain.

All of that said, the four areas that have been selected for the list above require further comment as well. The first — on research and development of new products — has been the subject of a great deal of attention recently. We nevertheless concluded, from what we heard and read, that this topic should remain on lists of areas where more needs to be done, considering its importance and the fact that many potentially attractive options still need to be further investigated — and, further, that more options are still surfacing at a rapid pace.

The other three areas have had work done on them as well, but far less than the first. The last two are the center of the discussion in Part IV below. The first of the three — on rollout costs — was the example used in Part II. The one that we have not gone into in so much depth here is the one on research and development of new products. The reasons for leaving it aside are, first, that it is so complex that it would have required extensive treatment in order to do justice to the issues, and that would have greatly lengthened this report. Second, the exposition of the main messages here — given the focus on developing a framework — could be done well enough by concentrating on the other areas.

7.4 An additional perspective

Additional perspectives on how to prioritize the great diversity of problems can yield further insights. For example, one viewpoint — appropriate for some practical applications — groups the great diversity of issues into two broad areas: (a) financing and (b) services delivery.

Financing. Under the first of these headings are included: sufficiency and additionality; predictability of the flow of funds; and alignment (especially the convergence of local priorities with the allocation of external assistance for global health). Further articulation is added as shown in Table 7.5.

Delivery. Under this — the second — heading are grouped concerns about: inappropriate, ineffective, and low quality provision of health services; and barriers to access because of the lack of appropriate technologies or because of financial payments required at the point of service. Additional description of these points results in Table 7.6.

Underlying this way of putting the pieces together is a focus on the interactions between, on the one hand, whether adequate products and technologies exist, and, on the other, whether service delivery issues impede their effective use. These interactions are pertinent when one thinks about the reasons why potential products are sometimes not invested in sufficiently because they are seen as not likely to produce attractive investment returns. They also come into play when one considers the reasons why some products and technologies that require consistent utilization over a period of time are not used appropriately in developing nations, sometimes because the flows of resources do not fit well with the needs and treatment protocols, and/or because unpredictable financing impedes having reliable high quality medical inputs

Table 7.5: Another view on financing issues in global health

Insufficient Funding	Unpredictable Funding	Unsustainable Funding	Volatile Funding	Misaligned Funding
Refers to the overall net volume of financial resources available for external assistance for global health	Refers to a low level of certainty attached to the actual provision of external assistance for health	Refers to the financial sustainability of the source of funds supporting a particular activity for global health and/or a low capacity of external funding to generate a financially sustainable activity	Most applicable to external assistance lacking of a consistent stream of resource flows	Refers to non convergence between external assistance and global health need. When resources are allocated to activities not identified as priorities locally

Table 7.6: Another view on delivery issues in global health

Products/ technologies do not exist yet	High price impedes adoption of products/ technologies	Availability of Products/ technologies tagged to unpredictable flows of funding	Lack of medical inputs locally	Low utilization of care because of economic barriers
Needed vaccines, pharmaceuticals and other technologies have not yet been developed to tackle illnesses in the developing world.	Products already developed have a price tag too high for most developing nations.	Products already developed and affordable, like regular immunizations, do not flow on time because of either complications with procurement processes or inadequate flow of financial resources to maintain a stable inventory level in country.	Often recurrent cost financing is a major bottleneck for health service delivery. Difficulty in retaining trained human resources and obtaining inputs regularly for the provision of care.	Health services can only be utilized by those who can pay out-of-pocket. Many households fall further in poverty when accessing health care.

in place to deliver services. Or the reasons why some health centers and posts lack personnel or basic inputs, including even some newly equipped units that remain closed because there is no financing for medical personnel. Or the reasons why low utilization rates among the poorest are quite common even when services are available, often because out-of-pocket expenditures are so high that many go without care when needed because they cannot pay for it.

8. CHOOSING THE RIGHT ASSESSMENT CRITERIA

Preceding chapters having focused on the problems, this one turns to the criteria to be used when examining problems and proposed options for solving them.

8.1 A natural starting point

The standard criteria from public finance provide a natural starting point for any discussion of the pros and cons of alternative financing approaches. From the many variants of those criteria that have been suggested,[16] a list that is particularly apt for assessing options for solutions to the sorts of problems of greatest interest here might include:

Additionality. This refers to the extent to which an action (e.g., a tax) raises additional resources — after factoring in any adjustments elsewhere that may offset some or all of what the action yields. For instance, if a new tax would be completely offset by reductions in the yield from other taxes, there is no additionality.

Sufficiency. Refers to the extent to which an action raises enough resources to meet the intended purpose or desired goal. For instance, if an IFF-Im-type initiative fell short of raising all the funds needed for whatever it was meant to fund, it would not meet the sufficiency test.

Efficiency. Refers to the extent to which the resources raised by an action compare favorably with the cost of undertaking it. For instance, if a tax is costly to implement (considering all the costs — not just to the tax-administering agency and the government generally, but also to the myriads of private actors who pay the tax or are affected by it) relative to the revenue it generates, it is inefficient.

Equity. Refers to the extent to which the effects of an action — including all costs it imposes and all benefits it generates, including both direct and indirect consequences — improve or worsen some notion of what is an equitable distribution for a given population. For present purposes, such a distribution would at a minimum not favor higher income groups at the expense of lower income groups; a stronger standard would look for a positive tilt in favor of the poor.

Reliability. Refers to the extent to which the revenue stream generated — and the costs of producing it, the timing of when the revenues and costs flow, and any other features or effects of a given action — occur with a high degree of certainty (or, contrariwise, a lack of it).

Sustainability. Refers to the extent to which an action — and everything associated with it (money flows, timing, consequences) — is sustainable for more than a short time, and if so, how long and with what additional costs or actions, if any.

Acceptability. Refers to the extent to which an action is acceptable to all the relevant stakeholders who have a say in whether it will happen or not and if so whether it will be successful (e.g., political leaders who need to back it, bureaucrats who need to facilitate it, and other voices who might be able to promote or derail it). An action is sufficiently acceptable if it can be adopted, implemented, and retained in force long enough to make a difference.

Alignment. Refers to the extent an action is or is not aligned with the priorities of the actors involved or affected, which may include donors, the recipient country, or others. Misalignment can take the form of mismatches in, for example, what aid is used for (across and within sectors such as health, education,

etc.), how it is provided (e.g., budget support or projects, with light or heavy conditionalities), etc.

Transaction Costs. Refers to the costs — not just in money but also in time, hassle, or whatever — that arise in (1) the execution of an action (e.g., the actual administration of a tax) or (2) the effort to get it adopted in the first place or to retain support for it.

Side Effects. Refers to the effects that an action can have in addition to its intended ones, spreading directly or indirectly through many other aspects of a country's economic, political, or social development. Adverse side effects can be enough to kill an otherwise promising proposal.

8.2 Not so simple

Generations of public finance theorists and their students have confidently assumed that these canonical criteria are all they need to know, but, in practice, the real world is not that neat and simple. As part of the consultations we undertook, we presented actual innovative financing problems to practitioners from diverse backgrounds — aid agencies, the financial markets, and elsewhere. We then gave them various criteria such as those above, and asked them to assess, on that basis, alternative innovative financing options. Invariably, the evaluators found themselves drawn first into extensive debate about the criteria, and came firmly to the conclusion that additional considerations needed to be brought in, including new criteria and more fine-grain articulation of those from the standard canon. These were practitioners speaking from experience — dealmakers from finance and veterans from countless initiatives to improve development aid. The world of getting things to happen, they said, was different from the land of textbooks.

Among the additional candidates for criteria and refinements to the standard ones that surfaced from these exercises were the items in Table 8.1

We then took this expanded set of criteria and tried it out again on practitioners and other stakeholders, some of whom had participated in our first round of discussion, while others were fresh and new to it all. Once again there was a general reaction that more criteria needed to be incorporated. Finance people from the markets noted, in particular, that in their world the process of choosing alternative options involves consideration of many further issues, such as those listed in Table 8.2.

Table 8.1: Additional criteria from the "dialogue on aid"

Criteria	Brief Description
Fungibility	Would the changes in funding flows that are generated by an action be fungible, in the sense that they can be offset by changes in other flows? E.g., if more donor funds are mobilized for a global health cause, would the recipient governments reduce budget allocations for that cause, or for health generally, from their own resources?
Governance	This criterion is used in at least two ways by donors and others. First, are the arrangements appropriate for who has a say in, and is responsible and accountable for, the proposed action and its impacts on funding flows? And second, would there be substantial risks of fraud, abuse, and other forms of corruption as a result of the proposed action, and have proper provisions been included to minimize those risks?
Harmonization	Would the goal of achieving greater harmonization among different donors in their programs, policies, and procedures be well served, especially considering that donors have been putting much emphasis on this issue? Would harmonization with the recipient government's own agenda also be supported? Have adequate provisions been made to avoid exacerbating the multiplicity of approaches inflicted on recipient countries?
Managing for Results & Mutual Accountability	Would the aim of encouraging more attention to getting results be respected and advanced, with due recognition from donors and recipient countries of the importance of performance-based strategies? Would it be clear who is accountable for what, and how mutual accountability is shared?
Capacity Development	Would the action help develop the capacity of recipient country institutions, e.g., would it strengthen the ability of government agencies to do their job better?
Ownership	Would the key stakeholders involved—starting first and foremost with the recipient government—feel they "own" the action and its implications, in the sense that they would regard it as their initiative? Would they think of themselves as being in charge—i.e., in the driver's seat—or would they view the action as outsiders' ideas, or, worse, something imposed on them?
Fragmentation	Would the degree to which programs and policies in the recipient country or among donors are currently too fragmented—with too many separate undertakings all separated from one another—be mitigated? Or exacerbated?
Compliance with Budget Processes	Would the relevant rules and procedures by which recipient country budgets are supposed to be developed be respected? Would they be strengthened? Ditto for donors' efforts.
Dealing with Risk	Would good measures be in place to manage any significant risks—whether financial, managerial, reputational, or other—that the action would entail?
Ease of Collection	To the extent that funds would need to be collected, would the collection of them be feasible—and easy or difficult—given the strengths and weaknesses of the prevailing authorities?
Adds value? Or undermines?	Overall—considering the many dimensions and ramifications of the proposed action—would it be a useful change, adding value by making things materially better in some way? Or alternatively would it detract from the benefits that other initiatives are generating?
Speed of Availability	Would the action be able to launch and get up to speed quickly or slowly?

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Table 8.1: Additional criteria from the "dialogue on aid" (cont.)

Criteria	Brief Description
Predictable (especially, flows of funds)?	Would key changes that are brought about by the action—including in particular any financial flows—be possible to project in advance with some certainty and adequate lead time, so that the actors involved could plan and execute actions effectively?
Continues automatically?	Actions that, once set up, will continue to operate—not just through all the intermediate steps required for a single execution but also in repeated rounds of executions time after time—have the advantage, for policy makers and mangers, of needing less care and maintenance than actions that require a major effort to get re-started every time.
Fits political leaders' agendas & geopolitical interactions?	Lack of a strong fit would be a distinct disadvantage, given how important leaders' support is in health as in all development.
Fixes a problem in aid*?	An action that helps correct some persistent problem in the aid that is being provided to a country—or in aid processes more generally—could be highly desirable because of that important side effect, over and above whatever its direct benefits for a particular health program are.
Helps move aid* in good directions for the future?	Same as above—but looking forward.
Effects on other aid financing?	Would there be good or bad effects on other aid—for example, in other sectors besides health?
Recurrent / capital cost issues?	Would the action lead to a future stream of recurrent costs and if so, has adequate provision been made for how to pay for those costs? Would future capital cost investments be required, and if so, how would they be paid for?
Appropriate front / back loading of flows?	To the extent that the pattern, over time, of financial flows required (from aid or other sources) would need to be different from how funds would roll out normally (so, for instance, if more money would be needed at the start, or more later on), would there be problems in meeting those needs?
Addresses risks of decline in aid (or aid for health)?	To the extent that there might be reductions in aid in future, have those risks been anticipated and provided for adequately?

* *And how aid is financed*

Table 8.2: Practical considerations from financial "deal-makers"

Consideration	Brief Description
Difficult to make happen because of the cost, time, hassle, uncertainty, political effort, regulatory hurdles, etc.?	Practitioners emphasize that getting to closure and launch can be enormously difficult, and that these difficulties can be a major deterrent to attempting a proposed action, however attractive it might be in concept.
Difficult to sustain—for similar reasons as above?	The struggle to keep a new action going, and stave off detractors and competing ideas, does not end with launch.
Automaticity: will repeated new efforts be needed?	This criterion, already described in Table 8.1 above, emerged as even more crucial for deal makers than for the aid community.
Can the dates of key events (launch, closing, flows) be counted on?	If critical dates in the life-cycle of a deal may slip interminably—and be generally unpredictable—the parties to the deal are at risk of losing big money, particularly if they have had to borrow capital or agree to pay fees if there are delays.
Will inflows and outflows be hard to manage—e.g., because they fluctuate over time?	Awkward mismatches in the timing of when funds flow in and out—or other problems due to uncontrollable ups and downs in flows—can be serious disadvantages for investors considering a deal.
If ratings are important, can the right level be attained? (e.g., investment grade?)	If, for example, a rating of AA or better is needed to make the financing of a deal viable but the rating agencies won't rate it that highly, the deal won't work.
If other quality-of-capital issues are key, can they be met?	For instance, would the funding be for a long enough time period, given the specifics of the project? Would there be risks that the investors / funders have to exit precipitously, e.g., due to some adverse development in the rest of what they do? Etc.
If attributes of the investors and donors are key, can they be met? (e.g., their quality, diversity, etc.)	If it is critical, for example, to have some multilateral funder in the deal (the IFC? The World Bank?), and/or some blue chip investor, in order to convince others that the deal is a good one, would that support be forthcoming?
Will political costs or side benefits be manageable?	Another aspect of the "can it be made to happen" question, this criterion adds emphasis on the risk of being derailed by political developments, reflecting the heightened concern that the markets have about this risk.
Can regulatory issues and processes be managed?	Ditto as above, except that in this case the risk is of being caught up in the red tape or recalcitrance of regulatory reviews.
Can government budgeting issues be managed?	To the extent that funding from recipient government budgets is required (even if only for an ancillary aspect of the proposed project), would that funding be hard to obtain, or take a long time to be approved?
Is there a good exit strategy, if one is needed?	Participants in deals want to be sure there is a reliable plan that ensures they can get out at some more or less predictable point in time, so they can get their money back and/or a return, to the degree that they expected any.
Needs too much administrative capacity?	Some proposed actions may look good in principle but be bad bets if they demand stronger administrative abilities that the executing entities can muster.
Will enough countries participate?	For some initiatives—such as the airline tax—the lack of enough participating countries might greatly weaken the whole enterprise.

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Table 8.2: Practical considerations from financial "deal-makers" (cont.)

Consideration	Brief Description
Issues related to the tying of aid?	When donors "tie" their aid — e.g., limit it so that their own nationals get preferred or exclusive rights to bid for contracts or consultancies—the aid is less effective, studies have confirmed. Donors, through international agreements, have committed themselves to reducing the degree to which they tie their aid. A proposed innovative financing initiative could either support or work at cross purposes with those agreements.
Risk of serious credit events (e.g., default)?	The risk that a borrower will fail to keep to its promises to make agreed payments at set times is one of the fundamental issues that lenders consider before making a loan.
Exchange rate risk?	The changes that occur over time in the value of, e.g., the U.S. dollar relative to the recipient country's local currency, can have major effects on the financial outcome of a project. How this risk is apportioned among the parties to the deal depends on how it has been structured. This is a key issue for funders.
Policy risk?	Certain policy changes — e.g., when recipient country authorities depart from some agreed position on water use fees—can fatally alter a project's financials.
Reputational risks?	Funders, because they care about protecting their "brand" (i.e., image, or reputation), worry about getting involved in something that might damage how they are seen.
Security risks?	War, terrorism, or other violence could disrupt a project's operations or markets, or even shut it down.
Other risks?	The context within which a project has been developed can change for myriads of reasons, potentially torpedoing the prospects for success.
Institutional issues?	If a project will require that new institutions be set up, or that old ones be reformed, many things can go wrong that might ruin a deal.
Scalability?	Can the project be scaled up to reach much larger populations? Can it work in other settings?
Impacts on health outcomes?	Would the proposed action lower morbidity and mortality?
Impacts on health delivery (e.g., allocative efficiency of health spending)?	Would health service delivery indicators be affected (e.g., would there be an increase in the percentage of children who are fully immunized)? Would resources be better allocated (e.g., more to first-line clinics)?
Impact on health suppliers & product developers?	Would the suppliers of the equipment, medicines, and other inputs to health services be affected? Would the pharmaceutical and biotech companies who do research and development to find new vaccines and other products be affected?
Impacts on financial markets (e.g., cost of borrowing)?	Would the proposed deal have an influence on other deals—for instance, by affecting the prices which other assets are worth?
Impacts on incentives?	Would the proposed action change the incentives that some entities or individuals face?
Crowds in—or out—other activities?	If the proposed action goes forward, would other deals be more — or less — likely to happen? Would other funders be more — or less — likely to come in?
And many more …	Annex 8 has a more extended list.

Many of the additions are of a very down-to-earth transactional nature. For example, if an investor is going to commit some capital to a prospective venture, the timing of the various steps to the launching of it may be crucial in determining whether to proceed or not. An excessively lengthy — or unpredictably uncertain — gestation period up to closure can be fatal when capital has to be held in waiting for something. Also, some of the additions are impossible to quantify plausibly, but nevertheless vital. For instance, if an investor has concerns that one or more other parties to the transaction have undesirable business or personal connections — posing possible reputational risks for the investor — those issues might be enough by themselves to kill the deal, even though they cannot be expressed in numeric terms. In the aid world, similarly, a country may have larger geopolitical reasons for engaging with a partner country on a particular initiative — or failing to do so — as has been reported in the case of the U.K. and France in regard to IFFIm and the airline tax.

8.3 The eye of the beholder

The need to take into account this many criteria — some of which are inherently intricate or amorphous — poses daunting challenges, which are taken up further in Chapters 9 and 10 below. Before turning to that, some additional perspectives on selecting criteria are worth noting.

First, the appropriate criteria to adopt for any selection problem should be chosen not only on the basis of the considerations mentioned thus far but also — very crucially and already implicit in what has been said here — on the basis of who the decision-makers and any other key stakeholders are and what is important to them. Criteria that are not material for a given policy decision should not be included just because some general or abstract discussion favors them. Further, if — as is usually the case — multiple decision-makers are involved, their differing viewpoints need to be considered.

To cope with this difficult issue, it helps to know whether the decision-makers are already committed to certain criteria, either consciously or unconsciously. If so, then those criteria, whatever they are, are perforce significant. It is thus essential to undertake whatever consultations are necessary to clarify, from the outset, who in fact are the decision-makers and what are their positions, if any, on which criteria to use. Also key is what weights to assign to differing views among them.

If the decision-makers are not already committed to particular criteria (and perhaps want to be told which criteria are best for the problem at hand), or if there are compelling arguments why additional criteria should be introduced that are not high in the decisionmakers' priorities (e.g., if there are persuasive arguments that key factors are being ignored), then the task of selecting criteria is more complex. On what basis should criteria be determined in that case? Should one turn again to public finance theory — and arrive back at the first list above? Or should one look to the broader purview of social choice theory, which is at the core of economics and implies, in this instance, that the appropriate criteria are those that best lead to maximizing the welfare (or more technically precisely, the objective function) of the society in question, which is often approximated by seeking the highest net social rate of return? Or, more pragmatically, should one appeal to widely accepted expressions of current global priorities — such as the health goals articulated by the World Health Organization or those highlighted in the Millennium Development Goals — as "revealed preference" information on what

is regarded as important today? Or should one convene experts and pool opinions, as Delphi exercises and initiatives such as the Copenhagen Consensus seek to do?

When we sought views on this issue in our consultations, it was universally agreed that there is no easy answer, and, in practical work there is no escape from using best judgment, taking into account as many of the above points as possible.

8.4 A special case

When the problem to be addressed — and the positions of the decisionmakers — are known more concretely, it is possible to be more specific about which criteria to use and how to apply them. Table 8.2 shows an example. The criteria that are relevant in this case are those shown in the column on the left, grouped into five headings for simplicity. Sufficiency is an important concern in this application, though not the only one. The other columns indicate key connections with alternative financial instruments and their association with two broad groups of problems — financing and delivery — in global health. As before, problems of financing in global health are identified in the light grey colored boxes as problems with delivery are identified in the dark grey colored boxes.

Table 8.3: An example of how criteria are used in applications

Criteria Grouping & Correspondence to Selected Global Health Problems		
General Criteria Group	**Specific Criteria**	**Applied to Problem Area**
1. Additional & Sufficient Revenue Generation	• Leverages other new funds • Good source of large volume of funds	Financing problems: • **Sufficiency & Additionality:** funding provides an overall net gain in the volume of financial resources available for global health
2. Good Value	• Low Transactions Costs including ease of implementation and no new institutional structure • Low Cost of funds (for the donor or investor)	Financing problems: • **Sufficiency & Additionality:** the lower the transaction costs the larger the net volume of resources available for investing in global health more likely to be **sustainable**.
3. Sustainable & Dependable Funding for Appropriate Activities	• Long Term Commitment of 8-10 years / sustainable source of income • Predictable flow of funds to recipients • Funding allocated to country's priorities	Financing problems: • **Predictability and Volatility** of funding; • **Non sustainable** financing in the long run. Innovation for aid smoothing is expected to face these problems • **Alignment** with recipient priorities
4. Appropriate Incentives	• To supply products and services (R&D and to create market) • To avoid the creation of monopolies	Delivery problems: • Products and technologies **not yet discovered**; • Lack of competition in the production of some products or technologies and therefore **high prices** in international & domestic markets.
5. Improves Access to Care	• Product/technology at affordable pricing improving availability/quality/ effectiveness of health care services • Diminishes recurrent costs financing bottleneck (lender of last resort or resources have flexible allocation) • Diminishes out-of-pocket spending to access services (resources can be allocated to insurance, vouchers, transfers)	Delivery problems: • Excessive **barriers to care, low utilization** of health care services; • **Deficient supply** of medical services; • Low **quality and efficiency** of service provision.

PART IV: APPLYING THE FULL FRAMEWORK – TWO EXAMPLES

Everything up to this point has been, in effect, build-up to the key final step of the main conceptual approach being proposed in this paper. Namely, once one has clarified the problem that needs solving – and the most promising options for addressing it, the criteria for comparing the options, and other considerations to keep in mind – how does one actually get to a complete assessment of the options?

This Part, focusing on that question, is thus the most important part of the paper in some ways. The procedure it describes has been introduced earlier – piece by piece – and draws heavily on the notion of a scorecard that decision makers and their advisors can use to examine the pros and cons of the options alongside one another in an organized, common-sense-based way designed to bring to light insights that might otherwise be missed. The task now for this Part is to describe this procedure in more depth, with sufficient detail so that users can adapt and apply it to their own specific needs.

The strategy for doing that is to demonstrate the procedure – what it is, how it works, what it produces, and how to apply it – through two practical examples, both of which have been introduced earlier.

9. EXAMPLE: "HOW TO MITIGATE THE IMPACTS OF FLUCTUATION AND UNPREDICTABILITY IN AID FLOWS"

9.1 The options

Applying the reasoning discussed in preceding chapters, and drawing as well on related other analysis[17] as well as trial runs of the procedure presented here, we found that the options that make most sense to consider seriously — in some though not necessarily all settings where fluctuating and unpredictable aid flows are a salient problem — can be usefully categorized under nine headings. No claim is made that these nine comprise the universally best or only way of classifying the possibilities, or that they exhaust all the conceivable alternatives. Rather, they are just one characterization that serves well for many circumstances.

A "Base Case" Option. First, the best way to address the problem — i.e., to mitigate the adverse effects of choppy, uncertain flows on recipient countries — is, of course, to fix the root cause of it: make aid smoother and more reliable. Numerous attempts to do this have been advocated over the years, including various aid effectiveness and donor harmonization initiatives. The most ambitious effort is perhaps the Paris Declaration, endorsed on 2 March 2005 with over one hundred ministers, heads of agencies and other senior officials committing their countries and organizations to supporting major reforms in how aid is structured and delivered. So far, progress toward achieving the goals of the Declaration has been limited, and skeptics say that it will be just another in the long line of grand plans that never get much traction. Supporters, though, point to some movement forward and remain optimistic that more will follow soon.

This first heading, whether regarded as a realistic possibility or something too difficult to bring about anytime in the foreseeable future, is important to start from because it is like a "base case" against which it is useful to compare all other options. It represents the notion that if the root cause of a problem can be solved, then why not prefer that to all else, since other options, by comparison, are work-arounds or patchwork solutions. And if the root cause in fact cannot be fixed, then one still needs to see how other options stack up against the unattainable first best.

The other eight headings are organized broadly in order from least to most demanding, according to one possible view on how much they depart from the base case and how major would be the changes required to bring them about. This pattern of starting from a base case and then progressively moving to more complicated and challenging options is useful more generally — in applications to other problems as well — we found.

Improving "Cash Management." The second heading — "Help recipient countries improve their 'cash management'" — is based on the argument, that if it is not possible to fix the root causes, and thus if fluctuating, unpredictable aid will remain a fact of life for recipient countries for the indefinite future — then perhaps the next best alternative is to see if their governments can become more adept at coping with the lumpy flows. In other words, "if you can't fix it, adapt to it." (The term "cash management" is used here — in the way that financial experts utilize it — as shorthand for the many inter-connected tasks associated with an institution's management of balancing its incoming and outgoing financial flows. It is thus much broader than the narrower lay idea of counting coins and bills.)

Proponents of the "improve cash management" option note that many other organizations, including

some governments and many corporate entities, have learned to live with uncertain streams of incoming revenues, sometimes with worse ups and downs than those that aid flows are subject to. But those institutions typically have stronger capacity to manage the peaks and valleys competently than many recipient countries do, considering the numbers and levels of staff dedicated to such work, the extent of their training, and the supporting infrastructure (financial and IT tools) at their disposal.

This competency gap, however, can be remedied, it is further argued. Attempts in the past to strengthen developing countries' financial management capabilities have had mixed results, but few have devoted enough time and talent, with enough sustained attention and support, to do the job well. A really first class effort, it is proposed, might be altogether more successful, if properly done with the recipient countries themselves strongly engaged and confident that this is not something imposed from the outside. Who might lead such an effort, to provide the required capacity building to recipient countries? Having more than one leader/provider has appeal, since no single institution can always be just the right source at just the right time (and giving monopoly power to one organization would be unlikely to help). Still, the International Monetary Fund (IMF) — as at least one of the principal actors — makes sense given its other roles and current evolution out of its traditional financial-crisis-relief function and into more monitoring and standard-setting activities. Helping countries to improve their ability to deal with choppy aid flows would fit well with the IMF's other work on budgetary, debt, central-bank-management, and related other financial activities, as advisors and technical assistance providers to developing countries.

Limits on Aid Reductions. The third heading — "limits on donor reductions in aid year to year" — starts from the same assumption that fixing the root causes of choppy aid is not feasible, but then heads in a very different direction. It postulates that, while donors might not be able to undertake the major steps required to fix the root causes, they might at least be able to agree to limit the magnitude of any reductions they make in aid to a particular country in one year compared to the previous one. This would avoid any sudden drops that might be especially disruptive for the country's aid managers. For example, if donors committed to not reducing aid to a country by more than 15% from one year to the next, the recipient government could plan better accordingly. This provision would provide protections not unlike the year-to-year caps in adjustable-rate home mortgages, except that in this case the protection is against sharp decreases whereas in mortgages the protection is against steep increases. It is by no means clear that donors would find it any easier to accept this option than the "fix the root causes" option. But some observers think this "limit the reductions" option would have appeal, and so it is included here for completeness.

The first three headings, as has been self-evident, are all about managing aid better. The next six, as will be seen, are about using financial tools of one sort or another. From a narrow perspective, only the latter are purely IFH options. However, it is more fruitful, we believe, to adopt the broader perspective that any option — whether it is strictly a financial intervention or not — should be considered if it might address the IFH problem that is at issue.

Endowment Fund. The fourth heading — "endowment fund" — is an idea from observers of the aid process who come from the financial markets.[18] The basic idea is to assemble a pool of capital which then could be used as needed to help countries that suffered a sudden drop in aid. In some variants, the initial capitalization of the fund would come from some combination

of (i) paid-in start-up financial contributions and (ii) upfront commitments of callable capital (i.e., not paid in, but ready at hand if needed). An alternative (or additional) idea would be for donors to contribute to the fund the equivalent of a tiny fraction of their aid flows each year; this would build up the fund's capital at a very gradual pace, of course. Further, as the fund is drawn on (to assist a recipient country that experiences a sudden drop), replenishments could be generated from some combination of (iii) special extra contributions from donors who cause sudden drops and (iv) "repayments" by the benefitting recipient countries when their circumstances have improved.

International Stabilization Facility. The fifth heading — "international stabilization facility" — comes from other thinking, led by people with international development experience. It has similarities with the endowment fund concept, in the sense that it could be financed in a similar way and its support to countries would have similar features. Some would say that from a finance perspective, it would be an endowment fund under a different name. But others see it as different in at least two ways. First, as an institution, it would be set up as something more like an arm of a multilateral finance institution (indeed, one specific option is that it be a part of the World Bank, like the new facilities being considered to provide insurance against natural disasters or crop failure, or like the Multilateral Investment Guarantee Agency (MIGA)), and less like a fund in the financial markets. While some of this difference lies simply in the trappings and authorities of institutional arrangements, these can matter in terms of credibility, influence, and, relatedly, investment ratings. But also — and secondly — it is possible that an international stabilization facility would have, or be presumed to have, more or stronger backing from its contributing donors, based on a multilateral coalition, whereas an endowment fund would be a more limited form of club, with more restricted financial backing. This could mean that countries could get more (i.e., greater or longer) support, or might assume so, from such a facility than from an endowment fund.

Conditional Drawing Rights. The sixth heading — "drawing rights for countries that keep to agreed standards" — is either an international stabilization facility or an endowment fund with an added twist: in order to qualify to receive support (i.e., have drawing rights), a country would have to be in good standing with respect to adhering to certain performance standards it had agreed to at the outset. Further, these standards would focus on issues that are important to the contributing donors, mirroring some of their priorities. For example, not unlike the way that the IMF requires countries to report all their debt obligations and other financial information fully and transparently, so too in this case one of the standards could be that countries become much more transparent and comprehensive in divulging their budget outflows and inflows — if this is something that the participating donors wanted to give weight to. In this event, the objective would be not, as in the IMF example, to get data that then would be kept confidential, but rather to promote better governance through greater openness with citizens and watchdog groups. Or another example might be the adoption of and adherence to certain environmental conventions. Still another might be some particular actions aimed at improving progress toward the Millennium Development Goals or other social indicator targets.

Adding this requirement that countries comply with agreed standards would be good for progress in the areas chosen for emphasis, which presumably would be global priorities, often related to global public goods that are widely recognized as crucial. It would also create incentives for countries to perform better,

rewarding good performers and weeding out countries that donors would not like to provide support to in this case. And it would make it more attractive for donors to contribute funds to the initiative, since they would have an opportunity to see their own agenda of priorities get more traction.

Insurance or a guarantee facility. The seventh heading — "insurance or guarantee facility" — would have strong similarities with the endowment fund and stabilization facility concepts, in the ways noted above. The differences would revolve around the nature of the support to recipients, and of the contractual obligations between the provider and the recipients. The details of insurance contracts, guarantees, endowment fund support, and stabilization facility disbursements, while not deeply divergent, tend to pose diverse opportunities and trade-offs for their takers, with differing limitations, contingencies, costs, and benefits.

IFF-Im-type securitization of aid flows. The eighth heading — "IFF-Im-type securitization of aid flows" — raises the possibility of additional applications of the IFF-Im approach, to further issues within global health or beyond.

Buydowns, etc. The ninth heading — "Buydowns, etc." — focuses on instruments that exist already, and asks, in essence, whether they can be applied to the problem being addressed here — the lumpiness of aid. A prime example is the "buydown" concept, which has been used in a number of different settings, including, as an illustrative case in point, in the context of polio eradication. When the global quest to stamp out polio once and for all had narrowed down the chase to just a few remaining countries and needed to get the governments of some of those countries to redouble their efforts to attack the last outposts of the disease, interested donors looked around for some way to ensure those governments would have the resources and motivation to do their best. The option they chose was to offer to convert some of those countries' IDA credits (i.e., the low-interest loans that they had received from the World Bank through its International Development Association arm, which concentrates on low-income countries) to grants, by taking over responsibility for paying the IDA credits' debt service payments. In effect, the participating donors would "buy down" a portion of the countries' debt, so that the money they had borrowed from IDA was thereafter like a donation — a grant — to those countries'. The quid pro quo for this gift was that the benefitting governments would devote more attention to eliminating polio in their populations, which they would be more able to do because they had additional resources from freeing up funds that otherwise would have gone to debt service payments. While the same result could also have been achieved in various other ways — including more direct forms of payment for polio programs — the perceived significance at that time of reducing the debt burdens of poor countries made this "buydown" idea seem especially apt and appealing.

Other instruments — besides buydowns — that exist already also could conceivably be candidates for applying to the problem of fluctuating and uncertain aid. The World Bank Group, the regional development banks, some bilateral aid donors, and other international institutions have a wide range of mechanisms, and much experience in developing and implementing them. This ninth heading — as the "etc." after "buydowns" indicates — encompasses all such options. One advantage they have is that they clearly are feasible to get adopted, to the extent that they have already survived the gauntlet of review for at least one other purpose, or are likely to be feasible, to the extent that, while not yet fully operational, have received

serious consideration in these institutions. Whether they could win backing — and be successful — for mitigating the effects of choppy aid, is another matter, which would need to be examined case by case, each mechanism separately. One salient further question in that regard is: if they could be useful for the problem of choppy aid, why have they not been employed for that end so far, or why have they not at least been proposed such purposes.

9.2 The assessment criteria

Given the range of options possible under these nine headings, what criteria should be used to assess them? As described in Chapter 7, a very large number of criteria, ranging from stand public finance considerations to pragmatic market concerns, are potentially pertinent for decision making for all IFH problems, including this one. Not all of them, though, are in fact important for every problem, we found when we experimented with them in examples. Also, not all criteria show differences among the options. By setting aside criteria that do not provide useful information for distinguishing among the options, it is typically possible to reduce the complexity of the analysis substantially, and home in on just those distinguishing attributes that are most telling.

Testing these propositions, we first compared the nine headings of options described above using over 80 criteria drawn from the long lists referred to in Chapter 7, obtaining the results in Annex 8. Inspecting those results closely, we then selected the much shorter list of criteria that were really revealing notable differences among the options. From that subset, it was then possible to compare the options with much less difficulty, and to tease out insights on their relative pros and cons that were not obvious otherwise.

The particular criteria that proved to be most decisive — in the above sense — for the problem of mitigating the problem of fluctuating and unpredictable aid flows can be conveniently grouped into eight categories as follows.

The first four categories of criteria. The first category — called for short "hard to make happen?" — focuses on whether an option can plausibly be put into effect or not, and if so, with what degree of difficulty and risk of getting derailed before becoming fully operational. Many options, however nice-sounding in theory, stand little chance of ever getting off the ground, or could do so only in an emasculated form that would vitiate the intended gains. Sometimes the obstacle is that the parties and powers that would have to agree on something new are unwilling to support the changes required. Sometimes, too, technical or financial hurdles get in the way. We found that this "hard to make happen?" category can often prove decisive at the outset, which is why we feel it is important to put it first here.

This "hard to make happen?" point — and all the other eight categories as well — can be thought of in relation to either the task of setting up an intervention for the first time or to the challenges of re-starting each new iteration of an instrument after its first launch. For example, getting donors to fix the root causes of variable and unpredictable aid requires not just the herculean effort of shifting to new and better practices, but also the no less daunting task of re-generating commitment and adherence to good behavior every year as institutions and their leading officials change and tendencies to revert to old ways re-emerge.

The second category — abbreviated as "sufficient to solve the problem?" — refers to the classic sufficiency question: will the option being scrutinized have an

impact that is large enough to solve the problem it is meant to address? In some cases, the measure of sufficiency is monetary — e.g., will a tax yield enough revenue? In others, actions need to taken — e.g., to fix the root causes of the fickleness of aid — and it is by no means certain that they will be carried out with enough force to achieve the intended result.

The third category — "reliability?" — asks whether the expected intervention will reliably continue to produce its expected result time after time, or will be more hit or miss, sometimes coming through and sometimes not. The airline tax is inherently more reliable than IFF-Im, in the specific sense that a tax, once adopted, continues to yield revenue predictably year after year until action is taken to repeal it, whereas IFF-Im depends on bond issues, which have uncertain outcomes every time new issuances are required to obtain more funds. Note that reliability, as used here, is distinct from the preceding two categories. A tax may be more or less hard to get adopted than IFF-Im, and may be more or less sufficient (depending on how much money each is designed to raise), and yet be still more reliable no matter what.

Fourth, "transaction costs?" concentrates on whether the costs — not just monetary but also time, hassle, and any other factors that divert resources from their main purposes — are high or low. For example, options that involve setting up some new facility — an endowment fund, say, or a stabilization vehicle — may have great appeal in the early conceptual stages, but a full assessment of them also needs to look at the transaction costs, which can be considerable, of getting them up and running and then keeping them so. A key further aspect of the transaction cost issue is who must pay. Getting a government agency to absorb a small transaction cost may be more problematic that getting an investor to cover a large item.

The remaining categories. Fifth, a category called "risk of splash and fade" inquires whether an option will continue to receive the support it needs over time in order to remain sustainably viable, or instead will fade as a priority after an initial splash of enthusiastic endorsements. This point is obviously very different from the more standard criteria such as those from public finance. We would not have seen it as important enough to include here if it had not emerged so strongly from our consultations with practitioners in the field, and if it had not helped to differentiate among the options so sharply.

Sixth, "automaticity?" gauges the extent to which an action, once initiated, would continue automatically — i.e., would ensure that anything that should recur on a repeating basis does so without the need for new actions to re-start it. An insurance facility may have more automaticity, intrinsically, than an initiative to improve cash management, to the degree that the former, once set up, runs itself, whereas cash management initiatives may have to be re-invigorated with fresh commitment periodically.

Seventh, "ties up scarce capital?" has a very precise meaning. Some options require one or more actors to transfer funds to other parties, or to make provision for the possibility that funds may have to be paid over at some future time. These options make claims on capital that limit the degree to which those same funds can be used for other purposes. For instance, an endowment fund needs paid-in capital — and possibly some callable capital as well — and those funds thereby are no longer free for other applications. By contrast, changes in patent laws do not necessitate high upfront capital commitments by governmental agencies, however much there may be other kinds of financial consequences over time.

Eighth, "side effects?" asks whether an option has significant indirect ramifications, positive or negative, for the various parties affected. Advocates of the airline tax argue that an important side effect of the tax is that it can help change the conversation about global taxation and the financing of global public goods. Their point is that the tax, as a practical incremental move towards more global cooperation in paying for global priorities such as fighting HIV/AIDS, can stimulate new thinking that might lead to still further progress. Similarly, fixing the root causes of lumpy aid or strengthening cash management may improve processes that have benefits not just in health but also across the board in other sectors.

The eight categories are very much inter-related, clearly, and not intended to be mutually exclusive. Transaction costs, if very high, can render an option "too hard to make happen." Low automaticity is likely to be correlated with low reliability. And so on. The usefulness of the eight categories chosen here is their collective ability to pinpoint the key attributes of options from multiple angles.

Scoring the options against the criteria. The next step in the analysis is to see how the nine headings for the options stack up against the eight categories of criteria. Table 9.1 facilitates this process, with the options displayed across the top, each with its own column, and the criteria listed in the rows. The entries in the cells show how well the indicated option (e.g., "endowment fund") scores against the corresponding criterion (e.g., "reliability?"), with dark red being "worst," dark green being "best," and lighter shades showing intermediate scores.

The scores shown in Table 9.1 — like the options and criteria — reflect the judgment of the people we consulted, both generally for this study and more specifically for the test runs we did of the approach we are presenting here. Carefully selected groups of experts, interacting with one another in well-structured sessions applying this methodology, can iterate to useful conclusions about the appropriate scores for this table, we believe from the examples we saw. This is no exact science, though. Nor should it be. As noted in Chapter 1, the granularity of the information condensed into Table 9.1 — capturing different views that different experts have about different options measured across differing criteria — can be helpful for decision makers, more so than an aggregated single number that would be an unintelligible black box for them.

9.3 The findings

With these cautions, what do the entries in Table 9.1 say? Reading across the first row, all the options examined here are "hard to make happen," although some more than others, according to the opinions of those who contributed to these results. Getting donors to fix the root causes is seen, in this case, as more difficult to bring about than many of the other options. Setting limits on aid reductions year-to-year is also seen as very hard to bring about. This stands to reason considering that if donors find it challenging to fix the root causes, they are unlikely to be able to keep to promises to restrict aid fluctuations notably from one year to the next.

Turning next to the second row, the strong green entry for the "fixing the root causes" option reflects that fact that although that option is, as just said, unlikely to happen, it undeniably would be sufficient to solve the underlying problem, if by some miracle it did happen at enough of a scale to radically change current patterns. The entries in that row for the other options are all close to neutral, with some slightly more

Table 9.1: Comparing the pros and cons of different options for making aid more predictable and smoother over time

	Managing Aid Better			Using Financing Tools					
	Get donors & recipi-ents to fix the root causes	Help recipients improve their "cash manage-ment"	Limits on donor reductions in aid yr-to-yr	Endow-ment Fund	Int'l Stabi-lization Facility	Drawing rights for countries that keep to agreed standards	Insurance or Guaran-tee Facility	IFFIm-type securiti-zation of future aid flows	Buy-downs, etc.
Hard to make happen?									
Sufficient to solve prob-lem?									
Reliability?									
Transac-tions costs?									
Risk of "splash and fade"?									
Auto-maticity?									
Ties up scarce capital?									
Side effects?									

Note: the dark red entries here signify the "worst" options in the given row, pertaining to the criterion for that row. dark green represents the "best," and the lighter shades are in-between cases.

positive than others. Most of these options could be deployed at different scales — with either strong or weak impacts in terms of compensating for the erratic behavior of aid flows. It would thus not take much to push them over the line from green to red or vice versa.

The third row — on reliability — has results that differentiate the "managing aid better" options unambiguously from the "using financial tools" options. The former are seen as much less "reliable" than the latter. Here the main point is that the "managing aid better" options all require donors to sign up to and implement major reforms in how they do business, and then to adhere to those commitments unfailingly year after year despite changes in their leadership and pressures (from their parliaments, for instance) to shift to other priorities instead. On the other hand, the "using financial tools" options all are based on setting up a vehicle or institution which, once approved, can proceed on its own, without going back for new authorization. The last option — IFF-Im-type securitization of future flows — is perhaps the least certain from this perspective, but the fact that a real IFF-Im is now up and operating quells the doubts somewhat.

The fourth and fifth rows — "transactions costs?" and "risk of splash and fade?" — are red for all options,

showing some realism in the opinion of the particular group that produced these scores. However, more notable is the fact that the "managing aid better" options once again come out worst, although the group felt that IFF-Im-type securitizations may be on a splash and fade path in the years ahead.

The sixth row — "automaticity?" –reveals additional differences across the options. Three of the "using financial tools" options involve financial vehicles that are intrinsically very automatic once they have been approved and operationalized, and thus are favorably scored. All the other options, burdened by the need to obtain fresh approvals and support periodically, are scored less positively.

The seventh row — "ties up scarce capital?" — highlights the fact that the "managing aid better" options do not require substantial capital, but the "using financial tools" options do, in varying degrees.

The eighth row — "side effects?" — shows that most of the options would have positive side effects, in the opinion of those consulted. Many of these side benefits would be a consequence, as noted above, of the expectation that if donors could bring themselves to adhere to the commitments that these options would entail, there would be favorable spillovers for other aspects of donor-recipient interactions as well, beyond health. For example, fixing the root causes of lumpy aid, or improving recipients' cash management capabilities, would help other sectors too. The strong green score for "drawing rights for countries that keep to agreed standards" comes, in part, from the prospect that if donors succeed in getting some of their priority concerns embedded into the agreed standards, they would welcome the faster progress that would follow. For example, donors who want to see greater transparency and tighter management in recipient governments' handling of their budgets and spending, or improved tax collection, might see gains. Goals relating to social programs and/or environmental issues could conceivably also find their way into the standards.

Summing up the collected views in Table 9.1 from a different perspective — i.e., looking down the columns instead of across the rows — the "managing aid better" options have significant pluses but also notable minuses. Some of the minuses could be fatal: for instance, if an option cannot get past the test of whether it can be made to happen or not, then all its other characteristics — how good it might be once it was in place — are irrelevant. The "using financial tools" options have less extreme scores, and some of them pass enough of this initial screening to warrant a closer look.

9.4 The conclusions

The bottom line from this exercise — after noting once again that the scores in Table 6.1. come from only a few trial runs of the methodology and would need to be repeated by groups specially pertinent to each new decision making process — can be stated as follows.

First, the "improve cash management" option was found, as noted in Chapter 1, to have more promise than it is generally given credit for. Newer, better assistance to countries to upgrade their cash management competencies seems well worth exploring. The possibility that such assistance could become a major function of one or more global institutions could be examined too, particularly in regard to the International Monetary Fund, as it ponders what its role should be now that its traditional financial support role is dwindling.

Second, options involving an endowment fund, a stabilization facility, or an insurance/guarantee facility also survive to be worthy of further investigation. A

key question for the next round of inquiry would be whether any existing mechanisms or institutions already fill one or more of these roles adequately, or could be adapted to do so. Or, alternatively, are these existing institutions not adequate for the purpose discussed here, and would there be some value added in creating something new, in the same way that the Global Fund and GAVI were deemed to be needed even though the extant traditional aid institutions were supposedly already taking care of the needs they addressed? A second key question is whether donors would have an appetite for a new undertaking at this point, given that so many other new initiatives have been launched in recent years and the fatigue quotient among donors with respect to new proposals is not insignificant. Some observers think that almost any new idea now is a non-starter, but others point out that the most promising options being highlighted here, if properly crafted, could fit within and complement other already-accepted initiatives in ways that reduce the overall complexity.

Third, the "drawing rights for recipient countries that keep to agreed standards" option stands out as especially deserving of additional examination, more so than the other "using financial tools" options, according to those whose views are reported in Table 9.1. Its special features — combining the use of (i) financial instruments to help smooth aid in the same way that those other options do and (ii) requirements that, in order to qualify, recipient countries need to perform well with respect to priorities that matter to donors (since they would have had a chance to help set the standards) — offer intriguing potential in the eyes of many whom we consulted with.

Summing up, this chapter has presented some observations on the problem of how to mitigate fluctuating and uncertain aid, and has suggested some pros and cons of various options for addressing it. This chapter has also has used this particular problem as an example to illustrate how the analytic approach being proposed in this paper can be applied in practice. The next chapter turns to another example.

10. EXAMPLE: "HOW TO MOBILIZE MORE RESOURCES BY COMBINING INVESTMENT MONEY AND DONATION MONEY"

In earlier chapters' discussions of the sorts of problems that arise in work on innovative financing for global health — and the ones that seem to be the highest priority for the years ahead — the problem of how to mobilize more resources for global health by combining investment money and donation money more effectively has drawn especially strong interest, and not a little enthusiasm, in recent years. As noted previously here, the need for more resources to help accelerate progress in improving health outcomes (through research, development, and then the roll-out of new vaccines, medicines, and other products, and through expansion and upgrading of health services on the ground) has heightened focus on where those resources will come from.

The growing recognition that "donation money" (i.e., grant resources from bilateral and multilateral official aid, philanthropic foundations, and other sources) cannot meet all the needs alone — and that "investment money" (i.e., debt and equity placements from the financial markets, some bilateral and multilaterals, and others) has hugely greater amounts of capital to draw on, and only very little of that vast source has been successfully tapped for global health so far — has spawned ambitious hopes of finding new ways to combine the two. Ideas about using one to leverage more resources from the other — and actual applications of those ideas in live transactions — are not new. But many such efforts to date have not strayed far from traditional frameworks that insist on a clear and distinct separation between, on the one hand, investing to get the best rate of return possible and, on the other, funding that seeks less than market returns, where the latter ranges from pure grants to return-of-principal-only to return-of-principal-plus-low-rates-of returns.

Proposals that depart from that framework — and combine donation money and investment money more integrally — are now much under discussion. Some options utilize donation money to mitigate risks (more generally, to improve the risk/reward prospects) for investors, making deals more attractive for investment money. Others, as described below, introduce other modalities aimed at enhancing the prospects for leveraging up to greater total resources for health than would come forward otherwise.

Whether such options can make important contributions — not just in modest one-off transactions but on a scaled-up basis — is still being debated. But further exploration and testing of them will likely be a persistent topic among those interested in innovative financing for global health in the years ahead. The approach outlined below is one way to help think about the issues and choices that this subject raises.

10.1 The options

As in the previous example, and starting again from the building blocks developed in previous chapters, we found that the options most worth considering can be grouped under eight headings.

A "base case" option. The first heading is, provocatively, to do nothing — on the basis of a presumption that if markets are allowed to work on their own, with no special actions to intervene, the right results will emerge, in the sense that the markets will sort out which investment opportunities in global health are deserving of support and which aren't. This heading serves as something of a base case, just as the previous example also had a starting point against which

all other options can be benchmarked, with whatever intricacies and nuances they have.

The "do nothing, just let markets work" option has some fundamental shortcomings, leading to three rationales for going on to look at other options as well. First, there may be good reasons why more resources should be devoted to some global health objectives than markets would do even in the best of circumstances. These reasons are essentially "market failure" arguments: progress in global health has certain benefits that society values more than private investors have cause to. (From an economist's perspective, global health goods have externalities or "public good" or "merit good" attributes that make the social returns greater than the private returns.) Second, private investors may have insufficient information to be able to evaluate the potential risks and returns well, and the cost to them of getting good information is too high relative to other investment opportunities they have. Thus, asymmetries of information, combined with high discovery costs, depress investment in global health. For example, why tie up money in a distant, uncertain health project in risky Africa when there are promising possibilities at home in the U.S. or Europe. Third, even if the previous two arguments were not binding (i.e., even if there were no market failures and no information barriers), it takes time for investors to get comfortable enough with unfamiliar asset classes. For this last perspective, doing more than just standing back and letting markets work can sometimes be appropriate simply on the grounds of shortening the timeframe for market development. In this case, intervening is aimed not at getting market to invest in things they wouldn't want to do otherwise, but — quite the contrary — to speed up the time when they will invest where they should (while weeding out the non-viable options).

The other seven headings are in order roughly from the least to the most challenging, as in the previous example.

Enlist lead investors. The second heading — "enlist lead investors" — proceeds from the idea that the next simplest possible option after "do nothing" is to do what has been a common approach in other similar other cases: namely, use persuasion to the hilt. That is, seek to assemble sufficient support for one's cause — in this case, investing in global health — through convening, arm-twisting, successful marketing, or whatever else it takes to convince more investment money to come in than would otherwise. This strategy accepts, in effect, that the capital markets are what they are, and works within the rules of the game rather than seeking to get around them, change them, or augment them in some way.

One typical variant of this option is to enlist one or more lead investors, with whatever concentration of high profile persuasive efforts are required, and then broaden outward from there, using the lead investors' halo effect and own capabilities to bring in others. An example is a new investment fund that the International Finance Corporation (IFC) is launching, with support from the Gates Foundation, which initially was going to focus on funding health-related enterprises in Africa, but subsequently has been conceived of as an initiative for other developing countries as well.

Such ideas are not without uncertainties. Can enough capital be raised this way? Will the investors do their part over the long run, or retreat after the initial rush of arm-twisting, with their financial contribution falling, when the deal is done, to much less than had initially been talked about? Will the sorts of investments that actually get support be much more conserva-

tive than what had been hoped for and than what is needed to meet the ultimate objective of the initiative? Will it be difficult to place the money well — will the pipeline of suitable targets for investment be too feeble — as has been asked, for instance, about Africa? And will the effort fail in the end, for any of these reasons, to push out the frontier of what has been done in the past? These questions are still very much up in the air for ventures like the new IFC fund, but it is not impossible that the net result could represent a striking step forward.

Reduce information costs. The third heading — "reduce information costs for investors" — takes off from the observation, mentioned above, that one of the obstacles is the low level of good information that prospective investors have about investing in health in developing countries, and the information discovery costs they would have to pay in order to become sufficiently well informed to reduce the high risk premium they assign to such investments currently. As long as each prospective investor confronts this problem individually, few may take the plunge. But if the necessary information collection and assessment work were done in a more collective way (e.g., by an institution that made its findings available to anyone who wanted it either free or on some modest cost-recovery basis), investors would have a less expensive route to learning what they need to know. This is the heart of this third heading: use the power of a pooled effort, obviating the need for costly duplicative work, to reduce the information costs that investors bear. Each investor would doubtless still do its own due diligence on every deal, but they would be able to start from a much higher base of knowledge about the context for the deal than they have now.

There are many possible forms that such an institution could take, as can be seen in the array of approaches taken in other fields facing similar information hurdles. The financial markets have rating agencies, environmental groups have various standalone information sharing entities, the aid community debates tracking mechanisms, other proposals would embed informational functions in an existing multilateral organization, etc. For the present case, determining the right structure would be part of the further explorations required. The funding needed to launch and sustain this investment information intermediary could come from either donors, or a consortium of interested investment houses (which might be harder to make happen, though donors could help persuade the major players to come in). If users of the information we are also asked to pay, cost recovery from them would help defray some of the cost as well (e.g., some data items could be made available free to all, with deeper, more detailed evidence provided for a modest fee), but user fees should not be too high in order not to defeat the whole purpose of making it easier for investors to move into supporting global health initiatives for developing countries.

Socially responsible investing. The fourth heading — "socially responsible investing" — encompasses the assorted panoply of proposals about so-called double or triple bottom line investing (i.e., looking at the social and possibly also environmental effects of investments as well as their profit potential), "impact investing," and other propositions for leavening strict market-based strategies with philanthropic objectives. Views differ greatly on whether these options can be of large or small importance over the long run. Some dismiss this area as destined forever to remain in the realm of boutiquey flash-in-the-pan fads. Others note that, if only a tiny fraction of the trillions of dollars in the financial markets find their way into this sort of investing, the result could still be significant. Also, financial professionals in major investment houses who

deal with high — and ***ultra***-high — net worth clients routinely comment that the resources and appetite for investing "to do good as well as to do well" are far more substantial and robust than is often supposed. Whether that will remain the case for many years to come, especially as global financial markets are buffeted by less friendly circumstances, is anyone's guess at present.

Creative returns structures. The fifth heading — "creative returns structures" — is easiest to introduce by means of an example. An investment deal that will help improve health services delivery in a part of Africa is structured as follows: if the investment returns up to X percent (e.g., 10%) of the capital provided by investors, all of those returns go back to the investors as in any ordinary market transaction. If the returns are higher, the amount that is above the threshold is split, half and half, between the investors and the operation that is providing the services, with the explicit requirement that those funds be used for purposes such as ensuring that poorer households have adequate access to care. Other innovative structures for sharing the returns have been devised as well. The key point here is that these structures offer enough return potential to corral in market investors, but also can spin off philanthropic flows that help good causes in the same way that grants or subsidies do. Further, the incentives are well lined up: choosing projects that have attractive risk/reward attributes, and then ensuring that they succeed in execution, is to everyone's interest, investors and beneficiaries alike. However, as with socially responsible investing, the jury is still out on whether creative returns structures can be a major or minor factor in the years ahead.

First loss takers. The sixth heading — "use first-loss takers to bring in more investment money" — is based on an age-old idea that continually resurfaces in different wrappings. Many forms of investments in today's markets are structured so that if something goes wrong and the investment loses money instead of making a positive return, the losses are borne in unequal proportions among the different groups of investors who put their money in, in accordance with terms agreed at the outset. The group that is first in line to absorb losses (i.e., first loss takers, or the junior-most or most subordinated or "equity tranche" group) bears the highest risk obviously, but also — as a necessary enticement to getting investors who will expose themselves to this high degree of risk — is typically compensated for that by standing to gain the most on the upside if the project produces positive returns. Other groups — protected by the first loss takers — face much less risk than they would otherwise (for which they give up some potential on the upside). At the top of ladder, the senior-most investors have the most conservative position of all. Institutional investors such as pension funds can sometimes take senior positions in investments that, if not structured so as to have these layers of protection, would be off limits to them otherwise. These risk-averse investors, constrained by their fiduciary obligations to their sources (e.g., the participants in their pension plans), would not be able to invest, unprotected, in many of the undertakings that would help global health, but with sufficient first loss takers (and others) beneath them on the ladder, they could become a significant source of more capital for health, given the huge resources they have in total to invest.

This suggests a further step — which is the point of this sixth heading. If more capital could be found to take first loss positions, then the leveraging effect that it has in opening the way for more capital to come in at higher levels could mobilize much larger sums for global health in total. One possible source of more first-loss capital could be donation money, e.g.,

from philanthropies or aid donors. A consortium of donors could step up to take a first loss position alone or in combination with other investors, such as hedge funds, that are willing to take on higher risk in pursuit of higher returns.

Why would donors want to do so? Suppose a donor organization wants to dedicate, say, $10 million to some health –related project. If it provides that money in the traditional way as a straightforward grant, the total impact is just $10 million. On the other hand, if that money is used instead to take a first loss position in a larger investment, the total impact could be much larger, maybe ten times larger, depending on other investors' degree of interest and additional factors. With the old-style grant option, the $10 million is gone the moment the grant is signed — there is no repayment. With the first loss option, the donor looses the money only if the project runs into trouble — and even then not necessarily the entire amount. Donor boardrooms have debated all this at great length, and there are more angles to consider about it than the simple introduction here. But it remains an option worth exploring further.

Smarter corporate philanthropy. The seventh heading — "smarter corporate philanthropy" — raises the idea that the sizeable sums of money that the world' large corporations give away every year — reportedly $11 billion from U.S. companies alone — could be utilized more creatively. Most of these donations are very old-fashioned style gifts. Even the financial services firms — whose main businesses use sophisticated financial instruments all the time — apply almost none of that in their giving. If even a small fraction of corporate philanthropy was used to take first loss positions in investments that would benefit health in developing countries, and if that money leveraged several times that much in investment money, the total resources mobilized could be notable compared to conventional official aid for health. Other options besides first loss taking could also have important impacts. Many close observers of corporate giving are doubtful that it could ever modernize itself to that extent. But others think the time is ripe for change.

Pension fund investors. The eighth heading — "enable MIC and LIC pension funds to invest in health" — highlights a unique under-exploited opportunity in both middle income countries (MICs) and low-income countries (LICs). Many developing countries have large pension funds that now have very large amounts of funds to invest and very few places to put them. Years ago, these countries' pension funds, some of which are public institutions serving government workers while others are in the private sector, were in deep disarray financially, with looming unfunded future liabilities and disastrous effects for fiscal balance and macroeconomic stability. After long hard periods of reform that ultimately were successful for the most part, the newly re-constituted pension funds now are much more solidly grounded and as a result have plenty of capital they need to invest in order to earn good returns so as to serve their participants well. But the rules that define what sorts of investments they can make are very conservative (to protect the interests of pensioners and contributors), allowing them very limited choices, usually all of them inside their own country. Hence they have relatively enormous pools of unused to under-utilized cash.

What would it take to enable the pension funds to invest in activities that would benefit health in their country? First, the deals that they invest in would need to be packaged in such as way as to mitigate the risks and/or increase the potential returns that pension funds would otherwise face, since, as has been noted, health in developing countries is a risky

proposition compared to other investments. This could be achieved by getting first loss takers and others to come in under the pension funds, giving them the protection of being the senior-most investor. Or other such arrangements could accomplish the same end. Second, extensive effort would be required to get multiple laws and regulations changed, and bureaucracies to adjust their ways. The challenges would be demanding — but surmountable.

10.2 The assessment criteria

These eight headings are arrayed across the top of Table 10.1, one column for each, as in the previous discussion on Table 9.1. To assess their pros and cons against one another, we proceeded as before, first examining them with a long list of criteria as discussed in Chapter 8 and then narrowing down to a short list of criteria that revealed the most important differences among the options. The particular criteria that proved to be most incisive are shown down the side of Table 10.1, one row for each, also as before.

Many of these criteria are same as in Table 9.1. This is not a coincidence. We have found from experimentation with this methodology that some criteria are often among the final most important distinguishing factors for most options, and even for most problems. "Hard to make happen?" is one of them: ensuring that an option is feasible — i.e., can actually become reality on the ground despite the multitude of difficulties that stand in the way — is a major consideration in almost all cases. Sufficiency, reliability, and transactions cost are frequently fundamental also.

Four differences compared to the example in Chapter 9. One difference in the list of most important criteria in Table 10.1 compared to the previous example (Table 9.1) is the presence here of "Sensitivity to market ups and downs?" The core issue behind this criterion is that, if an option is sensitive to the vagaries of the markets in the sense that the results from it can be very different in one set of market conditions than in another, then its usefulness as a putative solution to the problem at hand may be diminished, or at least certainly not the same as if it were more invariant with respect to the state of the market. For example, if an option relies on issuing a bond, the fact that bond issuances can have good or bad outcomes (in terms of price and participation) due to developments in the markets makes the option a less dependable alternative than if its results could be controlled and foreseen more definitively.

A second difference from the previous section is that another new criterion — "political, legal, or regulatory issues" — has found its way into the list of top sentinel indicators differentiating the options from one another. In this case, the main point is that many options involving innovative uses of donation money and investment money might require legal and/or regulatory approvals, and possibly also exceptions to or modifications of current rules. Getting over those hurdles — and building the necessary support for an option more generally — may be helped or hindered by political forces and developments. For instance, the "enable pension funds to invest in health" options, as has been mentioned, might have many such challenges to overcome, at least in some developing countries.

A third difference is that the "ties up scarce capital" criterion, which was on the short list of leading differentiators in Table 9.1, has not carried over to Table 10.1, the current example. This is not because the options are the options are all indistinguishable from this perspective. Indeed, there are very clear differences among them: the "do nothing" option would tie

up no capital at all, whereas the other options would require commitments of capital that, in varying ways and degrees, would detract from the extent of capital that is available for other purposes. Rather, the reason that this criterion is not in the top list in this case is that these differences did not prove to be as important as the other criteria. This is partly because in a case such as this where all the options have financial markets features, it is obvious that they will utilize capital, which thereby is not free for other purposes. Also, it is obvious that the amount of capital that they tie up would depend critically on whether they are run at a large or small scale, which is completely variable across all of them.

A fourth difference is that the "side effects" criterion, although present in Table 9.1, is not in Table 10.1. Here the explanation lies in how substantial — or not — the side effects are. In the case examined in Table 9.1, the side effects of the options could well be substantial, since they could greatly affect how development aid is delivered more broadly in some instances. On the other hand, in the case shown in Table 10.1, the side effects would chiefly concern what goes on in the financial markets, and thus the relevant questions to ask are, for example, about whether the introduction of one of these options would affect market prices or quantities or change what sorts of instruments are offered and how. It became clear in our analysis that these sorts of impacts would be tiny at most, since the scale of the options here, however large in the context of health agendas, would be very small in relation to the magnitudes that churn through global finance markets day after day.

10.3 The findings

Turning now to the findings — the cells of Table 10.1 — the first row shows that the extent to which the options would be "hard to make happen" varies greatly. The "do nothing" option poses no difficulties at all, of course, since no one has to do anything to make it happen. The next option — "enlist lead investors" — is not terribly difficult to bring about either, according to these data from our consultations. Getting lead investors on board and ensuring they deliver does take significant effort, but no path-breaking changes in how business is done are necessary. The third option — "reduce information costs" –also emerged as not excessively tough to bring about. Setting up the required institutional arrangements for an investment information provider and then getting it launched and successfully on its way would not be easy, but again, the road to follow is well paved and without major impediments.

The next three options would be slightly more difficult to bring about, we heard from practitioners, but still not overwhelmingly so. On the fourth option — "socially responsible investing" — the challenge is not getting it started, since obviously it has been started and is already much discussed. Rather, the key questions are whether it can reach sufficient scale to have an important impact, and whether it can be sustained over time. The fifth option — creative return structures — is seen as more demanding. While there are a few live applications of this option, the prospects for scaling up depend not only, as with socially responsible investing, on whether enough capital will continue to flow to less-than-full-market-return opportunities over the long run, but also on whether the additional ideas embodied in creative returns structures can be made to catch on enough to be embraced widely as an attractive approach to employ. The sixth option — "use first loss takers to bring in more investment money" — poses similar challenges.

The final two options raise other questions. The seventh — "smarter corporate philanthropy" — will be achievable (or not) depending on whether corporate

Table 10.1: Comparing the pros and cons of different options for mobilizing more resources with investment money and donation money

	Do nothing (Markets will work)	Enlist lead investors (e.g., IFC Africa fund)	Reduce information costs for Investors	"Socially Responsible Investing"	Creative returns structures (tiered returns in Dutch PAI)	Use first-loss takers to bring in more investor money	Smarter corporate philanthropy	Enable MIC & LIC pension funds to invest in health
Hard to make happen?								
Sufficient to solve problem?								
Reliability?								
Transactions costs?								
Risk of "splash and fade"?								
Automaticity?								
Sensitivity to market ups/ downs?								
Political, legal, or regulatory issues								

Note: the dark red entries here signify the "worst" options in the given row, pertaining to the criterion for that row. Dark green represents the "best," and the lighter shades are in-between cases.

leaders are willing to depart enough from old-style donations so that at least a small portion of their annual giving can be deployed more innovatively, using the modern financial approaches that are the bread and butter of many of these corporate' mainline business. The eighth option – the one on pension funds – is somewhat more difficult to make happen, we heard, partly because of the legal and regulatory hurdles that have to be surmounted and partly because of the uncertainties around whether the political and bureaucratic forces in these countries would be able to remove the impediments more effectively than they have dealt with other reforms in the past.

Moving now to the second row – "sufficient to solve the problem?" – of Table 10.1, the first four options, again reading from the left, are not without uncertainties. The "do nothing" option might result in nothing – that is the core question about this option. The "enlist lead investors" option begs a different question: can the arm-twisting that is needed to bring in such investors generate the big sums that may be needed or only more token, smaller amounts? On the "reduce information costs" option, the central unknowns are whether the information intermediary would prove it can add considerable value and whether prospective investors would use it and, as a result, shift more of

their capital into health or not. On the "socially responsible investing" option, the paramount question relating to sufficiency is, as before, whether it can be a sustained large asset class or merely a small side show.

The other four options would be more likely to meet the sufficiency criterion, the responses indicated, because they are more obviously scalable.

The third row — "reliability" — reflects some doubts about how reliable the first four options would be. The doubts are strongest for the "do nothing" option, since it is totally at the mercy of whatever twists and turns in the markets come along. For the next three, much depends on continuous commitment and participation by actors whose fortitude is not immune to the vicissitudes of the markets. Thus even if these options can be made to happen and would meet the sufficiency test, their staying power in the face of reversals in the markets' fortunes is not completely assured year after year.

The other four options, although not exempt from those same concerns, would have some partially offsetting features. The "creative returns structures" and "use first loss" options are based on transactions. Once a transaction has been agreed, its own internal structure, with legal obligations and agreed timelines, makes it more reliable in the sense of being more likely to stay on course to its natural conclusion. There is of course more uncertainty about whether future transactions will be come to pass and what shape they will take, but in the framework being used here, those uncertainties are captured in other criteria (e.g., whether the option can be made to happen) rather than in the reliability issue.

The fourth row — "transactions costs" — displays widely differing cases. At one extreme, transactions costs are not an issue for the "do nothing" option, obviously. On the other hand, they would possibly be massive in the case of the pension funds option, in view of the task of getting the necessary changes and approvals to proceed. In addition, they could be substantial in the case of the "smarter corporate philanthropy" option, to the degree that each corporate hierarchy would have to go through a top-down shift in thinking one by one.

The fifth and sixth rows bring to light additional differences, mostly as expected.

The seventh row — "sensitivity to market ups and downs" — shows that most of the options would have this drawback to a greater or lesser degree. One exception would be the "reduce information costs" option, where the information intermediary would clearly not be at the whim of the markets, although the information it generated would be affected, of course, by market fluctuations. A second exception would be the pension funds option, which, once in place, might be able to maintain investments in health without being greatly affected by at least the markets for publicly traded securities.

The eighth row — "political, legal, and regulatory issues" — indicates that most of the options would not face huge difficulties on this front. The one exception here, as already noted, is the pension funds option, where extensive effort would be required to overpower resistance and red tape.

10.4 The conclusions

So, what are the main bottom lines from this example, bearing in mind the cautions that have been underscored above about the fact that these data are from only a few trial runs of the methodology and would

need to be repeated by groups specially pertinent to each new decision making process?

First, monitoring and assessing the examples of these options that are being applied now, or have been in the recent past, should be a clear priority. For instance, the Africa fund that the IFC is spearheading with support from the Gates Foundation offers a nice opportunity to examine how well the "enlist lead investors" option works. Other examples of this option have been tried too, and could be pulled together as well in this evaluation.

Second, several of the other options look promising enough — considering their scores in Table 10.1 — to merit closer examination. The idea of creating an investment information intermediary to help reduce the information discovery costs that are an impediment now to greater investing in health in places like Africa seems to be well worth a deeper look. So do the options of creative returns structures and use of first-loss positions to leverage in more investment money. Smarter corporate philanthropy has appeal as well, given that only a small portion of total corporate giving would need to be changed in order to have an impact. Finally, the pension fund option, while a longer, tougher road, would be an enormous breakthrough, and on that ground alone should be investigated more. With all these options, one could start with countries where the chances of success are greatest, and use the lessons from them to extend outward to more difficult situations.

ANNEX 1[19]

INTERNATIONAL FINANCE FACILITY FOR IMMUNIZATION

Background

The International Finance Facility (IFF) is a financing mechanism intended to raise funds for the achievement of the Millennium Development Goals, which are estimated to require an additional investment of $30 billion to $70 billion per year until 2015. The IFF would issue bonds on international capital markets and be backed by donor countries. The unique characteristic of the proposal, championed by the UK Chancellor of the Exchequer Gordon Brown in 2003, is that it allows frontloading of assistance — the funds would be available to borrowers immediately, but the countries offering the assistance would be able to pay for it over a longer period. This approach could reduce uncertainty about the flow of aid by capturing the costly, up-front investments that otherwise would be inadequately financed. Immunizations offer a near-ideal vehicle for testing the IFF, because cash up-front to expand current coverage can create long-term health benefits that greatly exceed the costs associated. Competition among development agencies for IFF funds could introduce an element of competition to improve their performance.

What is the International Finance Facility for Immunization (IFFIm)?

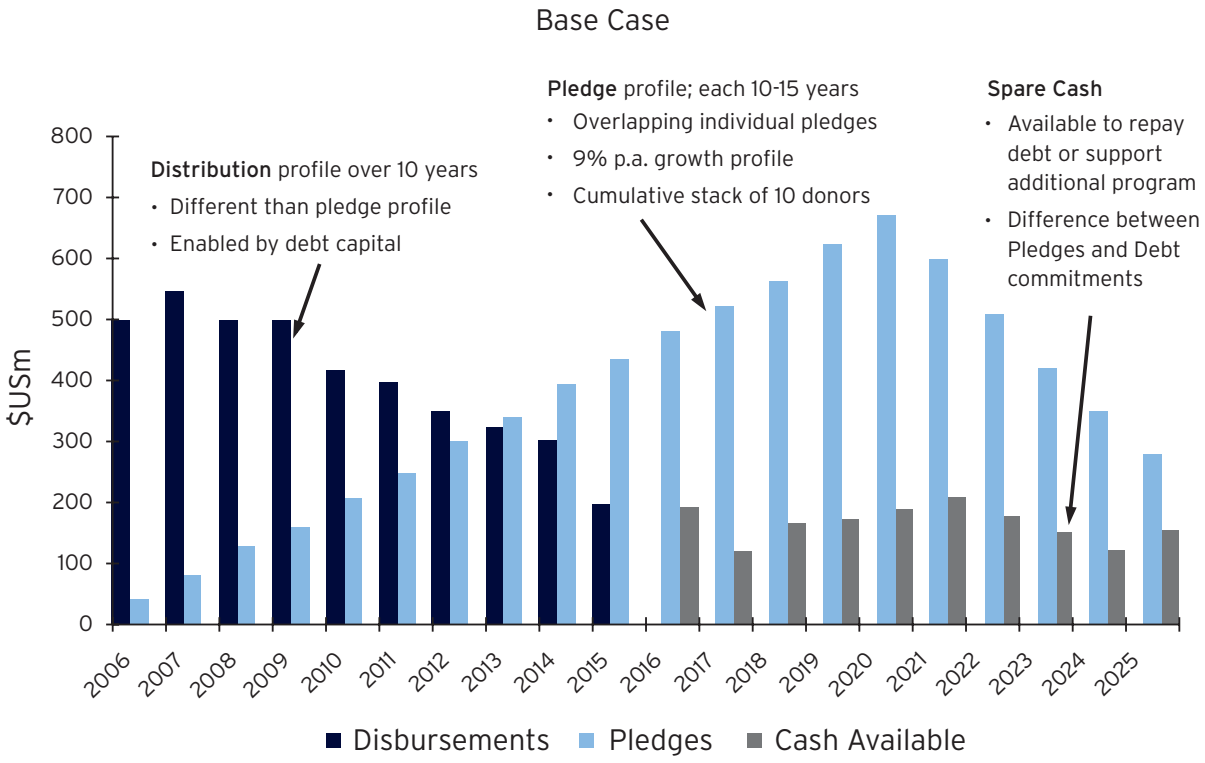
The IFFIm, a pilot project of the larger IFF mechanism, is a UK-registered charity whose sole assets are legally binding payment obligations from sovereign donors. To date, eight countries have created such obligations payable to the IFFIm over 20 years (the amounts shown are total nominal value pledged for the 20 year period): Italy (€473.5 million), Norway ($27 million over 5 years), Spain (€189.5 million), Sweden (SEK 276.15 million), South Africa ($20 million), the UK (£1.38 billion). France has pledged €372.8 million and is expected to make a further commitment of up to €920 million. Brazil has announced a pledge of $20 million. For the European donors, the European Statistical Agency has ruled that pledges to the IFFIm will not be classified as government debt, so the obligation is off-budget.

The IFFIm's first $1 billion bond (rated AAA/Aaa/AAA) was sold on November 7, 2006, with an annual yield of 5.019%, 31 basis points above the benchmark five-year U.S. Treasury bond. The IFFIm expects to issue such bonds to finance a total of $4 billion in disbursements over the next 10 years, using the pledges as collateral. The disbursements will be channeled exclusively through the GAVI Alliance (previously known as the Global Alliance for Vaccines and Immunization) for immunizations and systems improvements in countries with annual per capita incomes below $1,000. The Alliance partners include the GAVI Fund, national governments, UNICEF, WHO, the World Bank, the Bill & Melinda Gates Foundation, the vaccine industry, public health institutions, and nongovernmental organizations.

Why vaccinations?

Immunizations are a cost-effective intervention with a direct impact in reducing child mortality and morbidity. They have been delivered successfully virtually everywhere in the world. If a health system does not perform consistently well, immunizations can be delivered through campaigns, and the programs can be scaled up relatively quickly. Since its inception in January 2000 with a Gates Foundation grant, the GAVI Alliance has proven its effectiveness by disbursing more than $1.3 billion for vaccine programs to

IFFIm: Frontloaded financingfor immunization



increase coverage. The GAVI Alliance's grant system encourages good performance and could disburse significantly more funds without greatly increased costs.

The figure above, from GAVI, illustrates how frontloading works. With a constant stream of income based on donors' binding agreements between 2006 and 2025, the IFFIm goes into the market to raise funds to finance an expansion of the GAVI Alliance. In this example, in the years 2008 through 2012, the amount available is almost double donors' pledges. The major benefit is that many more children will have access to vaccines early in the funding cycle that otherwise would not have been available, with the frontloading also giving time for the partners to evaluate the impact and decide how to sustain the gains. An important secondary benefit to GAVI is its ability to manage a predictable revenue stream that does not depend only on current donations.

The GAVI Alliance estimates that the current guarantee of $4 billion will translate into 5 million fewer child deaths over 10 years and 5 million fewer adult deaths from liver-related diseases, which can be prevented by Hepatitis B vaccinations. The incremental cost per life saved by the IFFIm is estimated to be $755. These numbers are in addition to an estimated 1.5 million lives saved through the GAVI Alliance without the additional resources from the IFFIm. Moreover, the alliance expects that greater predictability of higher-volume purchases will lead to more competition, less risk to producers, and consequently reduced prices for vaccines.

What's the catch?

The IFFIm reduces the amount of assistance disbursed by an estimated 3.5 percent for interest and commissions — the cost of frontloading through borrowing. The return to beneficiary countries due to the frontloading is expected to outweigh these additional costs, so unless donor countries could reliably contribute without the IFFIm at levels equivalent to the amounts shown in the figure above, the IFFIm makes sense. It costs donors the same overall and produces a higher return for the beneficiaries. The major risk lies in whether the additional resources will actually produce the expected gains. As a test of the IFF, the IFFIm seems to be a good fit. However, tying it to GAVI does not test whether it could improve aid effectiveness by causing agencies to compete for funds. That could be an important additional benefit of the IFF and merits a test too.

ANNEX 2[20]

AIRLINE SOLIDARITY CONTRIBUTION

Background

In the search for additional funds for global health initiatives, a global tax has theoretical appeal. Many health issues have cross-border impacts — they are global or regional in nature. Recent examples include avian flu and HIV/AIDS. Traditional examples include malaria, tuberculosis, smallpox, and polio. Whether a country has an adequate health surveillance system, so that diseases can be tracked; whether it invests adequately in research; and how it regulates drugs all have international implications.

A global tax would help to address inadequate funding for such problems and enable all countries to share responsibility. The practical problem with a global tax is all or most countries would have to agree to a uniform tax, or they would have to give up sovereignty to an international body that would impose the tax. Thus, despite their possible benefits, global taxes have never gotten traction politically.

What is the "Airline Solidarity Contribution" and how does it work?

Since 2004, a group of countries led by France has considered implementation of an add-on to existing airline taxes, called the airline solidarity contribution, to generate resources for global health. The additional airline tax is not a global tax in the strict sense of having a single agreed tax and a global authority that has the power to levy it and allocate proceeds. Rather, it is a domestic tax that participating countries have agreed to coordinate and allocate to support UNITAID, an International Drug Purchase Facility for AIDS, tuberculosis, and malaria

On July 1, 2006, France introduced this levy on departing passengers from French airports, including on domestic flights. As shown in the table below, it is a unit tax (a fixed amount, not a percentage) added to the price of a ticket, with the amount dependent on destination and class of service. The class of service difference is intended to cause the rich to pay more. A round trip within France would cost an extra €2 in economy and €20 in first class. The new intra-Europe solidarity levy represents a 26 percent increase for economy class and 255 percent for first class. For other destinations, the increases are 57 and 568 percent, respectively. While not trivial, the French authorities emphasize that the increased tax is small relative to the total cost of a trip or a holiday. Total revenue from this new levy will approach €180 million per year, with 90% allocated to UNITAID and 10% to IFFm.[21]

France designed the tax to limit its impact on the competitiveness of the airline industry and France as a destination. Seventy percent of passengers are estimated to pay the lowest rate of €1. The levy is imposed on passengers, not carriers, so competition between

French Civil Aviation Taxes 2006

Destination	Civil Aviation Tax	Solidarity Levy	
		Economy Class	Business & First Class
Intra-Europe	€3.92	€1	€10
Other	€7.04	€4	€40

airline companies should not be distorted. Making connections through France should be minimally affected, as passengers transiting for less than 24 hours are not charged the tax. As an add-on to an existing tax, additional collection costs for the airlines and government are limited to the complexity introduced by differentiating passengers by class (destinations were already taken into account).

What are the arguments for and against such a tax?

This global tax is not perfect, but it is an inventive way to try to gain the benefits of one. An airline tax can be introduced using pre-existing airport tax systems, as the French example illustrates, with relatively low implementation costs and possibly limited negative effects on the industry. The airline tax does not affect the sovereignty of countries given that each national government can make its own decisions on the amount of the levy and which passengers must pay it. The tax can be largely "exported," for example, if developing countries tax only international first and business class passengers. Air traffic has grown historically at about 8% a year globally, so if the tax does not disrupt the industry, it can become a consistent and growing source of revenue for global health.

An argument against any such tax is that it will reduce economic activity and incomes, maybe imperceptibly, but it will happen. In any event, elected leaders have determined that the benefits outweigh the costs and that this is an appropriate vehicle to redistribute consumption from airline passengers to poor people suffering from AIDS, tuberculosis, and malaria.

What are the risks?

Some countries already rely heavily on airline and airport taxes; adding another increment could reduce a country's competitiveness at the margin. For example, a businesswoman making a connection through Paris to New York will soon realize that staying overnight to enjoy a day in Paris adds a tax of €40, which would not be paid in Rome or London. If she does not, her company will. Price-conscious tourists with destination options will also watch such costs closely. Time will tell how much this issue matters.

Earmarking the proceeds of this domestic tax to UNITAID, which countries confirm when they join it, may allow UNITAID to mimic to a degree an international tax and spending agency, although there is no real experience yet on how binding the agreements will be in practice. Changes in behavior will be facilitated because the unit tax will have to be adjusted to keep up with inflation, which in many countries will create regular opportunities to reexamine past commitments in light of the experience.

Present status and expected future directions

As of April 2007, the airline solidarity contribution is effective in eight countries[22], with most limiting the tax to international passengers. These countries generate an estimated €22 million annually, in addition to France's contribution. Another 20 countries are developing the tax. In addition, Norway has allocated part of a tax on jet fuel, Spain makes a contribution out of its budget, and the UK has made a 20-year commitment from its budget. Poor countries as well as rich countries participate.

ANNEX 3[23]

ADVANCE MARKET COMMITMENTS (AMC) FOR VACCINES

Background

Production of knowledge-based products like vaccines is characterized by high fixed costs because the product development phase can be lengthy, costly, and involves a high risk of failure. Once developed, however, these products tend to be relatively easy to replicate, and production costs can fall quickly, causing prices in a competitive market to fall as well. These characteristics create both a problem and an opportunity for international health.

The ***problem*** is that high up-front costs mean that vaccines are not developed with the poorest (and sickest) people on the planet in mind. Millions of people – mostly children – die each year in poor countries from infectious diseases. Vaccines are not developed for them because the potential revenue stream is too small and unpredictable to be a viable business proposition. On the other hand, the ***opportunity*** lies in the long-term low marginal cost of production. An adequate supply of new vaccines should persist at low, unsubsidized prices if only the development costs could be financed. The Advance Market Commitment is a mechanism to solve the problem and take advantage of the opportunity.

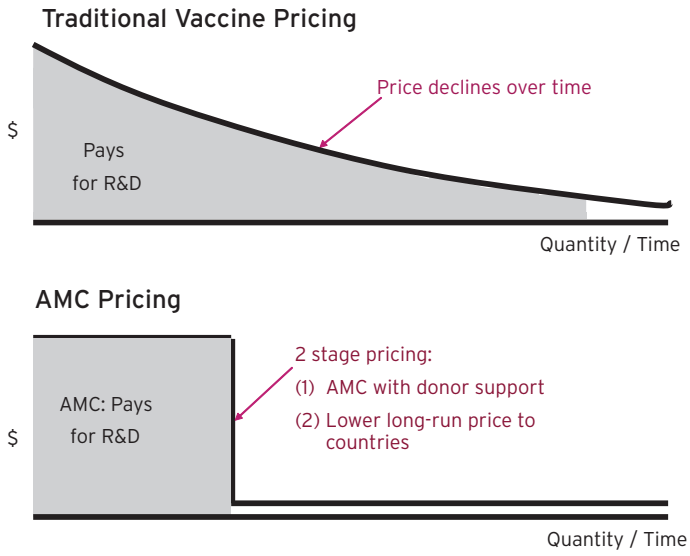
How does an AMC work?

At the core of the AMC is the concept of two-stage pricing, illustrated in the figure to the right. In a traditional market, the price of a vaccine declines gradually as it turns into a commodity. The shaded area is total revenue for the vaccine, which finances development, manufacturing, distribution costs, and profits.

Two-stage AMC pricing finances development costs through an up-front subsidy from donors for a negotiated time period. As a quid pro quo for the AMC, the supplier agrees to continue selling (or licensing) the vaccine at a lower price following the AMC period. Eventually competition in the market keeps the price low without further intervention.

The AMC thus has two obvious core elements. The first is that donors make a commitment to finance, at a high negotiated price, a specific quantity of the vaccine for a period of time to defray development costs. The second is that manufacturers agree to continue producing the vaccine at a lower price after the AMC is depleted. A third less obvious element is that technical specifications for the vaccine need to be explicitly agreed in advance, and a technical committee has to decide that the vaccine being offered meets those specifications. A legal framework agreement determines the total value of the AMC, the length of time over which it will be paid, the price and technical requirements for the target vaccine, and donors' financial commitment.

The AMC is not a purchase agreement. A manufacturer can tap into the AMC only when the vac-



cine is purchased by eligible low-income countries. Developing country governments can purchase as much or as little vaccine as they choose, but will pay only a small fraction of the agreed AMC price. The difference is paid by donors' commitments during the first pricing stage. In effect, an AMC seeks to mimic a regular pharmaceutical product market by promising companies a price that would include an adequate return on their investment in developing the vaccine, bringing it to production, and selling it. If no vaccine is sold, however, the investment is lost.

Multiple AMCs could be signed for any single vaccine to encourage innovation and competition among suppliers from the start. Suppliers thus face normal competitive risks in the market, but they have an incentive to enter it because they can recover the development costs if they succeed — just as they do for products targeted to rich-country markets. An AMC is, in short, "pull" funding to attract suppliers.

What are the arguments for and against the AMC mechanism?

Tremendous intellectual and organizational effort has gone into development of the AMC. The core justification for it is that it addresses the presumed causes of inadequate innovation in vaccines for developing country markets. It does this in a way that maintains incentives for performance by suppliers and encourages competition. Many unknowns remain, which can be understood better with experience.

There are many alternatives, including public funding of research and development (R&D), purchase guarantees, prizes for new vaccines, purchase funds for new vaccines, and patent buy-outs. In essence, the AMC is a hybrid of some of these other options. The AMC is one instrument and certainly does not preclude experimentation with other options; moreover, continued or expanded public or charitable funding of R&D ("push funding") for poor-country diseases is an essential complement.

Present status and expected future directions

The first pilot AMC was launched in February 2007 for vaccines against two strains of the streptococcus pneumoniae bacterium that globally cause 80 percent of pediatric cases of pneumonia, middle ear infections, meningitis, and sepsis. These are "late-stage vaccines" expected to be licensed by 2010. The $1.5 billion AMC would finance incremental costs associated with global efficacy research and scaling up for poorer countries, with an estimated price per dose of $5-7, payments beginning in 2010 for 7-10 years, and support for 2-4 manufacturers. The AMC is financed primarily by Italy, the UK, and Canada, with contributions by Norway, Russia, and the Bill & Melinda Gates Foundation.

A second AMC has been recommended for a malaria vaccine, which would be an early stage vaccine. There are 89 candidate malaria vaccines — only one of which is late-stage — with an estimated earliest delivery date of 2016. The size of an AMC large enough to support 2-3 manufacturers is estimated at $4.5-$5.0 billion, but the amount is uncertain and depends on how long a time lag there is between new products. Success in malaria will also require additional "push" financing for R&D. The test for a malaria vaccine AMC is whether it would attract more firms to invest in bringing alternatives to market and/or cause them to increase innovation, speed up the development process, and reduce the time lag between new products. There is only one way to find out...

ANNEX 4[24]

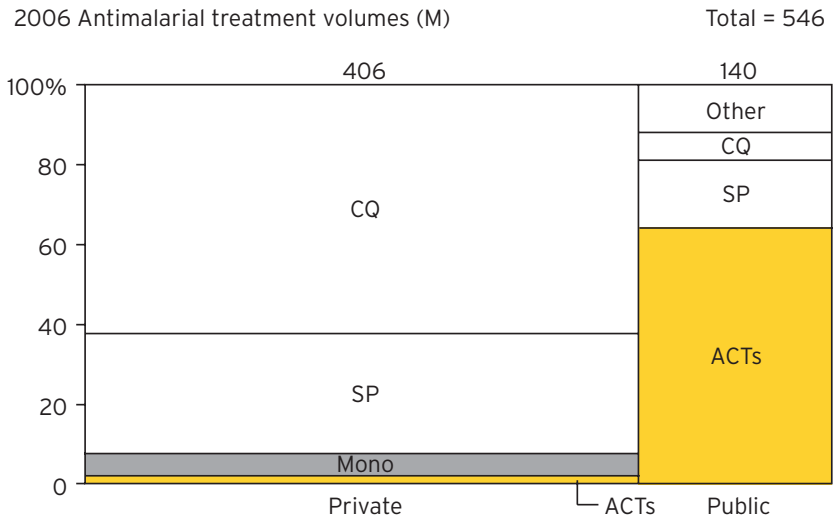
GLOBAL ARTEMISININ-BASED COMBINATION THERAPY (ACT) SUBSIDY[25]

Background

Malaria affects 300 to 500 million people annually, killing an estimated 1.2 million, most of them children in Africa. Effective strategies for reducing this scourge must include both prevention (indoor residual spraying of insecticides, use of insecticide-treated bed nets, and vector control) and treatment. Treatment requires effective drugs that are readily accessible to the population at risk, who need also to be well informed about symptoms and treatment. Knowledge and innovation are also needed to improve effectiveness and reduce costs. An ACT subsidy would address the treatment element.

The problem

An estimated 546 million anti-malarial treatments are consumed per year globally, with governments delivering 27 percent and private sources accounting for 73 percent. The picture at the right describes the market. In total, about 75 percent of treatments are based on inexpensive but decreasingly effective drugs (CQ, or chloroquine, and SP, or sulfadoxine-pyrimethamine). Treatments based on artemisinin, a relatively new and powerful but much more expensive anti-malarial, have entered this mix, both alone (monotherapy) and in ACT form (combination therapy). ACTs are the WHO-suggested standard in an effort to delay emergence of artemisinin-resistant parasites, which has rendered previously successful drugs ineffective.



ACTs are sold to the public sector at a manufacturer's price of $1 per treatment, which is about 20 times the wholesale price of CQ. Manufacturer's prices to private wholesalers are $4 to $5. Retail prices in developing countries range from $6 to $10, compared to $0.40 or less for CQ and SP. Subsidies for purchase of ACTs have been available to governments in developing countries since 2004, with a positive impact on treatments, as shown in the figure above. The ACT subsidy has two goals for the private market: to crowd out monotherapies and to deliver an effective treatment for the sick.

History of and rationale for an ACT subsidy

The idea of a global subsidy originated in 2004 with a U.S. Institute of Medicine report entitled ***Saving Lives, Buying Time: Economics of Malaria Drugs in an Age of Resistance***. If successful, the ACT subsidy will maintain the effectiveness of artemisinin over a longer period of time. If done everywhere, it will maintain this

benefit over space (success in space gains success in time). As part of a comprehensive malaria program, successful treatment can reduce transmission. These benefits are characteristics of a global public good.

Of course other options could be pursued to achieve the same goal. Monotherapies could be banned. The public sector could be expanded or malaria patients required to use public clinics. People could receive vouchers for ACTs. Price controls could be imposed. Questions of practicality and ideology aside, all of these alternatives require local action and thus fail the test of a global intervention to address the problem everywhere at the same time, preferably with minimal transactions costs.

How would it work?

The goal of the subsidy is to get the street price of ACT down to 40 cents. Wholesalers that buy directly from manufacturers would be pre-qualified to participate by the ACT Facility (ACTF). The ACTF would tender and/or negotiate with manufacturers for ACT, seeking to obtain the same price charged to public buyers ($1 currently). Once a qualified wholesaler enters into an agreement with a qualified manufacturer and the order is delivered, the ACTF would pay the subsidy necessary to reduce the price to $0.05. For example, if today's ACT price to wholesalers is $4, the idea is to generate savings through competitive bidding of $3, then provide a cash subsidy for the final $0.95 to generate a price of $0.05 for the wholesaler (equivalent to the price of CQ). Proponents suggest that in practice the required subsidy may range from $0.95 to $1.95. The price tag for an estimated 250 million treatments, including the administrative, program evaluation, and subsidy costs, would be about $300 million per year. The expected result would be that 2/3 of all treatments would be ACTs.

Risks

There is almost no risk of failure in crowding out monotherapy artemisinin from the market. In fact, quite a small subsidy would probably do that. The risks have to do with success in improving treatment.

Will the supply chain pass the savings on to the consumer? The result will differ in every market. An analysis based on prices in Uganda suggests that in a competitive market, the ACT price could be brought down to about $0.60 from the current price of $9. In less competitive markets, the estimate is $1.50 to $2.50, but alternatives are priced higher too. ACT actually works, so at a higher price it still might crowd out CQ and SP. In either price scenario, over time there is little question it would crowd out more expensive artemisinin monotherapy, assuming little difference in manufacturing costs.

Will sellers stop shaving pills, selling duds, prescribing the wrong drugs, and so on? Will patients become more effective consumers and self-treaters? Nothing about the price subsidy affects these behaviors. However, attention to packaging, public information, and a quid pro quo by the ACTF for manufacturers and wholesalers to advertise good practices aggressively could build incentives to reduce this risk in the program. Inescapably, even a global subsidy needs local complementary actions to fully meet its goals.

Present status and expected future directions

Many details need to be worked out, but the goal is to roll out the ACT Subsidy in November 2007.

ANNEX 5[26]

DEBT2HEALTH: DEBT CONVERSION FOR THE GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS, AND MALARIA

Background

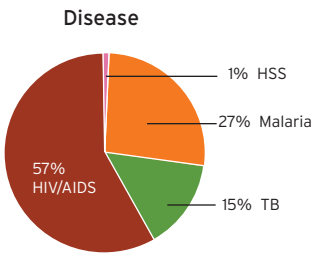
Despite significant increases in funding for HIV/AIDS, tuberculosis (TB), and malaria over the past decade, estimates suggest a continuing and substantial shortfall in funding. The Global Fund has projected, for example, that 5 million people in Africa would benefit from antiretroviral treatment that costs $1,000 per year, an outlay of $5 billion annually just for that purpose. In the five years from 2002 to 2007, the Global Fund has raised and committed $7 billion, not much more than the annual estimate for this single need. Total global needs for HIV/AIDS, TB, and malaria are estimated to be in the $15 billion/year range. Hence the fund faces a perennial demand for additional funding.

Figures 1 and 2 illustrate the Global Fund's record in providing assistance. As shown, HIV/AIDS receives more than half the funding, and governments account for about two-thirds of its grants. The Global Fund follows a performance-based funding system focused on output measures. As of end-2006, it reports that it has financed antiretroviral treatment for 770,000 HIV-positive people, 2 million people treated for TB, 18 million insecticide-treated nets distributed, 23 million malaria treatments delivered, 9.4 million people receiving HIV counseling, 1.1 million orphans provided basic care and support, and 23 million receiving community outreach services. To support its core work of raising and disbursing funds for these programs, the Global Fund has been seeking new sources of revenue. On April 26, 2007, its Board approved a pilot of the "Debt2Health" program in four countries (Indonesia, Kenya, Pakistan, and Peru) between 2007 and 2009.

Global Fund Debt Conversion

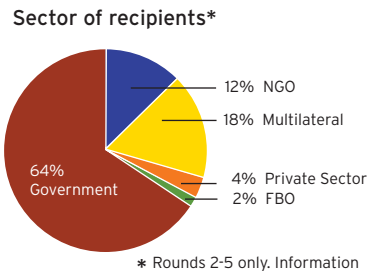
The idea of a Global Fund debt conversion was introduced at the International AIDS Conference in Barcelona in 2002, was further developed in a Global Aids Alliance and Advocacy International feasibility study in July 2005, and has been further adjusted for the pilot phase. The Global Fund sees four potential sources of debt for conversion: (a) bilateral concessional debt, owed by 16 lower middle-income countries, that has already been rescheduled and can be converted now (this debt is the target of the pilot); (b) remaining commercial and bilateral official claims on HIPC (Heavily Indebted Poor Country Initiative) countries, most of whose debt has been canceled; (c) remaining multilateral claims on HIPCs (mostly by regional institutions in developing countries); and (d) nonperforming debt owed by non-HIPC countries to private entities that may convert it as an act of charity. The stock of debt in these four categories runs into many billions of dollars.

Figure 1. The Global Fund: Distribution of Funds, by Disease 2003–06



Source: Global Fund Website

Figure 2. The Global Fund: Distribution of Funds, by Implementer 2003–06

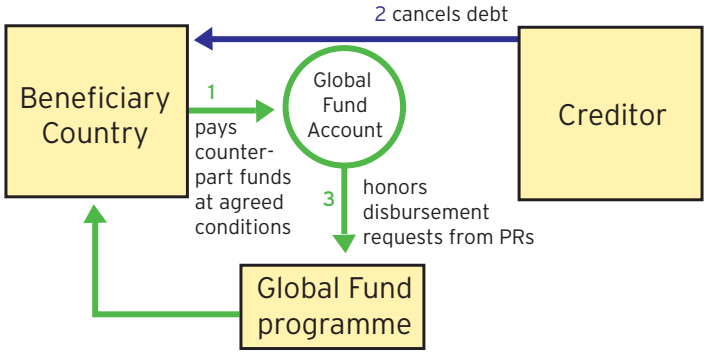


* Rounds 2-5 only. Information not available for Round 1.

How would GFDC work?

Under the pilot approved by the Global Fund Board and illustrated in the figure to the right, a creditor would agree to write off debt in exchange for the beneficiary's commitment of counterpart funds (the local currency equivalent of the present value of the remaining debt) to a Global Fund account for domestic projects that have been approved through the normal Global Fund process. The Global Fund is a party to the conversion agreement, in that it receives the money. Payment into the Global Fund account can be through cash (in two installments) or promissory notes. Notwithstanding the currency of payment, the funds would be converted to a reserve currency like the US dollar. Through this program, the Global Fund obliges itself to earmark funds for a single country's programs.

Debt2Health mechanism



The example of Indonesia

As of early 2007, Germany had agreed to convert €200 million ($260 million) of ODA debt over the next two years at a discount of 50 percent for the beneficiary. Indonesia is likely to be the first beneficiary, with €50 million in debt to be canceled by Germany if Indonesia contributes half of that amount through the Debt2Health mechanism. An agreement with Pakistan would be expected to come next, with Kenya and Peru following. Germany's commitment would increase Global Fund resources by $125-130 million. During the pilot, the goal is to increase donor participation and double this amount.

What are the arguments for and against a Debt2Health mechanism?

The incentives for a creditor to participate in Debt2Health can be substantial. Debt conversion for bilateral donors is difficult and transactions-intensive. It typically requires that both the amount and use of counterpart funds be agreed, which may involve developing, completing, and evaluating a new project or identifying another acceptable use for the funds, with monitoring. If donor and recipient countries can substitute the Global Fund for this process — accepting the desirability of its goals, procedures for selecting projects, and accounting for results — the process of debt conversion could be greatly simplified. If debt conversions become an important tool for financing Global Fund activities, they could cause excessive earmarking to specific countries, but that certainly is not an issue now.

However, for the debtor country, if the loan is not being serviced today, a partial cancellation requiring counterpart funds would be more expensive than the status quo, so it is likely that only countries capable of making such payments could benefit. Yet a successful pilot might make the mountain of outstanding obligations of low- and middle-income countries a feasible resource for better health.

ANNEX 6[27]

PRIVATE SECTOR FINANCING FOR THE GLOBAL FUND: (PRODUCT)[RED]

Background

In a December 14, 2006, talk at the Center for Global Development, Richard Feachem, the first executive director of the Global Fund for HIV/AIDS, TB and Malaria, emphasized the importance of sustainability and predictability of funding for its work: "The PEPFAR (President's Emergency Plan for AIDS Relief) and the Global Fund together will have probably 2.4 million people on anti-retroviral therapy by the end of 2007. That is anti-retroviral therapy until death... If the money stops the drugs stop and people are dead within weeks. If the money fluctuates the drugs fluctuate and resistance is greatly fueled by the virus to the drugs... And so this sustainability and predictability of finance is absolutely critical to this enterprise..."

As of March 31, 20007, The Global Fund had a portfolio of 405 grant agreements in 132 countries, with a total commitment of about $12 billion. It has cumulatively disbursed $3.5 billion in its first five years (since January 29, 2002). Disbursements are rising rapidly, with 43 percent of the total disbursed in 2006 alone. While support in terms of cash and promised support for the Global Fund has accumulated to over $10 billion, only about $5 million of these funds have come from commercial enterprises. A key element of a strategy to develop a predictable and sustainable flow of contributions is to diversify sources of funds, and private commercial contributions could potentially play a much larger role.

What is (Product)[RED]?

(Product)RED was created in 2006 by Bono, lead singer of U2, and Bobby Shriver, Chairman of Debt, AIDS, Trade, Africa (DATA) specifically to address this issue. Red is a limited-liability company owned by its two founders. It licenses its trademark to companies that agree to donate some of the revenue or profits from the sales of (Product)RED goods or services to the Global Fund and pay a fee to Red for marketing and administration. The founders emphasize that it is a business model, not a charity.

How does it work?

The (Product)[RED] trademark is licensed to well-known, global, profitable companies, such as American Express, Apple, Converse, the Gap, Giorgio Armani, and Motorola. Each partner develops products branded with the (Product)[RED] logo. Every arrangement is different, but partners have generally pledged about 40% of profits from sales of Red products to Global Fund programs in Africa.

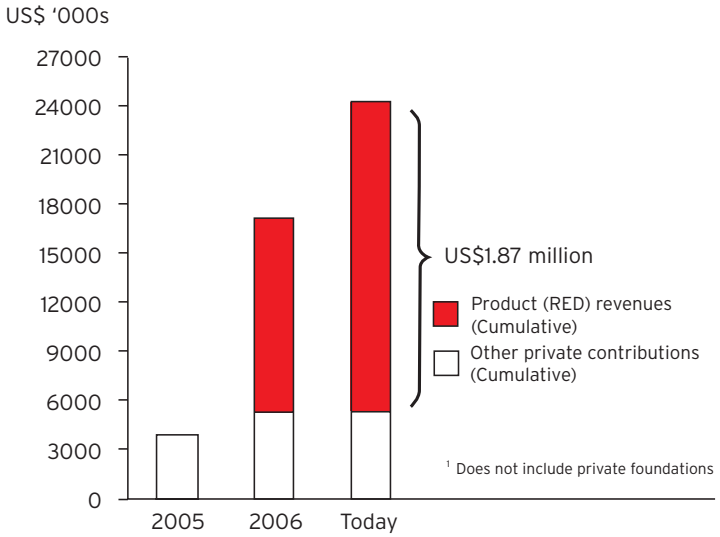
Although (Product)[RED] is similar in some respects to other cause-related marketing ventures such as "Newman's Own," where all profits are donated to charity, it differs in that it is a single brand marketed across different companies. Only one company in each product category is licensed by Red, which introduces a monopoly element within each product category. Red companies benefit from its brand recognition, cross-brand marketing, and ready access to celebrity support. Red provides a way for companies to tap into demand by so-called "conscience consumers" without having to develop their own brand and giving arrangements. In short, companies can expand their markets, sell to new groups of consumers, make more money, and do good all at the same time.

What are the arguments for and against (Product)[RED]?

(Product)[RED] could generate a long-term source of corporate revenue for the Global Fund at higher volume

and greater predictability with lower transaction costs than would be possible through solicitations of charitable giving by businesses. The figure to the right, presented at the Global Fund's Board meeting in April 2007, shows spectacular growth in cumulative contributions from Red during its first year of its existence. In 9 months of 2006, it raised $11.7 million, but another $7 million arrived in the first 3 months of 2007. Advocates hope to reach several hundred million dollars a year as the brand takes off. As with the Debt4Health initiative, the Global Fund allows country "earmarking" for Red as a concession to its marketing needs. For example, in 2006 it identified specific grants to Rwanda and Swaziland as funded by Red. It detailed for Red customers what these grants would do. In a vast sea of funds, however, this type of earmarking has little economic meaning in the normal sense of the word and probably has no actual effect on Global Fund allocation decisions.

Figure 1: (Product)[RED] revenue growth (2006-April, 2007)[1]



By linking an ethical cause to attractive products, (Product)[RED] also hopes to encourage consumers who generally would not be considered "conscience consumers" to behave as if they were. The (Product)[RED] campaign also raises public awareness among consumers of the Global Fund and its activities. That could translate into other benefits, such as encouragement to politicians to support official donations to the Global Fund.

From the start, (Product)[RED] has been criticized for allowing its partner companies to profit from increased sales on the backs of sick, impoverished Africans. In response, proponents repeat that (Product)[RED] is first and foremost a business, but one that generates funds that otherwise would not exist for AIDS victims in Africa. They add that it piggybacks on commercial marketing and, by virtue of commercial transactions for Red products, consumers increase their knowledge of the depth of the AIDS problem in Africa.

Further, some claim that (Product)[RED] lacks transparency with respect to the amount of money each company is actually contributing to the Global Fund. Some companies, like Apple, which gives $10 from each sale of its Red iPod, clearly state the amount of money that goes to the Global Fund. Other companies, like The Gap and Giorgio Armani, which promise to donate a certain percentage of profits from sales of Red products, do not specifically state how they calculate the profits.

Whatever the criticisms, because (Product)[RED] is a business, it will succeed or fail on that basis.

ANNEX 7[28]

FINANCING GAPS FOR GLOBAL HEALTH

Background

As international commitments are made and new technologies are developed to confront global health challenges, many organizations have begun to prepare estimates of global health funding requirements for the coming years. These estimates range from the more general (assessing the amount needed to achieve the health-specific Millennium Development Goals or the health interventions of the World Development Report 1993) to the acutely specific (cataloging the financing gaps for disease-specific research and development targets).

What resources are needed?

Overall health needs

The UN's Millennium Development Goals have provided the impetus for many organizations to estimate financing gaps. In recent years, several studies have analyzed the costs associated with global efforts to attain the health-specific goals of the MDG targets by 2015:

- World Health Organization's (WHO's) Commission for Macroeconomics and Health, 2001: Projected the shortfall in external health assistance to grow from $22 billion/year in 2007 to $31 billion/year over the next decade, based on an estimate of needed spending of about $38 per capita
- World Bank, 2002: Projected a gap of $15–25 billion/year over the next 10 years
- World Bank, 2003: Showed evidence of a shortfall of $25–70 billion/year from 2005 to 2015
- UN's Millennium Project, 2005: Estimated its financing deficits to range from $30 billion to $50 billion/year

The breadth of the discrepancies between these estimates demonstrates the difficulty of estimating such a broad scope of goals, interventions, and costs and illustrates the range of choices available to national and international policymakers.

Disease-specific gaps

Seeking to focus the attention of the donor community more squarely on particular issues, several disease-specific organizations have produced their own estimates of the costs of achieving the MDGs related to their area of activity. Chief among those targeted groups are the WHO partnerships for HIV/AIDS, tuberculosis, and malaria:

- UNAIDS, 2005: Projected a need for $55.1 billion over the next three years to cover prevention, treatment and care, and program costs, leaving a financing shortfall of $6 billion in 2007, rising to $8.1 billion in 2008
- StopTB, 2005: Estimated costs of $56.1 billion over the next 10 years, resulting in a $31 billion gap based on current aid trends
- Rollback Malaria, 2005: Projected a need for $4.1 billion/year for the next decade, leaving a financing gap of approximately $3 billion/year

Other major international entities have joined the rush to quantify needs in advance of the looming 2015 deadline:

- Global Fund, 2006: Projected a shortfall of $2.1 billion of the $5.5 billion needed for 2006–07 to maintain programs, as of May 2006; estimated the cost of expanding programs to meet global needs to be $10.9 billion in 2006–07, rising to $13.6 billion and then $23.2 billion for 2008–10

- Commission for Africa, 2005: Projected the need for a $19.6 billion/year increase in health assistance for Africa by 2010, with $10 billion of the total dedicated to HIV/AIDS interventions
- WHO and the Global Alliance for Vaccines and Immunization (GAVI), 2005: Estimated the cost of immunizing populations of 72 of the world's poorest countries over the next decade to be $35 billion, leaving a gap in financing $11 billion to $15 billion
- UN Population Fund (UNFPA): Predicted financing requirements for reproduction health programs to exceed $7 billion/year by 2015, a $1 billion/year shortfall
- Global Health Council, 2006: Called for an additional $4.1 billion/year to spend globally on neonatal interventions
- WHO, 2005: Determined overall need to be $9 billion in 2006, soaring to $16 billion by 2015, based on two reports on maternal and child health, resulting in a $6 billion/year financing gap by the end of 10 years

Intervention-specific gaps

The organizations' estimates represent only the most easily recognized gaps. Many other assessments have produced similar statistics for still more specific health interventions:

- WHO: Estimated the cost of eliminating shortages in human resources capacity for health care to be $95 billion to $130 billion over the next 10 years
- International Partnership for Microbicides: Projected a need for $280 million/year in funding to develop microbicides in the fight against AIDS, double what is currently being allocated to such efforts
- The Malaria Research and Development Alliance: Estimated about $2.7 billion/year needed to correct the spending ratio on malaria, which accounts for over 3% of the disease burden globally but receives only 0.3% of the world's health-related R&D investment
- The International AIDS Vaccine Initiative: Projected an annual investment of $1.2 billion needed to accelerate progress toward an HIV vaccine, $500 million above current funding levels

In addition to current health epidemics, the prospect of an influenza pandemic has led the WHO to prepare a Global Vaccine Action Plan that calls for the investment of $3–10 billion over the next five to 10 years to ensure that the world is adequately prepared for the worst-case scenario.

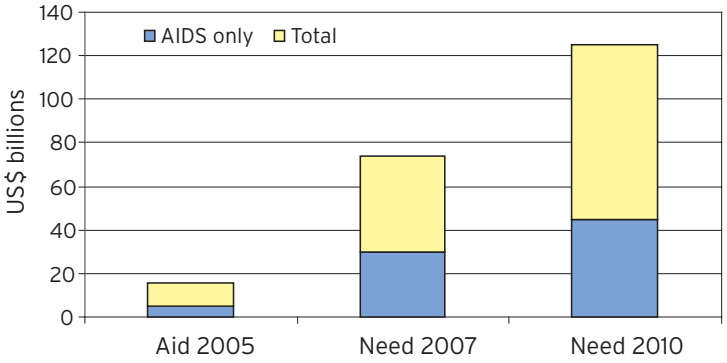
What is the context for these outlooks?

The studies conducted by the World Bank, WHO, and UN determined that additional funding of $20–70 billion per year will be needed to achieve the Millennium Development Goals by 2015. The total of the major disease-specific estimates addressed above amounts to an annual shortfall over the next decade of about $35–40 billion/year. These are large sums of money, and, what is more, they reflect only interventions designed to address existing health problems. To build and sustain health systems and services that will be capable of scaling up existing technologies, developing new technologies and interventions for current and future afflictions will take significantly more resources. Indeed, the Copenhagen Consensus in 2004 estimated the cost of providing all developing countries with the basic health services outlined in the World Development Report 1993 to be $337 billion/year.

To place these figures in perspective, low- and middle-income countries spent a total of $350 billion/year on health in 2004, representing about 12 percent of the total global health expenditure. Of this health spending, only $11.4 billion, or 2.6 percent, came from

health-specific aid. At the same time, total official development assistance (ODA) to developing countries in 2004 was about $80 billion. Although development assistance is trending slightly upward (total ODA for 2005 is estimated to be $105 billion), the amounts requested by the health community in these financing estimates are staggering relative to historical experience. Even as advocates for greater development assistance target a doubling of aid to fulfill global funding needs, these estimates of the health financing gaps show such efforts to be inadequate. Fully funding these projected interventions would require, at least, a four- or fivefold increase in the level of external contributions to health programs alone, to say nothing of the other non-health-related MDGs, which are estimated to require well over $50 billion/year in further resources.

Figure 1: Estimated gaps in health aid (projected less current funding levels)



Future challenges and issues

1. ***Harmonizing the results of financing gap studies.*** The studies cannot be easily harmonized because they employ incompatible methodologies and assumptions, use varying time horizons, and operate from different underlying data sets. Potential overlap of studies also raises the risk of double-counting the cost of health interventions

2. ***Mobilizing greater resources.*** Even conservative estimates result in daunting financing gaps. With official assistance remaining relatively scarce, innovative financing mechanisms may have potential to leverage more funds from a greater variety of sources. However, countries themselves must be supported to develop sustainable financing for their health systems that responds to local needs and priorities. Efficiency and effectiveness improvements, both in aid and in public expenditure management, also could play a role.

3. ***Ensuring the effective use of resources for health.*** Some have feared that a massive influx of aid may overwhelm the absorptive capacity of current health systems, although recent evidence from the Global Fund and the World Bank indicate that available monies can be spent, particularly if both public and private actors can be tapped to deliver needed interventions accountably.

ANNEX 8

AN EXAMPLE OF A "LONGLIST" OF ASSESSMENT CRITERIA

As Chapter 6 discussed, there can be a large number of criteria that are potentially appropriate for analyzing an IFH issue, and winnowing that number down to the most useful criteria for the problem at hand is an important part of working on the issue. Reference was made there to a "longlist" of criteria that we examined for the example of analyzing options for dealing with aid volatility and unpredictability. On the following pages, this Annex provides that "longlist."

	Fix the root causes: donors and recipients mend their ways	Enforced limits on year-to-year donor reductions in aid	IFFIm-type | securitization of aid flows	Endowment Fund	International Stabilization Facility/IDA Swing Facility	Drawing rights for countries that maintain certain standards	Insurance or guarantee facility
	Donors correct slow processing, overly short-term commitments, disbursement delays, excessive conditionality. Receiving countries meet conditions and speed up implementation.	Like "caps" in home ARMs, except they're "floors" in this case	Is IFF securitization—not exactly the same mechanism; I would list them separately; is this a global, regional or national IFF??			Joining the club of standards keepers, and staying current, provides protection against aid shocks. Donors like because the standards reflect their priorities for better performance.	Receiving countries buy protection against aid shocks, or donors buy it for them. (maybe a better variant is an epidemic or pandemic)
Additionality							
Would X help solve the problem, assuming X works?	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.
Sufficiency							
Would X generate sufficient capital for the purpose required, or otherwise solve the underlying problem, assuming X works?	Depends. On how well donors and receiving countries do.	Depends. On how low the floors are and how many down years there are in a row.	Depends. On market response. And other uncertain factors.	Depends. Could be hard to build up a large enough endowment.	Depends. On adequate funding of the Facility.	Depends. On adequate funding of the Facility.	Depends. On adequate funding of the Facility.
Predictability / Reliability / Volatility: "Deal Closure"							
If launched, how reliably will X produce a result?	Depends on continuing good behavior, which could erode at any moment.	Very reliable, as long as the rule is adhered to.	Deal closure risk.	Depends on attracting more contributions over time, which could erode at any moment.	Very reliable, as long as the Facility remains intact.	Very reliable, as long as the Facility remains intact.	Very reliable, as long as the Facility remains intact.
Predictability / Reliability / Volatility: Amount Raised							
Amount raised can be predicted accurately enough for the purpose required?	Hard to predict how well and how long good behavior will be maintained.	Very predictable.	Amount is uncertain until deal is closed.	Hard to predict, since contributions to fund may dribble in over time.	Very clear, as long as the Facility remains intact.	Very clear, as long as the Facility remains intact.	Very clear, as long as the Facility remains intact.

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Predictability / Reliability / Volatility: Launch Date							
Can the launch date be reliably determined / predicted and not altered?	No.	Yes, once the rule is adopted and as long as it is adhered to.	No.	No.	Yes.	Yes.	Yes.
Predictability / Reliability / Volatility: Rest of Timing -After Launch							
Can the dates when flows will occur, closure will be reached, etc. be reliably determined / predicted and not altered?	As long as good behvior continues, no problem.	Yes.	Depends. On how the issuance comes out.	No -- because contributions will dribble in.	Yes, once the Facility is established.	Yes, once the Facility is established.	Yes, once the Facility is established.
Predictability / Reliability / Volatility: Time Pattern - Of Capital Flows After Launch							
How reliably can the flows (e.g., when revenue comes in) be predicted?	As above.	As above.	As above.	As above.	As above.	As above.	As above.
How much or little do the flows vary over time? I.e., are they steady or do they fluctuate wildly?	As above.	Adjustments over time are all constrained by the agreed "floors."	Steady, once the issuance has been completed.	The required amounts would in principle be available when needed.	The required amounts would in principle be available when needed.	The required amounts would in principle be available when needed.	The required amounts would in principle be available when needed.
Automaticity							
Will successive raisings of captial continue to occur repeatedly (over time as required) with minimal additional effort to keep it working?	Fully automatic.	Fully automatic.	Requires new issuance every time.	Fully automatic, provided that Fund gets fully financed and remains so.	Fully automatic, provided that Facility gets fully financed and remains so.	Fully automatic, provided that Facility gets fully financed and remains so.	Fully automatic, provided that Facility gets fully financed and remains so.
Quality: Of The Capital Generated							
Will X provide the right quality of funding for the need required?	Yes.	Yes.	Yes, provided the issuance is successful, which is not assured.	Yes.	Yes.	Yes.	Yes.
Quality: Of The Investors / Participants							
Any problems in this regard?	None.	None.	None.	None.	None.	None.	None.

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Table 1: An example of a "longlist" of assessment criteria

Diversity of Investors / Participants							
Any problems in this regard?	None.	None.	None.	None.	None.	None.	None.
Transactions Costs: To Get To Launch							
Will X be difficult to bring about because of the cost, time, hassle, political effort required?	Hugely difficult, and probably impossible, to get donors to do more than lip service to this. Problems on the receiving countries' side as well.	Also very difficult, though less so than fixing the root causes. The same reasons, though.	Also very difficult to get donors to sign up for this. Possibly fatally so.	As in all new enterprises, challenging to mobilize donors, but attractive to donors whose funds are earmarked for a specific country's use.	Also very difficult. But marginally less so than for the other optoins to the left here?	Difficult but less so than all the options to the left, to the extent that donors grasp the opportunity to get standards supported.	Difficult. But donors are warming up to such facilities in other fields (e.g., protection against natural disasters.)
Transactions Costs: To Continue In Successive Rounds							
Will X be difficult to sustain because of the cost, time, hassle, political effort required?	It will be a continuing struggle to keep everyone on good behavior.	No problem once the limits are in place -- provided that donors don't stray.	As difficult as the first round, perhaps more so.	Not as difficult as the first round, but still daunting.	No further rounds needed.	No further rounds needed.	No further rounds needed.
Political Costs or Benefits: Other							
Any wider ramifications?	If the root causes really could be fixed, there would be huge benefits for many other aspects of health efforts.	There could be continuing tension around ensuring continued compliace with the "floors"	"IFFIm fatigue" could set in, limiting the propects for using the IFFIm concept for other purposes.	This Fund would be in constant competition with other entities seeking funding. And would be constantly at risk of being raided for other purposes. This risk could mitigated through the governance arrangements.	Same issues as for Endowment Fund, though much less so. Could be a good example for other initiatives as donors reinvent themselves and move out of old-style projects.	Same as for ISF, but offset by the attraction to donors of the incentives to receiving countries to measure up to standards on matters that donors care about.	Similar to ISF.
Regulatory Issues	None, a recent study by Lane found that most donors are able to provide long-term aid commitments within their existing budgetary and related regulations	There may be budgetary regulations in donor countries that make this option infeasible.	Legal and regulatory issues have been dealt with in pilot IFF, significant but known, best to use existing infrastructure	Regulations will depend on each country's legal and regulatory framwork, may involve a significant legal effort to start up.	Likely substantial, particularly the definition of triggers and how accountable donors would be and when, when shortfalls occur; how to determine a "legitimate" shortfall	On donor side, few; on recipient side, may require new regulation to fit in with regular budgeting and spending processes	Major legal and regulatory issues would need to be explored, as there are not many pre-cedents, and the precedents that exist are quite different in their projected use (ie natural disaster vs health expenditure drop of X% for X duration

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Public Finance Issues	Goal of such an effort would be to go on-budget in both donor and recipient countries, recession could affect this strategy if revenues are squeezed in donor countries	As above, but very positive for recipient governments as it increases predictability	For donors, more expensive way of raising money than if they had gone to markets themselves (but allows for pooled support); who is the recipient?	Should increase stable source of revenues for recurrent cost financing, thus increasing the availability of fiscal space if on-budget	Could create negative incentives for recipient public finances if disbursement triggers are poorly designed, may get in the way of improved smoothing through strengthening public financial management	Could create positive incentives for better public finance management (or maybe not, depends on design)	none
Public Budgeting Issues	Large, long-term commitments might look unattractive during periods of budget constraint	As above, but very positive for recipient governments as it increases predictability	For donors, debt service is budgeted outside aid budget so may not be "deducted"	Could go on- or off-budget, depending on how targeted programs are financed currently.	Should be positive as will allow for an assured and smooth revenue stream to health priorities	what to do with the contingent funds accessed, are they part of budgetary processes? Something that would have to be designed on a country-by-country basis	what to do with the contingent funds accessed, are they part of budgetary processes? Something that would have to be designed on a country-by-country basis
Country Participation Issues	Recipient-side issues related to volatility are capacity-driven; long-term challenge	Positive for recipient as increases predictability	not sure if this applies or not	Fund could be held by government in good governance contexts, could also be a good tool for lower MIC that have significant private sector wealth that might be mobilized for the cause	Potentially positive for recipient as increases smoothness of flows	Potentially positive for recipient as increases smoothness of flows, and builds capacity for recipient financial management systems	Potentially positive for recipient as increases smoothness of flows
Exit Issues	Same as with any other aid	Same as with any other aid	depends on duration of projected IFF disbursements, but raises the question of "what next?"	One-time donations	Should be a permanent facility	Should be a permanent facility	Should be a permanent facility
Tying-of-resources issues	If mending ways, no tying would be happening	Not directly addressed	Not directly addressed	Depends on spend rules, but in principle, not tied	n/a	n/a	n/a
Risks: Default Or Other "Credit Events"	n/a	n/a	Low if guaranteed or if serviced by donor sovereigns	n/a	n/a	n/a	n/a

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Risks: Other Market Factors (e.g., Commercial, Exchange Rate, Policy Risks)	n/a	n/a	Current market conditions could make this effort so expensive as to be infeasible	Returns on investments will depend on market performance and investment strategy	n/a	n/a	Will affect the price of the insurance or guarantee, the risk to cover is so frequent that a commercial variant of this will be very expensive
Risks: Security (e.g., Likelihood That Unexpected Events Would Shut Down Operation)	External risks affect public finances and budgets on both donor and recipient sides, as do emergencies, maybe resulting in reversion to bad behavior	n/a	Small	Small	n/a	n/a	no
Risks: Reputational Issues	n/a	n/a	Positive depending on use	n/a	n/a	n/a	no
Risks: Other Factors	n/a	n/a			Major issue would be the accountability system built into the facility	Major issue would be the monitoring and evaluation of the "certain standards", would only apply to a few, already good performing countries (the MCA dilemma)	Expense is the major issue here
Are new institutions required? If so, how big, costly, difficult to run well, etc.?	no new institutions required, though modifications might need to be made in internal processes	no new institutions required, business as usual but greater predictability	no new institutions are required if the IFFIm operation is used	yes, new lite-touch governance could be set up within or outside government	not a new institution, as could be hosted by an existing but would require some dedicated staff effort	not a new institution, as could be hosted by an existing but would require some dedicated staff effort	not necessarily a new institution, but setting such a facility up with commercial participation will require new entities (SPV at least)

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Feasibility: Other Factors		In donor countries, potentially politically problematic as would reduce their aid budget flexibility year to year, even when priorities and administrations change	Many have said that this kind of instrument shouldn't finance recurrent costs, instead infrastructure investments like water, but you could argue that GH recurrent costs are investment in human K		in a way, MDBs are already playing this role, but usually arrive too late to be useful (i.e., the year after a recession); very difficult to define disbursement triggers for budgetary variables (unlike macro vars) bc money/spending is fungible	determining rules to justify access to funding not trivial, and incentives created need to assessed carefully	in my view, not feasible due to expense since the event to be insured is possibly uninsurable...
Sustainability: Other Factors	yes, if political commitment is strong	As above, but very positive for recipient governments as it increases predictability	Sustainable for the duration of the projected disbursement, but "what next?"	Sustainability potential is high, particularly if targeted to a use that is popular among international and national philanthropists	If host institution is supportive, sustainable	If host institution is supportive, sustainable	
Suitability	yes	yes	yes	yes, new lite-touch governance could be set up within or outside government	maybe	maybe	yes
Effectiveness	maybe	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc)	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc), at least for the duration of the projected disbursements	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc)	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc)	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc)	Increment in effectiveness expected from predictability of financing for recurrent costs (lower prices, hr investments, etc)
Flexibility: Other Factors	what does this mean?	?	?	?			
Scalability	yes	Likely only a few donors are willing, most currently can make 10-yr commitments if needed, but don't	Depends on the number of willing donors	purpose is to provide financing at national level	Assume this is designed as a global mechanism\	Only a few eligible LIC?	global mechnism?

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Efficiency / Cost Effectiveness: Net Revenue Raised Relative To Capital Committed	lowest cost alternative	lowest cost alternative	could be assessed emprically, but we don't yet have full info	has to be piloted	n/a	n/a	likely expensive
Efficiency / Cost Effectiveness: Revenue Raised Relative To Costs Of Raising It.	lowest cost alternative	lowest cost alternative	could be assessed emprically, but we don't yet have full info	has to be piloted	n/a	n/a	likely expensive
Efficiency / Cost Effectivness: Potential Health Impact Relative To Costs	lowest cost alternative, through sometimes more focused financing efforts can be more closely linked to outcomes (eg GAVI)	lowest cost alternative, through sometimes more focused financing efforts can be more closely linked to outcomes (eg GAVI)	may depend greatly on the use; highly cost-effective for immunization but for other priorities?	has to be piloted	low cost, but who will finance?; same effectiveness as current use	?	likely cost-ineffective
Efficiency: Allocative (Other)	depends on use & recipient country characteristics	depends on use & recipient country characteristics	depends on use & recipient country characteristics	depends on use & recipient country characteristics	depends on use & recipient country characteristics	depends on use & recipient country characteristics	depends on use & recipient country characteristics
Dsitribution of financial burden and risks	best, depends on tax incidence in donor countries	depends on tax incidence in donor countries and expenditure incidence in recipient countries	depends on participating donors	should be progressive, current discussion is to mobilize Middle Eastern donors around the funds	as current	as current	as current
Impacts: On cost of borrowing	lowest cost alternative, as done through sovereigns, as part of national revenue raising	lowest cost alternative, as done through sovereigns, as part of national revenue raising	likely more expensive than sovereign debt	does not require borrowing	does not require borrowing	does not require borrowing	more expensive than if MDB or existing bilaterals borrowed on markets in the event of an aid shock
Impacts: On Financial Markets (Other)	n/a	n/a	too small to make any major difference, but this is a guess	n/a	n/a	n/a	little
Impacts: On Other Revenue Raising for Health (The Additionality Issue)	status quo	unknown, always potentially problematic	unknown, always potentially problematic	may overlap with global donations to same cause, but likely two different pools of donors	Likely no effect	Likely no effect	Likely no effect

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Impacts: On Health Product Suppliers	If long-term, predictable flows were created, could improve demand forecasting and lower prices. But this would have to be signaled somehow (no more business as usual)	If long-term, predictable flows were created, could improve demand forecasting and lower prices. Has the advantage that the signal to the markets and countries are clear.	If medium-term, predictable flows were created, could improve demand forecasting and lower prices. Has the advantage that the signal to the markets and countries are clear.	If long-term, predictable flows are created, will improve demand forecasting and lead to lower prices.	If long-term, predictable flows are created, will improve demand forecasting and lead to lower prices.	If long-term, predictable flows are created, will improve demand forecasting and lead to lower prices.	If long-term, predictable flows are created, will improve demand forecasting and lead to lower prices.
Impacts: On Health Delivery and Health Outcomes	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)	Long-term, predictable flows should improve rationality of spending decisions, and, all other things being equal, to greater effectiveness (this overlaps with effectiveness above)
Impacts: On donors' engagement in supporting health	potentially low, as the peer pressure effect observed in IF would be missing	potentially low, as the peer pressure effect observed in IF would be missing	potentially high, as it mobilizes donors to compete for global notoriety	High, and may attract donors that are not able to give at the global level	Low and if there is a punitive aspect for donors, could be a disincentive	Scheme could draw in new donors, due to new performance-based accountability scheme	Scheme could draw in new donors or new money, if directed to epidemic or pandemic insurance
Impacts: On Incentives (Other)	fixing the root causes would require a re-think of incentives facing donor staff as well as recipients	existing incentives would apply, all other things being equal	existing incentives would apply, all other things being equal	Could build in incentives in disbursement rules	Could create a negative incentive for donor "default" or "fad change"; could build in incentives in disbursement rules (ie, earmark to priorities)	Positive incentive to improve financial management practices, but a sufficient incentive on its own?	could build in incentives in disbursement rules
Impacts: On Existing Institutions	as above	as above	as above	Should support other institutions	Adds relevance to MDB, perhaps	Adds relevance to MDB, perhaps	Adds relevance to MDB, perhaps
Impacts: On Predictability, etc. of existing policies, practices, instruments?	should be enhanced if donors are mending their ways	enhanced predictability	enhanced predictability	should improve predictability (is this about financing or something else?)	should improve	should improve	should improve

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Impacts: Crowds Out (Or In) Others?	n/a	may crowd out? (overlap with additionality?)	may crowd out	May crowd out	does not crowd out	does not crowd out	does not crowd out, maybe
Impacts: On Traditional Aid Structure	neutral probably	could leverage change if designed well	adds another global source of financing	n/a	complementary	complementary	complementary
Impacts: On Alignment of Health Support With Recipients' Needs	increases	increases	depends on use	Increases	increases	increases	increases
Impacts: On Alignment of Health Support With Donors' Priorities	??	?	Presumably helps, if donors support the proposed uses	Presumably helps, if donors support the proposed uses	possibly decreases	?	?
Impacts: On Fragmentation of Health Support (To A Country)	may or may not be affected	same, all other things equal	Likely to increase global fragmentation	May increase fragmentation, or could contribute to consolidate recurrent cost financing for HIV/AIDS programs, for example	no change	increases	no change
Impacts: On Fragmentation of Recipient Country's Health Domestic Resources For Health	may or may not be affected	same, all other things equal	Likely to increase country fragmentation	as above	no change	increases	no change
Impacts: Has Multiplier Effect On Revenue Raising Within Country?	no	no	no	potentially	no	no	no
Impacts: On Prices (Any Distortion Effects?)							
Within countries	no	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)

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Internationally	no	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)	maybe decrease due to gain in predictability (overlap with line 64)
Impacts: On Countries' Health Strategies	?	likely positive if donor-supported strategies are core c/e public health strategies	likely positive if donor-supported strategies are core c/e public health strategies	?	no change	no change	no change
Impacts: On Countries' Health System Characteristics	?	same, all other things equal	same, all other things equal	?	no change	no change	no change
Impacts: On Countries' Dependency on aid	?	increases	potentially could increse	potentially could increase	no change	marginal increase	marginal increase
Impacts: On Countries' Internal budgeting processes	?	should improve internal processes due to increased predictability (overlap with line 39)	?	could be designed to leverage budgeting process improvements	should improve internal processes due to increased predictability (overlap with line 39)	should improve due to incentives of facility and to increased predictability	due to fungibility, might incentivize cuts in health to be reallocated to other "uninsured" sectors
Impacts: On How Countries Finance Recurrent and Capital Costs	should allow for aid to be used to finance recurrent costs	should allow for aid to be used to finance recurrent costs	?	would affect how a country finances a recurrent cost that is beyond the means of public revenues/spending	makes aid better suited to recurrent cost finance, if these costs are already being financed	makes aid better suited to recurrent cost finance, if these costs are already being financed	makes aid better suited to recurrent cost finance, if these costs are already being financed

ENDNOTES

1. See Annexes 1 – 7 for further details on these and other IFH initiatives.
2. This example also demonstrates how a "problem" (springing in this case from the need for more resources than public funds can provide alone) can also be a means to a "solution" (in the sense that mobilizing financial markets money can help meet health needs.
3. National Institute of Allergy and Infectious Diseases, National Institutes of Health. The Jordan Report. 20th Anniversary: Accelerated Development of Vaccines. 261 (National Institutes
4. Alonso PL, Sacarlal J, Aponte JJ, et al. Duration of protection with RTS,S/AS02A malaria vaccine in prevention of Plasmodium falciparum disease in Mozambican children: single-blind extended follow-up of a randomised controlled trial. The Lancet. 2005; 366:2012–2018.
5. WHO: http://www.who.int/tb/features_archive/mdrtb_rapid_tests/en/index.html
6. Grand Challenges in Global Health: http://www.gcgh.org/
7. Hecht R, Suraratdecha C. Estimating the Demand for a Preventive HIV Vaccine: Why We Need to Do Better PLoS Medicine Vol. 3, No. 10. 2006.
8. Saxenian, Helen. HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues. International AIDS Vaccine Initiative (IAVI). 2007.
9. Batson, A., Meheus, F. and Brooke, S. (2006). Innovative Financing Mechanisms to Accelerate the Introduction of HPV Vaccines in Developing Countries. Vaccine 24S3: 219-225.
10. Tediosi F, Hutton G, 2006. *The costs of introducing a malaria vaccine through the expanded program on immunization in Tanzania*. Am J Trop Med Hyg 75 (Suppl 2): 119–130.
11. A few additional options exist that have not been added to this picture, either because they are definitively inferior for various reasons (e.g., governments can print money, but the macroeconomic ramifications of doing so are highly undesirable), or because they are intermediate steps (e.g., government and non-government entities can borrow or lend, but they would do so to achieve one of the objectives in the list above), or because they are minor in importance (e.g., non-government entities can charge fees for products or services).
12. UNITAID: http://www.unitaid.eu/index.php/en/NEWS/UNITAID-moves-towards-a-patent-pool-for-medicines.html
13. Glassman, Amanda and Lane, Christopher. "Bigger And Better? Scaling Up And Innovation In Health Aid." *Health Affairs*, July/August 2007; 26(4): 935-948.
14. Kharas, Homi and Hermias, Joshua. "Thrive on Competition." Development and Cooperation, February 2008 Volume 49, No. 02, NEED PAGE NUMBER
15. There also are some intermediate cases that could in principle be further broken out, giving them columns of their own in the table. Here, for simplicity, they are assumed here to be assigned as follows. Donor governments' grant aid is included in "government money", even though it also has "donation money" qualities. Funding that is provided on a "below market return" basis (e.g., where the funder expects return of the principal and possibly also some modest gain) is included in "donation money," even though it also has some "investment money" qualities.
16. See, for example, Richard A. Musgrave <http://en.wikipedia.org/wiki/Richard_A._Musgrave> (1959) The Theory of Public Finance: A Study in Political Economy, or Richard A. Musgrave and Peggy B. Musgrave (1973) Public Finance in Theory and Practice, or Joseph E. Stiglitz <http://en.wikipedia.org/wiki/Joseph_E._Stiglitz> (2000)

Economics of the Public Sector, 3rd ed. Norton.

17. Chris Lane and Amanda Glassman, Smooth and Predictable Aid fo Health: A Role for Innovative Financing?" The Brookings Institution, Global Health Financing Initiative, Working Paper #2.
18. Private communications from officials who asked to remain anonymous due to legal requirements and conflict of interest considerations associated with deals currently in progress.
19. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
20. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
21. IFFm is the International Finance Facility for Immunization.
22. Chile, Congo, South Korea, Ivory Coast, France, Madagascar, Mauritius, and Niger.
23. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
24. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
25. Based primarily on documents available at http://www.rollbackmalaria.org/globalsubsidytaskforce.html.
26. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
27. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution.
28. The material in this annex appeared first in the "Global Snapshot Series" prepared by the Global Health Financing Initiative Team at the Brookings Institution. List of Acronyms

LIST OF ACRONYMS

ACT	Advanced Combination Therapy
AMC	Advanced Market Commitment
ASC	Airline Solidarity Contribution
BINGO	Big International Non-Governmental Organization
CHAI	Commission for Healthcare Audit and Inspections (UK)
CCT	Conditional Cash Transfer
DOTS	Directly Observed Treatment/Therapy Short Course
EPI	Expanded Program on Immunization (Tanzania)
ESF	Exogenous Shocks Facility
G8	Group of Eight
GAVI	The Global Alliance for Vaccines and Immunization
GBOs	Grassroots Business Organizations
GCGHI	Grand Challenges in Global Health Initiative
GF	The Global Fund for AIDS, Tuberculosis, and Malaria
HIPC	Highly Indebted Poor Country
HMO	Health Maintenance Organization
HPV	Human Papilomavirus
IAVI	International AIDS Vaccine Initiative
IDA	International Development Association
IFC	International Finance Corporation
IFF	International Finance Facility
IFF-Im	International Finance Facility for Immunization
IFH	Innovative Financing for Global Health
IFIs	International Financial Institutions
IMF	International Monetary Fund
LICs	Low-Income Countries
LNGO	Local Non-Governmental Organization
MDGs	Millennium Development Goals
MICs	Middle-Income Countries
MIGA	Multilateral Investment Guarantee Agency
MMV	Medicines for Malaria Venture
MVI	Malaria Vaccine Initiative
NGO	Non-Governmental Organization
NIH	National Institutes of Health (US)
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OPIC	Overseas Private Investment Corporation (US)
PAHO	Pan American Health Organization
PDPs	Product Development Partnerships
PEPFAR	President's Emergency Plan For AIDS Relief (US)
PFI	Private Finance Initiative (UK)
PPO	Preferred Provider Organization
SDRs	Special Drawing Rights
SMEs	Small and Medium Enterprises
SWAps	Sector Wide Approaches
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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