

# METHODS ANNEX

## **PART 1: TRACKING DEVELOPMENT ASSISTANCE FOR HEALTH**

- 1.0 Overview of data collection and research methods
- 1.1 Tracking development assistance for health from bilateral aid agencies and the European Commission
- 1.2 Tracking development assistance for health from the development banks
- 1.3 Tracking development assistance for health from GFATM and GAVI
- 1.4 Tracking development assistance for health from the United Nations agencies active in the health domain
- 1.5 Tracking development assistance for health from private foundations
- 1.6 Tracking development assistance for health from non-governmental organizations
- 1.7 Calculating the technical assistance and program support component of development assistance for health from loan- and grant-making channels of assistance
- 1.8 Disaggregating by health focus area

## **PART 2: TRACKING GOVERNMENT HEALTH EXPENDITURE AS SOURCE**

- 2.0 Overview of data collection and research methods
- 2.1 Measuring development assistance for health channeled to governments
- 2.2 Measuring government spending on health

# Section 1: Tracking development assistance for health

## Part 1.0:

### OVERVIEW OF DATA COLLECTION AND RESEARCH METHODS

In this section we provide a brief overview of the process of tracking development assistance for health (DAH). Each section that follows describes the sources of data and the estimation techniques we employed. To begin, we defined development assistance for health as all financial and in-kind contributions from global health channels that aim to improve health in developing countries. Since our goal was to measure development assistance for the health sector and not for all sectors that influence health, we discounted assistance to allied sectors like water and sanitation as well as humanitarian aid. We used the World Bank's classification of low- and middle-income countries to define our universe of developing countries.

We extracted all known, systematically reported, available data on health-related disbursements and expenditures, as well as income and revenue from existing project databases, annual reports, and audited financial statements. The channels included in the study and the corresponding data sources are summarized in Table 1.0.1.

For bilateral agencies, we counted as DAH all health-related disbursements from bilateral donor agencies, excluding funds that they transferred to any of the other channels we tracked in order to avoid double-counting. We extracted this information from the Creditor Reporting System (CRS) database of the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD-DAC). In some cases, donor agencies did not report disbursement data to the CRS. Consequently, we developed a method for predicting disbursements from commitment data (see Part 1.1).

For other grant- and loan-making institutions, we similarly included their annual disbursements on health grants and loans, excluding transfers to any other channels and ignoring any repayments on outstanding debts (see Part 1.2 for development banks, Part 1.3 for public-private partnerships, and Part 1.5 for foundations). The annual disbursements for grant- and loan-making institutions only reflect the financial transfers made by these agencies. Therefore, we estimated separately in-kind transfers from these institutions in the form of staff time for providing technical assistance and the costs of managing programs (see Part 1.7).

For the United Nations (UN) agencies, we included annual expenditures on health both from their core budgets and from voluntary contributions. For the United Nations Children's Fund (UNICEF), we also estimated the fraction of its total expenditure spent on health prior to 2001 (see Part 1.4).

For non-governmental organizations (NGOs), we used data from US government sources and a survey of health expenditure for a sample of NGOs to estimate DAH from US-based and internationally based NGOs receiving support from the US government. We were unable to include other NGOs due to data limitations.

We also analyzed the composition of health funding by recipient country. Next, we assessed development assistance for HIV/AIDS; maternal, newborn, and child health (MNCH); tuberculosis (TB); malaria; non-

communicable diseases; tobacco control and prevention; and health sector support using keyword searches within the descriptive fields (see Part 1.8). We chose to focus on these areas because of their relevance to current policy debates about global health financing.

For many channels, reporting-time lags prevent primary disbursement data for the most recent year(s). For those years, we used the predicted values of DAH. The methods employed to obtain these predictions are summarized in Table 1.0.2 and will be discussed for each channel alongside our primary estimation strategy. In general, these methods depend on data availability. The estimates are based on channel-specific budget, commitment, and appropriations data, and in many cases assume the most recent disbursement patterns persist. Due to the lack of more detailed disaggregated data, estimates are provided only by channel. Although we attempt to control for it in these years as well, these preliminary estimates may include some double-counting due to missing data on transfers between channels of assistance.

We present all results in real 2011 US dollars. We converted all disbursement sequences into real 2011 US dollars by taking disbursements in nominal US dollars in the year of disbursement and adjusting these sequences into real 2011 US dollars using US gross domestic product (GDP) deflators.<sup>1</sup> All analyses were conducted in STATA (version 13.0).

**Table 1.0.1****Summary of data sources**

<b>Channel</b>	<b>Source</b>
<b>Bilateral agencies</b>	Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD-DAC) OECD-DAC aggregates database and the Creditor Reporting System (CRS) <sup>2</sup>
<b>European Commission</b>	OECD-DAC and CRS databases and annual reports <sup>3</sup>
<b>Joint United Nations Programme on HIV/AIDS (UNAIDS)</b>	Financial reports and audited financial statements <sup>4</sup>
<b>United Nations Children’s Fund (UNICEF)</b>	Financial reports and audited financial statements and correspondence <sup>5 6 7</sup>
<b>United Nations Population Fund (UNFPA)</b>	Financial reports and audited financial statements <sup>8</sup>
<b>Pan American Health Organization (PAHO)</b>	Financial reports and audited financial statements <sup>9</sup>
<b>World Health Organization (WHO)</b>	Financial reports and audited financial statements <sup>10</sup>
<b>World Bank</b>	Online project database and correspondence <sup>11, 12</sup>
<b>Asian Development Bank (ADB)</b>	Online project database <sup>13</sup>
<b>African Development Bank (AfDB)</b>	Online project database and compendium of statistics <sup>14, 15</sup>
<b>Inter-American Development Bank (IDB)</b>	Online project database <sup>16</sup>
<b>The GAVI Alliance</b>	Online project database, cash received database, International Finance Facility for Immunisation (IFFIm) annual reports, and annual reports <sup>17,18,19,20</sup>
<b>The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)</b>	Online grant database, contributions report and annual reports <sup>21,22,23</sup>
<b>NGOs registered in the US</b>	United States Agency for International Development (USAID) Report of Voluntary Agencies (VolAg), tax filings, annual reports, financial statements, RED BOOK Expanded Database, WHO’s Model List of Essential Medicines, and correspondence <sup>24,25,26,27</sup>
<b>Bill &amp; Melinda Gates Foundation (BMGF)</b>	Online grant database, IRS 990 tax forms, and correspondence <sup>28,29,30</sup>
<b>Other private US foundations</b>	Foundation Center’s grants database, tax forms, and custom research for years 1990-2004 <sup>31,32</sup>

**Table 1.0.2**

**Summary of additional data sources and model choices used for preliminary estimates of DAH**

<b>Channel</b>	<b>Data source</b>	<b>Variables used</b>	<b>Years used</b>	<b>Years to model</b>	<b>Model used</b>
<b>Australia</b>	Australia's International Development Assistance (2008-2013); Australia's Overseas Aid Program (1998-2008) <sup>33</sup>	Health official development assistance (ODA): International development assistance budget	1998-2013	2012-2013	Weighted average of actual DAH/budgeted DAH
<b>Austria</b>	Austria Federal Ministry of Finance budget <sup>34</sup>	General ODA: Federal ODA budget	2007-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Belgium</b>	Project Budget General – general expenses <sup>35</sup>	General ODA: Foreign affairs, foreign trade development and cooperation	2000-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Canada</b>	Canadian International Development Agency – Report on Plans and Priorities <sup>36</sup>	General ODA: Financial summary – planned spending	1996-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Denmark</b>	Danish Ministry of Foreign Affairs Budget; Correspondence <sup>37,38</sup>	General ODA: Budgeted expenditures on overseas development assistance	2000-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>European Commission</b>	General budget <sup>39</sup>	Data not used as they were inconsistent with disbursements	–	2012-2013	Based on weighted average of trends in member countries
<b>Finland</b>	Document Assembly in budget years 1998-2013 <sup>40</sup>	General ODA: Ministry of Foreign Affairs' administrative appropriations, international development	2002-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>France</b>	Finance bills 2004-2013, general budget <sup>41</sup>	General ODA: Finance bill's ODA development – solidarity with developing countries	2004-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Germany</b>	Plan of the Federal Budget <sup>42</sup>	General ODA: Development expenditure	2001-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Greece</b>	Ministry of Finance Budget (2013); OECD Data (1996-2012) <sup>43,44</sup>	General ODA; ODA commitments	1996-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Ireland</b>	Department of Finance – budget 2000-2004; Estimates	General ODA: Summary of adjustments to gross current	2002-2013	2012-2013	Weighted average of DAH/budgeted ODA

	for Public Services and Summary Public Capital Programme, 2005-2013 <sup>45</sup>	estimates – international co-operation			
<b>Italy</b>	Ministry of Foreign Affairs Budget <sup>46</sup>	General ODA: Development corporation	2006-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Japan</b>	Highlights of the Budget for FY1999-2013 <sup>47,48</sup>	General ODA: Major budget expenditures	2003-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Luxembourg</b>	Gazette Grand Duchy of Luxembourg <sup>49</sup>	General ODA: Ministry of Foreign Affairs – budgeted international development cooperation and humanitarian aid	2001-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Netherlands</b>	Netherlands International Cooperation Budget (2001-2013) <sup>50</sup>	General ODA: Total annual official development assistance expenditure	2001-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>New Zealand</b>	Vote Foreign Affairs and Trade (1998-2001); VOTE Official Development Assistance (2002-2013) <sup>51</sup>	General ODA: Total annual official development assistance expenditure	1998-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Norway</b>	Correspondence <sup>52</sup>	General ODA: ODA budget	2000-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Portugal</b>	Ministry of Finance and Public Administration State Budget 2003-2013 <sup>53</sup>	General ODA: Integrated service expenditure – external cooperation budget	2003-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>South Korea</b>	ODA Korea comprehensive implementation plan <sup>54</sup>	General ODA: Plan for international development cooperation	2008-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Spain</b>	Annual Plan of International Cooperation <sup>55</sup>	General ODA: Net Spanish ODA instruments and modalities	2003-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Sweden</b>	Correspondence (2000-2010); Ministry of Foreign Affairs Budget (2010-2013) <sup>56,57</sup>	General ODA: Ministry for Foreign Affairs budgets for expenditure – international development cooperation	2000-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>Switzerland</b>	Foreign Affairs (2000-2006); Budget – Further Explanations and Statistics (2007-2013) <sup>58</sup>	General ODA: Direction of development and cooperation (2000-2006); foreign affairs – international cooperation,	2000-2013	2012-2013	Weighted average of DAH/budgeted ODA

		development aid (in the South and East) (2007-2013)			
<b>United Kingdom</b>	Budget <sup>59</sup>	General ODA: Department expenditure limits – resource/ current and capital budgets	1998-2013	2012-2013	Weighted average of DAH/budgeted ODA
<b>United States</b>	Foreign Assistance Dashboard (2006-2014); Budget of the US Government (2005-2013); <sup>60,61</sup>	Global health ODA: Planned foreign assistance for health; Department of Health and Human Services global health budget	2005-2013	2012-2013	Weighted average of actual DAH/budgeted DAH
<b>UN agencies</b>					
<b>WHO</b>	Programme budget <sup>62</sup>	DAH budget: Programme budget	2002-2013	2012-2013	Weighted average of DAH/budget
<b>UNAIDS</b>	Unified Budget and Workplan, bienniums 2002-2013 <sup>63</sup>	DAH budget: Unified Budget and Workplan	2002-2013	2012-2013	Weighted average of DAH/Core Budget
<b>UNICEF</b>	Financial report and audited financial statements; correspondence <sup>64,65</sup>	Total expenditure; Total health expenditure	2001-2013	2013	Weighted average of DAH/budget
<b>UNFPA</b>	Correspondence <sup>66</sup>	Total health expenditure	2002-2013	2013	-
<b>PAHO</b>	Proposed program budget <sup>67</sup>	Total regular budget, estimated voluntary contributions	2000-2013	2013	Weighted average of DAH/budget
<b>Development banks</b>					
<b>World Bank</b>	Project database (online); correspondence <sup>11,12</sup>	Commitments and disbursements for health sectors	1990-2013	2013	Regression on lagged commitments and disbursements
<b>African Development Bank</b>	Project database (online) <sup>14,15</sup>	Health disbursements and commitments	1990-2013	-	-
<b>Asian Development Bank</b>	Project database (online) <sup>13</sup>	Health disbursements and commitments	1990-2013	-	-

<b>Inter-American Development Bank</b>	Project database (online) <sup>16</sup>	Health disbursements and commitments	1990-2013	-	-
<b>Private organizations</b>					
<b>BMGF</b>	Correspondence (2012); market indicators and Foundation Trust financial statements (2013) <sup>30,68</sup>	Total health expenditure; US GDP per capita, market indicators, Foundation Trust assets	1990-2013	2012-2013	Regression on DAH, US GDP, lagged market indicators and lagged BMGF Trust assets
<b>NGOs</b>	VolAg (1990-2010), GuideStar (2013), sample of top NGOs (2010-2011) <sup>24,25</sup>	Revenue breakdowns for: US public, non-US public, private, in-kind, BMGF; total overseas expenditures	1990-2010	2011-2013	Regression on DAH, US GDP, and USAID and private voluntary organization (PVO) revenue
<b>Foundations</b>	Foundation Center database <sup>31</sup>	Total assets	1997-2011	2012-2013	Weighted average of DAH/assets, with assets predicted based on regression of assets on market indicators
<b>Public-private partnerships</b>					
<b>GAVI</b>	Online project database; Pledges and contributions <sup>17</sup>	DAH; total pledges	2000-2012	2013	Weighted average of DAH/pledges
<b>GFATM</b>	Online project database <sup>21</sup>	Disbursements from January to Nov; full-year disbursements	2002-2012	2013	Regression on ratio of full-year disbursements to disbursements from January to November



## Part 1.1:

# TRACKING DEVELOPMENT ASSISTANCE FOR HEALTH FROM BILATERAL AID AGENCIES AND THE EUROPEAN COMMISSION

OECD-DAC maintains two databases on aid flows: 1) the DAC annual aggregates database, which provides summaries of the total volume of flows from different donor countries and institutions, and 2) the CRS, which contains project- or activity-level data.<sup>2</sup>

These two DAC databases track the following types of resource flows:<sup>69</sup>

- a. Official development assistance (ODA), defined as “flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective”<sup>70</sup> from its 24 members (Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, South Korea, Spain, Sweden, Switzerland, the United Kingdom, the United States, and the EC). The CRS also now includes some private ODA, such as that funded by BMGF and GFATM, as well as assistance from the United Arab Emirates, Kuwait, the Czech Republic, and Iceland.

ODA includes:

- Bilateral ODA, which is given directly by DAC members as aid to recipient governments, core contributions to NGOs and public-private partnerships, and earmarked funding to international organizations.
  - Multilateral ODA, which includes core contributions to multilateral agencies such as WHO, UNFPA, GFATM, GAVI, UNAIDS, UNICEF, PAHO, the World Bank, and other regional development banks. Only regular budgetary contributions to these institutions can be reported to the OECD-DAC; hence, extrabudgetary funds, including earmarked contributions that donors can report as bilateral ODA, are not included as multilateral ODA. Only 70% of core contributions to WHO can be counted as multilateral ODA.
- b. Official development finance (ODF), which includes grants and loans made by multilateral agencies.
  - c. Other official flows, which refers to transactions that “do not meet the conditions for eligibility as Official Development Assistance or Official Aid, either because they are not primarily aimed at development, or because they have a Grant Element of less than 25 percent.”<sup>67</sup>

The DAC aggregate tables include all multilateral development banks, GFATM, operational activities of UN agencies and funds, and a few other multilateral agencies. The project-level data in the CRS cover a smaller subset of multilateral institutions, including UNAIDS, UNFPA, UNICEF, public-private partnerships including GAVI and GFATM, some development banks, and BMGF, but do not reflect the core-funded operational activities of WHO prior to 2009, disbursements by GAVI prior to 2007 and BMGF prior to 2009, or all loans from the World Bank.

For the purposes of tracking bilateral DAH, we relied principally on the CRS. This is because the DAC aggregate tables do not report detailed project-level information about the recipient country and health focus area. We identified all health flows in the CRS using the OECD sector codes for general health (121), basic health (122), and population programs (130).

To avoid double-counting, we subtracted from bilateral ODA all identifiable earmarked commitments and disbursements made by DAC members via GAVI, International Finance Facility for Immunisation (IFFIm), GFATM, WHO, UNICEF, UNAIDS, UNFPA, and PAHO using the channel of delivery fields as well as keyword searches in the descriptive project fields (project title, short description, and long description). Research funds for HIV/AIDS channeled by the US government through the National Institutes for Health (NIH) were also removed from the total since they do not meet our definition of DAH as contributions from institutions whose primary purpose is development assistance. We did not count ODF from the CRS due to the fact that we collected data on multilateral institutions relevant to our study and BMGF directly via correspondence and from their annual reports, audited financial statements, and project databases. To avoid double-counting, we only counted as health assistance flows *from* multilateral institutions to low- and middle-income countries and not transfers *to* multilateral institutions.

### Estimating disbursements for the 23 bilateral channels

Both the DAC tables and the CRS rely on information reported by DAC members and other institutions to the OECD-DAC. Hence, the quality of the data varies considerably over time and across donors. There were two main challenges in using the data from the CRS for this research. We developed methods for accounting for both these challenges and arrived at consistent estimates of disbursements. Since the methods utilized for the EC differed from that followed for the 23 member countries of the DAC, they are reported subsequently. Refer to Part 1.7 for details on how we estimated the cost of providing technical assistance and program support for these institutions.

The first challenge was the underreporting of aid activity by DAC members to the CRS. Prior to 1996, the sum of the project-wise flows reported to the CRS by donors was less than the total aggregate flows they reported to the DAC aggregate tables. OECD uses total CRS commitments as a fraction of DAC aggregate commitments to construct a coverage ratio for the CRS database.<sup>71</sup> Figure 1.1.1 displays total health commitments from the DAC and the CRS, disbursements from the CRS (the DAC does not report disbursements), and the aggregate coverage ratio of health commitments in the CRS to health commitments in the DAC from 1990 to 2011. The coverage in the CRS was well below 100% prior to 1996, but it has improved considerably since then. In some years, notably 2006, members appeared to be reporting more commitments to the CRS than the DAC.

To address this challenge, we adjusted all CRS commitments for the health sector upward using the coverage ratios observed for each donor. In cases where CRS coverage exceeded 100%, CRS commitments were used as observed. The coverage ratio for France 1990 is a distinct outlier. For consistency over time, the 1990 French coverage ratio was replaced with the average coverage ratio from 1991 to 1993.

The second challenge relates to the underreporting of disbursement data to the CRS. Several donor countries did not report their annual disbursements and only reported project commitments to the CRS prior to 2002. The orange line for observed disbursements in Figure 1.1.1 shows that the variable is more complete in

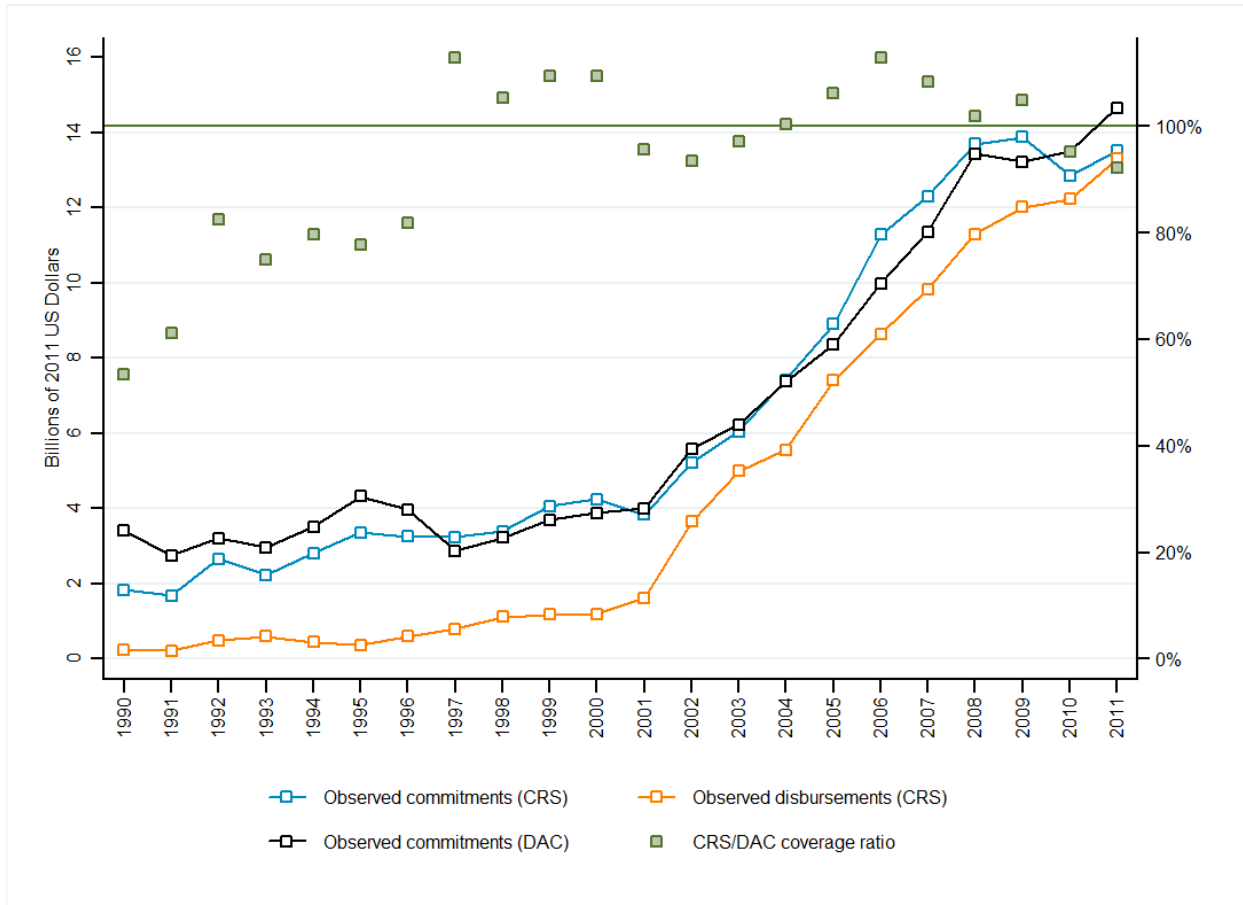
recent years, but it drops well below commitments in years prior to 2002. For coverage ratio for France, 1990 is a distinct outlier.

To address this challenge, we pooled completed projects in the CRS that have disbursement data for each donor and computed yearly project disbursement rates (the fraction of total commitments disbursed for each observed project year) and overall project disbursement rates (the fraction of total commitments disbursed over the life of each project). To produce yearly disbursement rates, we estimated the share of the project's disbursement expended each year of the project (i.e., share expended in year one of a project, share expended in year two of a project, etc.). We adjusted these yearly shares so that every project was represented in our data for exactly six years. When an observed project length was less than six years, the remaining shares were set to zero. When an observed project length was more than six years, all expenditure after the sixth year was aggregated and assumed to be expended in the sixth year. Yearly disbursement rates are the mean of these shares, averaged across projects for every donor for each project year. This way we estimated the average yearly disbursements for the first year of all the projects of a donor, average yearly disbursements for the second year of all the projects of a donor, etc. The sum of these six averages equaled one, so that over the six years all the disbursements were expended. The product of these donor-specific yearly disbursement rates and the donor-specific overall disbursement rates produced the donor-specific disbursement schedule. To estimate yearly disbursements for open projects or projects without disbursement data, we applied the donor-specific disbursement schedule to observed commitment data. Figure 1.1.2 shows the yearly disbursement rates and overall disbursement rates for each of the 23 member countries.

**Figure 1.1.1**

**Commitments and disbursements by bilateral agencies**

The graph compares estimates from the CRS and DAC tables from 1990 to 2011. "Observed" refers to the fact that these quantities are taken as reported by donors to the OECD, without any corrections for missing data or discrepancies between the CRS and the DAC. The right axis shows the coverage ratio of total commitments in the CRS to total commitments in the DAC.

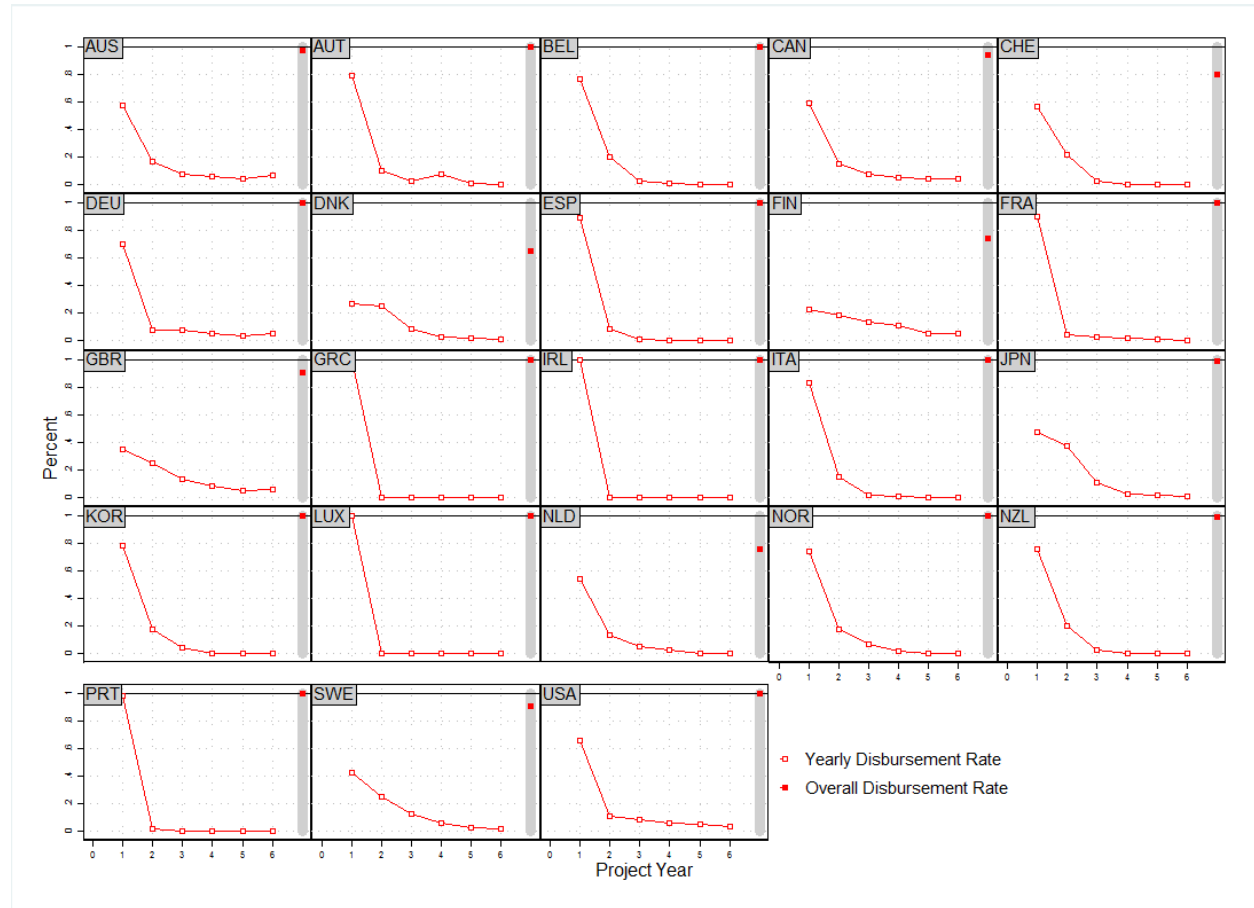


Source: OECD-DAC aggregate tables and OECD Creditor Reporting System

**Figure 1.1.2**

**Disbursement schedules for the 23 DAC member countries**

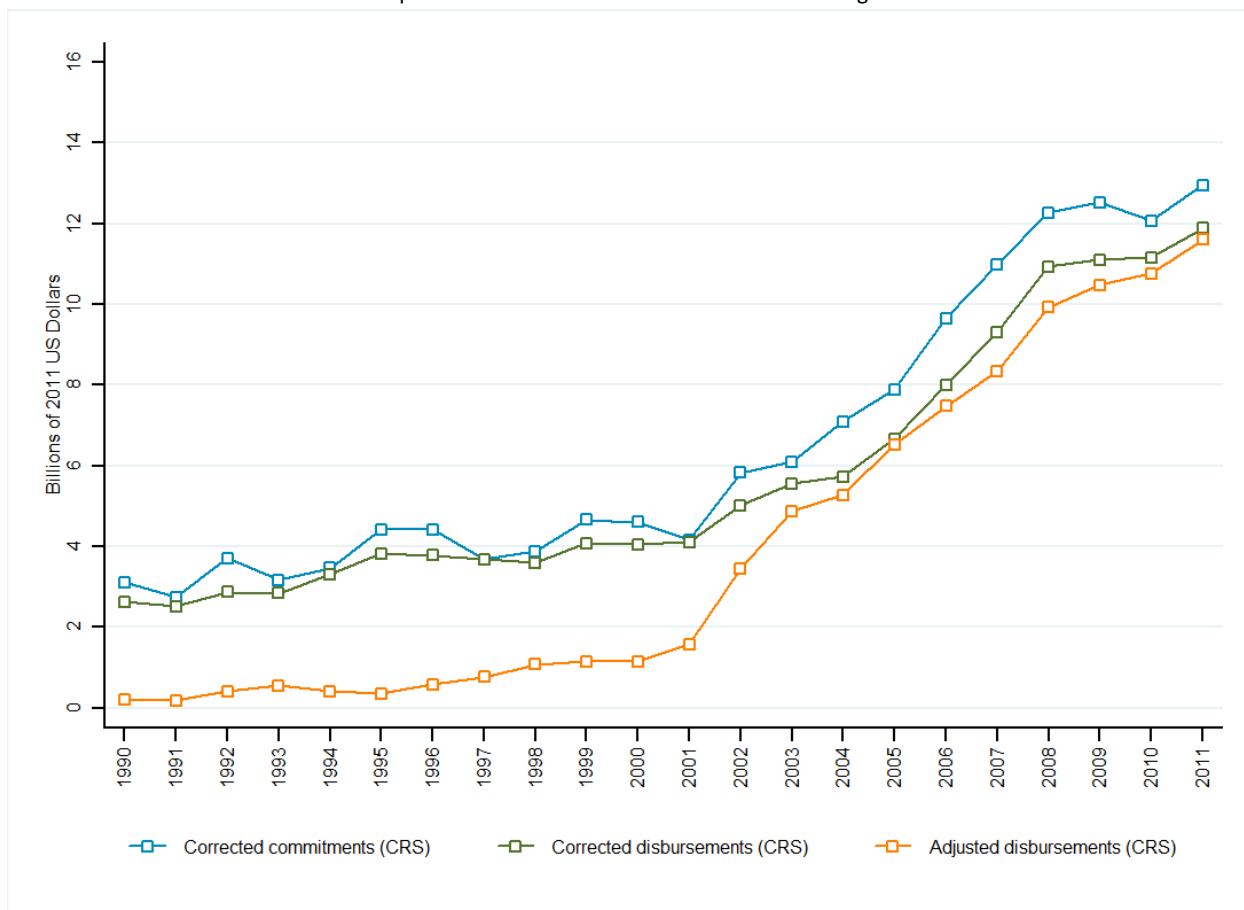
AUS = Australia, AUT = Austria, BEL = Belgium, CAN = Canada, CHE = Switzerland, DEU = Germany, DNK = Denmark, ESP = Spain, FIN = Finland, FRA = France, GBR = Great Britain, GRC = Greece, IRL = Ireland, ITA = Italy, JPN = Japan, KOR = South Korea, LUX = Luxembourg, NLD = the Netherlands, NOR = Norway, NZL = New Zealand, PRT = Portugal, SWE = Sweden, USA = United States of America



Source: OECD Creditor Reporting System

**Figure 1.1.3**  
**Commitments and estimated disbursements by bilateral agencies**

Total commitments net of transfers to other channels, after correction for low coverage in the CRS, are shown in blue; total disbursements reported in the CRS net of transfers to other channels are in orange; and the corrected disbursement series based on the corrected commitment sequence and the estimation model are shown in green.



Source: IHME DAH Database 2013

Figure 1.1.3 shows the commitments and estimated disbursements by bilateral agencies. The blue “corrected commitments” line corresponds to aggregate commitments both net of transfers to other institutions that we tracked and corrected for coverage deficits prior to 1996. The orange “adjusted disbursements” line shows disbursements from the CRS after adjusting for funds transferred to other global health channels of assistance. The green “corrected disbursement” line corresponds to our estimate of annual disbursements modeled from the corrected commitments. Prior to 2002, the corrected disbursements are well above adjusted disbursements, reflecting the underreporting of disbursements in the CRS; after 2002, adjusted disbursements and corrected disbursements track each other closely.

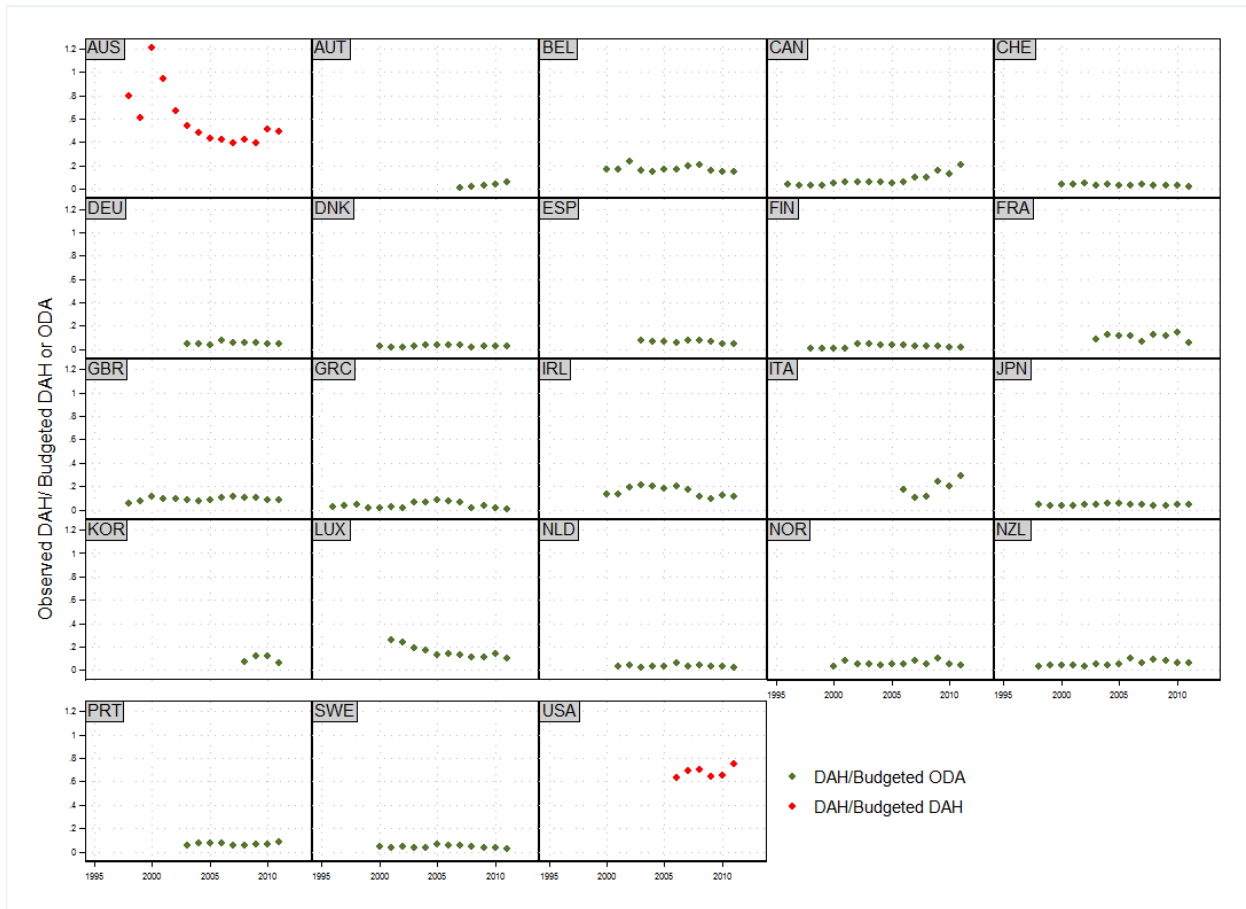
To predict DAH for the recent years not reported in the CRS, budget data were extracted from a variety of sources. These sources of budget data are presented in Table 1.1.2. We attempted to obtain global health budgetary data whenever possible, but these detailed data were available as a complete time series only for

Australia and the United States. For all other bilateral channels, general ODA budgets were used. In order to predict DAH for 2012 and 2013 for these 23 bilateral agencies, we calculated the budget ratio for each donor by dividing our DAH estimates by the corresponding budget data (ODA or global health). We projected the budget ratio for 2012 and 2013 using a weighted average of the previous three years (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio), and multiplied this ratio by the observed budgeted DAH for those same years. Figure 1.1.4 plots the budget ratio for each of our bilateral channels.

**Figure 1.1.4**

**DAH as a percentage of corresponding budget data by bilateral agency**

AUS = Australia, AUT = Austria, BEL = Belgium, CAN = Canada, CHE = Switzerland, DEU = Germany, DNK = Denmark, ESP = Spain, FIN = Finland, FRA = France, GBR = Great Britain, GRC = Greece, IRL = Ireland, ITA = Italy, JPN = Japan, KOR = South Korea, LUX = Luxembourg, NLD = the Netherlands, NOR = Norway, NZL = New Zealand, PRT = Portugal, SWE = Sweden, USA = United States of America

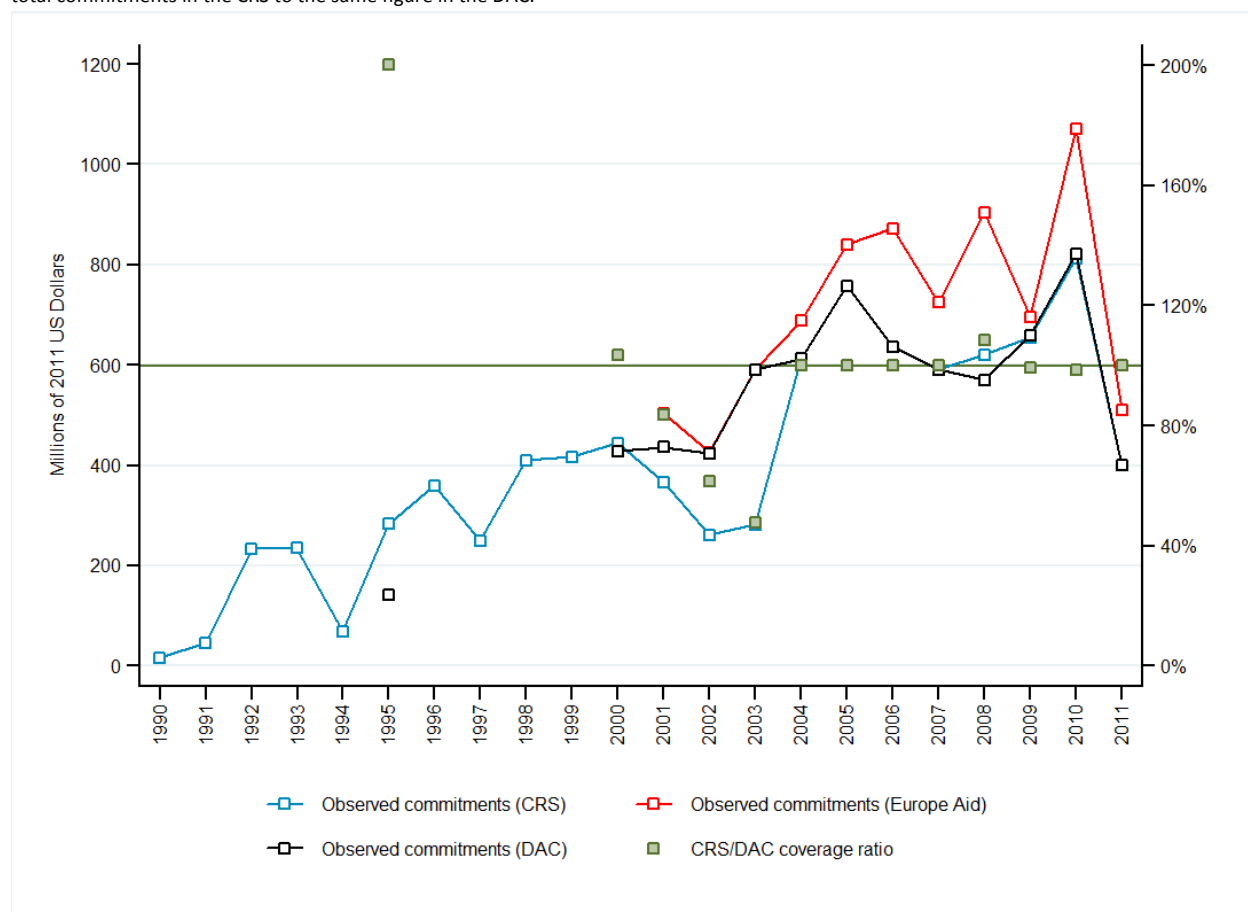


Source: IHME DAH Database 2013 and corresponding bilateral ODA/DAH budget documents outlined in Table 1.0.2.

**Figure 1.1.5**

**European Commission's commitments**

Commitments as reported by the EC 1) to the CRS, 2) to the DAC tables, and 3) in its annual reports are in blue, gray, and orange, respectively. The discrepancy between the CRS and the DAC tables is shown by the coverage ratio shown in green. The right axis shows the coverage ratio of total commitments in the CRS to the same figure in the DAC.



Source: OECD-DAC, OECD Creditor Reporting System, and Europe Aid Annual Reports

**Estimating disbursements for the European Commission**

There are multiple data sources for EC's disbursement. Figure 1.1.5 shows commitment time series from different sources. Europe Aid annual reports released by the EC are available online from 2001 onward, which include data on annual disbursements starting in 2003.<sup>3</sup> Flows shown in the EC report include regular and extrabudgetary contributions to multilateral agencies, resulting in numbers that are larger than those in the CRS for the same years. We applied a hybrid approach to generate a time series of disbursements for the EC, combining data from the different sources.

Specifically, from 1990 to 2003, we started with the sequence of commitments from the CRS, net of any transfers to other channels of assistance in our study. This is shown in Figure 1.1.6 in blue. We estimated disbursements using an average of the previous three years' commitments, shown in this figure in green from 1990 to 2003. From 2003 onward, we used disbursements reported by the EC in its annual reports (shown in red) and subtracted from it any transfers to other channels of assistance, as reported by the channels. The

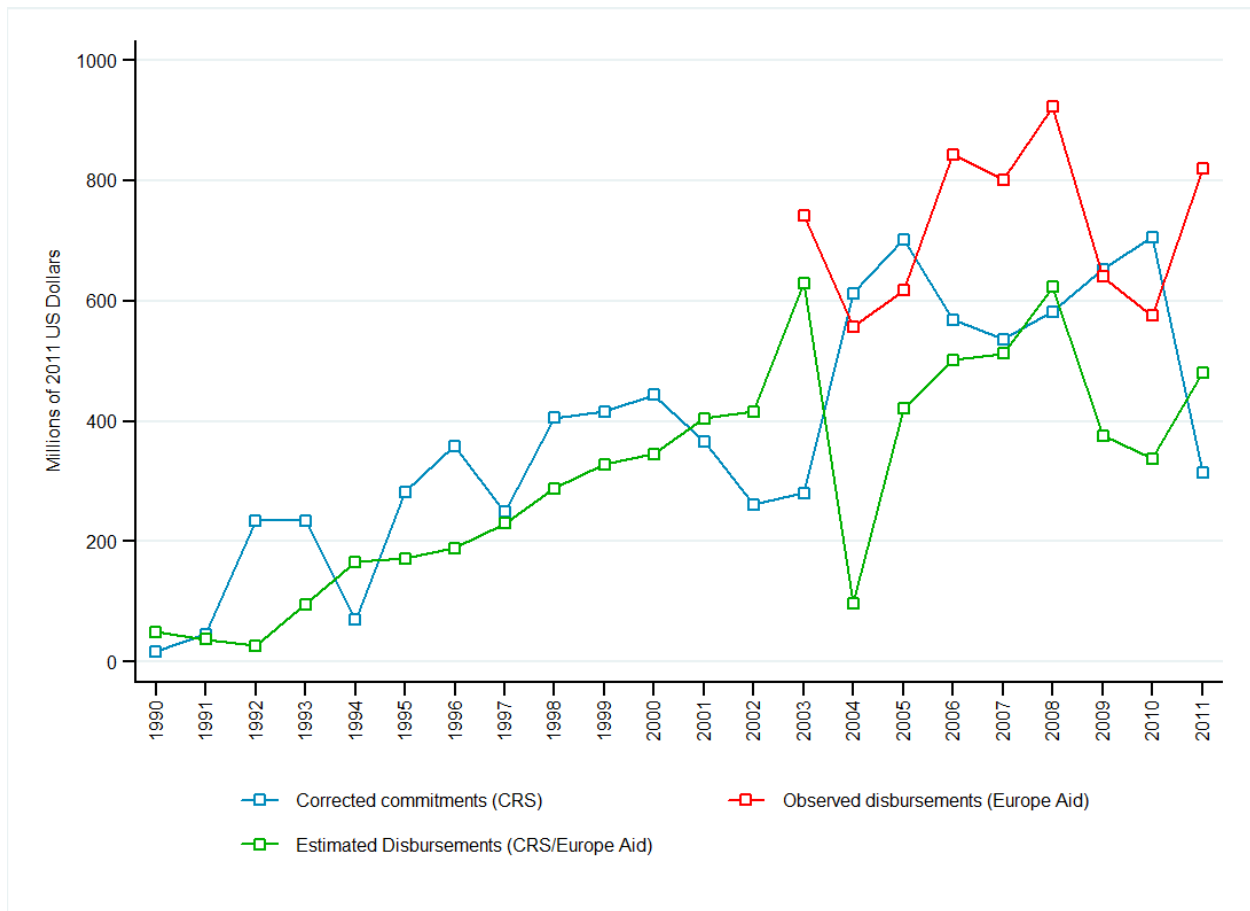


green line from 2003 to 2009 shows the result of this calculation. The dip in 2004 is the result of EC’s grant of \$270 million to GFATM as well as \$188 million in extrabudgetary contributions to WHO and UNFPA that year.

Budget data for the EC were inconsistent and did not match the disbursement series. Instead, we estimated DAH for 2012 and 2013 based on trends in DAH for EC member countries. We applied a weighted average to the percent change in DAH from 2011-2012 and 2012-2013 for all EC member countries. The weighting was based on each country’s total national contributions to the EC. These data were collected from the EC’s 2011 financial statement.<sup>72</sup> The weighted average was then applied to the EC’s 2011 DAH to forecast 2012, and 2012 to forecast 2013.

**Figure 1.1.6**  
**Estimated disbursements by the EC**

The green line shows the complete time series included in the estimates of DAH.



Source: OECD Creditor Reporting System, Europe Aid Annual Reports, and IHME DAH Database 2013

**Part 1.2:**

## TRACKING DEVELOPMENT ASSISTANCE FOR HEALTH FROM THE DEVELOPMENT BANKS

### The World Bank

We obtained project-level health disbursement data for 1999-2013 from the World Bank through correspondence.<sup>12</sup> In addition to this, we collected data from the World Bank online loans database, tracking DAH from the two arms of the World Bank, the International Development Association (IDA) and the International Bank for Reconstruction and Development (IBRD).<sup>11</sup> We rely on these data for 1990-1998 and the data received through correspondence for 1999-2012.

The online database contains up to five sector codes and five theme codes that can be assigned to each project. Sector codes represent economic, political, and sociological subdivisions, while theme codes represent the goals or objectives of World Bank activities. The codes are summarized in Table 1.2.1. For 1990-1998, we used the sector codes in the database to calculate what fraction of the loan was for the health sector. We divided the cumulative disbursement for the loan by the observed duration to estimate annual disbursements. For projects with no closing date, we used the average project length by loan type to estimate the closing date, outlined in Table 1.2.2. Projects that were simply additional resources for a parent project were assumed to have zero disbursements since the actual disbursement is recorded with the parent project. Emergency recovery loans were excluded since they do not fit our definition of DAH.

**Table 1.2.1**  
**World Bank’s health sector and theme codes**

<b>Health sector codes</b> (Sector codes represent economic, political, or sociological subdivisions within society. World Bank projects are classified by up to five sectors.)	<b>Health theme codes</b> (Theme codes represent the goals or objectives of World Bank activities. World Bank projects are classified by up to five themes.)
<p><b>Historic (prior to 2001):</b></p> <ul style="list-style-type: none"> <li>(1) Basic health</li> <li>(2) Other population health and nutrition</li> <li>(3) Targeted health</li> <li>(4) Primary health, including reproductive health, child health, and health promotion</li> </ul> <p><b>Current (as of 2001):</b></p> <ul style="list-style-type: none"> <li>(1) Health</li> <li>(2) Compulsory health finance</li> <li>(3) Public administration – health</li> <li>(4) Noncompulsory health finance</li> </ul>	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>(1) Child health</li> <li>(2) HIV/AIDS</li> <li>(3) Health system performance</li> <li>(4) Nutrition and food security</li> <li>(5) Population and reproductive health</li> <li>(6) Other communicable diseases</li> <li>(7) Injuries and non-communicable diseases</li> <li>(8) Malaria</li> <li>(9) Tuberculosis</li> </ul>

**Table 1.2.2**  
**World Bank’s average project length by loan instrument**

This table shows average project length for lending instrument types that still had active projects as of November 2013.

Lending instrument	Number of projects	Average loan length (days)
Adaptable Program Loan	284	2,211
Development Policy Lending	346	406
Financial Intermediary Loan	81	2,801
Learning and Innovation Loan	76	1,841
Program-for-Results	5	1,948
Sector Adjustment Loan	63	1,303
Sector Investment and Maintenance Loan	308	2,470
Specific Investment Loan	2,824	2,490
Technical Assistance Loan	299	1,693

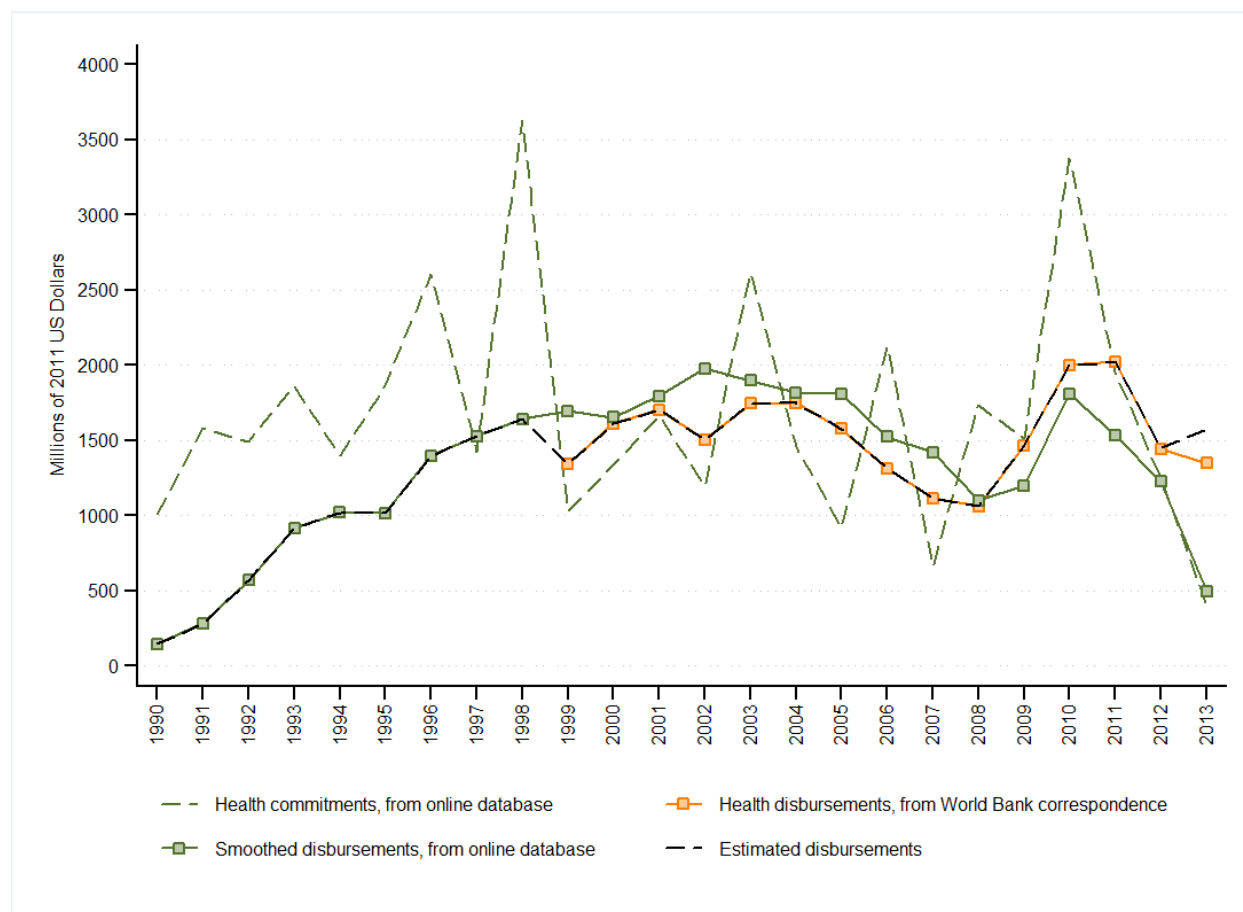
Figure 1.2.1 shows (a) total health commitments from the online loans database, (b) total health disbursements received from correspondence, (c) smoothed health disbursements from the online loans database, and (d) our final estimate of DAH. The database distinguishes between loans from IDA and IBRD, but the aggregates are shown in the figure. In order to disaggregate IDA flows by source, we obtained data on yearly government contributions from the DAC statistics. Refer to Part 1.7 for details on how we estimate the cost of providing technical assistance and program support for these institutions.

The data we received from the World Bank captured disbursements for only the first few months of 2013, so we employed a regression method to predict full-year health disbursements for IDA and IBRD separately. We regressed full-year disbursements on commitments from July 18 of the previous year to July 18 of the present year. July 18 was the last approval date in the data provided by the World Bank. The new prediction total is represented by the black line at 2013 in Figure 1.2.1, which is slightly above observed disbursements for 2013, represented by the orange line.

**Figure 1.2.1**

**World Bank’s annual health sector commitments and disbursements**

The graph shows health sector loan commitments and disbursements in green from the online database. The orange line shows annual health disbursements data received from the World Bank through 2011.



Source: IHME DAH Database 2013 and correspondence with World Bank

**Regional development banks**

The African Development Bank (AfDB), Asian Development Bank (ADB), and Inter-American Development Bank (IDB) all maintain their own loan databases, which we used to estimate disbursements.<sup>13,14,16</sup> Table 1.2.3 provides a summary of the data sources used across the regional banks. Furthermore, Figures 1.2.2, 1.2.3, and 1.2.4 display commitments and disbursements from 1990 to 2013 for each organization.

In 2010, the AfDB began providing an online project-level database with cumulative commitment data for all projects and cumulative disbursement data for closed projects. To estimate annual disbursements for closed projects, we divided cumulative disbursements by the project length. For ongoing and approved projects, we adjusted commitments by the average fraction of commitments that were disbursed for closed projects, and then divided the adjusted commitments by the average project length. Disbursement levels prior to 2007 did not match previously gathered data from AfDB’s Compendium of Statistics, so we used these data for pre-2007 estimates of DAH.<sup>15</sup>

The ADB reports commitments and disbursements for all projects. We estimated annual disbursements by dividing the project length by total disbursements. For projects without a closing date, we estimated based on the average project length by project type. When no disbursement data was available, we used adjusted commitments based on the average fraction of commitments that were disbursed by project type. The IDB's project database also provides commitments and disbursements for all projects. We employed the same methods for estimating annual disbursements from the IDB as we used for the ADB.

All datasets used to estimate disbursements for the regional development banks were updated in October 2013. Due to lags in reporting, preliminary estimates of DAH in 2013 may be incomplete. However, since these channels have so few new projects each year, we assume that our smoothing of disbursements over time for reported projects captures the majority of total disbursements for 2013.

Table 1.2.3

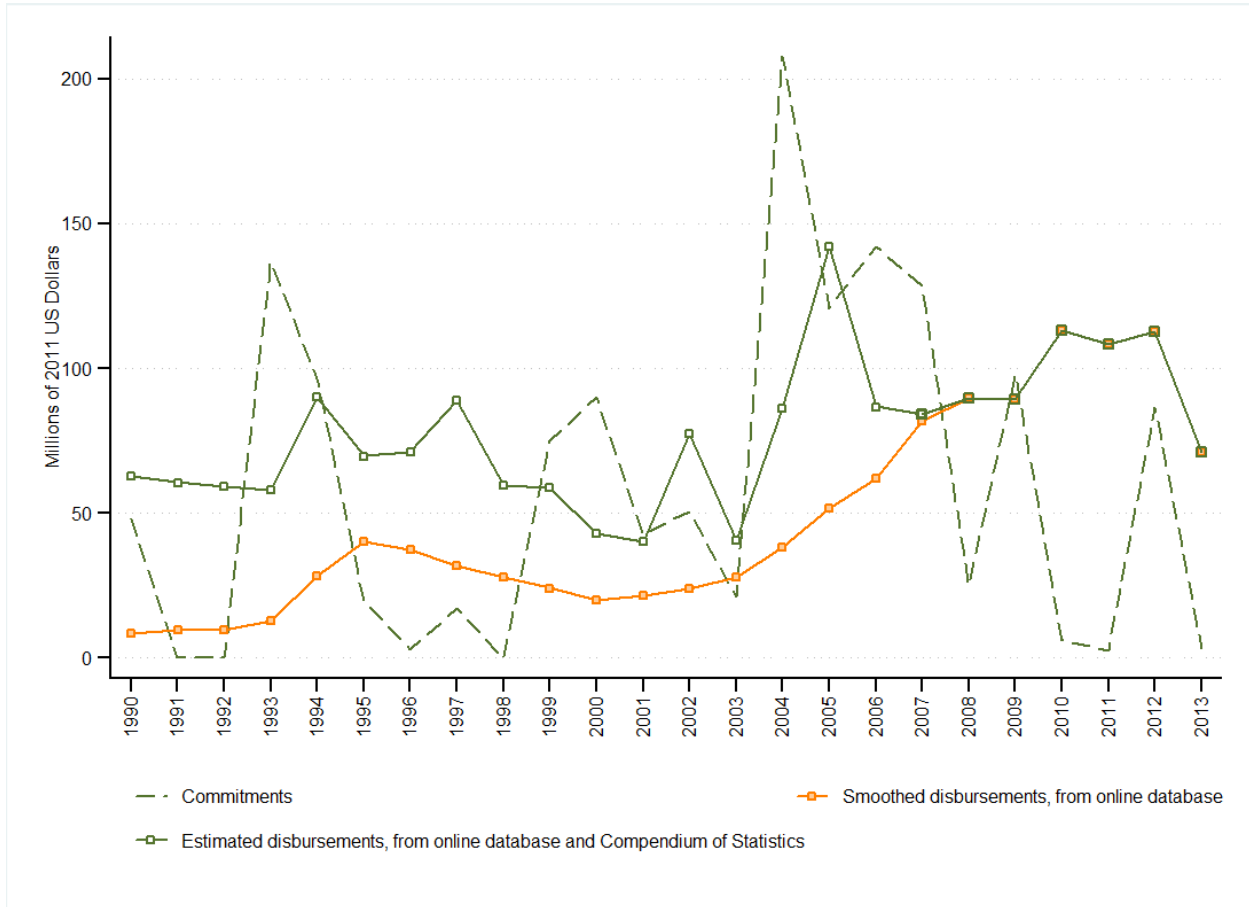
## Summary of data sources for the regional development banks

Institution	Data source	Commitments	Cumulative disbursements	Yearly disbursements	Notes
<b>African Development Bank (AfDB)</b>	Compendium of Statistics	X	-	(Aggregate – not at the project level)	The compendium of statistics was not available for 1990-1993, 1995, and 1998-1999; we estimated yearly disbursements using the average of neighboring disbursements
	Online Projects Database	X	X	-	As yearly disbursement amounts are not provided in the online database, we estimated yearly disbursements by allocating cumulative disbursements over each year of the project.
	OECD-Creditor Reporting System	X	-	X	To maintain continuity with previous estimate, yearly disbursement amounts from the CRS were not used.
<b>Asian Development Bank</b>	Online Projects Database	X	X	-	As yearly disbursement amounts are not provided in the online database, we estimated yearly disbursements by allocating cumulative disbursements over each year of the project.
	OECD-Creditor Reporting System	X	-	-	.
<b>Inter-American Development Bank</b>	Online projects database	X	X	-	As yearly disbursement amounts are not provided in the online database, we estimated yearly disbursements by allocating cumulative disbursements over each year of the project.
	OECD-Creditor Reporting System	X	-	X	Yearly disbursement amounts only began to be reported in 2009, so the CRS was not a viable source.

**Figure 1.2.2**

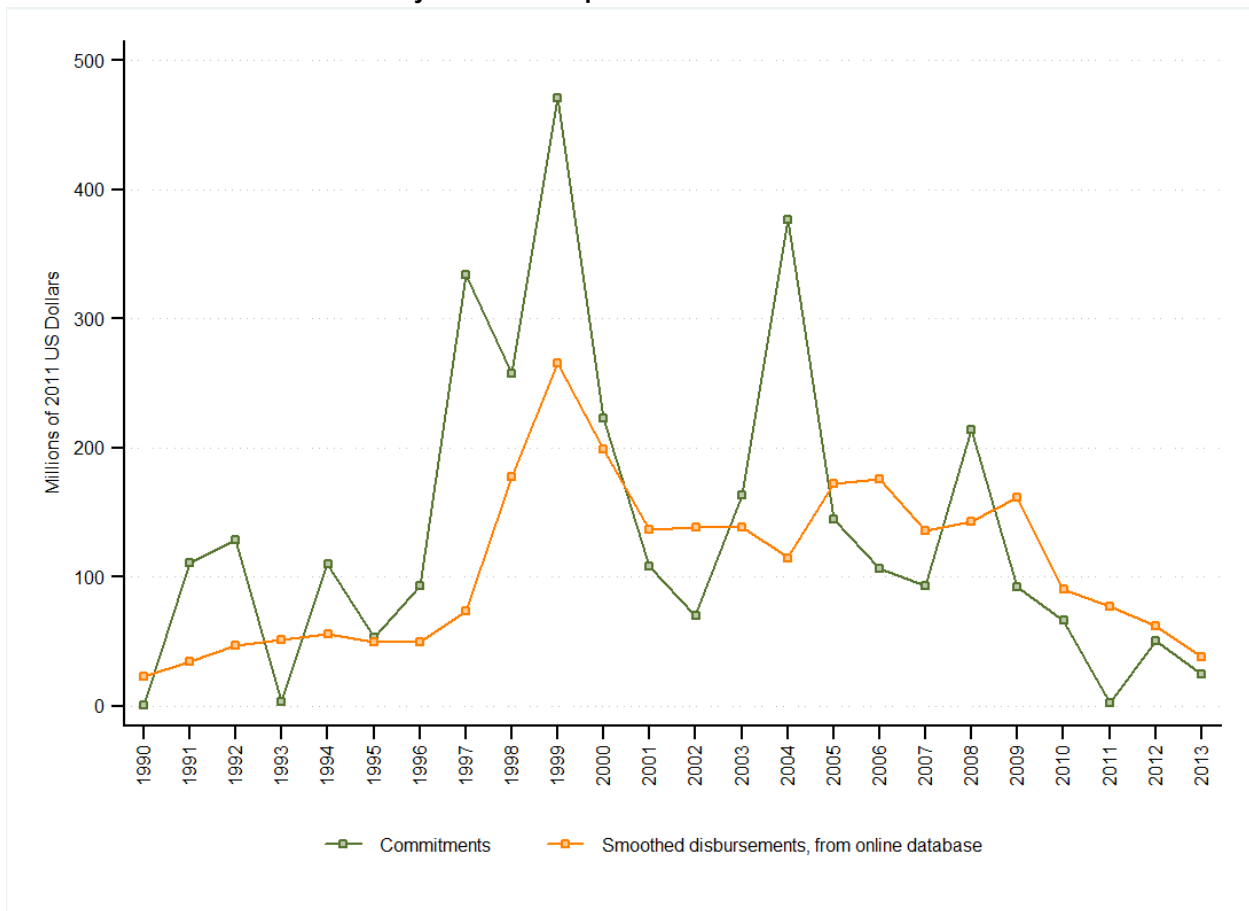
**Commitments and disbursements by the African Development Bank**

The dashed green line shows commitments from AfDB's online project database. The orange line shows smoothed disbursements from the online project database. A combination of compendium of statistics and online project database was used in the DAH estimates, shown by the solid green line.



Source: IHME DAH Database 2013 and African Development Bank Compendium of Statistics 2013

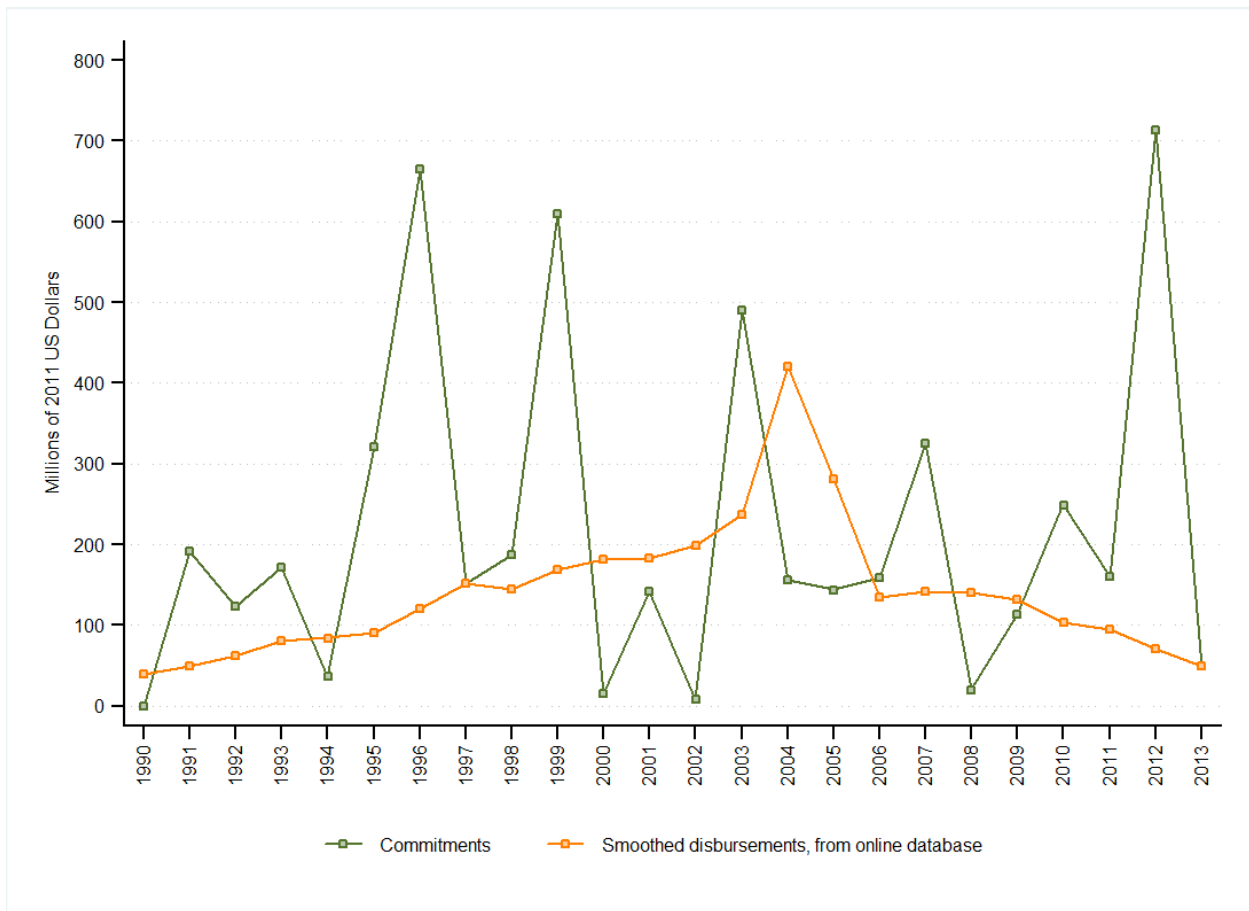
**Figure 1.2.3**  
**Commitments and disbursements by Asian Development Bank**



Source: IHME DAH Database 2013



**Figure 1.2.4**  
**Commitments and disbursements by Inter-American Development Bank**



Source: IHME DAH Database 2013

**Part 1.3:**

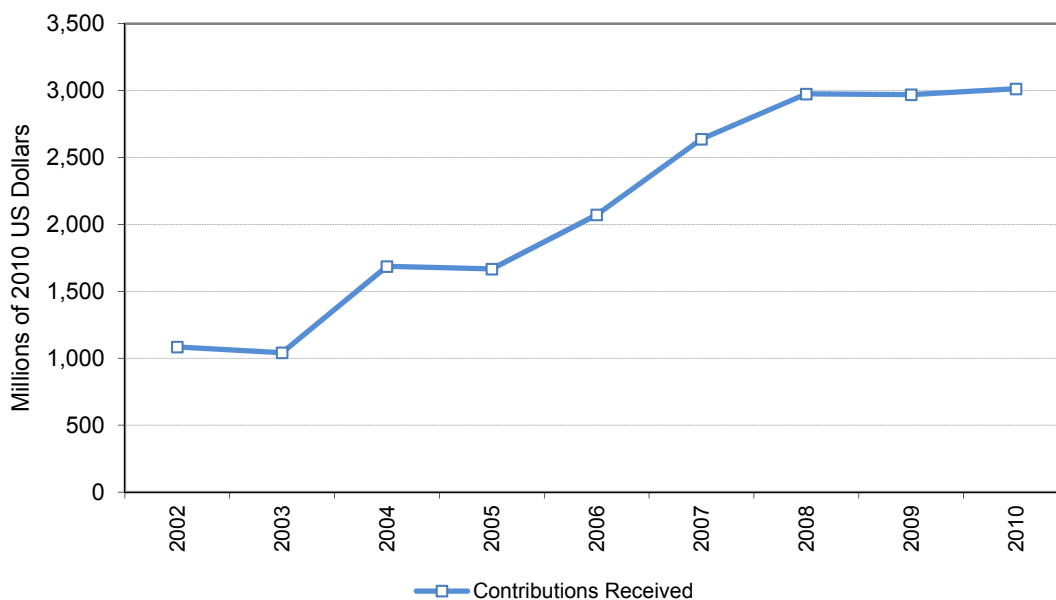
## TRACKING CONTRIBUTIONS FROM GFATM AND GAVI

### The Global Fund to Fight AIDS, Tuberculosis and Malaria

The grants database made available online by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) provides grant-wise commitments and annual disbursements.<sup>21</sup> In addition, we used the contributions dataset that can also be found on the GFATM website and annual reports to compile data on the source of funding for GFATM.<sup>22,23</sup> Figure 1.3.1 shows GFATM's annual contributions received from public and private sources. Figure 1.3.2 shows GFATM's annual commitments and disbursements from its project database.

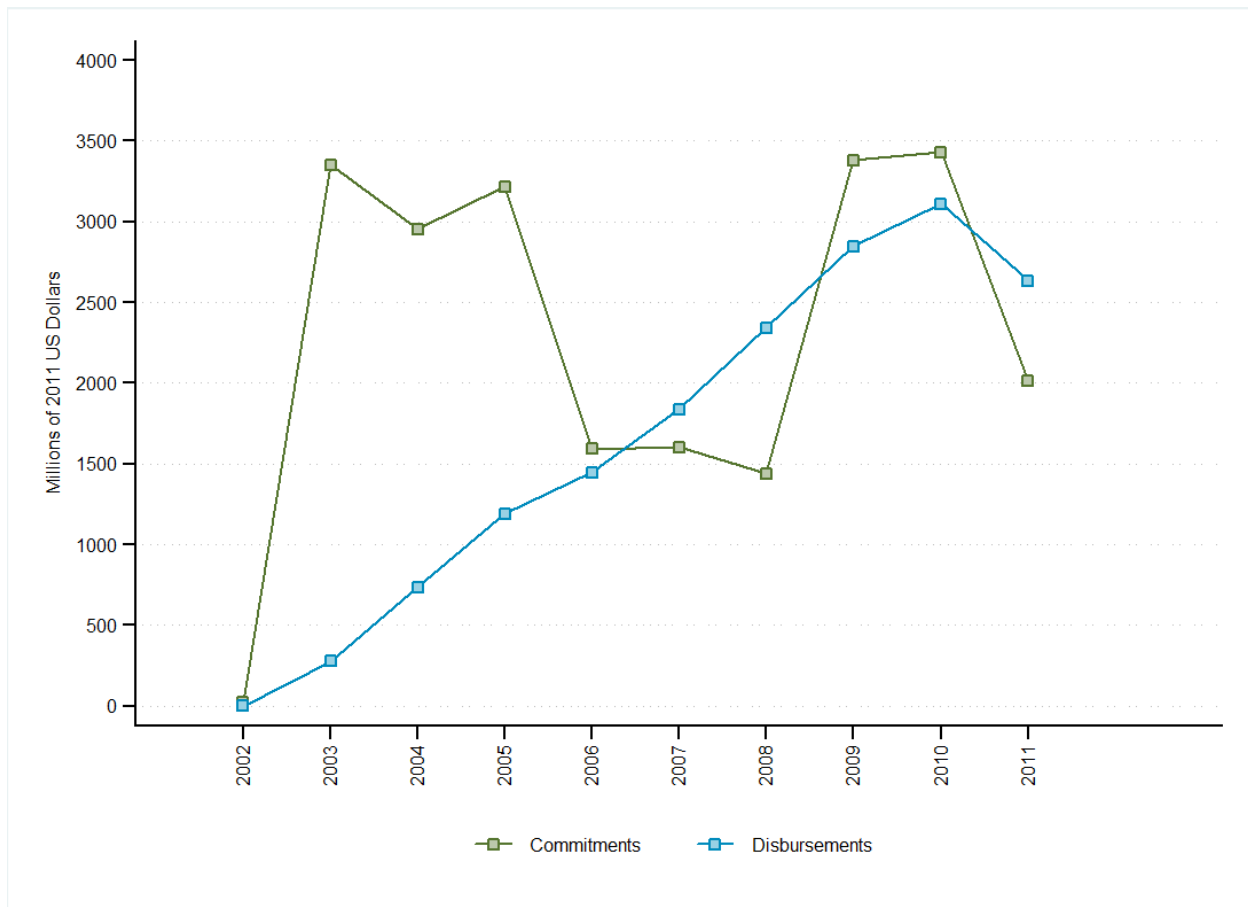
In order to account for changing trends in disbursement rate within a calendar year, we regressed GFATM disbursements from January to December on GFATM disbursements from January to November using data from years 2003 to 2012. We then used the regression coefficients and GFATM disbursements from January to November in 2013 to predict full-year GFATM disbursements in 2013. Next, we up-adjusted these numbers to account for in-kind DAH and remove double-counting. We did this by regressing IHME's GFATM DAH sequence from 2002 to 2012 that includes corrections for these issues on the predicted full-year GFATM and then using the regression coefficients to predict for 2013.

**Figure 1.3.1**  
Contributions received by the Global Fund to Fight AIDS, Tuberculosis and Malaria



Source: GFATM pledges and contributions, 2013

**Figure 1.3.2**  
**The Global Fund to Fight AIDS, Tuberculosis and Malaria’s commitments and disbursements**



Source: IHME DAH Database 2013

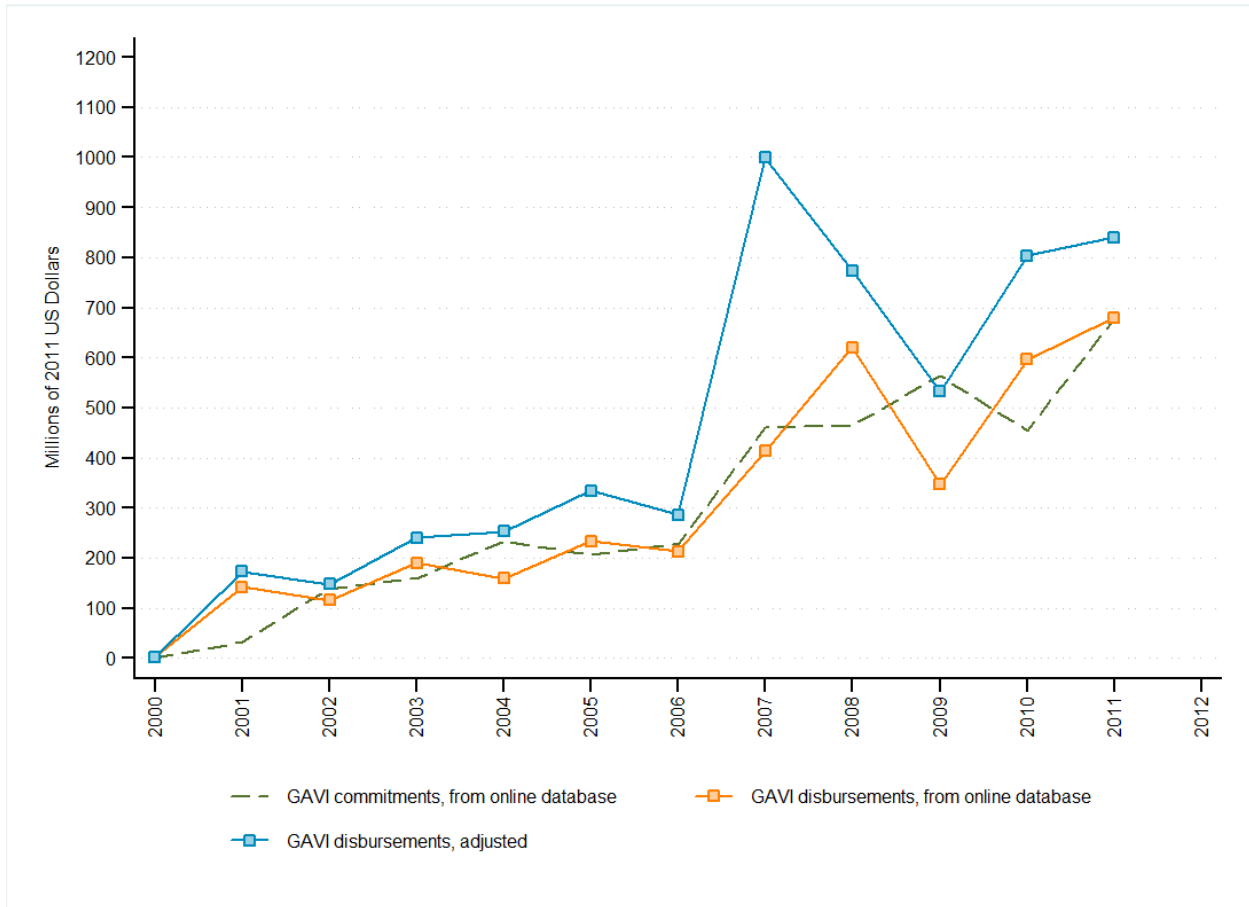
### The GAVI Alliance

GAVI provides project-level data on commitments, disbursements, and investment cases from 2000 through the present.<sup>17</sup> We considered GAVI annual DAH to be the sum of (1) project-level disbursements by year paid; (2) investment cases, one-time investments in disease prevention and control; and (3) administrative and work plan costs. When comparing the sum of project disbursements and investments, shown in orange in Figure 1.3.3, to project-level data in the CRS from 2007-2011, it is clear that the CRS data did not include administrative and work plan costs. We added these amounts reported to the CRS for 2007-2011 to total disbursements, and the average fraction of administrative and work plan costs to total disbursements for 2000-2006 and 2012. Total DAH after this adjustment is shown in blue in Figure 1.3.3. Contributions data from GAVI’s website as well as annual reports from the IFFIm were used to determine GAVI’s annual income.<sup>19,20</sup>

All of the data sources used for our GAVI estimates were complete through 2012. Donor contributions received and outstanding pledges data are available on GAVI’s website through 2013. For each year up to 2012 we created a DAH-to-pledges ratio. We predicted the 2013 DAH-to-pledges ratio by applying the

weighted mean of the previous three years (placing one-half weight on 2012, one-third weight on 2011, and one-sixth weight on 2010). We multiplied the estimated 2013 DAH-to-pledges ratio by the amount of pledges reported by GAVI to estimate our 2013 GAVI DAH.

**Figure 1.3.3**  
**The GAVI Alliance's income and disbursements**



Source: IHME DAH Database 2013, GAVI Alliance Progress Reports

#### Part 1.4:

## TRACKING EXPENDITURE BY UNITED NATIONS AGENCIES ACTIVE IN THE HEALTH DOMAIN

For the purposes of this research, we collected data on income and expenditures for five UN agencies: WHO, UNICEF, UNFPA, UNAIDS, and PAHO. The data sources and calculations for each are described in detail below. Similar to the bilateral channels, we extracted budget data for the UN agencies to predict DAH for years for which we did not have health expenditure data. Model choices and budget measures for UN agencies are presented in Table 1.1.2.

### World Health Organization

We used annual reports and audited financial statements released by WHO to compile data on its budgetary and extrabudgetary income and expenditure.<sup>10</sup> Specifically, we extracted data on its assessed and voluntary contributions on the income side and both budgetary and extrabudgetary spending on the expenditure side from these documents. As the financial statements represent activities over a two-year period, both income and expenditure data were divided by two to approximate yearly amounts. We excluded expenditures from trust funds, regional offices tracked separately, and associated entities not part of WHO's program of activities, such as UNAIDS and GFATM trust funds. We also excluded expenditures from supply services funds, as these expenditures pertain to services provided by WHO but paid for by recipient countries.

For WHO, disbursement data were not available for 2012 and 2013. The ratio of DAH to the total program budget was estimated for 1990-2011 and then predicted for 2012 and 2013 using the three-year weighted average of previous years (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio).<sup>62</sup> The predicted ratio was then multiplied by the observed program budget for 2012 and 2013 to get the estimates of DAH for the respective years.

### United Nations Population Fund

We extracted data on income and expenditure for UNFPA from its audited financial statements.<sup>8</sup> As these statements represent activities over a two-year period, income and expenditure data were divided by two to approximate yearly amounts. Dollars were deflated using the US GDP deflator specific to the reporting year. The only exceptions to this rule were years 2006 through 2010, for which annual data were available. We excluded income and expenditures associated with procurement and cost-sharing activities from our estimates of health assistance. UNFPA uses cost-sharing accounts when a donor contributes to UNFPA for a project to be conducted in the donor's own country. Since this money can be considered domestic spending that goes through UNFPA before being returned to the country in the form of a UNFPA program, we do not include it in our totals. UNFPA's additional expenditures for these projects come from trust funds or regular resources and are therefore captured in our estimates.

The disbursement data for UNFPA were available through 2012. For year 2013, we received estimated total spending via correspondence.<sup>66</sup>

## United Nations Children's Fund

We extracted data on income and expenditure for UNICEF from its audited financial statements.<sup>5</sup> As these statements represent activities over a two-year period, income and expenditure data were divided by two to approximate yearly amounts.

Since UNICEF's activities are not limited to the health sector, we estimated the fraction of UNICEF's expenditure that was for health. UNICEF's annual reports in the early 1990s reported this number, but reporting categories changed over time, making it difficult to arrive at consistent estimates of health expenditure. For the years 2001 onward, we received health expenditure data from UNICEF directly.<sup>6</sup>

We calculated the average fraction of expenditure for health for regular and supplementary funds from the most recent five years of these data and applied them to the expenditure reported in the financial reports for those years where health expenditure data were missing. In those years, we assumed that, on average, 13% of regular funds and 32% of extrabudgetary funds were utilized for health.

Disbursement data for UNICEF for year 2012 was received via correspondence.<sup>65</sup> For year 2013, we used the product of observed program budget and the weighted average of the DAH to budget ratio (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio).<sup>64</sup>

## Joint United Nations Programme on HIV/AIDS

UNAIDS income and expenditure data for both its core and noncore budgets were extracted from its audited financial statements.<sup>4</sup> As financial data are provided on a biennium basis, we divided the quantities by two to obtain yearly amounts. Dollars were deflated using the US GDP deflator specific to the reporting year.

For UNAIDS, budget measures were available only for a subset of reported total disbursements. UNAIDS reports total expenditure, combining Unified Budget and Workplan (UBW) and non-UBW components, but only UBW budget data are available.<sup>63</sup> Thus, to predict DAH for UNAIDS, we estimated disbursement for 2012 and 2013 by multiplying the observed UBW budget with the three-year weighted average of the ratio of DAH to the UBW budget (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio).

## Pan American Health Organization

The Pan American Regional Office for WHO, PAHO, reports its income and expenditure in its biennial financial report.<sup>9</sup> Correspondence with WHO revealed that it reports only a small subset of the overall funds received by PAHO. According to the financial reports, WHO funds made up 11% and 10% of PAHO's total expenditures in the 2008-2009 biennium and 2010, respectively. We excluded the funds transferred through the "Rotating Fund" as developing countries fund this procurement of health commodities, and it therefore does not fit our definition of DAH.

As the financial data are provided on a biennial basis (with the exception of 2010, where a single-year financial report was available), we divided the quantities by two to obtain yearly amounts. Dollars were deflated using the US GDP deflator specific to the reporting year.

For PAHO, disbursement data were not available for year 2013. PAHO reports disaggregated expenditures of voluntary and regular programs, but only regular program budget data were available.<sup>67</sup> Thus, to predict DAH for PAHO, we assumed the ratio of DAH to the subset budget was equally as good of a predictor as the ratio of DAH to the total budget. The estimate for 2013 was simply the product of the three-year weighted average of DAH to the regular budget (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio).

## Part 1.5:

# TRACKING DEVELOPMENT ASSISTANCE FOR HEALTH FROM PRIVATE FOUNDATIONS

Previous studies on foundations outside the US have documented the severe paucity of reliable time series data and lack of comparability across countries.<sup>73</sup> Hence, we focused our research efforts on tracking US foundations. The Wellcome Trust, a foundation based in the United Kingdom, is reputed to be the single largest non-US foundation active in the area of health. However, since the Wellcome Trust is principally a source of funding for technology, including drugs and vaccine research and development, it does not meet our definition of a channel of development assistance. Other studies have estimated that the amount of resources contributed by non-US foundations for global health is small in comparison to resources from US-based foundations.<sup>74</sup> Therefore, we do not think excluding them significantly impacts the overall estimate of health aid.

The Foundation Center maintains a database of all grants of US \$10,000 or more awarded by over 1,000 US foundations. The Foundation Center codes each grant by sector and international focus and, therefore, is able to identify global health grants regardless of whether the principal recipient was located in the US or in developing countries. We received a customized data feed from the Foundation Center with estimates of total international health grant-making for each year from 1990 to 2004. We obtained data on the top 50 US foundations giving to international health and total US foundation grants for international health for years 2005 to 2011 from the Foundation Center's website.<sup>31</sup> We then subtracted grants from BMGF, which we tracked separately, from the total foundation grants estimate.

For 2012 and 2013, we used the ratio of DAH to total assets to estimate DAH from private foundations. Budget data for individual foundations were unavailable, so these predictions were calculated for all US foundations using total asset data from the Foundation Center.<sup>31</sup> At the time of the analysis, total assets from the Foundation Center were available only until 2011, thus we estimated assets for 2012 and 2013. We regressed aggregate foundation total assets on US GDP per capita and the Standard & Poor's 500 index.

$$(\text{Foundation total assets}_t) = \beta_1 (\text{US GDP per capita}_t) + \beta_2 (\text{S\&P 500 market index}_t) + \varepsilon$$

We then predicted the ratio of DAH to total assets using a three-year weighted average (placing one-half weight on the one-year lagged ratio, one-third weight on the two-year lagged ratio, and one-sixth weight on the three-year lagged ratio) and multiplied the estimated assets by the predicted ratio to get estimates for 2012 and 2013. Refer to Part 1.7 for details on how we estimated the cost of providing technical assistance and program support for US foundations.

BMGF has been the single most important and influential grant-making institution in the health domain since 2000; hence, we undertook additional research to accurately capture its annual disbursements. We collected BMGF's IRS 990-PF filings for years 1990-2007, which report all global health grants disbursed per year.<sup>29</sup> Additionally, we obtained disbursement data via correspondence for years 2008-2012 and collected data from the BMGF online grants database.<sup>28,30</sup> We then manually coded all BMGF grants disbursed by recipient type, distinguishing between awards to other foundations, NGOs, universities and research institutions, UN



agencies, private-public partnerships, and governments for years for which this information was not provided.

We used a linear regression model to predict the disbursement for BMGF 2013. Since there is a strong correlation between market trends and BMGF annual disbursements, we utilized the market data such as US GDP, lagged yearly average of the S&P 500, lagged yearly average of Berkshire stock returns, lagged yearly average of the Russell Index, and lagged total assets of the BMGF Trust to predict the total disbursement for year 2013.<sup>68</sup>

$$\begin{aligned} & (BMGF \text{ total disbursement}_t) \\ &= \beta_1 (US \text{ GDP per capita}_t) + \beta_2 (S\&P \text{ 500 market index}_{t-1}) \\ &+ \beta_3 (Berkshire \text{ stock returns}_{t-1}) + \beta_4 (Russel \text{ Index}_{t-1}) \\ &+ \beta_5 (BMGF \text{ total asset}_{t-1}) + \varepsilon \end{aligned}$$

Given the volume of Bloomberg Philanthropies' contributions of DAH for non-communicable diseases, we gathered additional data from its tax forms to better understand its funding of this particular health focus area.<sup>32</sup>

## Part 1.6:

# TRACKING NON-GOVERNMENTAL ORGANIZATIONS

Currently, there is no centralized, easily accessible database for tracking program expenses of the thousands of NGOs based in high-income countries that are active in providing development assistance and humanitarian relief worldwide. For this study, we relied on the only comprehensive data source we could identify for a large subset of these NGOs, namely the VolAg report issued by USAID.<sup>24</sup> The report, which includes NGOs that received funding from the US government, provides data on domestic and overseas expenditures for these NGOs as well as their revenue from US and other public sources, private contributions, and in-kind donations. For NGOs incorporated in the US, we also rely on total revenue and expenditure data obtained from the NGO's IRS tax forms accessed through the GuideStar online database.<sup>25</sup>

We encountered several challenges in using these data. First, with the exception of BMGF, we were unable to track the amount of funding from US foundations routed through US NGOs, and that may have led to double-counting in our estimates of total health assistance. The second challenge relates to the incompleteness of the universe of NGOs captured through the USAID report. The report provides data on NGOs that received funding from the US government. While this covers many of the largest NGOs, it is not a comprehensive list. A related problem is that the VolAg report only includes NGOs that received funds in a given year. While many of the largest NGOs are consistently funded by the US government and are therefore in the report every year, not all NGOs are reported across all years. Third, the sector-specific expenditure that we would consider related to health is not reported in the VolAg or systematically reported in IRS tax forms. The VolAg does report overseas expenditure but does not disaggregate this expenditure by sector. Fourth, there are several time periods for which we are lacking complete data. At the time of analysis, the 2012 VolAg, which provides data for 2010, was the most recent report available. For NGOs incorporated in the US, we were able to obtain IRS tax forms for 2011 but nothing more recent. Furthermore, prior to 1998 the VolAg report did not include non-US-based NGOs. We attempted to compile other data on the health expenditures of the top non-US NGOs in terms of overseas expenditure by searching other websites for financial documents and contacting them directly. Getting reliable time series data before 2000 proved to be extremely difficult for even this small sample of non-US NGOs.

While we hope to find more data on non-US NGOs in future years, we do not think our focus on NGOs receiving support from the US government is a source of bias. Many of the top non-US NGOs have US-based chapters that are registered in the US and with USAID and are therefore covered by the USAID VolAg reports.<sup>24</sup> For example, Save the Children and International Planned Parenthood Federation both have arms registered in the US and receive funds from the US government.

To estimate the share of overseas expenditure spent on health-related projects, we drew upon a sample of NGOs for which we were able to collect such data. Collecting financial data on health expenditures for each NGO would have been prohibitively time-consuming. Therefore, a sample of NGOs was drawn from the list for each year; the sample included the top 20 NGOs in terms of overseas expenditure and 10 randomly selected US-based NGOs from the remaining pool, with the probability of being selected set proportional to overseas expenditure. Next, we collected health expenditure data for each NGO in this sample by seeking out annual reports, audited financial statements, 990 tax forms, and data from NGO websites and personal communications. Health expenditure was carefully reviewed to ensure that expenditures on food aid, food

security, disaster relief, and water and sanitation projects were not included. Table 1.6.1 summarizes the number of NGOs included each year in the USAID report, the number of NGOs in our sample from each year, and the number of NGOs for which we successfully found health expenditure data.

**Table 1.6.1**  
**Summary of US non-governmental organizations in the study**

Year	Number of US NGOs in VolAG report	Number of international NGOs in VolAG report	Number of US NGOs in IHME sample	Number of US NGOs from sample for which we found data on health expenditure
1990	267	-	16	12
1991	334	-	19	15
1992	385	-	18	15
1993	411	-	17	13
1994	424	-	17	11
1995	416	-	16	12
1996	423	-	21	14
1997	425	-	23	18
1998	435	44	24	22
1999	438	-	41	37
2000	433	50	47	43
2001	442	51	46	43
2002	486	58	46	43
2003	507	54	55	49
2004	508	55	57	48
2005	494	59	60	54
2006	536	67	63	56
2007	555	68	62	56
2008	564	78	57	55
2009	580	90	45	38
2010	579	95	54	50

We fit a linear regression model to predict health expenditure as a fraction of total expenditure using the data for the sampled NGOs. We used this model to predict health fractions for the remaining NGOs. To ensure that the predicted health fractions were bounded between zero and one, we used the logit-transformed health fraction as the dependent variable. Since several NGOs in the sample were observed for multiple years, we included a random effect that varied by NGO. Five of the nine variables used to predict the health fraction were drawn from the VolAG reports. They were (1) fraction of revenue from in-kind donations, (2) fraction of revenue from the US government, (3) fraction of revenue from private financial contributions, (4) overseas expenditure as a fraction of total expenditure, and (5) calendar year. The remaining four variables used to predict the health fraction were binary indicators we constructed based on keyword searches on the NGO name and NGO description found in the VolAG.<sup>24</sup> For both the NGO name and description, we searched for keywords that would indicate whether the name or description was sufficiently health-related. Independently, we also searched the NGO name and description for keywords that indicated

if the NGO might focus on something other than health. Table 1.6.2 lists the keywords we used to identify health-related and non-health-related NGO names and descriptions. These four indicators proved excellent predictors of health fractions.

**Table 1.6.2**  
**Keywords used to tag NGOs as health-related or non-health-related**

Category	Keywords
Health-related	Health, hiv, aids, nutrition, medical, cancer, gavi, gfatm, vaccine, malaria, bednet, ncd, doctor, medicine, medisend, pathologist, lung, physician, tuberculosis, injuries, noncommunicable, paho, syndrome, retroviral, tb, dots, polio, tobacco, smoking, leprosy, eye, blind, pediatric, fistula, population, santé, medecin, pharmaciens, pharmacy, handicap, prosthetics, mariestopes
Non-health-related	Water, sanitation, agriculture, climate, environmental, torture, forest, orphan, fauna, flora, nature, tree, wildlife, emergency, energy, soybean, book, earth, green, transportation, road, economic, zoological, humanitarian, humanesociety, food

Overseas health expenditure was calculated for individual NGOs in each year by multiplying the health fraction and total overseas expenditure. For NGOs sampled, we acquired and used actual health fraction data. For the unsampled NGOs, we used the fitted fraction from the previously described regression. Total overseas expenditure, reported in the VolAg, was not available for 2011-2013. For 2011 US-based NGOs, we calculated the 2011 NGO overseas fraction by regressing the logit-transformed observed overseas fraction on a linear time trend for each NGO independently. For these cases, we estimated overseas health fraction as the product of estimated overseas fraction, estimated health fraction, and total expenditure found in the IRS 990 forms.

At this point three reasons remained why the overseas health expenditure for some NGOs remained unknown. First, if an observation was non-US-based for 2011 (for which we do not have IRS tax forms), we did not have total expenditure data and thus could not calculate total overseas expenditure. Second, if an observation was for 2012 or 2013 (US- or non-US-based), we did not have any NGO-specific data. Finally, if an NGO was reported in the VolAg for multiple years but not for one year in between, we did not have any NGO-specific data for the gap year. It was possible that an NGO received support from the US government one year and then again in a nonconsecutive year. If the NGO did not receive support all the years in between, it was possible that records of that NGO would fall in and out of the purview of the VolAg. To remedy this, we assumed that if an NGO was reported in the VolAg twice (or more), then the NGO must have existed all the years in between the reported years.

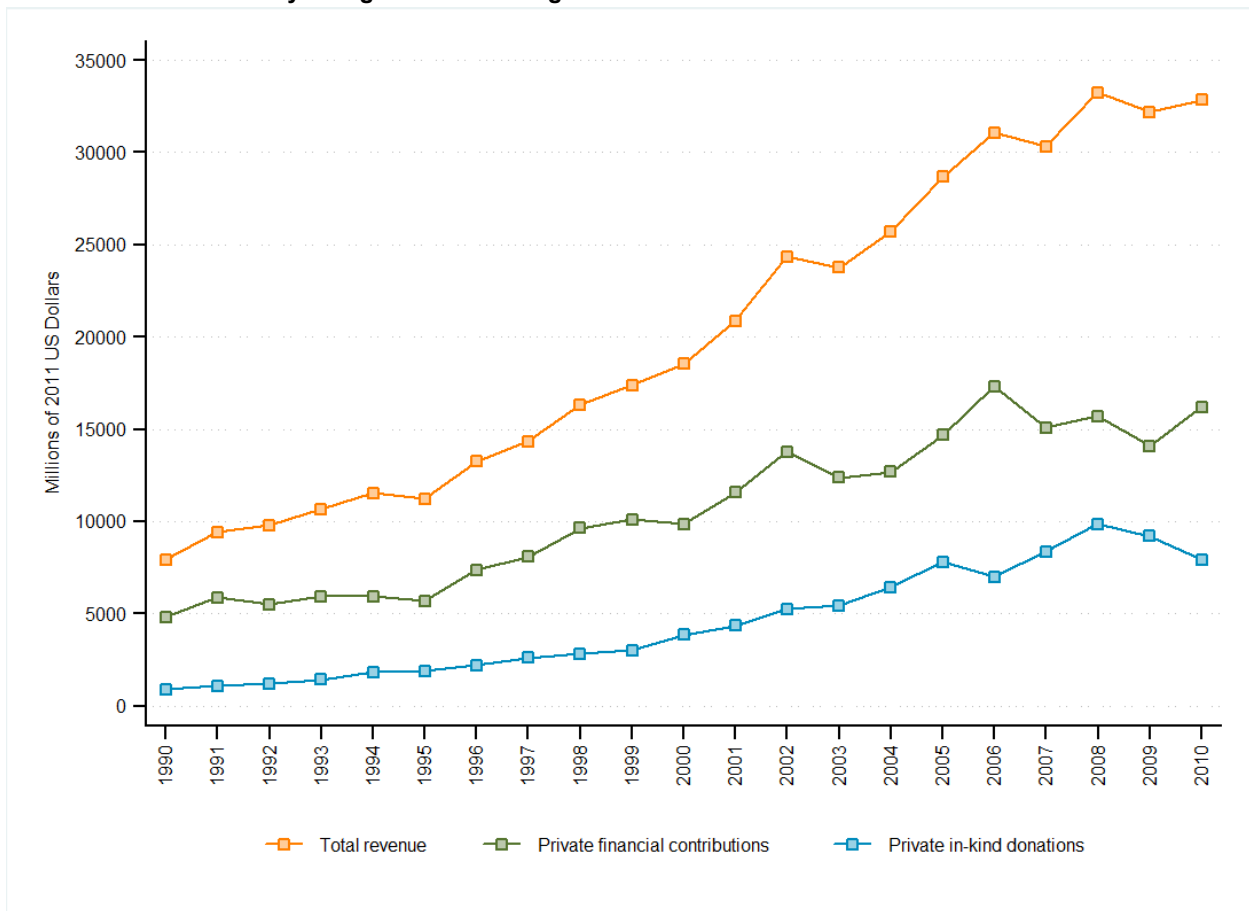
For all three of these scenarios, we used a panel-based linear regression model to fill in the overseas health expenditure gaps. We regressed total overseas health expenditure (measured at the NGO-year level) on US GDP per capita and US bilateral DAH disbursed. Because the US government funds many of these NGOs, US bilateral DAH was an excellent predictor of NGO DAH. We employed a flexible model that allowed both the

GDP and US government DAH coefficients to vary randomly across NGOs, such that each NGO employed a unique (but not independent) relationship between overseas health expenditure, GDP, and US government DAH. We also included a random intercept to capture the significant unobserved heterogeneity present in our set of NGOs. Once fit, we used this model to predict overseas health expenditure for all remaining gaps.

Expenditures financed from specific revenue sources were then calculated by multiplying overseas health expenditure by NGO-specific revenue fractions. As a revision to previous estimates, expenditures from in-kind sources were deflated by a constant fraction. This was determined by comparing the federal upper limit and average wholesale price valuations of drugs on the WHO's Model List of Essential Medicines from the RED BOOK Expanded Database.<sup>26,27</sup>

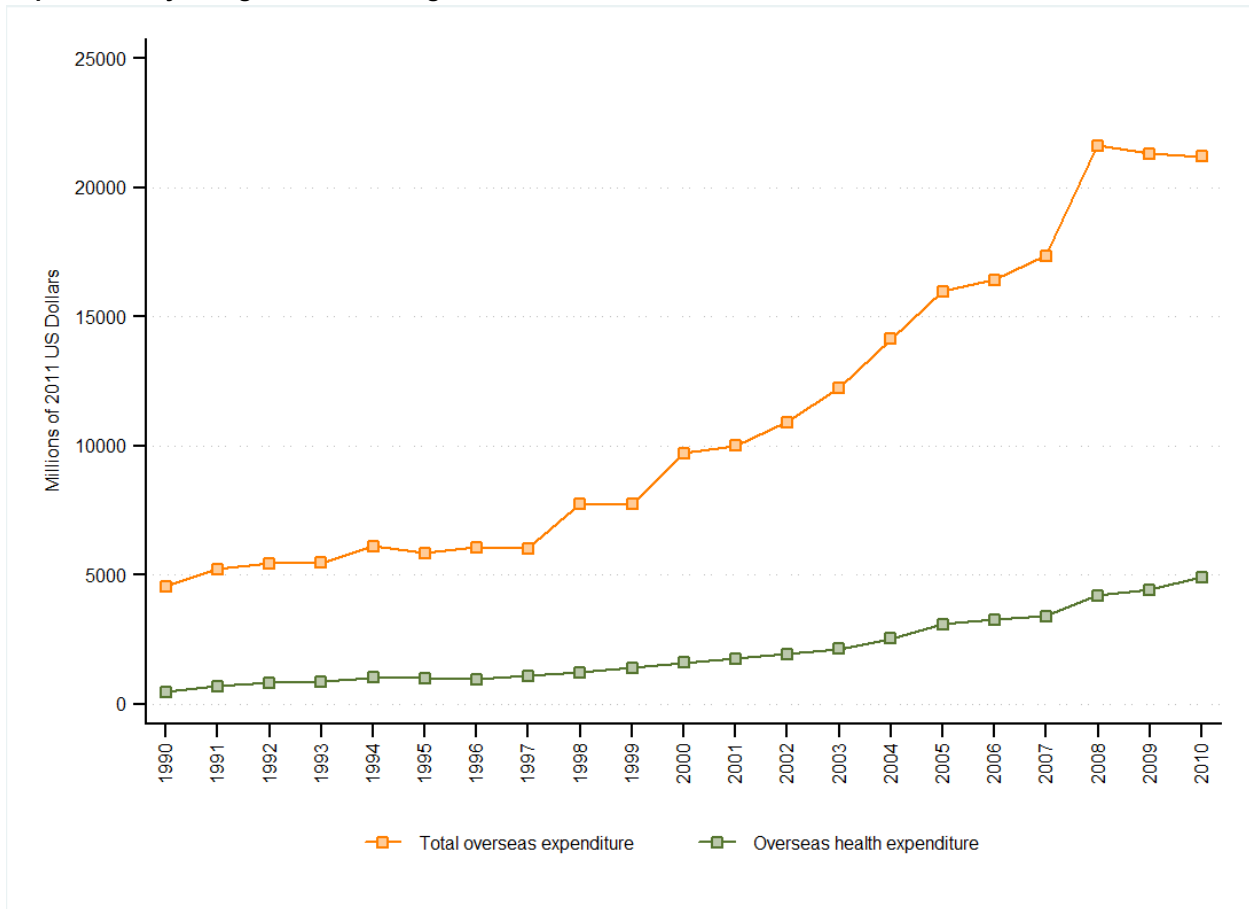
Figure 1.6.1 and Figure 1.6.2 show the income and estimated overseas health expenditure, respectively, of the NGOs in the universe of US- and non-US-based NGOs that we tracked in this study from 1990 to 2010 in constant 2011 US dollars.

**Figure 1.6.1**  
**Total revenue received by non-governmental organizations**



Source: IHME DAH Database 2013

**Figure 1.6.2**  
**Expenditure by non-governmental organizations**



Source: IHME DAH Database 2013

### Part 1.7:

## CALCULATING THE TECHNICAL ASSISTANCE AND PROGRAM SUPPORT COMPONENT OF DEVELOPMENT ASSISTANCE FOR HEALTH FROM LOAN- AND GRANT-MAKING CHANNELS OF ASSISTANCE

We used the following methods to estimate the costs incurred by loan- and grant-making institutions for administering and supporting health sector loans and grants, which includes costs related to staffing and program management.

We collected data on the total administrative costs for a subset of institutions in our universe for which these data were readily available: IDA, IBRD, BMGF, GFATM, GAVI, USAID, and the UK Department for International Development (DFID). The sources of data for the institutions in our sample are summarized in Table 1.7.1. For each of them, we calculated the ratio of total administrative costs to total grants and loans by year. We assumed that the percentage of operating and administrative costs devoted to health would be equal to the percentage of grants and loans that were for health. In other words, if 20% of a foundation's grants were for health, we assumed that 20% of administrative costs of the foundation were spent on facilitating these health grants. Given this assumption, we used the observed administrative costs to grants/loans ratios to estimate the in-kind contribution made by each of these organizations toward maintaining their health grants and loans. For the institutions not in this sample, we used the ratio from the institution most similar to it to arrive at an estimate of in-kind contributions. We used the average ratio observed for IDA and IBRD for all other development banks; the average of the ratios for BMGF for all other US foundations; the average ratio for DFID from 2002 to 2006 to calculate the in-kind component for DFID in previous years; and the average ratio for USAID and DFID for all other bilateral agencies and the EC. Total in-kind contributions from all grant- and loan-making global health institutions are shown in Figure 1.7.1. Total in-kind contributions ranged from 8.6% to 17.3% of the financial transfers between 1990 and 2011. There is also considerable variation across channels in the ratio of in-kind contributions to financial contributions. At the high end, the ratio for USAID was on average 19.6% over the study period, while the average for IBRD was 6.7%.

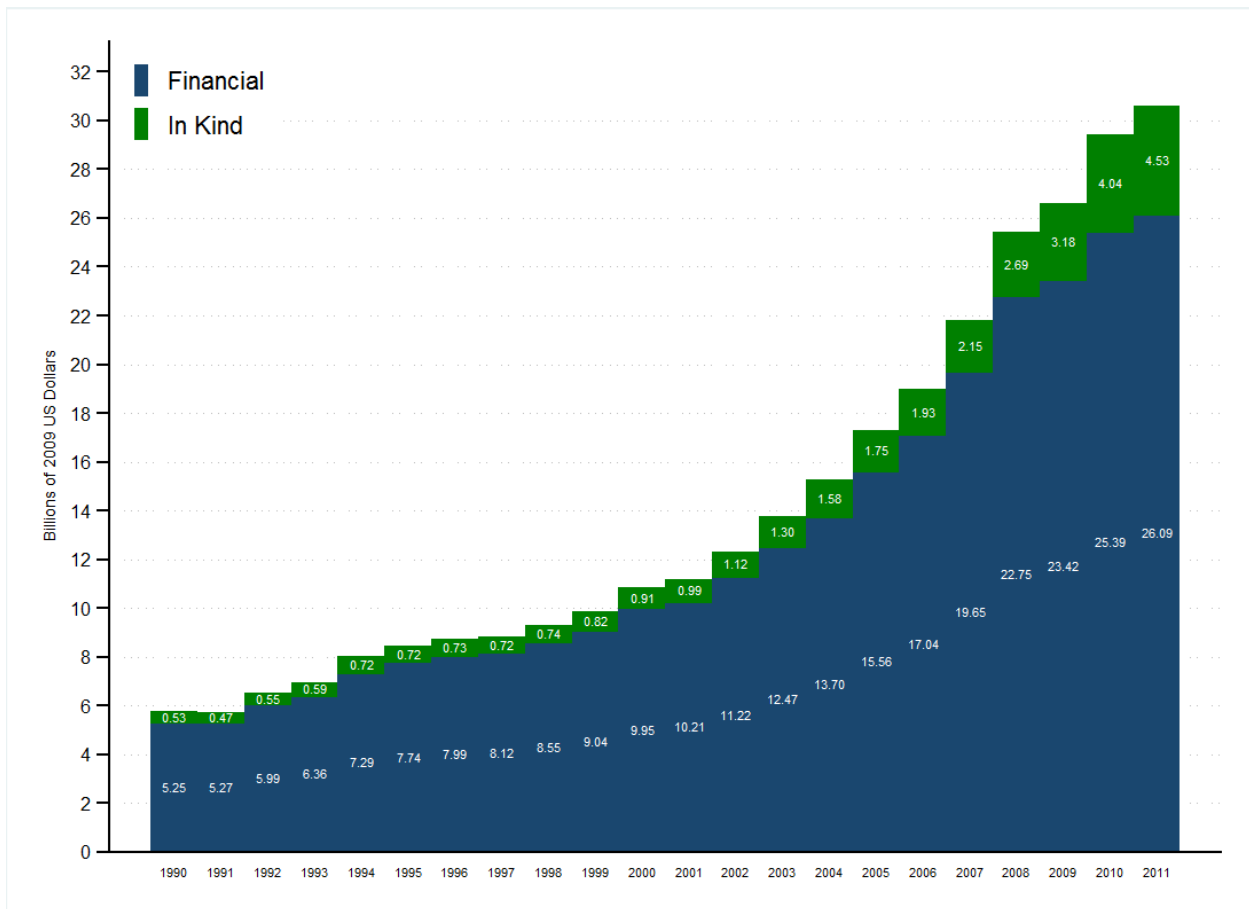


**Table 1.7.1**  
**Summary of data sources for calculating in-kind contributions**

<b>Organization</b>	<b>Source</b>	<b>Notes</b>
<b>BMGF</b>	990 tax returns <sup>29</sup>	Used “cash basis” column to calculate ratio of total operating and administrative expenses to grants paid.
<b>GFATM</b>	Annual report financial statements <sup>23</sup>	Calculated ratio of operating expenses to grants disbursed.
<b>GAVI</b>	Annual report financial statements <sup>20</sup>	Calculated ratio of management, general, and fundraising expenses to program expenses.
<b>USAID</b>	US government budget database <sup>61</sup>	Used outlays spreadsheet to calculate ratio of total outlays for USAID operating account to sum of outlays for bilateral accounts.
<b>DFID</b>	Annual report expense summary <sup>75</sup>	Calculated ratio of DFID’s administration expenses to DFID’s bilateral program expenses from 2002 onward.
<b>IDA</b>	World Bank audited financial statements <sup>76</sup>	Calculated ratio of management fee charged by IBRD to development credit disbursements.
<b>IBRD</b>	World Bank audited financial statements <sup>76</sup>	Calculated ratio of administrative expenses to loan disbursements.

Figure 1.7.1

In-kind contributions by loan- and grant-making DAH channels of assistance



Source: IHME DAH Database 2013

## Part 1.8:

### Disaggregating by health focus area

To identify health aid for HIV/AIDS; tuberculosis; malaria; health sector support; maternal, newborn, and child health; non-communicable diseases; and tobacco use prevention and control, we searched for keywords associated with each in descriptive fields when project-level data were available. Keyword searches were performed for a subset of global health channels, including bilateral development assistance agencies from the 23 DAC member countries, the EC, GFATM, the World Bank, ADB, AfDB, IDB, BMGF, Bloomberg Philanthropies and NGOs. These keywords are outlined in Table 1.8.1 below. Descriptive fields were in all capitalized letters, and terms with multiple words were put between quotation marks. All keywords were translated into the major languages that projects were reported in, checked for double meanings, and adjusted accordingly.

We also allocated funds based on characteristics of the channel. We allocated all funds from GAVI, UNICEF, and UNFPA to maternal, newborn, and child health. All funds from UNAIDS was allocated to HIV/AIDS. WHO funds were allocated to specific health focus areas based on project expenditure data from its annual financial reports. For the World Bank IDA and IBRD, health focus areas were determined by the project sector codes and theme codes.

**Table 1.8.1**  
**Terms for keyword searches**

Project type	Keywords
<b>HIV/AIDS</b>	HIV, HIV/AIDS, H.I.V., AIDS, human immunodeficiency virus, reverse transcriptase inhibitor, acquired immune deficiency syndrome, retroviral, VIH, VIH/SIDA, SIDA, retroviral, retrovirale, retroviralen
<b>Tuberculosis</b>	TB, tuberculosis, antitubercular, tuberculostatic, DOTS, directly observed treatment, mycobacterium tuberculosis, XDR-TB, MDR-TB, rifampicin, isoniazid, tuberculose tuberculosi, tuberkulose, stratégie DOTS, antituberculeux, antituberculeuse
<b>Malaria</b>	Malaria, paludisme, plasmodium falciparum, anopheles, ITN, smitn, bednets, insecticide, artemisinin, indoor residual spraying, spraying, paludismo, moustiquaires, mosquiteros, zanzariere, moskitonetze, insecticida, insektizid, pulvérisation à effet rémanent, artémisinine, artémisinine
<b>Health sector support</b>	SWAP, sector wide approach in health, sector programme, sector program, budget support, sector support, sektorprogramm, programme sectoriel, programma settoriale, l'appui budgétaire, l'appui budgetaire, apoyo presupuestario, budgethilfe
<b>Maternal, newborn, and child health</b>	Antenatal, prenatal, maternal health, sante maternelle, maternal mortality, mortalite maternelle, maternal death, deces maternel, perinatal, neonatal, safe motherhood, antenatal care, soins prenatales, skilled birth attendant, SBA, accoucheur qualifie, personnel de sante qualifie, emergency obstetric care, soins obstetriques essentiels, soins obstetriques d'urgence, reproductive health, sante genesique, child health, newborn health, sante du nouveau-ne, mortalite infantile, sante de l'enfant, child mortality, mortalite des enfants, vitamin a, vitamine a, infant mortality, "maternal, newborn & child health", "sante de la mere, du nouveau-ne et de l'enfant", family planning, planification familiale, planning familial, postpartum, under-five mortality, mortalite des moins de cinq ans, sante reproductive, child survival, maternal and infant health, integrated management of childhood illness, newborn, neonat, breastfe, malaria in pregnancy, p?rinat, MNCH, birth?weight, syphilis, postnat, néonat, borstvoed, n?o-nat, nouveau-n, fetus, fetal, toxoid, breast-fe s?filis, mnh, stillb, cord care, kangaroo,

	recien nacido, recién nacido, prénatale, prenatal, prenatale, salud maternal, salute maternal, gesundheit von mutter, mortalite maternelle, mortalité maternelle, mortalidad maternal, muerte maternal, perinatale, périnatale, neonatale, néonatale, neugeborenen, maternité sans risqué, maternite sans risqué, maternidad segura, sichere mutterschaft, atención prenatal, atencion prenatal, salud reproductiva, salute riproduttiva, reproductieve gezondheid, reproductieve gezondheid, salud del niño, salute dei bambini, gesundheit von kindern, santé néonatale, mortalidad de los niños, kindersterblichkeit, vitamina a, mortalidad infantil, "salud maternal, neonatal e infantil", planificación familiar, familienplanung, post-partum, postparto, menores de cinco años, menores de cinco años, menores de 5 años, survie de l'enfant, supervivencia infantil, santé maternelle et infantile, salud materna e infantile, gestion integree des maladies de l'enfance, recién nacido, recién nacido, neugeborenen, allaitement, amamantar lactancia, borstvoeding, sifilis, feto, foetal
<b>Non-communicable diseases</b>	Cancer, chemotherapy, radiation, neoplasm, neoplasia, tumor, diabetes, diabetic, insulin, endocrine, mental health, behavioral, rheumatic, rheumatism, ischaemic, ischemic, circulatory, cerebrovascular, cirrhosis, digestive disease, other digestive, genitourinary, musculoskeletal, congenital, alcohol, alcoholism, addiction, obesity, overweight, schizophrenia, neurotic, neurosis, psychological, psychology, psychiatric, emotional, PTSD, post-traumatic, glaucoma, hypertensive, hypertension, hernia, arthritis, cleft lip, cleft palate, phenylketonuria, pku, sickle cell, drepanocytosis, down syndrome, down's syndrome, hemophilia, disorder, thalassemia, genetic, heart disease, cardiovascular, chronic respiratory, sante mentale, comportement, chimiotherapie, rhumatismales, tumeur, neoplasie, neoplasme, rhumatisme, ischemique, diabete, diabetique, insulin, circulatoire, cerebro-vasculaire, cerebrovasculaire, vasculaire cerebral, vasculaires cerebraux, cirrhose, genito-urinaire, musculo-squelettiques, congenitale, alcool, toxicomanie, obesite, surpoids, schizophrenie, nevrose, alcoolisme, psychologique, psychologie, psychiatrie, emotionnel, stress post-traumatique, glaucoma, hypertension, hernie, arthrite, phenylcetonurie, pcu, anemie falciforme, drepanocytose, syndrome de down, hemophilie, maladie sanguine, maladies sanguines, maladie de l'appareil digestif, maladies de l'appareil digestif, maladies digestives, thalassemia, genetique, cardio-vasculaire, cardiovasculaire, maladies du cœur, maladie cardiaque, affections respiratoires chroniques, noncommunicable, copd, stroke, cataract, chronic obstructive pulmonary disease, broncho-pneumopathie chronique obstructive, bronchopneumopathie chronique obstructive, bpc, asthma, asthme, skin disease, maladie de la peau, cancer, cancro, kanker, krebs, tumour, tumore, diabète, diabète, diabétique, diabetique, diabétique, diabético, diabetico, diabético, diabetica, diabetiker, insulin, salud mental, salute mentale, geestelijke gezondheidszorg, comportementale, verhaltens, reumatismo, cerebrovasculares, congénito, angeborene, alcol, alcoholismo, alcoholismo, alcoolismo, dépendance, dependance, adicción, adicción, adicción, dipendenza, verslaving, sucht, obesidad, psicológica, psicologica, psicológica, psicológico, psychologisch, psychologische, psiquiátrico, psiquiatrico, psychiatrisch, psychiatrische, emocional, ptss, hipertensión, hipertension, drepanocitosis, drépanocytose, síndrome de down, síndrome de down, haemophilia, hemophilia, trastorno, toornis, talasemia, genetico, genético, genetisch, genetische, cardiovascolare, non transmissibles, no transmisibles, accidente cerebrovascular, accidentes cerebrovascular, cataracte, catarata, katarakt, asma, astma
<b>Tobacco use prevention and control</b>	Tobacco, smoking, smokers, tabac, tabagisme, fumeurs, fumador, fumar, tabaco

## Section 2: Tracking government health expenditure as source

### Part 2.0:

## OVERVIEW OF DATA COLLECTION AND RESEARCH METHODS

This section of the appendix provides detail on the data and methods used to estimate regional levels of government health expenditure as source (GHE-S).

Two main variables were used to construct a series of GHE-S for all DAH recipient countries from 1995-2011: development assistance for health channeled to governments (DAH-G) and government health expenditure as agent (GHE-A). The data sources of these variables are outlined in Table 2.0.1. Using the IHME DAH database, we obtained DAH-G data (See Part 2.1). We obtained GHE-A from the WHO National Health Accounts (NHA) database for the sample of 137 Global Burden of Disease (GBD) developing countries for 1995-2011.<sup>77</sup> We utilized GHE-A reported in current (nominal) local currency units (LCUs) and obtained currency exchange rate data from the WHO NHA database, the World Bank, and the International Monetary Fund (IMF).<sup>77,78,1</sup> We also obtained GDP currency deflator series from the IMF, World Bank, and UN statistical database.<sup>1,78,79</sup> Lastly, we obtained population data from IHME's Global Burden of Diseases, Injuries, and Risk Factors Study 2010 (GBD 2010) Population Estimates database.<sup>80</sup>

**Table 2.0.1**

### Summary of data sources for country spending on health

Data	Source
DAH-G	IHME DAH database
GHE-A	WHO NHA database <sup>77</sup>
Currency exchange rate	WHO NHA database, IMF, World Bank <sup>77,1,78</sup>
GDP currency deflator	IMF, World Bank, UN <sup>1,78,79</sup>
Population	GBD 2010 Populations Estimates database <sup>80</sup>

### Part 2.1:

## MEASURING DEVELOPMENT ASSISTANCE FOR HEALTH CHANNELED TO GOVERNMENTS

To isolate DAH-G and DAH not channeled to governments (DAH-NG) in the IHME DAH database, we first eliminated loans and DAH not channeled to a country. This removed projects targeting geographic regions and several projects from regional development banks and the World Bank, including both IDA and IBRD. The recipient agency of each remaining project was then coded based on the information available. Table 2.1.1 outlines the recipient agency categories used to distinguish DAH-G and DAH-NG.

**Table 2.1.1**

### Recipient agency sector categories

Category	Recipient agency sector
DAH-G	GOV (Central government)

	LOCAL (Local government)
	UNSP (Unspecified)
<b>DAH-NG</b>	CORP (Corporation)
	CSO (Civil society organization)
	NGO (Non-governmental organization)
	IGO (International non-governmental organization)
	PPP (Public-private partnership)
	UNIV (University or research institute)
	OTH (Other non-government)

For bilateral agencies, we used the channel codes reported in the CRS to track the recipient agency sector. Projects that were channeled to a country with channel code 10000 (public sector institutions) or 12000 (public sector recipient government) were considered DAH-G.<sup>81,82</sup> Due to the extensive missingness of channel of delivery information in the CRS data, especially prior to 2003, we took several steps to fill in this information whenever possible. We matched projects based on the reported project ID and filled in any missing descriptions or channel information when possible. We also performed keyword searches on the project names, titles, descriptions, and channel names to tag keywords that would help determine the channel of delivery. These keywords are outlined in Table 2.1.2 below. Aside from these keyword searches, we also searched for the names of specific channels that are already tracked in our database such as UNAIDS, UNICEF, UNDP, UNFPA, WHO, IBRD, GAVI, GFATM, ADB, AfDB, and PAHO. Lastly, we filled in channel codes by hand based on the reported channel name. Channels were modified only when the reported channel code was missing or 50000 (Other). We considered all remaining non-loan projects with an unspecified channel code that had a country as the recipient to be DAH-G.

**Table 2.1.2**  
**Channel of delivery keywords**

Channel of delivery	Keywords
Public sector institutions (10000)	Government, gobierno, gouvernement, ministry, regering, regierung, regierungsform, governo
Non-governmental organizations and civil society (20000)	NGO, “non-governmental”

We collected additional information to better estimate DAH-G and DAH-NG fractions for United States President’s Emergency Plan for AIDS Relief (PEPFAR). Each country that receives PEPFAR funding submits a Country Operational Plan, which provides detailed information on the organizations within the country that will receive funds, including the organization name, sector, and planned funding amount.<sup>83</sup> We extracted and compiled these data for each country from 2004-2011 to calculate the percent of funding going to government and non-government organizations. When this information was not available, we used the average percentage across all countries by year. Next, using obligations and outlays data from PEPFAR’s Summary Financial Status reports, we calculated the total amount of PEPFAR funds committed and disbursed to each country.<sup>84</sup> Lastly, we multiplied the fraction of funding to government and non-government organizations by total commitments and disbursements for each country to calculate the total amounts disbursed to government and non-government sectors from 2004-2011.

For the grants from regional development banks, including the ADB, AfDB, and IDB, we used the reported executing agency from the loan databases to code the sector of each grant's recipient agency. For all other channels for which we had project-level data, including Bloomberg Philanthropies, BMGF, GAVI, and the Global Fund, we relied on recipient agency information from project-level data. For GAVI, all projects were coded as DAH-G. Lastly, we excluded transfers from BMGF to the Global Fund and GAVI to avoid double-counting and collapsed DAH-G and DAH-NG by recipient country from 1990-2011.

### Part 2.2:

## MEASURING GOVERNMENT SPENDING ON HEALTH

Since DAH is measured in 2011 US dollars, we converted GHE-A to 2011 US dollars. We began by deflating the GHE-A data to 2011 LCUs. We prioritized the IMF deflator series, and when these data were not available for a specific country-year, we used data from the World Bank and UN, prioritizing the World Bank data over the UN data. Next, we exchanged the real GHE-A from LCUs to US dollars. We prioritized the WHO's exchange rates for 2011, but when these data were not available we used data from the World Bank and IMF, prioritizing the World Bank data over the IMF data. In the case of Zambia, the WHO's and World Bank's exchange rates were off by a factor of 1000, so we used IMF's exchange rates.

We subtracted DAH-G from GHE-A to obtain GHE-S. The complete set of country-level estimates was aggregated to the GBD region level. For estimates reported in per capita terms we divided by GBD 2010's population estimates, also aggregated to the region level.

## METHODS ANNEX REFERENCES

- <sup>1</sup> International Monetary Fund. World economic outlook database. Washington, DC: IMF, 2013. <http://www.imf.org/external/pubs/ft/weo/2009/02/weodata/index.aspx> (accessed February 2013).
- <sup>2</sup> Organisation for Economic Co-operation and Development. International Development Statistics: online database on aid and other resource flows. Paris: OECD. <http://www.oecd.org/dataoecd/50/17/5037721.htm> (accessed November 2013).
- <sup>3</sup> European Commission. Annual reports 2002-2011. Brussels: European Commission. <http://ec.europa.eu/europeaid/multimedia/publications/publications/annual-reports> (accessed May 2013).
- <sup>4</sup> Joint United Nations Programme on HIV/AIDS. Programme Coordinating Board Archive. Audited financial reports. Geneva: UNAIDS. <http://www.unaids.org/en/aboutunaids/unaidsprogrammecoordinatingboard/pcbmeetingarchive> (accessed July 2013).
- <sup>5</sup> United Nations Children's Fund. Annual reports 1989-1998, obtained through personal correspondence. Geneva: UNICEF, 2008.
- <sup>6</sup> United Nations Children's Fund. Health expenditure 2001-2012, obtained through personal correspondence. Geneva: UNICEF, 2013.
- <sup>7</sup> United Nations Children's Fund. Financial Report and Audited Financial Statements. Geneva: UNICEF, 2013. [http://www.unicef.org/about/execboard/index\\_25993.html](http://www.unicef.org/about/execboard/index_25993.html) (accessed July 2013).
- <sup>8</sup> United Nations Population Fund. Annual reports and audited financial statements. New York: UNFPA. <http://www.unfpa.org/public/about/> (accessed July 2013).
- <sup>9</sup> Pan American Health Organization. Financial report and audited financial statement 2012. Washington, DC: PAHO. [http://www.paho.org/hq/index.php?option=com\\_content&view=category&layout=blog&id=1258&Itemid=1160&lang=en](http://www.paho.org/hq/index.php?option=com_content&view=category&layout=blog&id=1258&Itemid=1160&lang=en) (accessed August 2013).
- <sup>10</sup> World Health Organization. Annual reports and audited financial statements, 1990-2012. Geneva: WHO. [http://apps.who.int/gb/pbac/e/e\\_pbac18.html](http://apps.who.int/gb/pbac/e/e_pbac18.html) (accessed July 2013).
- <sup>11</sup> The World Bank. Projects & operations. Washington, DC: World Bank. <http://www.worldbank.org/projects> (accessed October 2013).
- <sup>12</sup> The World Bank. Project database 1998-2013, obtained through personal correspondence. Washington, DC: World Bank, 2013.
- <sup>13</sup> Asian Development Bank. Online project database. Manila: ADB. <http://www.adb.org/projects/> (accessed August 2013).
- <sup>14</sup> African Development Bank. Online project database. Tunis: AfDB. <http://www.afdb.org/en/projects-and-operations/project-portfolio/> (accessed August 2013).



- 
- <sup>15</sup> African Development Bank. Compendium of statistics. Tunis: AfDB. <http://www.afdb.org/en/documents/publications/compendium-of-statistics-on-afdb-group-operations/> (accessed February 2013).
- <sup>16</sup> Inter-American Development Bank. Online projects database. Washington, DC: IDB. <http://www.iadb.org/projects/> (accessed October 2013).
- <sup>17</sup> GAVI Alliance. Online project database. Geneva: GAVI. <http://www.gavialliance.org/results/disbursements/> (accessed November 2013).
- <sup>18</sup> GAVI Alliance. Cash received database. Geneva: GAVI. <http://www.gavialliance.org/funding/donor-contributions-pledges/> (accessed August 2013).
- <sup>19</sup> International Finance Facility for Immunisation Company. Annual report and financial statement. London: IFFIm. <http://www.iffim.org/finance/trustees-reports-and-financial-statements/> (accessed August 2013).
- <sup>20</sup> GAVI Alliance. Annual Financial Reports. Geneva: GAVI. <http://www.gavialliance.org/funding/financial-reports/> (accessed August 2013).
- <sup>21</sup> The Global Fund to Fight AIDS, Tuberculosis and Malaria. Grants in Detail and Disbursements. Geneva: GFATM. <http://portfolio.theglobalfund.org/en/Downloads/Index> (accessed November 2013).
- <sup>22</sup> The Global Fund to Fight AIDS, Tuberculosis and Malaria. GFATM pledges & contributions report. Geneva: GFATM. <http://www.theglobalfund.org/en/> (accessed August 2013).
- <sup>23</sup> The Global Fund to Fight AIDS, Tuberculosis and Malaria. GFATM Annual Reports. Geneva: GFATM. <http://www.theglobalfund.org/en/publications/annualreports/> (accessed August 2013).
- <sup>24</sup> United States Agency for International Development. USAID VolAg report of voluntary agencies. Washington, DC: USAID. <http://idea.usaid.gov/ls/2012-volag-report> (accessed January 2013).
- <sup>25</sup> GuideStar USA, Inc. Tax filings. Washington, DC: GuideStar USA, Inc. <http://www2.guidestar.org/> (accessed August 2013).
- <sup>26</sup> Thomson Reuters. Red Book Expanded Database. New York: Thomson Reuters. December 2009 – February 2010.
- <sup>27</sup> World Health Organization. WHO List of Essential Medicines. Geneva: WHO. [http://www.who.int/topics/essential\\_medicines/en/](http://www.who.int/topics/essential_medicines/en/) (accessed November 2013).
- <sup>28</sup> Bill & Melinda Gates Foundation. Online grant database. Seattle, WA: Bill & Melinda Gates Foundation. <http://www.gatesfoundation.org/grants/Pages/search.aspx> (accessed February 2013).
- <sup>29</sup> Bill & Melinda Gates Foundation. IRS 990 tax forms. Seattle, WA: Bill & Melinda Gates Foundation. <http://www.gatesfoundation.org/about/Pages/financials.aspx> (accessed February 2013).
- <sup>30</sup> Bill & Melinda Gates Foundation. Personal correspondence. June 29, 2010; August 25, 2010; May 31, 2011; November 16, 2012; and September 13, 2013.

- 
- <sup>31</sup> Foundation Center. Grants database. New York: Foundation Center. <http://foundationcenter.org/> (accessed July 2013).
- <sup>32</sup> GuideStar USA, Inc. The Bloomberg Family Foundation. IRS 990-PF tax forms. Washington, DC: GuideStar USA, Inc. <http://www2.guidestar.org/> (accessed August 2013).
- <sup>33</sup> Australian Government. AusAID. Official Development Assistance (ODA) Budget. <http://www.usaid.gov.au/budgets/Pages/default.aspx> (accessed June 2013).
- <sup>34</sup> Austria Federal Ministry of Finance. Federal Budget. <https://english.bmf.gv.at/budget-economic-policy/Federal-Budget-2013.html> (accessed October 2013).
- <sup>35</sup> Belgium House of Representatives. Project Budget General, General Expenses [in French]. <http://www.lachambre.be/kvvcr/showpage.cfm?section=/flwb&language=fr&rightmenu=right&cfm=ListDocument.cfm> (accessed June 2013).
- <sup>36</sup> Canadian International Development Agency. Report on Plans and Priorities. <http://www.acdi-cida.gc.ca/acdi-cida/ACDI-CIDA.nsf/eng/NAD-1019143840-PV8> (accessed June 2013).
- <sup>37</sup> Danish Ministry of Foreign Affairs. Appropriation laws and state accounts. <http://www.oes.cs.dk/bevillingslove/> (accessed June 2013).
- <sup>38</sup> Ministry of Finance, Denmark. Email correspondences. May 3, 2010.
- <sup>39</sup> European Commission. General budget. <http://eur-lex.europa.eu/budget/www/index-en.htm> (accessed August 2013).
- <sup>40</sup> Ministry of Finance Finland. State Budget Bills [in Finnish]. <http://budjetti.vm.fi/indox/> (accessed August 2013).
- <sup>41</sup> Légifrance. General budget [in French]. <http://www.legifrance.gouv.fr/initRechTexte.do> (accessed June 2013).
- <sup>42</sup> German Federal Ministry for Economic Cooperation and Development, Federal Ministry of Finance. Plan of the Federal Budget. <http://www.bmz.de/en/ministry/budget/index.html> (accessed June 2013).
- <sup>43</sup> Greek Standing Committee on Economic Affairs. The State Budget and Budgets for Certain Special Funds and Services, 2013 [in Greek]. <http://www.hellenicparliament.gr/UserFiles/7b24652e-78eb-4807-9d68-e9a5d4576eff/SOMA.pdf> (accessed October 2013).
- <sup>44</sup> Organisation for Economic Co-operation and Development. Query Wizard for International Development Statistics. Paris: OECD. <http://www.oecd.org/dataoecd/50/17/5037721.htm> (accessed October 2013).
- <sup>45</sup> Department of Finance, Government of Ireland. The Budget. <http://www.budget.gov.ie/Budgets/2012/2012.aspx> (accessed June 2013).
- <sup>46</sup> General Accounting Office, Italian Ministry of Economy and Finance. <http://www.rgs.mef.gov.it/VERSIONE-I/Bilancio-d/Bilancio-f/2013/Decreto-di/> (accessed June 2013).

- 
- <sup>47</sup> Japan International Cooperation Agency. Annual reports. <http://www.jica.go.jp/english/publications/reports/annual> (accessed February 2013).
- <sup>48</sup> Ministry of Finance Japan. Budget. <http://www.mof.go.jp/english/budget/budget/index.html> (accessed September 2013).
- <sup>49</sup> Ministry of Finance Luxembourg. State Budget [in French]. <http://www.mf.public.lu/> (accessed June 2013).
- <sup>50</sup> Ministry of Foreign Affairs Netherlands. Homogeneous International Cooperation (HGIS). <http://www.rijksoverheid.nl/onderwerpen/miljoenennota-en-rijksbegroting/prinsjesdagstukken> (accessed June 2013).
- <sup>51</sup> New Zealand Treasury. VOTE budget data. <http://www.treasury.govt.nz/budget/2012> (accessed February 2013).
- <sup>52</sup> Ministry of Foreign Affairs Norway. Email correspondences. April 18, 2011; February 13, 2012; and August 14, 2013.
- <sup>53</sup> Ministry of Finance Portugal. State Budget Report. <http://www.dgo.pt/> (accessed June 2013).
- <sup>54</sup> ODA Korea. Comprehensive implementation plan for international development cooperation. <http://www.odakorea.go.kr/hz.bltn.PolicySI.do> (accessed October 2013).
- <sup>55</sup> Ministry of Foreign Affairs and Cooperation Spain. Annual Plan of Cooperation (PACI). <http://www.aecid.es/es/servicios/publicaciones/Documentos/paci/> (accessed September 2013).
- <sup>56</sup> Ministry for Foreign Affairs Sweden. Email correspondences. April 21, 2010.
- <sup>57</sup> Ministry of Foreign Affairs Sweden. International Aid Budget. <http://www.regeringen.se/content/1/c6/17/55/29/2bf3b223.pdf> (accessed June 2013).
- <sup>58</sup> Swiss Federal Department of Finance. Budget: further explanations and statistics [in French]. <http://www.efv.admin.ch/d/themen/finanzberichterstattung/index.php> (accessed June 2013).
- <sup>59</sup> Treasury. Budget [Internet]. London: Her Majesty's Treasury United Kingdom. <http://www.hm-treasury.gov.uk/2012budget.htm> (accessed June 2013).
- <sup>60</sup> US Foreign Assistance Dashboard. Foreign Assistance by category, Health- Planned Stage. <http://www.foreignassistance.gov/web/ObjectiveView.aspx> (accessed October 2013).
- <sup>61</sup> Executive Office of the President of the United States. Budget of the United States Government. <http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=BUDGET&browsePath=Fiscal+Year+2014&isCollapsed=true&leafLevelBrowse=false&isDocumentResults=true&ycord=0> (accessed October 2013).
- <sup>62</sup> World Health Organization. Proposed programme budget. Geneva:WHO. [http://www.who.int/about/resources\\_planning/en/index.html](http://www.who.int/about/resources_planning/en/index.html) (accessed August 2013).
- <sup>63</sup> Joint United Nations Programme on HIV/AIDS. Unified Budget and Workplan. Geneva: UNAIDS. <http://www.unaids.org/en/ourwork/managementandgovernance/financialmanagementandaccountabilitydepartment/ubraf/> (accessed July 2013).

- 
- <sup>64</sup> United Nations Children’s Fund. Medium-Term Strategic Plan: planned financial estimates. Geneva: UNICEF. [http://www.unicef.org/about/execboard/index\\_25993.html](http://www.unicef.org/about/execboard/index_25993.html) (accessed October 2013).
- <sup>65</sup> United Nations Children’s Fund. Email correspondences. September 27, 2013.
- <sup>66</sup> United Nations Population Fund. Email correspondence. August 8, 2013.
- <sup>67</sup> Pan American Health Organization. Proposed program budget. Washington, DC: PAHO. [http://www.paho.org/hq/index.php?option=com\\_content&view=article&id=7940&Itemid=39827&lang=en](http://www.paho.org/hq/index.php?option=com_content&view=article&id=7940&Itemid=39827&lang=en) (accessed July 2013).
- <sup>68</sup> Bill & Melinda Gates Foundation. Foundation Trust Financial Statements. Seattle, WA: Bill & Melinda Gates Foundation. <http://www.gatesfoundation.org/Who-We-Are/General-Information/Financials> (accessed September 2013).
- <sup>69</sup> Organisation for Economic Co-operation and Development. Measuring aid to health. Paris: OECD-DAC, 2008. <http://www.oecd.org/dataoecd/20/46/41453717.pdf> (accessed November 2013).
- <sup>70</sup> Organisation for Economic Co-operation and Development. OECD Glossary of Statistical Terms: Official development assistance (ODA) Definition. Paris: OECD, 2003. <http://stats.oecd.org/glossary/detail.asp?ID=6043> (accessed November 2013).
- <sup>71</sup> Organisation for Economic Co-operation and Development. Reporting directives for the creditor reporting system. Paris: OECD, 2007. <http://www.oecd.org/dataoecd/16/53/1948102.pdf> (accessed November 2013).
- <sup>72</sup> European Commission. EU budget 2011 Financial Report. [http://ec.europa.eu/budget/biblio/documents/2013/2013\\_en.cfm](http://ec.europa.eu/budget/biblio/documents/2013/2013_en.cfm) (accessed October 2013).
- <sup>73</sup> Schluter A, Volker T, Walkenhorst P. *Foundations in Europe: International Reference Book on Society, Management, and Law*. Gutersloh, Germany; Washington, DC: Bertelsmann Stiftung; Brookings Institution Press [Distributor], 2002.
- <sup>74</sup> Hudson Institute. The index of global philanthropy and remittances 2011. Washington, DC: Hudson Institute Center for Global Prosperity, 2011. <http://www.hudson.org/files/documents/2011%20Index%20of%20Global%20Philanthropy%20and%20Remittances%20downloadable%20version.pdf> (accessed February 2013).
- <sup>75</sup> Department for International Development. Annual Report and Accounts. London: DFID. <https://www.gov.uk/government/publications> (accessed October 2013).
- <sup>76</sup> The World Bank. Audited financial statements. Washington, DC: World Bank. <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,contentMDK:22669594~pagePK:51123644~pIPK:329829~theSitePK:29708,00.html> (accessed October 2013).
- <sup>77</sup> World Health Organization. Global Health Expenditure Database. Geneva: WHO. <http://apps.who.int/nha/database/DataExplorerRegime.aspx> (accessed February 2013).
- <sup>78</sup> World Bank. World Development Indicators Database. Washington, DC: World Bank, 2013. <http://databank.worldbank.org/data/home.aspx> (accessed October 2013).

---

<sup>79</sup> United Nations Statistical Division. National Accounts Main Aggregates Database. New York: UNSD, 2013. <http://unstats.un.org/unsd/snaama/selbasicFast.asp> (accessed October 2013).

<sup>80</sup> Global Burden of Disease Study 2010. Global Burden of Disease Study 2010 (GBD 2010) Population Estimates 1970-2010. Seattle: Institute for Health Metrics and Evaluation (IHME), 2012.

<sup>81</sup> Organisation for Economic Co-operation and Development. Reporting directives for the Creditor Reporting System. 2007 Sep. Paris: OECD. <http://www.oecd.org/dac/stats/1948102.pdf> (accessed December 2013).

<sup>82</sup> Organisation for Economic Co-operation and Development. Reporting directives for the Creditor Reporting System: Corrigendum on the channels of delivery. 2010 July. Paris: OECD. <http://www.oecd.org/dac/stats/45917818.pdf> (accessed December 2013).

<sup>83</sup> The United States President's Emergency Plan for AIDS Relief. Country Operational Plans. Washington, D.C.: Office of the Global AIDS Coordinator. <http://www.pepfar.gov/countries/cop/index.htm> (accessed August 2013).

<sup>84</sup> The United States President's Emergency Plan for AIDS Relief. Summary Financial Status Reports. Washington, D.C.: PEPFAR. <http://www.pepfar.gov/about/c24880.htm> (accessed August 2013).